

T18516
Sandwich Road, Sholden



Appendix E

TRICS Outputs

Calculation Reference: AUDIT-141301-190221-0259

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
	KC KENT	2 days
	WS WEST SUSSEX	3 days
06	WEST MIDLANDS	
	ST STAFFORDSHIRE	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: Number of dwellings
 Actual Range: 151 to 363 (units:)
 Range Selected by User: 100 to 500 (units:)

Parking Spaces Range: Selected: 12 to 1726 Actual: 12 to 1726

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 05/07/18

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:

Monday	1 days
Wednesday	3 days
Thursday	3 days

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

Selected survey types:

Manual count	7 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:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	6

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:

Residential Zone	7
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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:

C3	7 days
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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®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	4 days
20,001 to 25,000	2 days

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

Population within 5 miles:

50,001 to 75,000	2 days
75,001 to 100,000	2 days
125,001 to 250,000	3 days

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

Car ownership within 5 miles:

1.1 to 1.5	7 days
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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:

Yes	3 days
No	4 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	7 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	ES-03-A-03 SHEPHAM LANE POLEGATE	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total Number of dwellings: 212 <i>Survey date: MONDAY 11/07/16</i>		<i>Survey Type: MANUAL</i>
2	KC-03-A-06 MARGATE ROAD HERNE BAY	MIXED HOUSES & FLATS	KENT
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 363 <i>Survey date: WEDNESDAY 27/09/17</i>		<i>Survey Type: MANUAL</i>
3	KC-03-A-07 RECVLVER ROAD HERNE BAY	MIXED HOUSES	KENT
	Edge of Town Residential Zone Total Number of dwellings: 288 <i>Survey date: WEDNESDAY 27/09/17</i>		<i>Survey Type: MANUAL</i>
4	ST-03-A-07 BEACONSIDE STAFFORD MARSTON GATE	DETACHED & SEMI-DETACHED	STAFFORDSHIRE
	Edge of Town Residential Zone Total Number of dwellings: 248 <i>Survey date: WEDNESDAY 22/11/17</i>		<i>Survey Type: MANUAL</i>
5	WS-03-A-04 HILLS FARM LANE HORSHAM BROADBRIDGE HEATH	MIXED HOUSES	WEST SUSSEX
	Edge of Town Residential Zone Total Number of dwellings: 151 <i>Survey date: THURSDAY 11/12/14</i>		<i>Survey Type: MANUAL</i>
6	WS-03-A-08 ROUNDSTONE LANE ANGMERING	MIXED HOUSES	WEST SUSSEX
	Edge of Town Residential Zone Total Number of dwellings: 180 <i>Survey date: THURSDAY 19/04/18</i>		<i>Survey Type: MANUAL</i>
7	WS-03-A-09 LITTLEHAMPTON ROAD WORTHING WEST DURRINGTON	MIXED HOUSES & FLATS	WEST SUSSEX
	Edge of Town Residential Zone Total Number of dwellings: 197 <i>Survey date: THURSDAY 05/07/18</i>		<i>Survey Type: MANUAL</i>

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.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DV-03-A-02	Site includes significant number of Bungalows
DV-03-A-02	Site includes significant number of Bungalows
DV-03-A-02	Site includes significant number of Bungalows
ES-03-A-04	significantly lower trip rates compared to other sites
NY-03-A-06	Site includes significant number of Bungalows

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	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	7	234	0.093	7	234	0.301	7	234	0.394
08:00 - 09:00	7	234	0.136	7	234	0.376	7	234	0.512
09:00 - 10:00	7	234	0.151	7	234	0.167	7	234	0.318
10:00 - 11:00	7	234	0.126	7	234	0.160	7	234	0.286
11:00 - 12:00	7	234	0.137	7	234	0.157	7	234	0.294
12:00 - 13:00	7	234	0.170	7	234	0.146	7	234	0.316
13:00 - 14:00	7	234	0.177	7	234	0.153	7	234	0.330
14:00 - 15:00	7	234	0.181	7	234	0.202	7	234	0.383
15:00 - 16:00	7	234	0.264	7	234	0.177	7	234	0.441
16:00 - 17:00	7	234	0.282	7	234	0.174	7	234	0.456
17:00 - 18:00	7	234	0.357	7	234	0.162	7	234	0.519
18:00 - 19:00	7	234	0.300	7	234	0.209	7	234	0.509
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.374			2.384			4.758

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.*

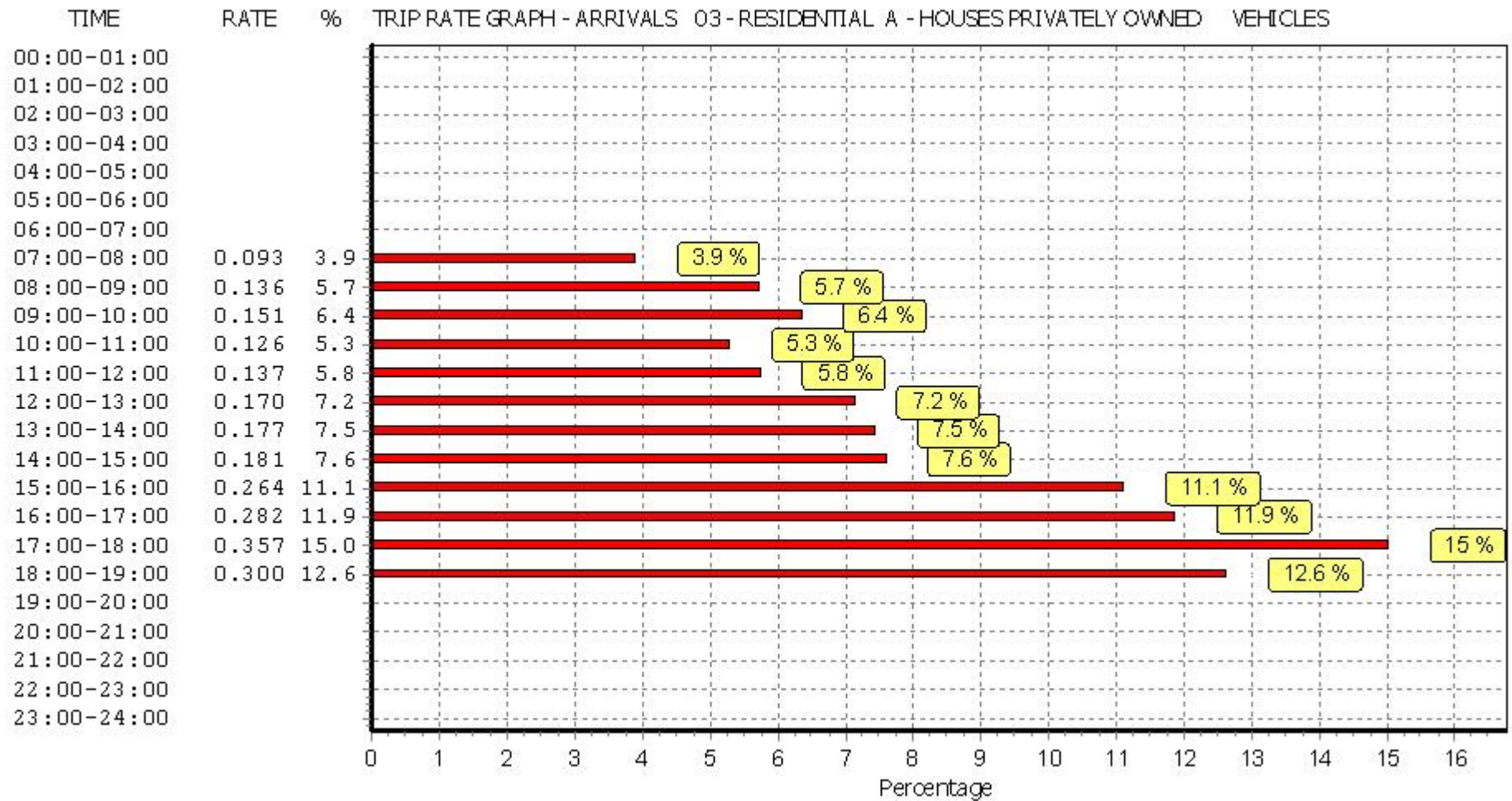
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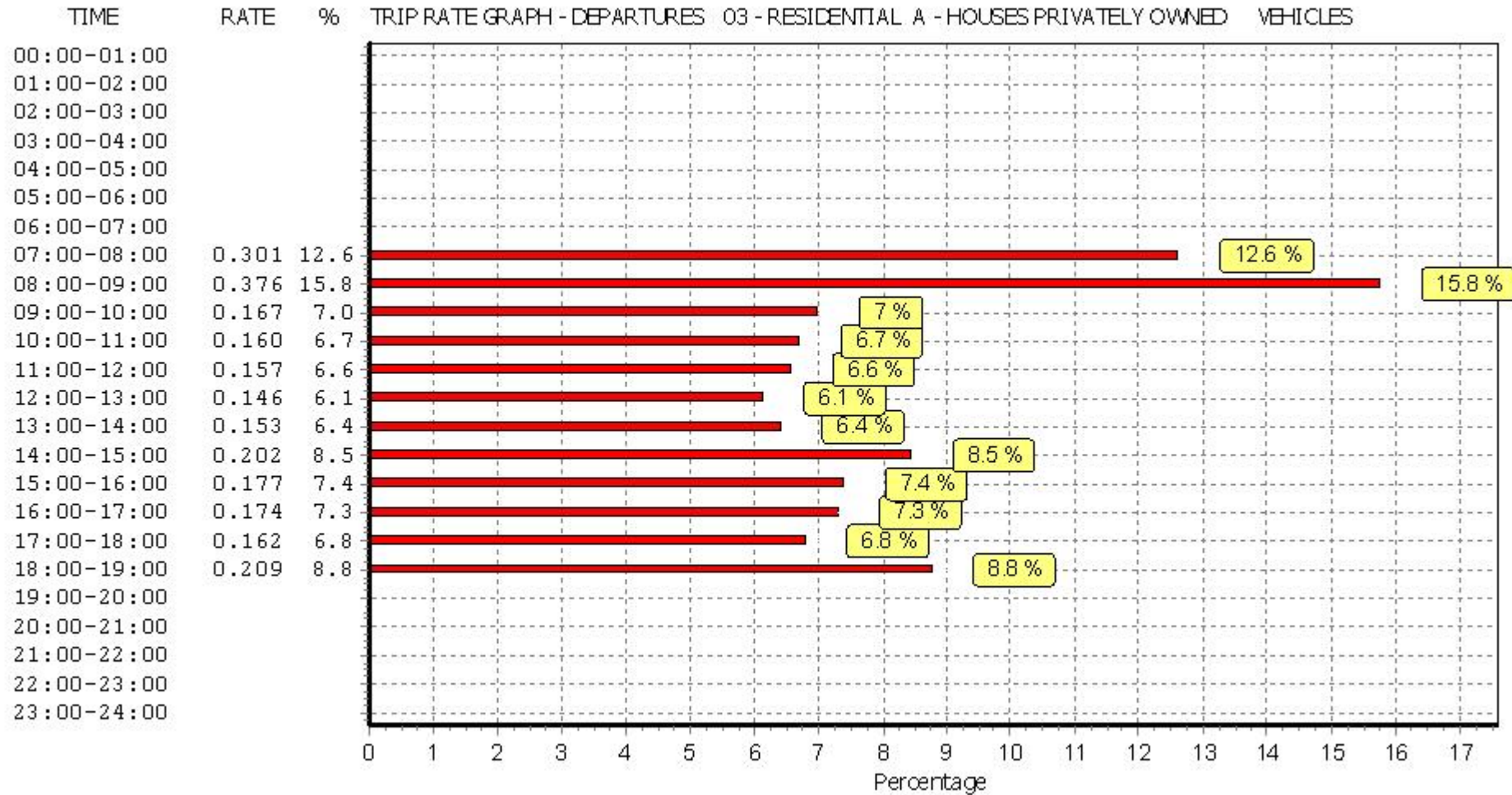
Parameter summary

Trip rate parameter range selected:	151 - 363 (units:)
Survey date date range:	01/01/10 - 05/07/18
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	-2
Surveys manually removed from selection:	5

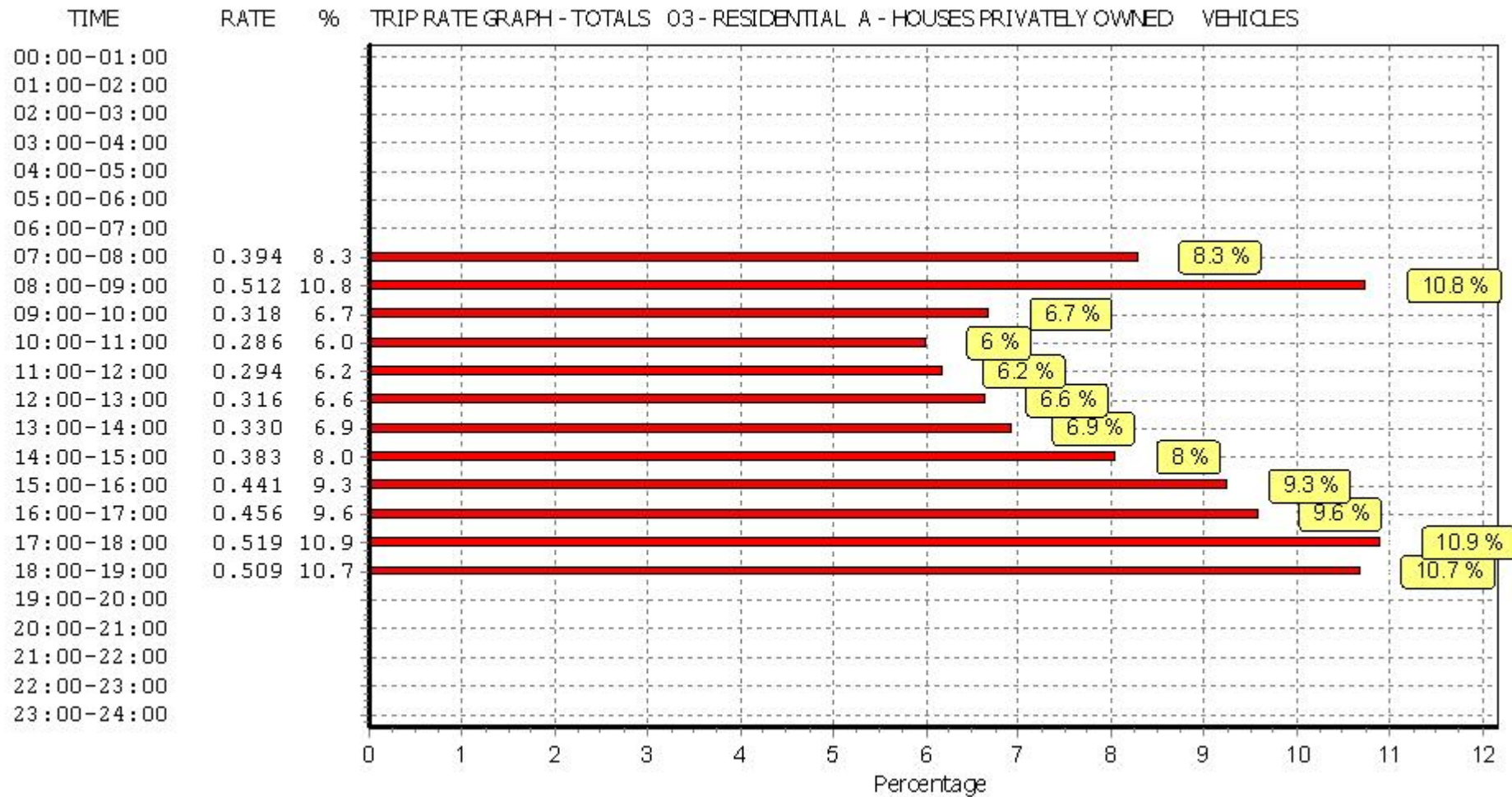
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TAXI S

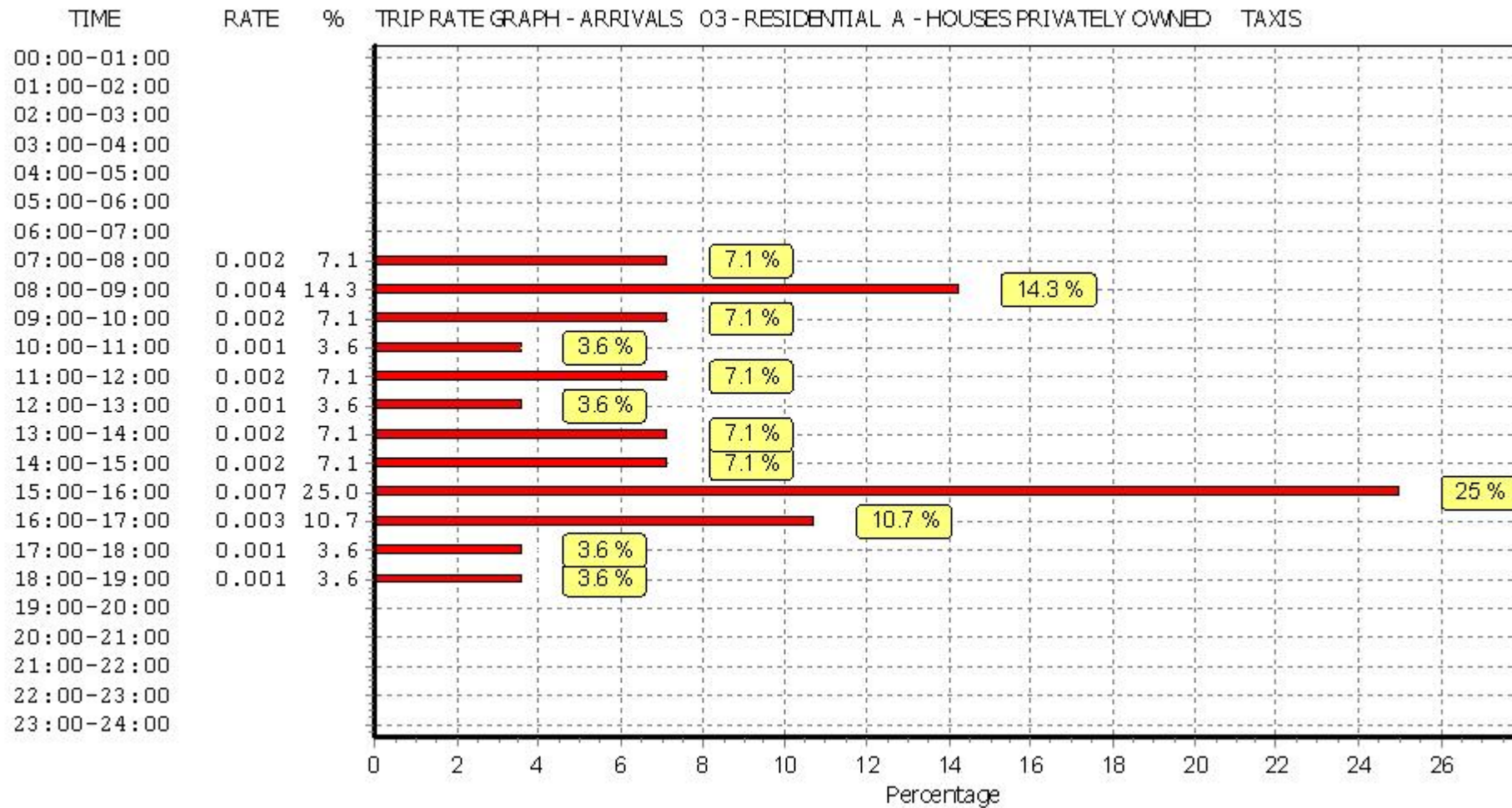
Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

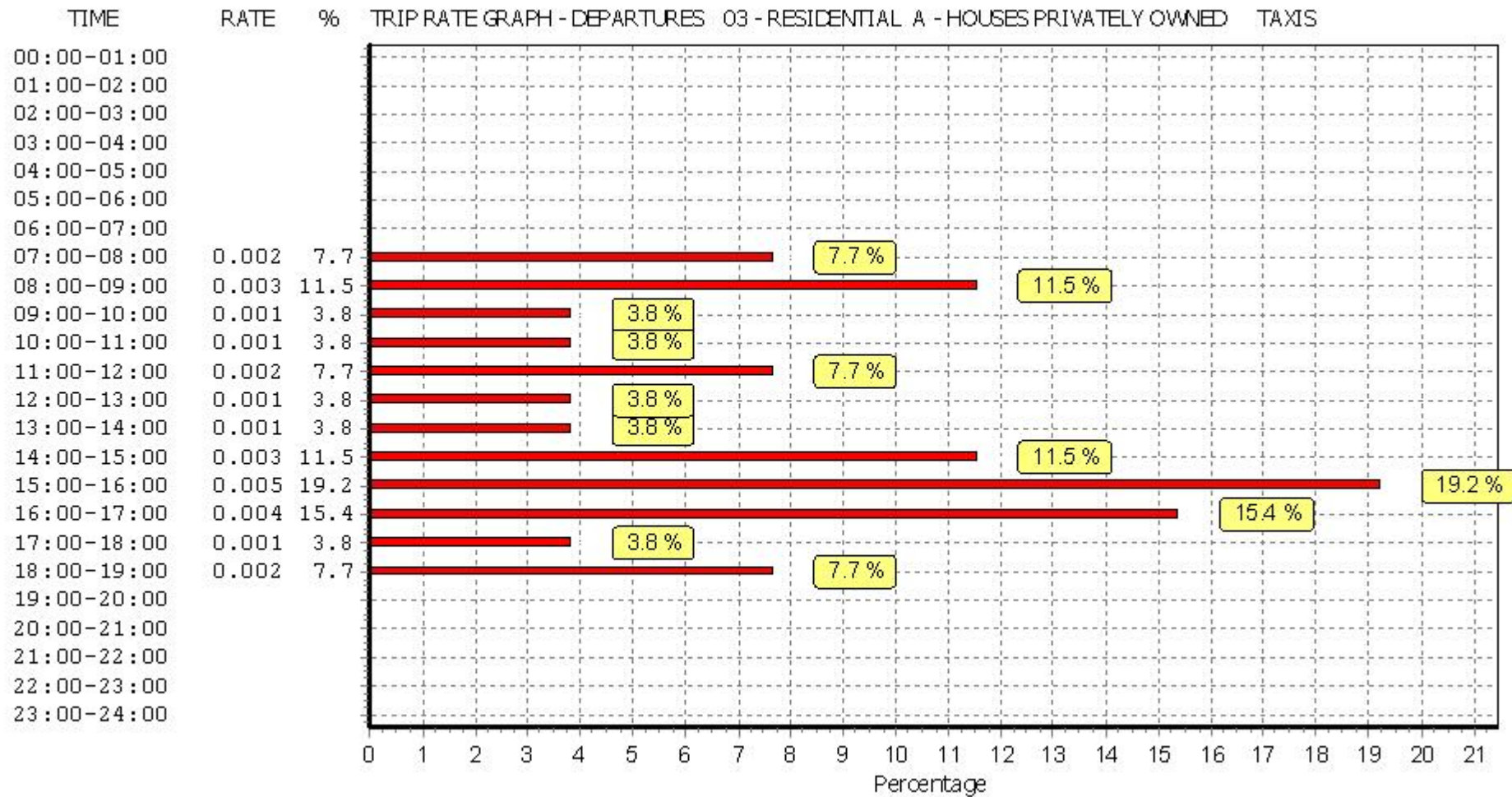
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	234	0.002	7	234	0.002	7	234	0.004
08:00 - 09:00	7	234	0.004	7	234	0.003	7	234	0.007
09:00 - 10:00	7	234	0.002	7	234	0.001	7	234	0.003
10:00 - 11:00	7	234	0.001	7	234	0.001	7	234	0.002
11:00 - 12:00	7	234	0.002	7	234	0.002	7	234	0.004
12:00 - 13:00	7	234	0.001	7	234	0.001	7	234	0.002
13:00 - 14:00	7	234	0.002	7	234	0.001	7	234	0.003
14:00 - 15:00	7	234	0.002	7	234	0.003	7	234	0.005
15:00 - 16:00	7	234	0.007	7	234	0.005	7	234	0.012
16:00 - 17:00	7	234	0.003	7	234	0.004	7	234	0.007
17:00 - 18:00	7	234	0.001	7	234	0.001	7	234	0.002
18:00 - 19:00	7	234	0.001	7	234	0.002	7	234	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.028			0.026			0.054

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.

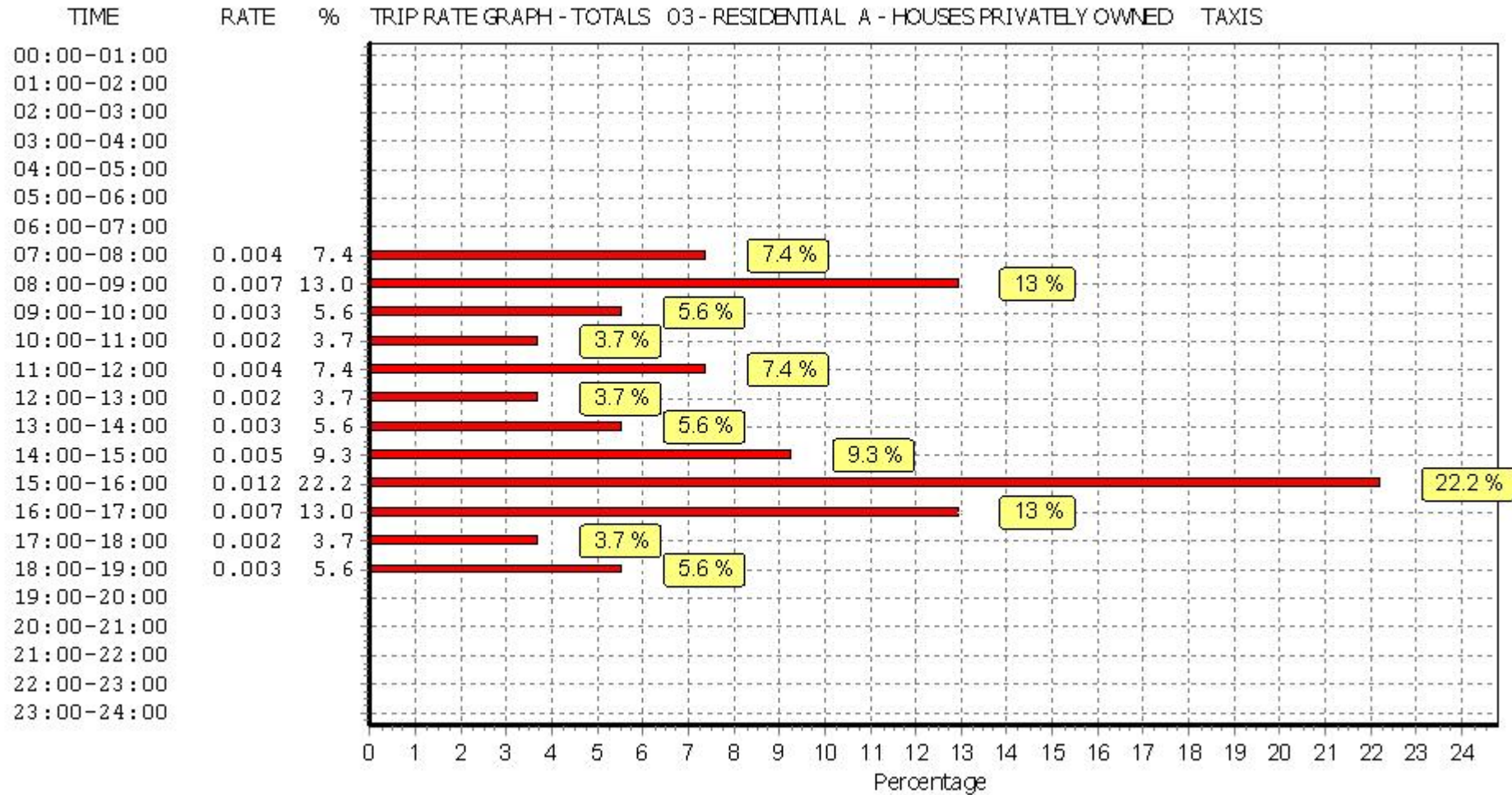
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This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

OGVS

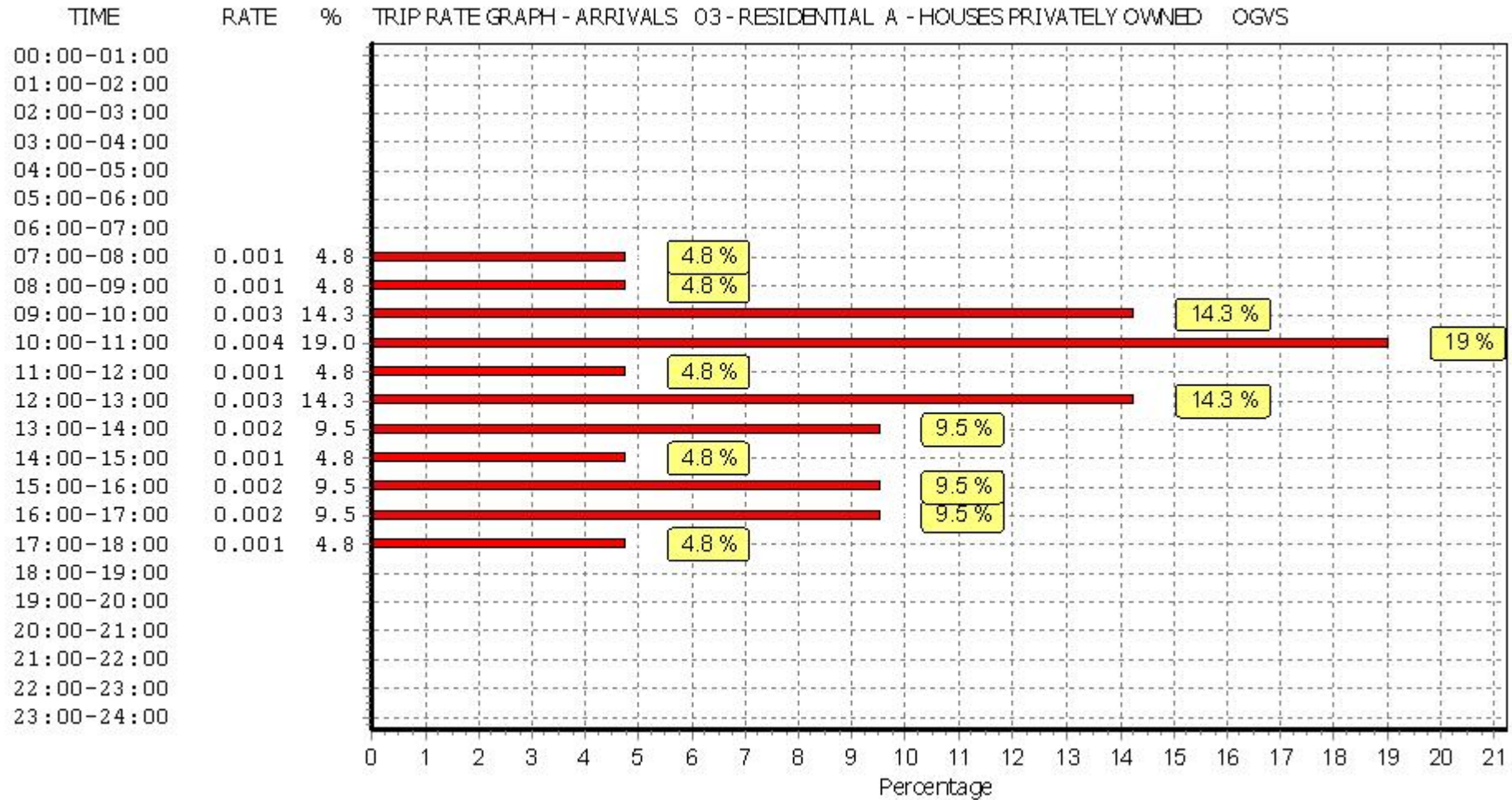
Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

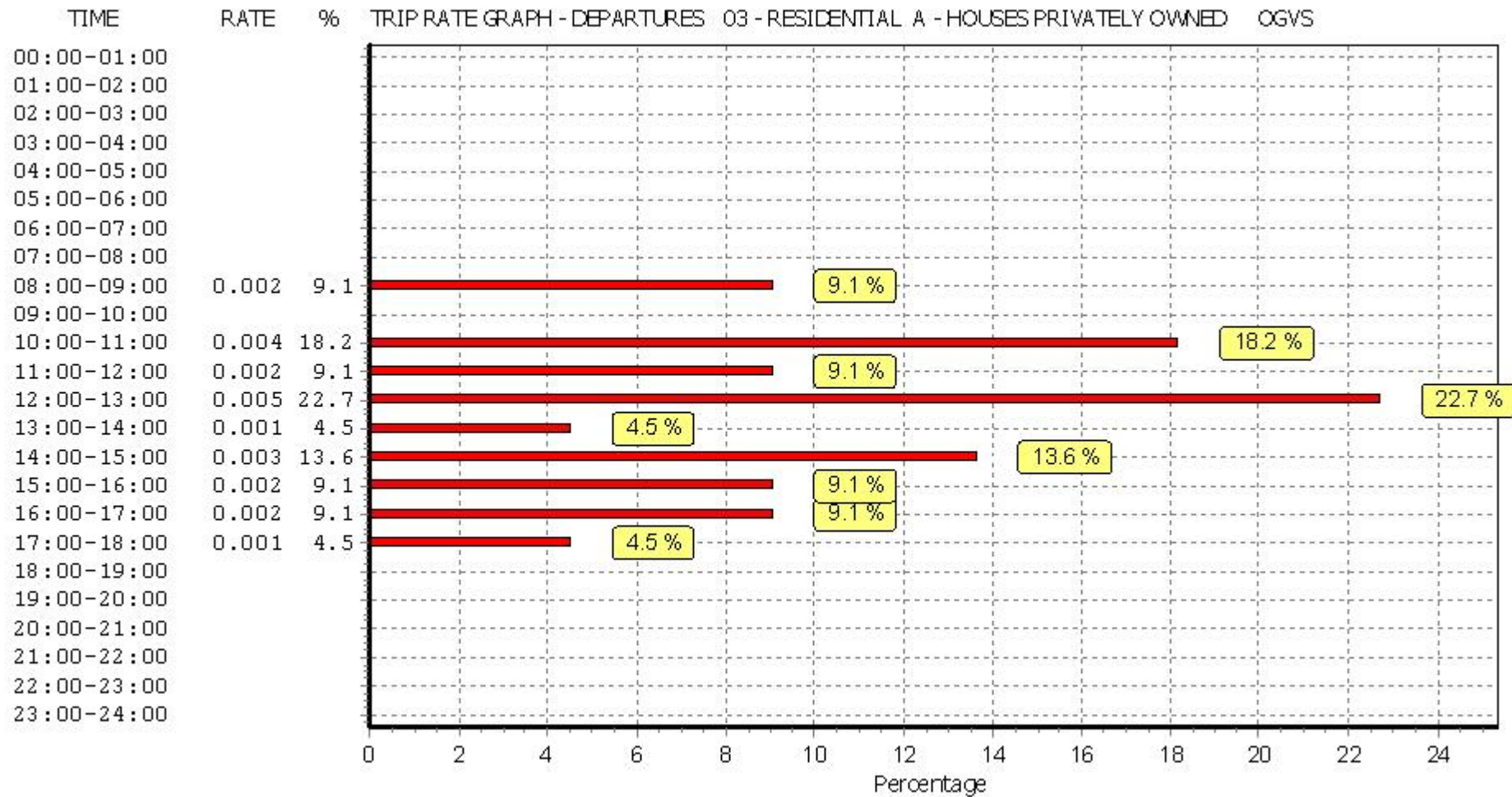
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	234	0.001	7	234	0.000	7	234	0.001
08:00 - 09:00	7	234	0.001	7	234	0.002	7	234	0.003
09:00 - 10:00	7	234	0.003	7	234	0.000	7	234	0.003
10:00 - 11:00	7	234	0.004	7	234	0.004	7	234	0.008
11:00 - 12:00	7	234	0.001	7	234	0.002	7	234	0.003
12:00 - 13:00	7	234	0.003	7	234	0.005	7	234	0.008
13:00 - 14:00	7	234	0.002	7	234	0.001	7	234	0.003
14:00 - 15:00	7	234	0.001	7	234	0.003	7	234	0.004
15:00 - 16:00	7	234	0.002	7	234	0.002	7	234	0.004
16:00 - 17:00	7	234	0.002	7	234	0.002	7	234	0.004
17:00 - 18:00	7	234	0.001	7	234	0.001	7	234	0.002
18:00 - 19:00	7	234	0.000	7	234	0.000	7	234	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.021			0.022			0.043

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.

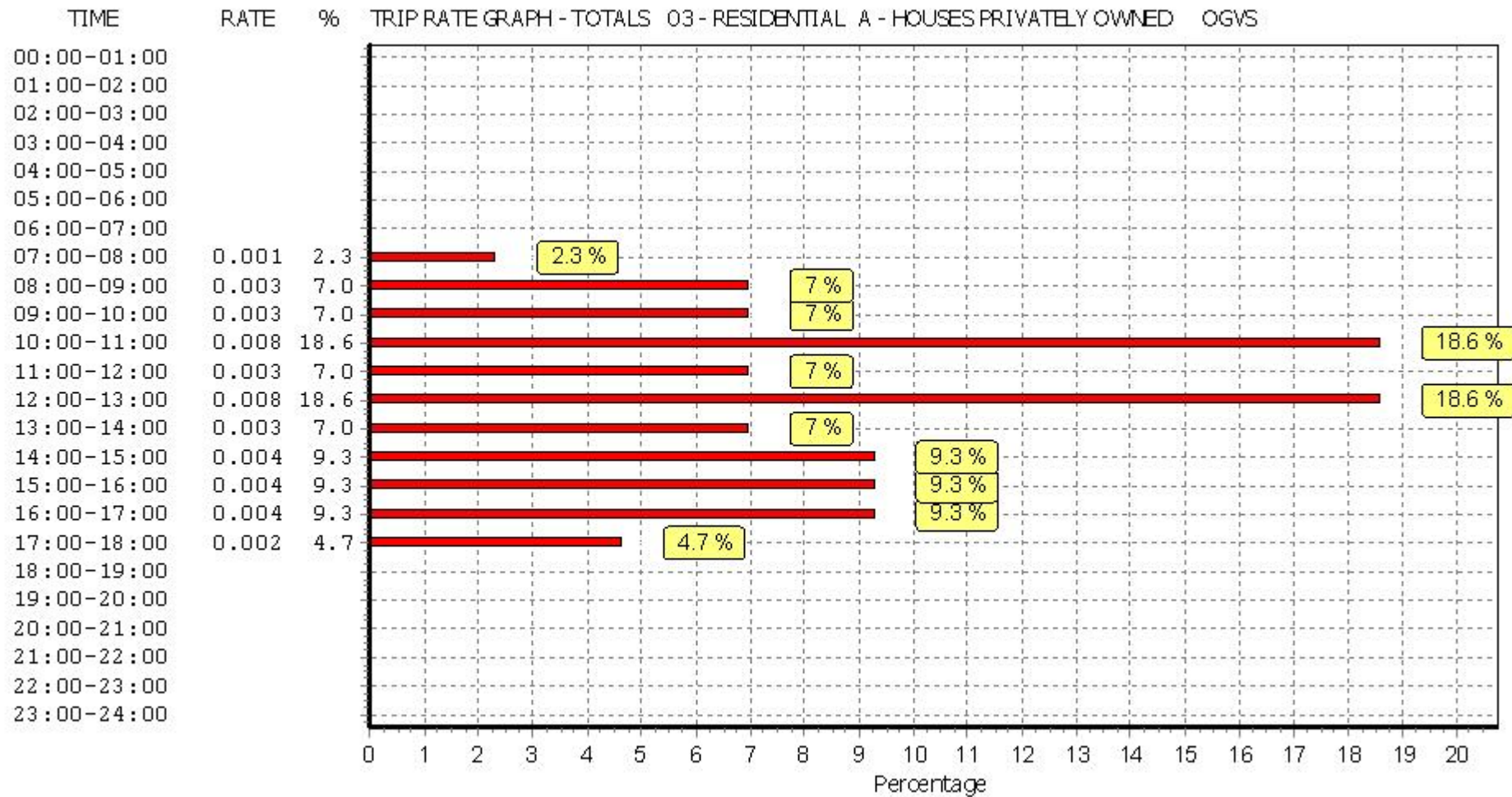
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

CYCLISTS

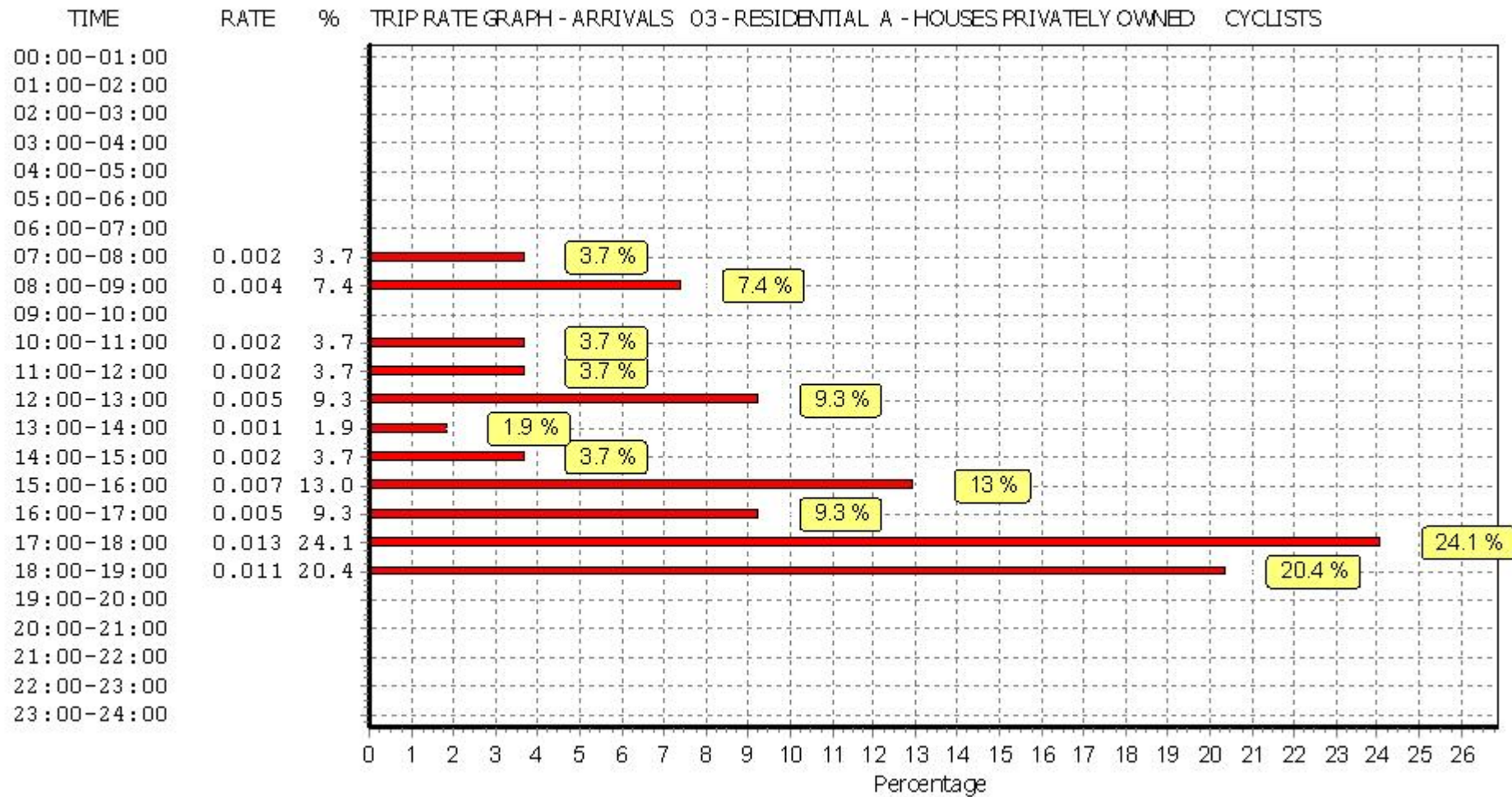
Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

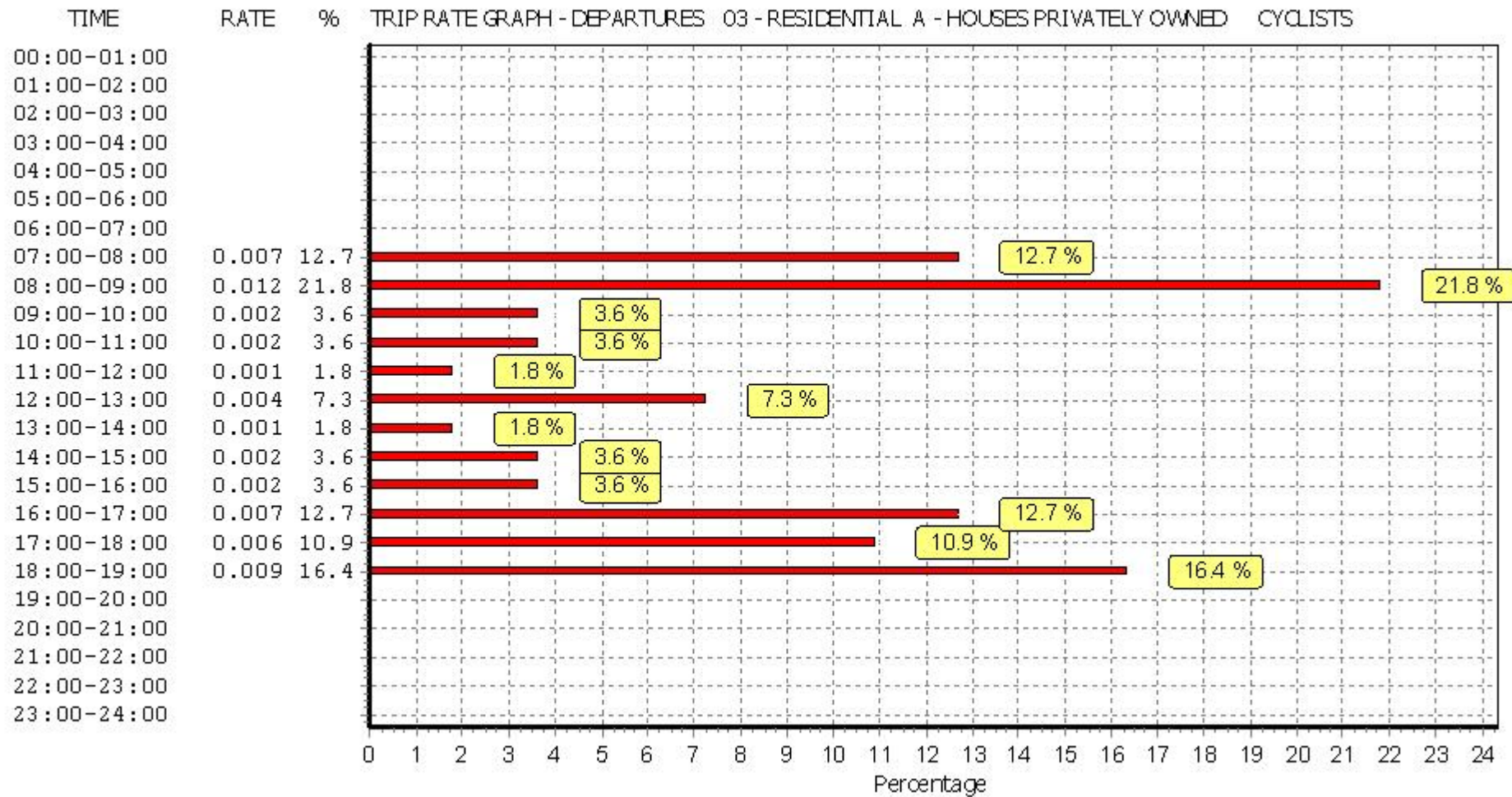
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	234	0.002	7	234	0.007	7	234	0.009
08:00 - 09:00	7	234	0.004	7	234	0.012	7	234	0.016
09:00 - 10:00	7	234	0.000	7	234	0.002	7	234	0.002
10:00 - 11:00	7	234	0.002	7	234	0.002	7	234	0.004
11:00 - 12:00	7	234	0.002	7	234	0.001	7	234	0.003
12:00 - 13:00	7	234	0.005	7	234	0.004	7	234	0.009
13:00 - 14:00	7	234	0.001	7	234	0.001	7	234	0.002
14:00 - 15:00	7	234	0.002	7	234	0.002	7	234	0.004
15:00 - 16:00	7	234	0.007	7	234	0.002	7	234	0.009
16:00 - 17:00	7	234	0.005	7	234	0.007	7	234	0.012
17:00 - 18:00	7	234	0.013	7	234	0.006	7	234	0.019
18:00 - 19:00	7	234	0.011	7	234	0.009	7	234	0.020
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.054			0.055			0.109

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.

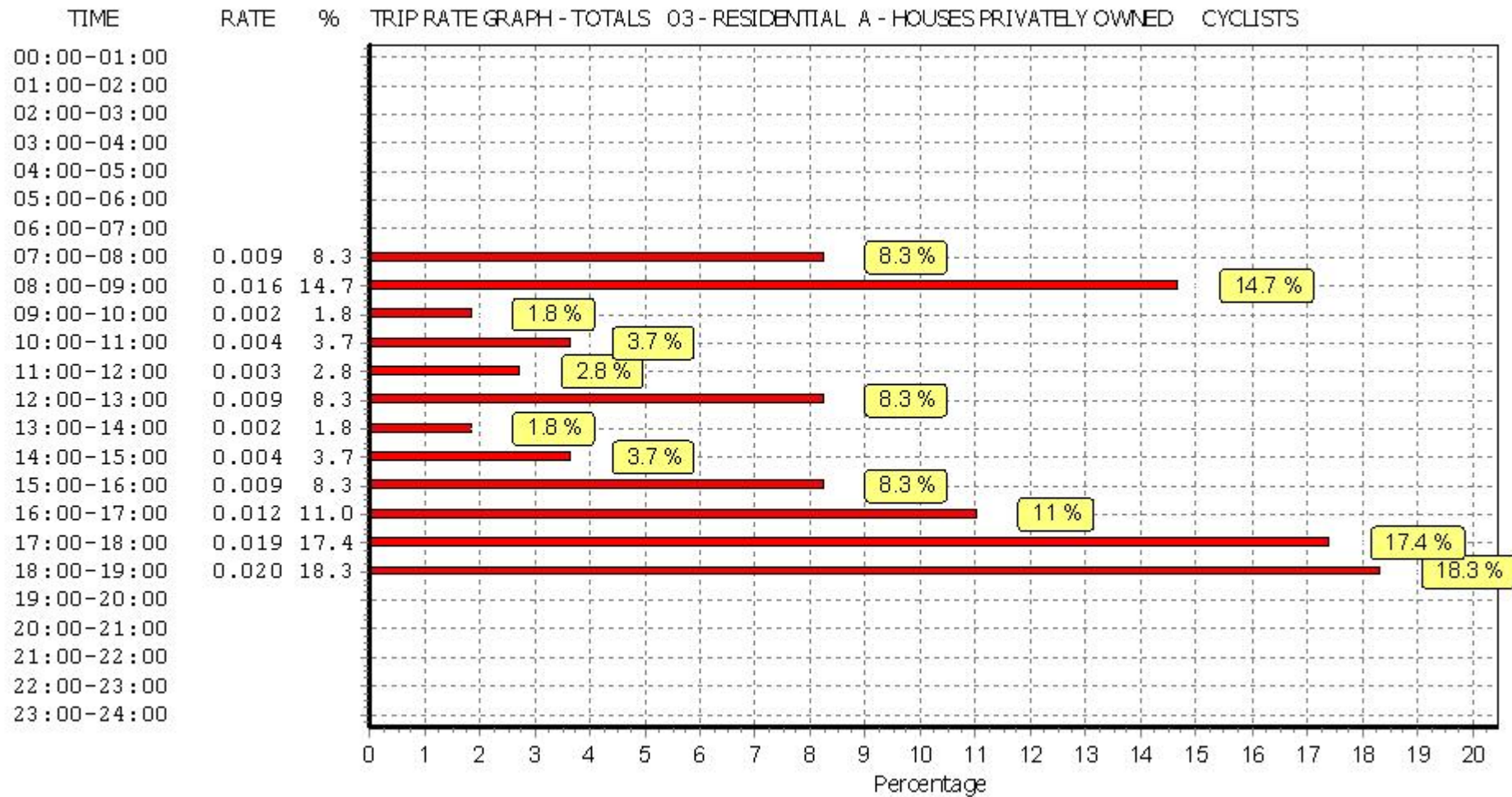
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

CARS

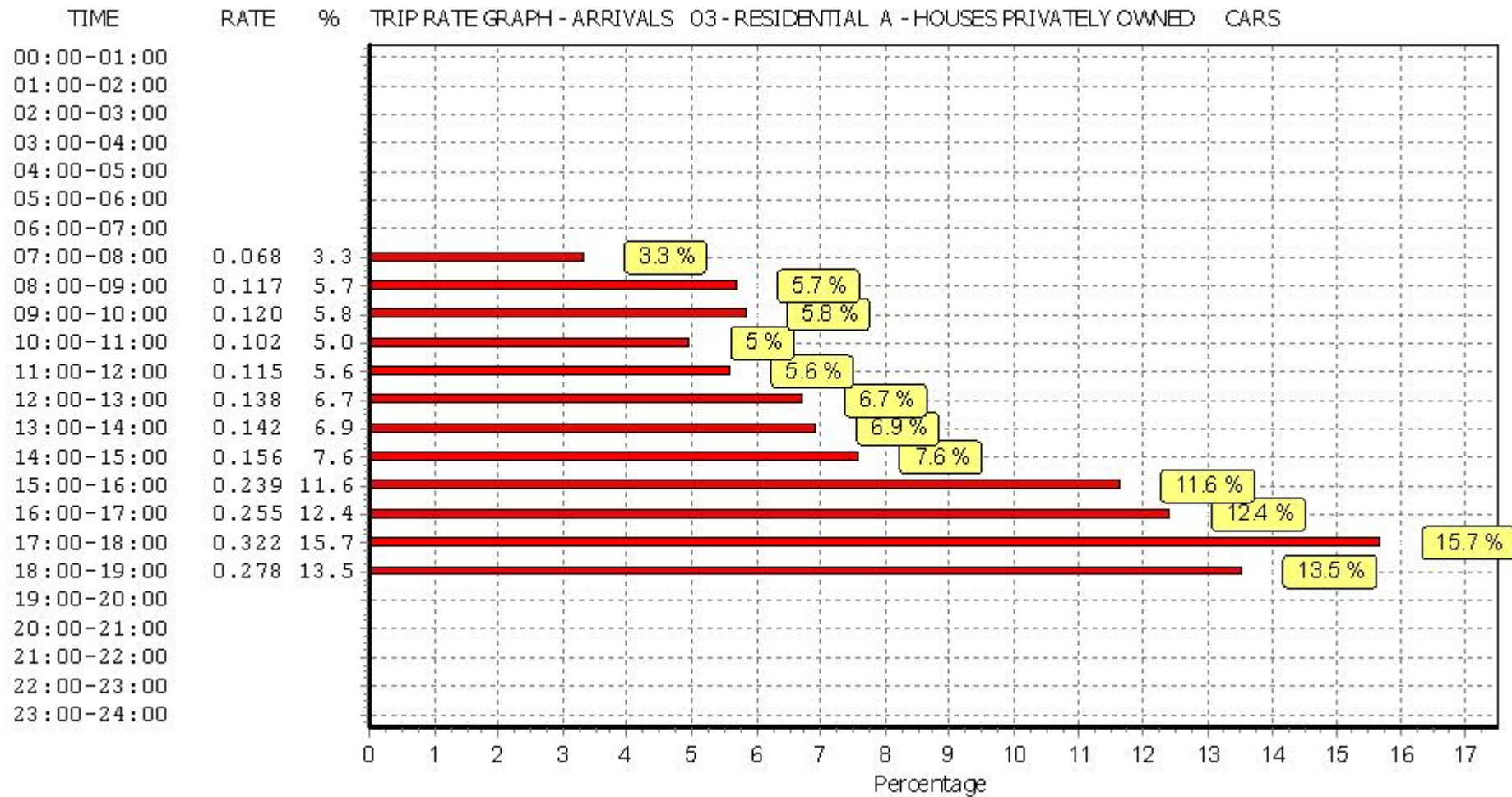
Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

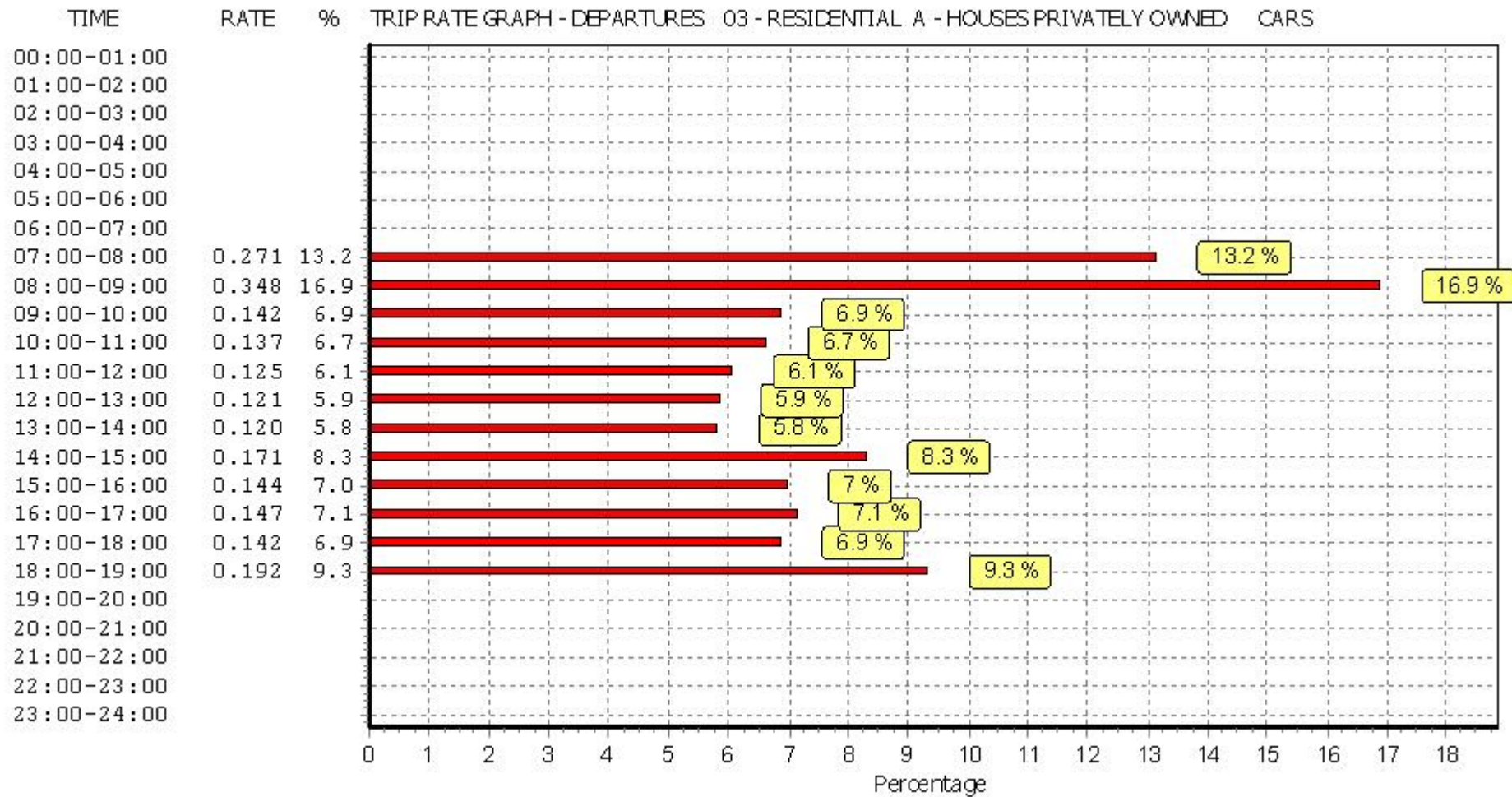
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	234	0.068	7	234	0.271	7	234	0.339
08:00 - 09:00	7	234	0.117	7	234	0.348	7	234	0.465
09:00 - 10:00	7	234	0.120	7	234	0.142	7	234	0.262
10:00 - 11:00	7	234	0.102	7	234	0.137	7	234	0.239
11:00 - 12:00	7	234	0.115	7	234	0.125	7	234	0.240
12:00 - 13:00	7	234	0.138	7	234	0.121	7	234	0.259
13:00 - 14:00	7	234	0.142	7	234	0.120	7	234	0.262
14:00 - 15:00	7	234	0.156	7	234	0.171	7	234	0.327
15:00 - 16:00	7	234	0.239	7	234	0.144	7	234	0.383
16:00 - 17:00	7	234	0.255	7	234	0.147	7	234	0.402
17:00 - 18:00	7	234	0.322	7	234	0.142	7	234	0.464
18:00 - 19:00	7	234	0.278	7	234	0.192	7	234	0.470
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.052			2.060			4.112

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.

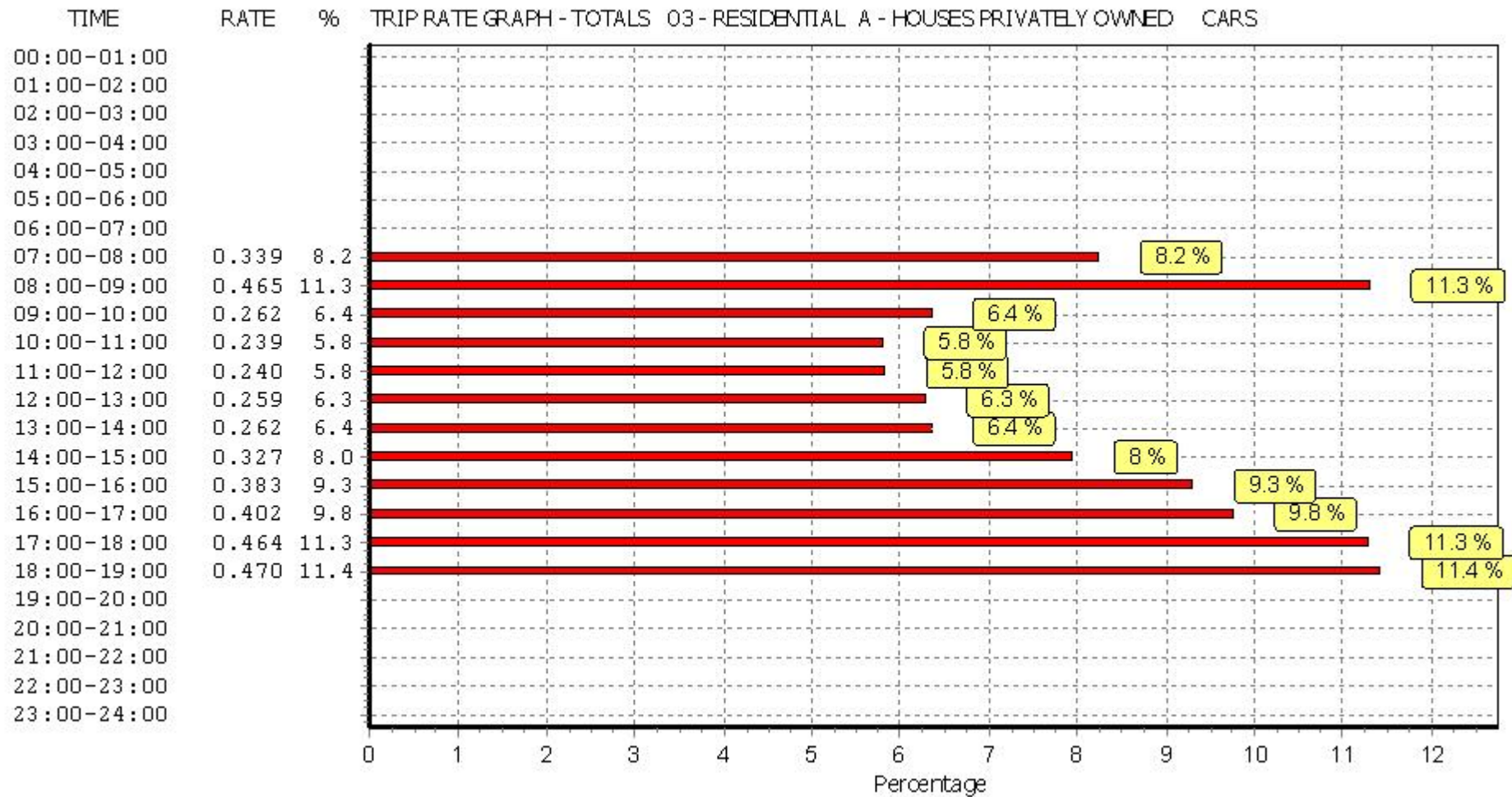
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

LGVS

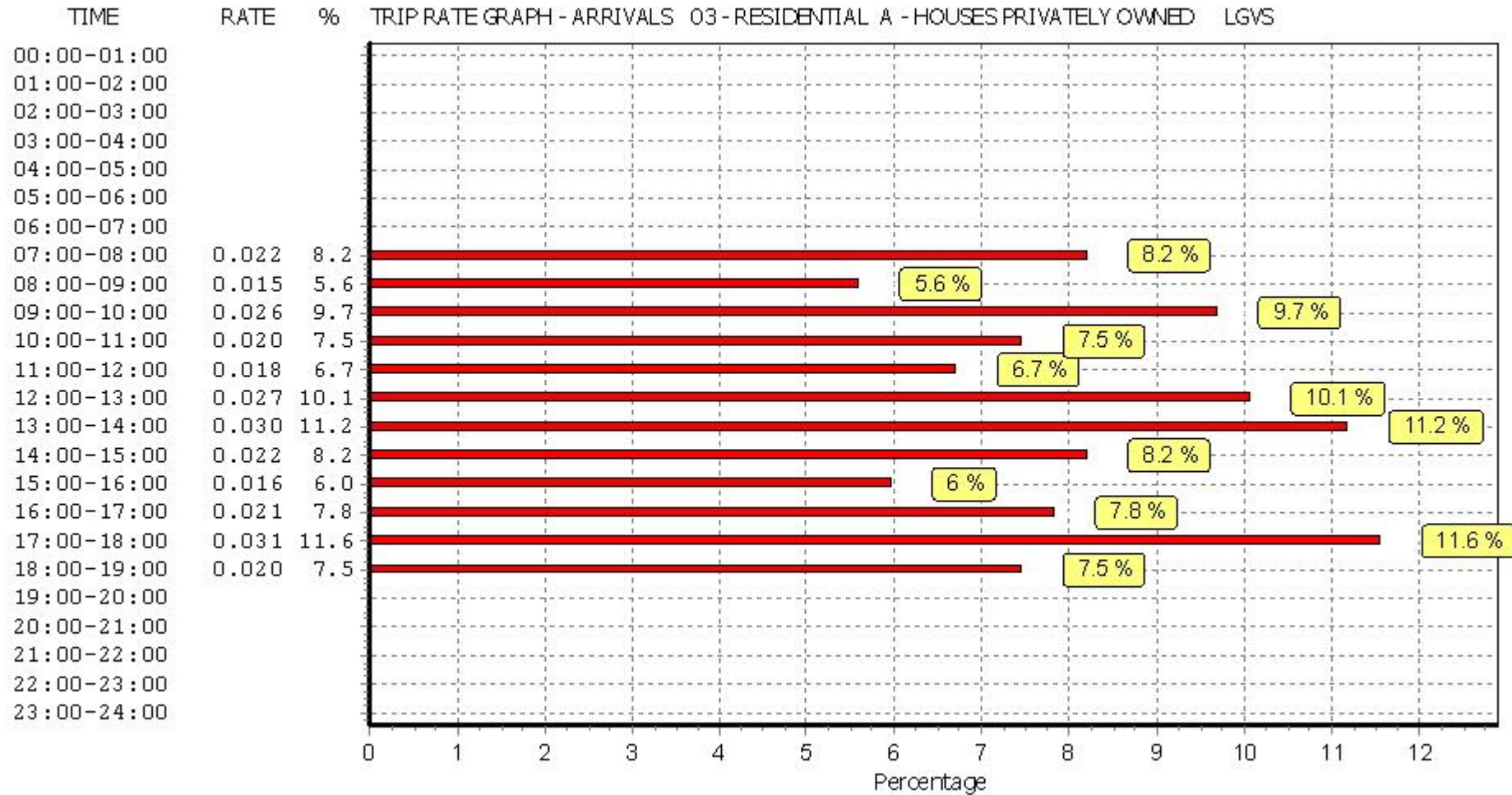
Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

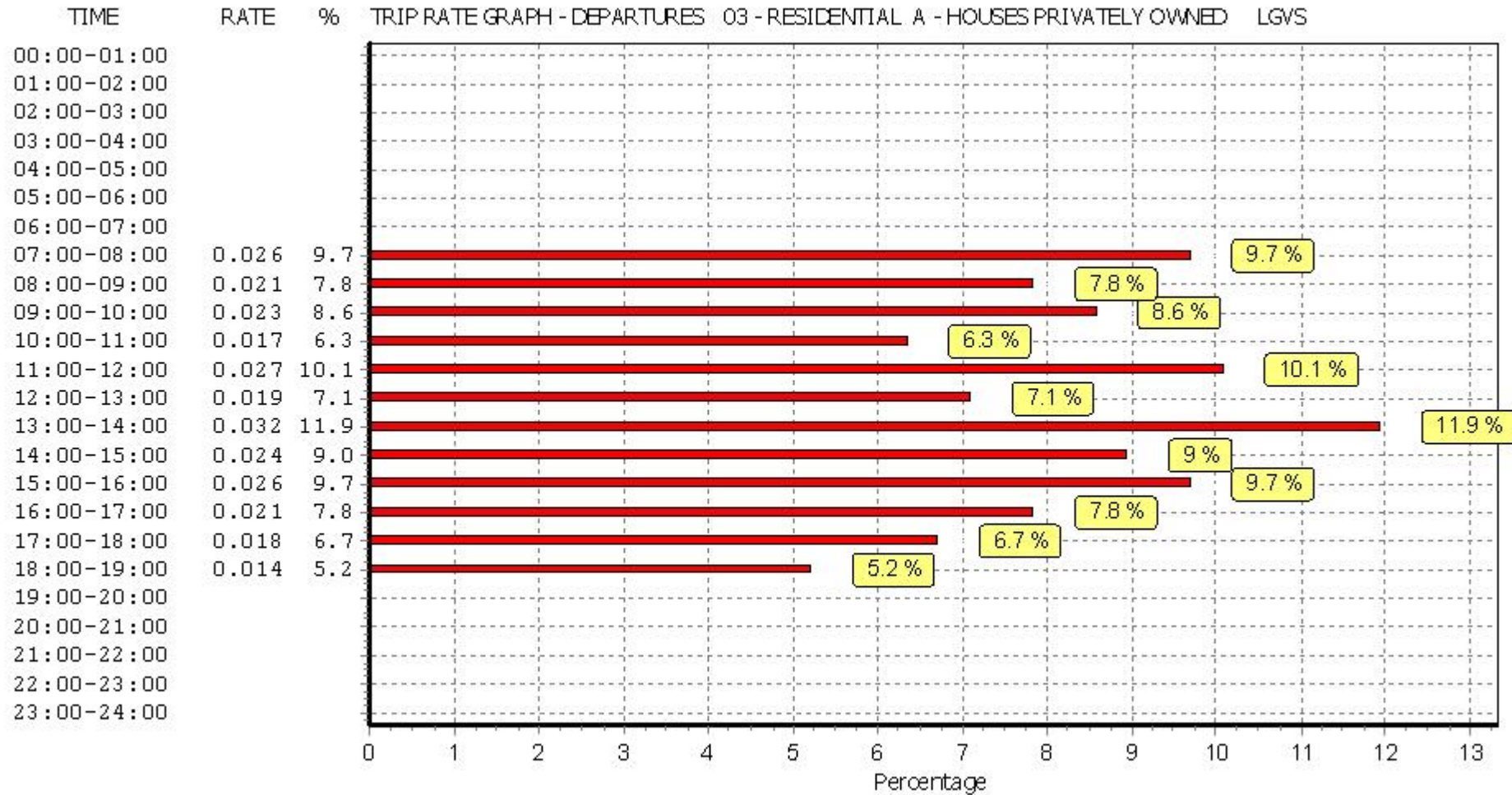
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	234	0.022	7	234	0.026	7	234	0.048
08:00 - 09:00	7	234	0.015	7	234	0.021	7	234	0.036
09:00 - 10:00	7	234	0.026	7	234	0.023	7	234	0.049
10:00 - 11:00	7	234	0.020	7	234	0.017	7	234	0.037
11:00 - 12:00	7	234	0.018	7	234	0.027	7	234	0.045
12:00 - 13:00	7	234	0.027	7	234	0.019	7	234	0.046
13:00 - 14:00	7	234	0.030	7	234	0.032	7	234	0.062
14:00 - 15:00	7	234	0.022	7	234	0.024	7	234	0.046
15:00 - 16:00	7	234	0.016	7	234	0.026	7	234	0.042
16:00 - 17:00	7	234	0.021	7	234	0.021	7	234	0.042
17:00 - 18:00	7	234	0.031	7	234	0.018	7	234	0.049
18:00 - 19:00	7	234	0.020	7	234	0.014	7	234	0.034
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.268			0.268			0.536

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.

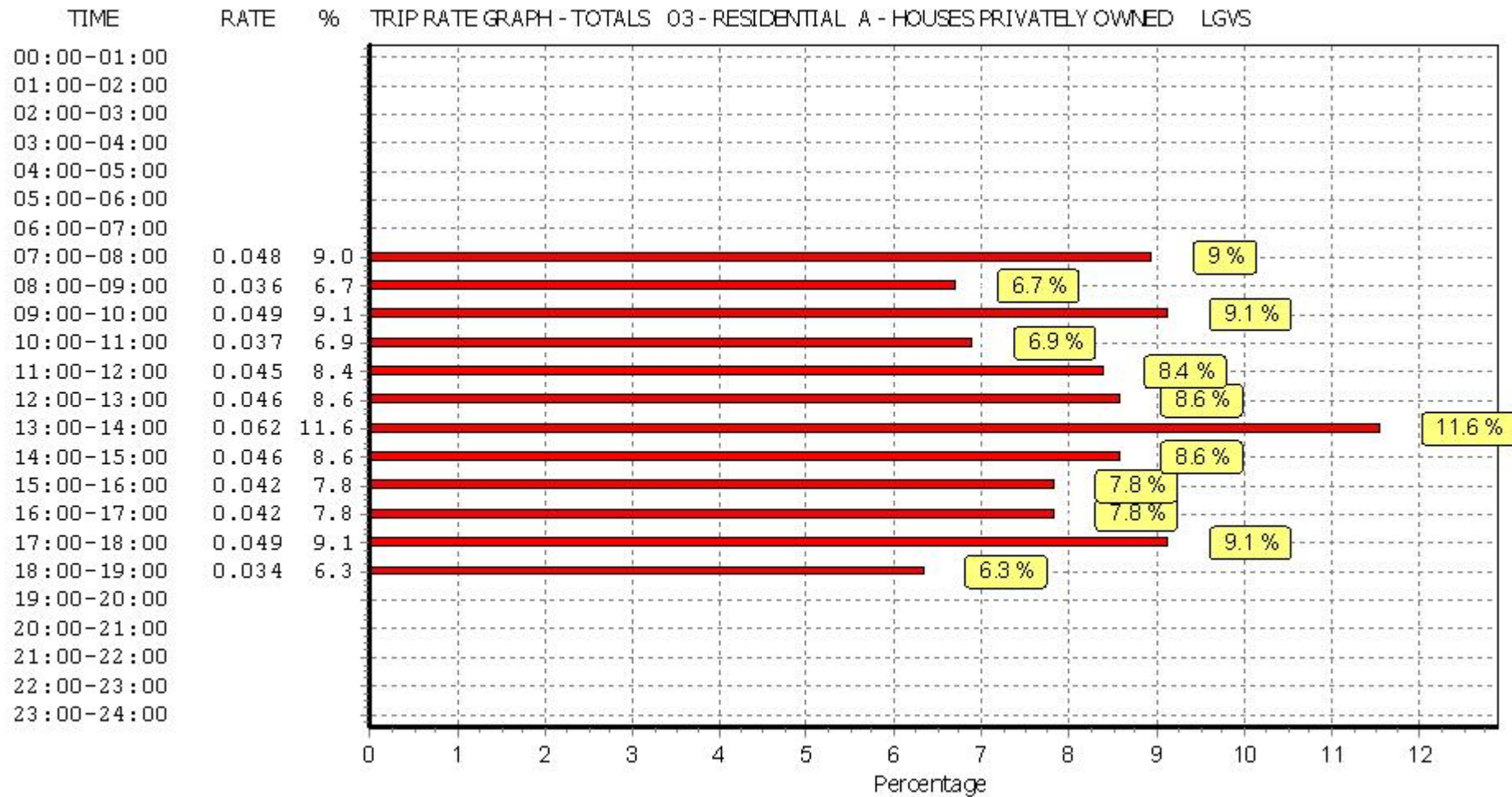
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MOTOR CYCLES

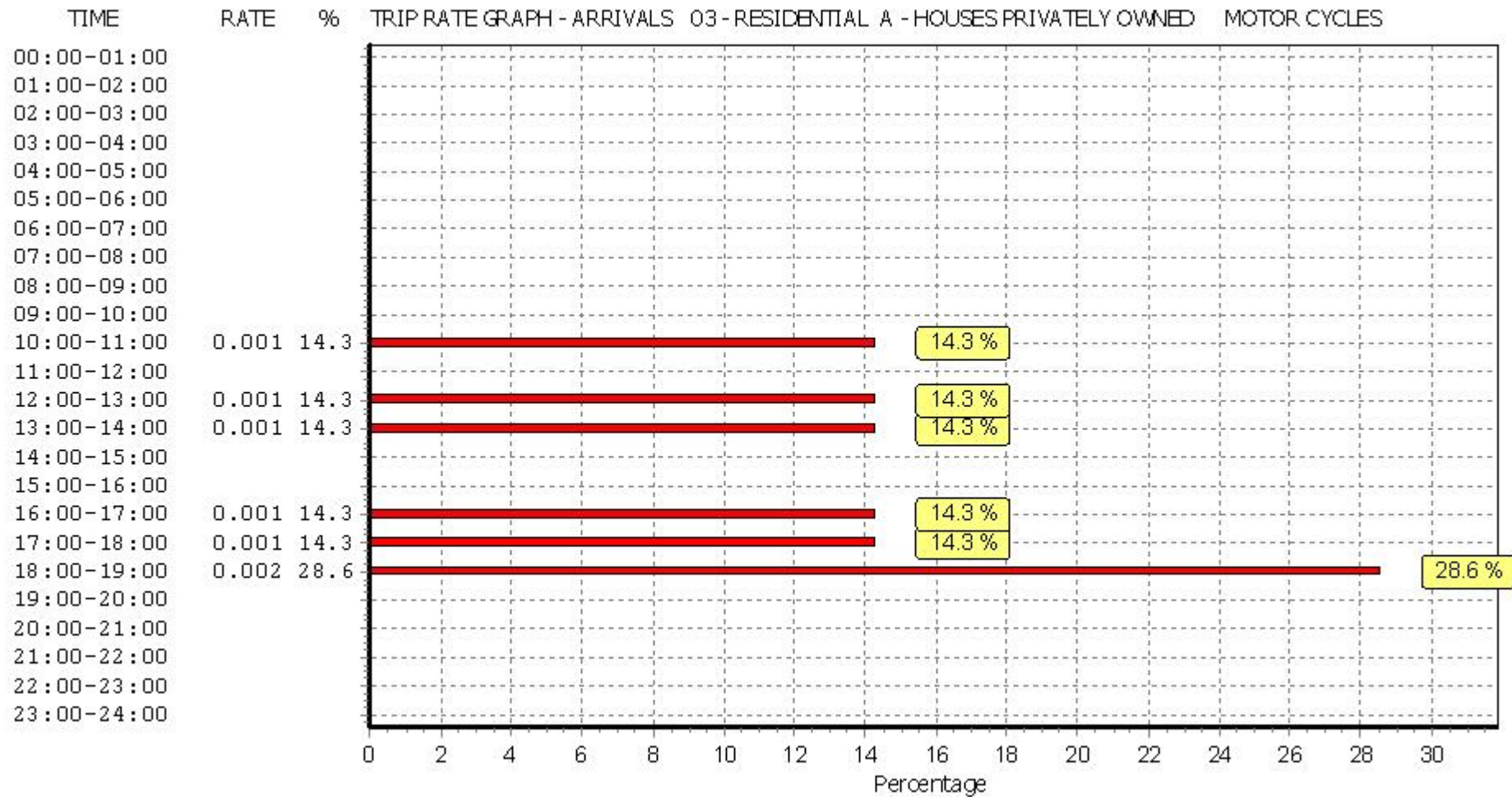
Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

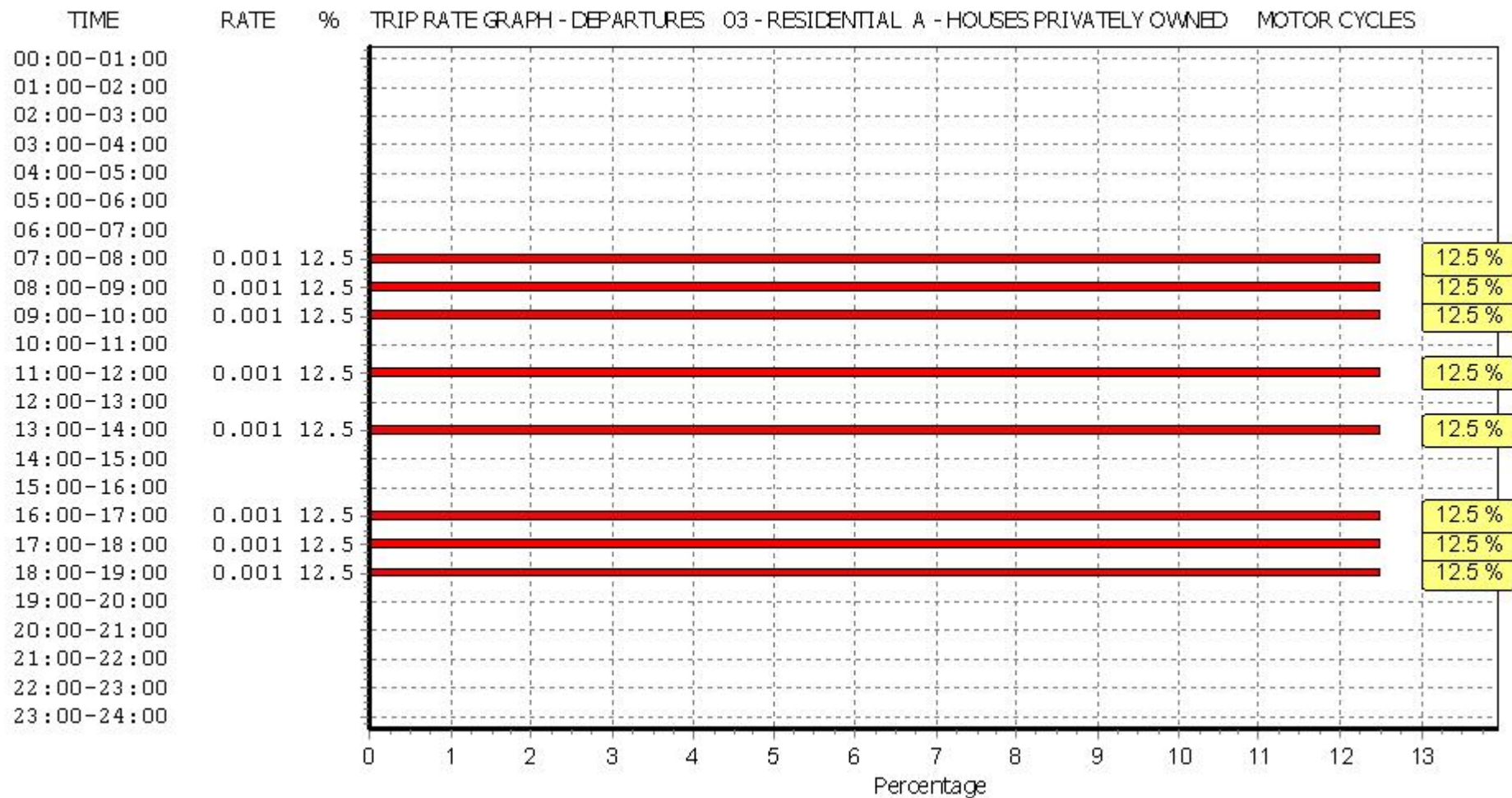
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	234	0.000	7	234	0.001	7	234	0.001
08:00 - 09:00	7	234	0.000	7	234	0.001	7	234	0.001
09:00 - 10:00	7	234	0.000	7	234	0.001	7	234	0.001
10:00 - 11:00	7	234	0.001	7	234	0.000	7	234	0.001
11:00 - 12:00	7	234	0.000	7	234	0.001	7	234	0.001
12:00 - 13:00	7	234	0.001	7	234	0.000	7	234	0.001
13:00 - 14:00	7	234	0.001	7	234	0.001	7	234	0.002
14:00 - 15:00	7	234	0.000	7	234	0.000	7	234	0.000
15:00 - 16:00	7	234	0.000	7	234	0.000	7	234	0.000
16:00 - 17:00	7	234	0.001	7	234	0.001	7	234	0.002
17:00 - 18:00	7	234	0.001	7	234	0.001	7	234	0.002
18:00 - 19:00	7	234	0.002	7	234	0.001	7	234	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.007			0.008			0.015

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.

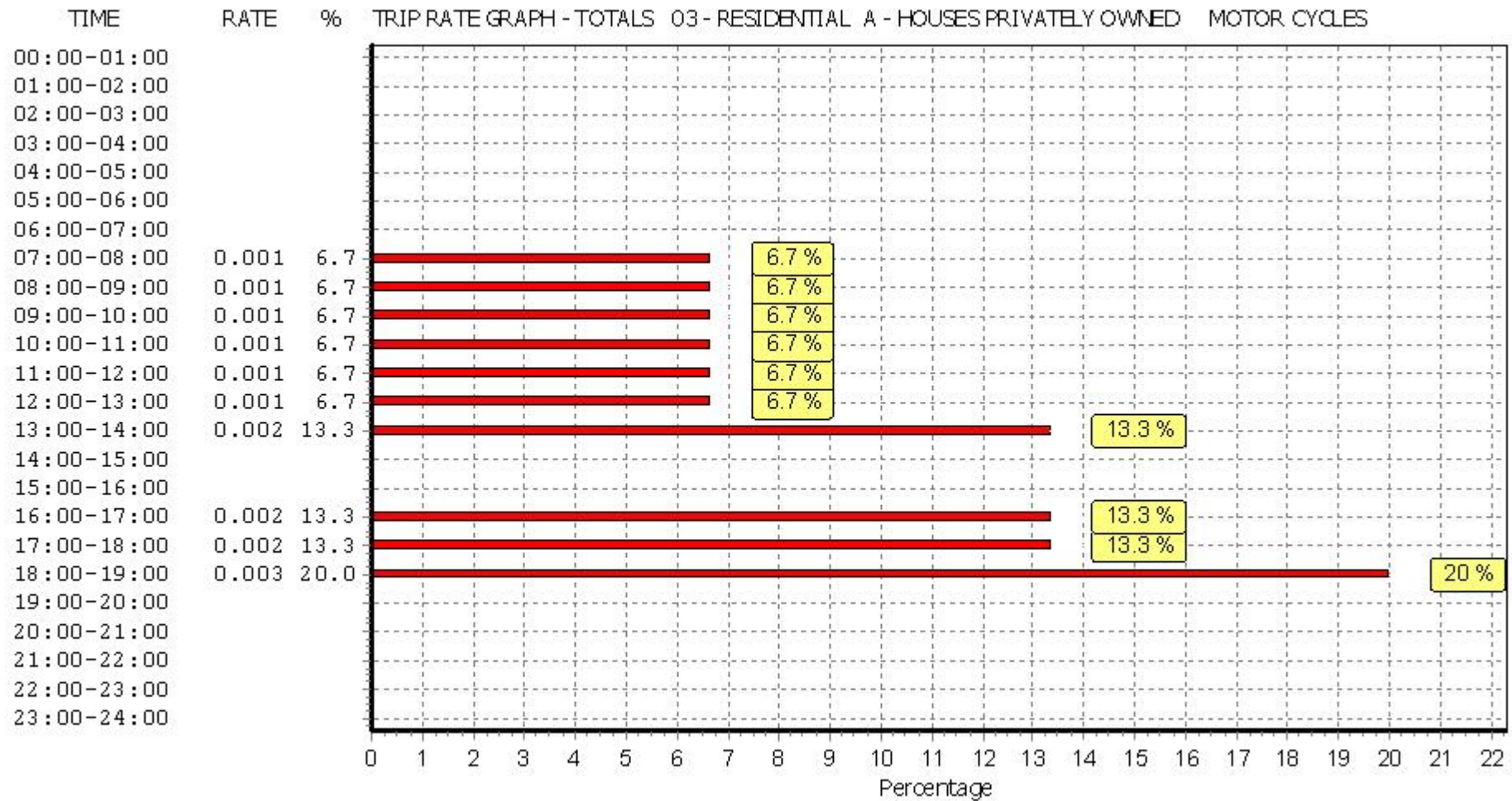
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected 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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T18516
Sandwich Road, Sholden



Appendix F

PICADY Site Access

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

Filename: T18516 - Site Access.j9
 Path: G:\General\Projects\T18516 Sholden\Junction Assessments\Picady
 Report generation date: 25/02/2021 09:02:46

- »2026 Base + Committed + Development, AM
- »2026 Base + Committed + Development, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2026 Base + Committed + Development										
Stream B-AC	D1	0.3	19.27	0.21	C	D2	0.1	11.37	0.06	B
Stream C-AB		0.0	8.49	0.01	A		0.0	6.24	0.03	A

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

File summary

File Description

Title	
Location	
Site number	
Date	16/07/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PTBTRANSPORT\james.corbett
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2026 Base + Committed + Development	AM	ONE HOUR	07:45	09:15	15
D2	2026 Base + Committed + Development	PM	ONE HOUR	16:45	18:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2026 Base + Committed + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.53	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Sandwich Road South		Major
B	Site Access		Minor
C	Sandwich Road North		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.30		✓	2.20	250.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.21	100	125

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	586	0.105	0.266	0.167	0.380
B-C	717	0.109	0.274	-	-
C-B	719	0.275	0.275	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2026 Base + Committed + Development	AM	ONE HOUR	07:45	09:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	986	100.000
B		✓	44	100.000
C		✓	659	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	11	975
	B	25	0	19
	C	654	5	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	3	0	0

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:45-08:00	A	742	742
	B	33	33
	C	496	496
08:00-08:15	A	886	886
	B	40	40
	C	592	592
08:15-08:30	A	1086	1086
	B	48	48
	C	726	726
08:30-08:45	A	1086	1086
	B	48	48
	C	726	726
08:45-09:00	A	886	886
	B	40	40
	C	592	592
09:00-09:15	A	742	742
	B	33	33
	C	496	496

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.21	19.27	0.3	C
C-AB	0.01	8.49	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	371	0.089	33	0.1	10.640	B
C-AB	4	518	0.007	4	0.0	6.997	A
C-A	492			492			
A-B	8			8			
A-C	734			734			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	40	316	0.125	39	0.1	13.027	B
C-AB	5	481	0.009	5	0.0	7.562	A
C-A	588			588			
A-B	10			10			
A-C	877			877			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	48	235	0.206	48	0.3	19.181	C
C-AB	6	430	0.013	6	0.0	8.492	A
C-A	720			720			
A-B	12			12			
A-C	1073			1073			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	48	235	0.206	48	0.3	19.270	C
C-AB	6	430	0.013	6	0.0	8.492	A
C-A	720			720			
A-B	12			12			
A-C	1073			1073			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	40	316	0.125	40	0.1	13.086	B
C-AB	5	481	0.009	5	0.0	7.562	A
C-A	588			588			
A-B	10			10			
A-C	877			877			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	33	371	0.089	33	0.1	10.675	B
C-AB	4	518	0.007	4	0.0	6.997	A
C-A	492			492			
A-B	8			8			
A-C	734			734			

2026 Base + Committed + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.21	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2026 Base + Committed + Development	PM	ONE HOUR	16:45	18:15	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	499	100.000
B		✓	18	100.000
C		✓	881	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	28	471
	B	12	0	6
	C	868	13	0

Vehicle Mix

Heavy Vehicle Percentages

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

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	376	376
	B	14	14
	C	663	663
17:00-17:15	A	449	449
	B	16	16
	C	792	792
17:15-17:30	A	549	549
	B	20	20
	C	970	970
17:30-17:45	A	549	549
	B	20	20
	C	970	970
17:45-18:00	A	449	449
	B	16	16
	C	792	792
18:00-18:15	A	376	376
	B	14	14
	C	663	663

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	11.37	0.1	B
C-AB	0.03	6.24	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	432	0.031	13	0.0	8.589	A
C-AB	10	626	0.016	10	0.0	5.844	A
C-A	653			653			
A-B	21			21			
A-C	355			355			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	16	393	0.041	16	0.0	9.555	A
C-AB	12	611	0.020	12	0.0	6.011	A
C-A	780			780			
A-B	25			25			
A-C	423			423			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	336	0.059	20	0.1	11.367	B
C-AB	15	592	0.025	15	0.0	6.239	A
C-A	955			955			
A-B	31			31			
A-C	519			519			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	336	0.059	20	0.1	11.371	B
C-AB	15	592	0.025	15	0.0	6.239	A
C-A	955			955			
A-B	31			31			
A-C	519			519			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	16	393	0.041	16	0.0	9.561	A
C-AB	12	611	0.020	12	0.0	6.014	A
C-A	780			780			
A-B	25			25			
A-C	423			423			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	432	0.031	14	0.0	8.598	A
C-AB	10	626	0.016	10	0.0	5.846	A
C-A	653			653			
A-B	21			21			
A-C	355			355			

T18516
Sandwich Road, Sholden



Appendix G

PICADY London Road/Mongeham Road

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
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Filename: T18516 - Mongeham Rd-London Rd Existing v2.j9
 Path: G:\General\Projects\T18516 Sholden\Junction Assessments\Picady
 Report generation date: 25/02/2021 10:39:08

- »2019, AM
- »2019, PM
- »2021 Base, AM
- »2021 Base, PM
- »2026 Base + Committed, AM
- »2026 Base + Committed, PM
- »2026 Base + Committed + Development, AM
- »2026 Base + Committed + Development, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2019										
Stream B-C	D1	0.6	13.99	0.35	B	D2	0.3	15.02	0.25	C
Stream B-A		0.6	28.30	0.38	D		1.7	51.61	0.65	F
Stream C-AB		0.4	8.51	0.24	A		0.7	7.18	0.31	A
2021 Base										
Stream B-C	D3	0.6	14.88	0.37	B	D4	0.4	17.71	0.28	C
Stream B-A		0.7	30.89	0.40	D		2.1	61.23	0.69	F
Stream C-AB		0.5	8.56	0.25	A		0.7	7.18	0.32	A
2026 Base + Committed										
Stream B-C	D5	1.0	22.93	0.50	C	D6	5.7	220.44	1.00	F
Stream B-A		1.3	55.12	0.57	F		7.5	197.88	0.99	F
Stream C-AB		0.7	8.93	0.31	A		1.0	7.16	0.36	A
2026 Base + Committed + Development										
Stream B-C	D7	1.1	25.53	0.53	D	D8	6.5	226.11	1.06	F
Stream B-A		1.5	62.85	0.60	F		8.0	212.25	1.04	F
Stream C-AB		0.8	8.95	0.33	A		1.0	7.20	0.37	A

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

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

File summary

File Description

Title	
Location	
Site number	
Date	10/07/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PTBTRANSPORT\Shannon.Connolly
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2019	AM	FLAT	08:00	09:00	60	15	✓
D2	2019	PM	ONE HOUR	16:45	18:15		15	✓
D3	2021 Base	AM	FLAT	08:00	09:00	60	15	✓
D4	2021 Base	PM	ONE HOUR	16:45	18:15		15	✓
D5	2026 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D6	2026 Base + Committed	PM	ONE HOUR	16:45	18:15		15	✓
D7	2026 Base + Committed + Development	AM	FLAT	08:00	09:00	60	15	✓
D8	2026 Base + Committed + Development	PM	ONE HOUR	16:45	18:15		15	✓

Analysis Set Details

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

2019, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.20	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	London Road (S)		Major
B	Mongeham Road		Minor
C	London Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.20		✓	2.20	120.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	5.30	3.05	2.50	2.40	✓	1.00	24	42

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	529	0.096	0.242	0.152	0.345
B-C	668	0.101	0.256	-	-
C-B	643	0.247	0.247	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2019	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	Average Demand (PCU/hr)	Scaling Factor (%)
A		FLAT	✓	828	100.000
B		FLAT	✓	226	100.000
C		FLAT	✓	676	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	149	679
	B	82	0	144
	C	570	106	0

Proportions

	To			
	A	B	C	
From	A	0.00	0.18	0.82
	B	0.36	0.00	0.64
	C	0.84	0.16	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	3	3
	B	6	0	3
	C	6	4	0

Average PCU Per Veh

	To			
	A	B	C	
From	A	1.000	1.030	1.030
	B	1.060	1.000	1.030
	C	1.060	1.040	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	828	828
	B	226	226
	C	676	676
08:15-08:30	A	828	828
	B	226	226
	C	676	676
08:30-08:45	A	828	828
	B	226	226
	C	676	676
08:45-09:00	A	828	828
	B	226	226
	C	676	676

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.35	13.99	0.6	~1	B	144	144
B-A	0.38	28.30	0.6	~1	D	82	82
C-AB	0.24	8.51	0.4	~1	A	141	141
C-A						535	535
A-B						149	149
A-C						679	679

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	144	36	413	0.349	142	0.0	0.5	13.595	B
B-A	82	21	218	0.377	80	0.0	0.6	27.179	D
C-AB	141	35	584	0.242	139	0.0	0.4	8.440	A
C-A	535	134			535				
A-B	149	37			149				
A-C	679	170			679				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	144	36	409	0.352	144	0.5	0.6	13.983	B
B-A	82	21	217	0.378	82	0.6	0.6	28.256	D
C-AB	141	35	584	0.242	141	0.4	0.4	8.504	A
C-A	535	134			535				
A-B	149	37			149				
A-C	679	170			679				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	144	36	409	0.352	144	0.6	0.6	13.991	B
B-A	82	21	217	0.378	82	0.6	0.6	28.287	D
C-AB	141	35	584	0.242	141	0.4	0.4	8.505	A
C-A	535	134			535				
A-B	149	37			149				
A-C	679	170			679				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	144	36	409	0.352	144	0.6	0.6	13.995	B
B-A	82	21	217	0.378	82	0.6	0.6	28.296	D
C-AB	141	35	584	0.242	141	0.4	0.4	8.504	A
C-A	535	134			535				
A-B	149	37			149				
A-C	679	170			679				

Queue Variation Results for each time segment

08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.54	~1	~1	~1	~1			N/A	N/A
B-A	0.61	~1	~1	~1	~1			N/A	N/A
C-AB	0.43	~1	~1	~1	~1			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.55	~1	~1	~1	~1			N/A	N/A
B-A	0.63	~1	~1	~1	~1			N/A	N/A
C-AB	0.43	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.55	~1	~1	~1	~1			N/A	N/A
B-A	0.63	~1	~1	~1	~1			N/A	N/A
C-AB	0.44	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.56	~1	~1	~1	~1			N/A	N/A
B-A	0.64	~1	~1	~1	~1			N/A	N/A
C-AB	0.44	~1	~1	~1	~1			N/A	N/A

2019, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		4.96	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
D2	2019	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	612	100.000
B		ONE HOUR	✓	187	100.000
C		ONE HOUR	✓	884	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	91	521
	B	115	0	72
	C	749	135	0

Proportions

	To			
	A	B	C	
From	A	0.00	0.15	0.85
	B	0.61	0.00	0.39
	C	0.85	0.15	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Average PCU Per Veh

	To			
	A	B	C	
From	A	1.000	1.020	1.020
	B	1.010	1.000	1.010
	C	1.010	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	461	461
	B	141	141
	C	666	666
17:00-17:15	A	550	550
	B	168	168
	C	795	795
17:15-17:30	A	674	674
	B	206	206
	C	973	973
17:30-17:45	A	674	674
	B	206	206
	C	973	973
17:45-18:00	A	550	550
	B	168	168
	C	795	795
18:00-18:15	A	461	461
	B	141	141
	C	666	666

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.25	15.02	0.3	1.3	C	66	99
B-A	0.65	51.61	1.7	9.0	F	106	158
C-AB	0.31	7.18	0.7	2.6	A	170	256
C-A						641	961
A-B						84	125
A-C						478	717

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	54	14	521	0.104	54	0.0	0.1	7.766	A
B-A	87	22	300	0.289	85	0.0	0.4	16.790	C
C-AB	122	31	638	0.192	121	0.0	0.3	6.971	A
C-A	543	136			543				
A-B	69	17			69				
A-C	392	98			392				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16	467	0.139	65	0.1	0.2	9.039	A
B-A	103	26	257	0.403	102	0.4	0.7	23.399	C
C-AB	160	40	668	0.239	159	0.3	0.4	7.090	A
C-A	635	159			635				
A-B	82	20			82				
A-C	468	117			468				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	79	20	333	0.238	79	0.2	0.3	14.248	B
B-A	127	32	196	0.646	123	0.7	1.6	47.393	E
C-AB	229	57	734	0.312	228	0.4	0.7	7.146	A
C-A	745	186			745				
A-B	100	25			100				
A-C	574	143			574				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	79	20	321	0.247	79	0.3	0.3	15.023	C
B-A	127	32	196	0.647	126	1.6	1.7	51.609	F
C-AB	229	57	734	0.312	229	0.7	0.7	7.176	A
C-A	745	186			745				
A-B	100	25			100				
A-C	574	143			574				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16	458	0.141	65	0.3	0.2	9.270	A
B-A	103	26	256	0.403	107	1.7	0.7	25.003	D
C-AB	160	40	669	0.239	161	0.7	0.4	7.134	A
C-A	635	159			635				
A-B	82	20			82				
A-C	468	117			468				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	54	14	518	0.105	54	0.2	0.1	7.844	A
B-A	87	22	300	0.289	88	0.7	0.4	17.252	C
C-AB	122	31	638	0.192	123	0.4	0.3	7.015	A
C-A	543	136			543				
A-B	69	17			69				
A-C	392	98			392				

Queue Variation Results for each time segment
16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.12	0.00	0.00	0.12	0.12			N/A	N/A
B-A	0.40	0.00	0.00	0.40	0.40			N/A	N/A
C-AB	0.28	0.00	0.00	0.28	0.28			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.16	0.00	0.00	0.16	0.16			N/A	N/A
B-A	0.65	0.10	0.85	1.38	1.45			N/A	N/A
C-AB	0.40	0.00	0.00	0.40	0.40			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.31	0.03	0.26	0.47	0.50			N/A	N/A
B-A	1.61	0.03	0.34	3.60	8.35			N/A	N/A
C-AB	0.67	0.03	0.26	0.67	0.67			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.33	0.03	0.32	1.09	1.34			N/A	N/A
B-A	1.72	0.03	0.33	3.72	8.99			N/A	N/A
C-AB	0.68	0.04	0.37	1.57	2.58			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.17	0.00	0.00	0.17	0.17			N/A	N/A
B-A	0.71	0.04	0.42	1.52	2.25			N/A	N/A
C-AB	0.42	0.00	0.00	0.42	0.42			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.12	0.00	0.00	0.12	0.12			N/A	N/A
B-A	0.42	0.03	0.33	1.35	1.57			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

2021 Base, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2021 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	Average Demand (PCU/hr)	Scaling Factor (%)
A		FLAT	✓	850	100.000
B		FLAT	✓	232	100.000
C		FLAT	✓	694	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	153	697
	B	84	0	148
	C	585	109	0

Proportions

	To			
	A	B	C	
From	A	0.00	0.18	0.82
	B	0.36	0.00	0.64
	C	0.84	0.16	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
A	0	3	3
B	6	0	3
C	6	4	0

Average PCU Per Veh

From	To		
	A	B	C
A	1.000	1.030	1.030
B	1.060	1.000	1.030
C	1.060	1.040	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	850	850
	B	232	232
	C	694	694
08:15-08:30	A	850	850
	B	232	232
	C	694	694
08:30-08:45	A	850	850
	B	232	232
	C	694	694
08:45-09:00	A	850	850
	B	232	232
	C	694	694

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.37	14.88	0.6	~1	B	148	148
B-A	0.40	30.89	0.7	~1	D	84	84
C-AB	0.25	8.56	0.5	~1	A	148	148
C-A						546	546
A-B						153	153
A-C						697	697

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	148	37	401	0.369	146	0.0	0.6	14.369	B
B-A	84	21	209	0.403	81	0.0	0.7	29.421	D
C-AB	148	37	589	0.252	146	0.0	0.5	8.489	A
C-A	546	136			546				
A-B	153	38			153				
A-C	697	174			697				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	148	37	397	0.373	148	0.6	0.6	14.862	B
B-A	84	21	207	0.405	84	0.7	0.7	30.831	D
C-AB	148	37	589	0.252	148	0.5	0.5	8.559	A
C-A	546	136			546				
A-B	153	38			153				
A-C	697	174			697				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	148	37	397	0.373	148	0.6	0.6	14.876	B
B-A	84	21	207	0.405	84	0.7	0.7	30.877	D
C-AB	148	37	589	0.252	148	0.5	0.5	8.560	A
C-A	546	136			546				
A-B	153	38			153				
A-C	697	174			697				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	148	37	397	0.373	148	0.6	0.6	14.882	B
B-A	84	21	207	0.405	84	0.7	0.7	30.891	D
C-AB	148	37	589	0.252	148	0.5	0.5	8.559	A
C-A	546	136			546				
A-B	153	38			153				
A-C	697	174			697				

Queue Variation Results for each time segment
08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.59	~1	~1	~1	~1			N/A	N/A
B-A	0.68	~1	~1	~1	~1			N/A	N/A
C-AB	0.46	~1	~1	~1	~1			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.60	~1	~1	~1	~1			N/A	N/A
B-A	0.70	~1	~1	~1	~1			N/A	N/A
C-AB	0.47	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.61	~1	~1	~1	~1			N/A	N/A
B-A	0.71	~1	~1	~1	~1			N/A	N/A
C-AB	0.47	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.61	~1	~1	~1	~1			N/A	N/A
B-A	0.71	~1	~1	~1	~1			N/A	N/A
C-AB	0.47	~1	~1	~1	~1			N/A	N/A

2021 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		5.75	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
D4	2021 Base	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	627	100.000
B		ONE HOUR	✓	192	100.000
C		ONE HOUR	✓	906	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	93	534
	B	118	0	74
	C	768	138	0

Proportions

	To			
	A	B	C	
From	A	0.00	0.15	0.85
	B	0.61	0.00	0.39
	C	0.85	0.15	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Average PCU Per Veh

	To			
	A	B	C	
From	A	1.000	1.020	1.020
	B	1.010	1.000	1.010
	C	1.010	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	472	472
	B	145	145
	C	682	682
17:00-17:15	A	564	564
	B	173	173
	C	814	814
17:15-17:30	A	690	690
	B	211	211
	C	998	998
17:30-17:45	A	690	690
	B	211	211
	C	998	998
17:45-18:00	A	564	564
	B	173	173
	C	814	814
18:00-18:15	A	472	472
	B	145	145
	C	682	682

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.28	17.71	0.4	1.5	C	68	102
B-A	0.69	61.23	2.1	10.9	F	108	162
C-AB	0.32	7.18	0.7	2.8	A	177	266
C-A						654	981
A-B						85	128
A-C						490	735

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	14	516	0.108	55	0.0	0.1	7.890	A
B-A	89	22	295	0.302	87	0.0	0.4	17.395	C
C-AB	126	32	641	0.197	125	0.0	0.3	6.984	A
C-A	556	139			556				
A-B	70	18			70				
A-C	402	101			402				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	17	456	0.146	66	0.1	0.2	9.319	A
B-A	106	27	250	0.424	105	0.4	0.7	24.841	C
C-AB	166	41	674	0.246	165	0.3	0.4	7.098	A
C-A	649	162			649				
A-B	84	21			84				
A-C	480	120			480				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	20	304	0.268	81	0.2	0.4	16.264	C
B-A	130	32	188	0.692	125	0.7	1.9	54.518	F
C-AB	239	60	744	0.321	238	0.4	0.7	7.146	A
C-A	758	190			758				
A-B	102	26			102				
A-C	588	147			588				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	20	286	0.284	81	0.4	0.4	17.711	C
B-A	130	32	187	0.694	129	1.9	2.1	61.234	F
C-AB	239	60	745	0.321	239	0.7	0.7	7.178	A
C-A	758	190			758				
A-B	102	26			102				
A-C	588	147			588				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	17	445	0.149	67	0.4	0.2	9.646	A
B-A	106	27	250	0.425	111	2.1	0.8	27.122	D
C-AB	166	41	674	0.246	167	0.7	0.4	7.145	A
C-A	649	162			649				
A-B	84	21			84				
A-C	480	120			480				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	14	512	0.109	56	0.2	0.1	7.978	A
B-A	89	22	294	0.302	90	0.8	0.4	17.938	C
C-AB	126	32	641	0.197	127	0.4	0.3	7.030	A
C-A	556	139			556				
A-B	70	18			70				
A-C	402	101			402				

Queue Variation Results for each time segment
16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.12	0.00	0.00	0.12	0.12			N/A	N/A
B-A	0.42	0.00	0.00	0.42	0.42			N/A	N/A
C-AB	0.29	0.00	0.00	0.29	0.29			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.17	0.00	0.00	0.17	0.17			N/A	N/A
B-A	0.71	0.10	0.85	1.39	1.46			N/A	N/A
C-AB	0.43	0.00	0.00	0.43	0.43			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.36	0.03	0.26	0.47	0.50			N/A	N/A
B-A	1.91	0.04	0.37	4.90	9.71			N/A	N/A
C-AB	0.72	0.03	0.26	0.72	0.72			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.39	0.03	0.34	1.25	1.47			N/A	N/A
B-A	2.07	0.04	0.35	4.94	10.87			N/A	N/A
C-AB	0.73	0.04	0.38	1.70	2.82			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.18	0.00	0.00	0.18	0.18			N/A	N/A
B-A	0.78	0.04	0.40	1.78	2.83			N/A	N/A
C-AB	0.45	0.00	0.00	0.45	0.45			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.12	0.00	0.00	0.12	0.12			N/A	N/A
B-A	0.45	0.03	0.32	1.39	1.85			N/A	N/A
C-AB	0.30	0.00	0.00	0.30	0.30			N/A	N/A

2026 Base + Committed, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		5.20	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
D5	2026 Base + Committed	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	Average Demand (PCU/hr)	Scaling Factor (%)
A		FLAT	✓	968	100.000
B		FLAT	✓	251	100.000
C		FLAT	✓	774	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	167	801
	B	90	0	161
	C	648	126	0

Proportions

	To			
	A	B	C	
From	A	0.00	0.17	0.83
	B	0.36	0.00	0.64
	C	0.84	0.16	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
A	0	3	3
B	6	0	3
C	6	4	0

Average PCU Per Veh

From	To		
	A	B	C
A	1.000	1.030	1.030
B	1.060	1.000	1.030
C	1.060	1.040	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	968	968
	B	251	251
	C	774	774
08:15-08:30	A	968	968
	B	251	251
	C	774	774
08:30-08:45	A	968	968
	B	251	251
	C	774	774
08:45-09:00	A	968	968
	B	251	251
	C	774	774

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.50	22.93	1.0	?	C	161	161
B-A	0.57	55.12	1.3	?	F	90	90
C-AB	0.31	8.93	0.7	~1	A	192	192
C-A						582	582
A-B						167	167
A-C						801	801

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	161	40	335	0.480	157	0.0	0.9	20.440	C
B-A	90	23	161	0.558	85	0.0	1.2	47.761	E
C-AB	192	48	615	0.312	189	0.0	0.7	8.818	A
C-A	582	146			582				
A-B	167	42			167				
A-C	801	200			801				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	161	40	324	0.497	161	0.9	1.0	22.673	C
B-A	90	23	159	0.566	90	1.2	1.3	54.353	F
C-AB	192	48	615	0.312	192	0.7	0.7	8.929	A
C-A	582	146			582				
A-B	167	42			167				
A-C	801	200			801				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	161	40	323	0.499	161	1.0	1.0	22.873	C
B-A	90	23	159	0.567	90	1.3	1.3	54.929	F
C-AB	192	48	615	0.312	192	0.7	0.7	8.932	A
C-A	582	146			582				
A-B	167	42			167				
A-C	801	200			801				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	161	40	323	0.499	161	1.0	1.0	22.934	C
B-A	90	23	159	0.567	90	1.3	1.3	55.120	F
C-AB	192	48	615	0.312	192	0.7	0.7	8.933	A
C-A	582	146			582				
A-B	167	42			167				
A-C	801	200			801				

Queue Variation Results for each time segment
08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.91	~1	~1	~1	~1			N/A	N/A
B-A	1.19	?	?	?	?			N/A	N/A
C-AB	0.68	~1	~1	~1	~1			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.98	~1	~1	~1	~1			N/A	N/A
B-A	1.29	?	?	?	?			N/A	N/A
C-AB	0.70	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.00	?	?	?	?			N/A	N/A
B-A	1.32	?	?	?	?			N/A	N/A
C-AB	0.71	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.01	?	?	?	?			N/A	N/A
B-A	1.34	?	?	?	?			N/A	N/A
C-AB	0.71	~1	~1	~1	~1			N/A	N/A

2026 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		23.50	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2026 Base + Committed	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	704	100.000
B		ONE HOUR	✓	212	100.000
C		ONE HOUR	✓	1019	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	101	603
	B	128	0	84
	C	870	149	0

Proportions

	To			
	A	B	C	
From	A	0.00	0.14	0.86
	B	0.60	0.00	0.40
	C	0.85	0.15	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Average PCU Per Veh

	To			
	A	B	C	
From	A	1.000	1.020	1.020
	B	1.010	1.000	1.010
	C	1.010	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	530	530
	B	160	160
	C	767	767
17:00-17:15	A	633	633
	B	191	191
	C	916	916
17:15-17:30	A	775	775
	B	233	233
	C	1122	1122
17:30-17:45	A	775	775
	B	233	233
	C	1122	1122
17:45-18:00	A	633	633
	B	191	191
	C	916	916
18:00-18:15	A	530	530
	B	160	160
	C	767	767

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.00	220.44	5.7	19.8	F	77	116
B-A	0.99	197.88	7.5	25.1	F	117	176
C-AB	0.36	7.16	1.0	4.2	A	209	313
C-A						726	1089
A-B						93	139
A-C						553	830

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	63	16	487	0.130	63	0.0	0.1	8.549	A
B-A	96	24	267	0.361	94	0.0	0.6	20.821	C
C-AB	144	36	656	0.219	142	0.0	0.4	7.014	A
C-A	624	156			624				
A-B	76	19			76				
A-C	454	113			454				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	76	19	399	0.189	75	0.1	0.2	11.200	B
B-A	115	29	216	0.532	113	0.6	1.1	34.475	D
C-AB	193	48	702	0.275	192	0.4	0.5	7.090	A
C-A	723	181			723				
A-B	91	23			91				
A-C	542	136			542				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	92	23	93	0.995	76	0.2	4.3	156.869	F
B-A	141	35	144	0.976	124	1.1	5.3	128.881	F
C-AB	290	73	799	0.363	289	0.5	1.0	7.094	A
C-A	832	208			832				
A-B	111	28			111				
A-C	664	166			664				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	92	23	97	0.953	87	4.3	5.7	220.441	F
B-A	141	35	143	0.985	132	5.3	7.5	197.884	F
C-AB	290	73	800	0.363	290	1.0	1.0	7.142	A
C-A	832	208			832				
A-B	111	28			111				
A-C	664	166			664				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	76	19	331	0.228	97	5.7	0.3	16.987	C
B-A	115	29	212	0.542	140	7.5	1.3	62.124	F
C-AB	193	48	703	0.275	195	1.0	0.6	7.158	A
C-A	723	181			723				
A-B	91	23			91				
A-C	542	136			542				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	63	16	480	0.132	64	0.3	0.2	8.750	A
B-A	96	24	266	0.362	99	1.3	0.6	22.139	C
C-AB	144	36	656	0.219	144	0.6	0.4	7.072	A
C-A	624	156			624				
A-B	76	19			76				
A-C	454	113			454				

Queue Variation Results for each time segment
16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.15	0.00	0.00	0.15	0.15			N/A	N/A
B-A	0.55	0.55	1.01	1.41	1.46			N/A	N/A
C-AB	0.35	0.00	0.00	0.35	0.35			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.23	0.03	0.29	0.84	1.25			N/A	N/A
B-A	1.06	0.06	0.80	2.00	2.86			N/A	N/A
C-AB	0.53	0.53	1.00	1.40	1.45			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	4.33	0.11	1.76	10.85	15.25			N/A	N/A
B-A	5.26	0.22	2.96	12.00	16.00			N/A	N/A
C-AB	0.96	0.03	0.26	0.96	0.96			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	5.69	0.14	2.57	14.23	19.83			N/A	N/A
B-A	7.47	0.19	3.82	18.32	25.07			N/A	N/A
C-AB	0.98	0.04	0.38	2.44	4.22			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.31	0.03	0.28	0.50	1.51			N/A	N/A
B-A	1.32	0.03	0.35	3.15	6.70			N/A	N/A
C-AB	0.56	0.55	1.00	1.40	1.45			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.15	0.03	0.26	0.47	0.50			N/A	N/A
B-A	0.59	0.03	0.28	0.59	1.95			N/A	N/A
C-AB	0.37	0.00	0.00	0.37	0.37			N/A	N/A

2026 Base + Committed + Development, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		5.76	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
D7	2026 Base + Committed + Development	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	Average Demand (PCU/hr)	Scaling Factor (%)
A		FLAT	✓	977	100.000
B		FLAT	✓	254	100.000
C		FLAT	✓	799	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	167	810
	B	90	0	164
	C	667	132	0

Proportions

		To		
		A	B	C
From	A	0.00	0.17	0.83
	B	0.35	0.00	0.65
	C	0.83	0.17	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
A	0	3	3
B	6	0	3
C	6	4	0

Average PCU Per Veh

From	To		
	A	B	C
A	1.000	1.030	1.030
B	1.060	1.000	1.030
C	1.060	1.040	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	A	977	977
	B	254	254
	C	799	799
08:15-08:30	A	977	977
	B	254	254
	C	799	799
08:30-08:45	A	977	977
	B	254	254
	C	799	799
08:45-09:00	A	977	977
	B	254	254
	C	799	799

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.53	25.53	1.1	?	D	164	164
B-A	0.60	62.85	1.5	?	F	90	90
C-AB	0.33	8.95	0.8	~1	A	207	207
C-A						592	592
A-B						167	167
A-C						810	810

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	164	41	325	0.505	160	0.0	1.0	22.007	C
B-A	90	23	153	0.588	85	0.0	1.3	52.650	F
C-AB	207	52	631	0.328	204	0.0	0.8	8.818	A
C-A	592	148			592				
A-B	167	42			167				
A-C	810	203			810				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	164	41	311	0.528	164	1.0	1.1	25.066	D
B-A	90	23	150	0.598	89	1.3	1.4	61.532	F
C-AB	207	52	631	0.328	207	0.8	0.8	8.942	A
C-A	592	148			592				
A-B	167	42			167				
A-C	810	203			810				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	164	41	309	0.530	164	1.1	1.1	25.417	D
B-A	90	23	150	0.599	90	1.4	1.5	62.509	F
C-AB	207	52	631	0.328	207	0.8	0.8	8.945	A
C-A	592	148			592				
A-B	167	42			167				
A-C	810	203			810				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	164	41	309	0.531	164	1.1	1.1	25.534	D
B-A	90	23	150	0.599	90	1.5	1.5	62.853	F
C-AB	207	52	631	0.328	207	0.8	0.8	8.944	A
C-A	592	148			592				
A-B	167	42			167				
A-C	810	203			810				

Queue Variation Results for each time segment
08:00 - 08:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.00	~1	~1	~1	~1			N/A	N/A
B-A	1.31	?	?	?	?			N/A	N/A
C-AB	0.76	~1	~1	~1	~1			N/A	N/A

08:15 - 08:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.10	?	?	?	?			N/A	N/A
B-A	1.44	?	?	?	?			N/A	N/A
C-AB	0.78	~1	~1	~1	~1			N/A	N/A

08:30 - 08:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.13	?	?	?	?			N/A	N/A
B-A	1.49	?	?	?	?			N/A	N/A
C-AB	0.78	~1	~1	~1	~1			N/A	N/A

08:45 - 09:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	1.14	?	?	?	?			N/A	N/A
B-A	1.52	?	?	?	?			N/A	N/A
C-AB	0.79	~1	~1	~1	~1			N/A	N/A

2026 Base + Committed + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Queue variations	Analysis Options	Queue percentiles may be unreliable if the mean queue in any time segment is very low or very high.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		25.25	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2026 Base + Committed + Development	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	724	100.000
B		ONE HOUR	✓	221	100.000
C		ONE HOUR	✓	1031	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	101	623
	B	128	0	93
	C	880	151	0

Proportions

		To		
		A	B	C
From	A	0.00	0.14	0.86
	B	0.58	0.00	0.42
	C	0.85	0.15	0.00

Vehicle Mix

Heavy Vehicle Percentages

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

Average PCU Per Veh

		To		
		A	B	C
From	A	1.000	1.020	1.020
	B	1.010	1.000	1.010
	C	1.010	1.000	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:45-17:00	A	545	545
	B	166	166
	C	776	776
17:00-17:15	A	651	651
	B	199	199
	C	927	927
17:15-17:30	A	797	797
	B	243	243
	C	1135	1135
17:30-17:45	A	797	797
	B	243	243
	C	1135	1135
17:45-18:00	A	651	651
	B	199	199
	C	927	927
18:00-18:15	A	545	545
	B	166	166
	C	776	776

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	1.06	226.11	6.5	22.5	F	85	128
B-A	1.04	212.25	8.0	26.1	F	117	176
C-AB	0.37	7.20	1.0	4.6	A	215	323
C-A						731	1096
A-B						93	139
A-C						572	858

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	70	18	484	0.145	69	0.0	0.2	8.748	A
B-A	96	24	261	0.370	94	0.0	0.6	21.564	C
C-AB	147	37	657	0.223	145	0.0	0.4	7.042	A
C-A	629	157			629				
A-B	76	19			76				
A-C	469	117			469				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	84	21	390	0.214	83	0.2	0.3	11.833	B
B-A	115	29	209	0.551	113	0.6	1.1	36.937	E
C-AB	198	50	705	0.281	198	0.4	0.6	7.122	A
C-A	729	182			729				
A-B	91	23			91				
A-C	560	140			560				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	102	26	97	1.059	82	0.3	5.3	169.774	F
B-A	141	35	136	1.036	120	1.1	6.3	151.168	F
C-AB	301	75	807	0.373	299	0.6	1.0	7.133	A
C-A	835	209			835				
A-B	111	28			111				
A-C	686	171			686				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	102	26	108	0.952	98	5.3	6.5	226.107	F
B-A	141	35	144	0.975	134	6.3	8.0	212.254	F
C-AB	301	75	807	0.372	301	1.0	1.0	7.182	A
C-A	835	209			835				
A-B	111	28			111				
A-C	686	171			686				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	84	21	341	0.245	108	6.5	0.3	17.233	C
B-A	115	29	221	0.521	142	8.0	1.2	58.404	F
C-AB	198	50	706	0.281	200	1.0	0.6	7.199	A
C-A	729	182			729				
A-B	91	23			91				
A-C	560	140			560				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	70	18	477	0.147	71	0.3	0.2	8.955	A
B-A	96	24	260	0.371	99	1.2	0.6	22.859	C
C-AB	147	37	657	0.223	148	0.6	0.4	7.109	A
C-A	629	157			629				
A-B	76	19			76				
A-C	469	117			469				

Queue Variation Results for each time segment
16:45 - 17:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.17	0.00	0.00	0.17	0.17			N/A	N/A
B-A	0.57	0.08	0.79	1.37	1.44			N/A	N/A
C-AB	0.36	0.00	0.00	0.36	0.36			N/A	N/A

17:00 - 17:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.27	0.03	0.30	0.98	1.42			N/A	N/A
B-A	1.14	0.06	0.76	2.41	3.38			N/A	N/A
C-AB	0.55	0.55	1.00	1.40	1.45			N/A	N/A

17:15 - 17:30

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	5.34	0.20	2.91	12.39	16.63			N/A	N/A
B-A	6.32	0.50	4.20	13.39	17.21			N/A	N/A
C-AB	1.01	0.03	0.27	1.01	1.01			N/A	N/A

17:30 - 17:45

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	6.49	0.15	3.01	16.22	22.53			N/A	N/A
B-A	8.02	0.23	4.37	19.29	26.10			N/A	N/A
C-AB	1.04	0.04	0.38	2.62	4.59			N/A	N/A

17:45 - 18:00

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.33	0.03	0.27	0.49	1.41			N/A	N/A
B-A	1.20	0.03	0.31	2.13	6.11			N/A	N/A
C-AB	0.59	0.55	1.00	1.40	1.45			N/A	N/A

18:00 - 18:15

Stream	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
B-C	0.18	0.03	0.26	0.47	0.49			N/A	N/A
B-A	0.62	0.03	0.28	0.62	1.61			N/A	N/A
C-AB	0.38	0.00	0.00	0.38	0.38			N/A	N/A

T18516
Sandwich Road, Sholden



Appendix H

ARCADY London Road/Manor Road

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.5.1.7462 © Copyright TRL Limited, 2019
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk
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Filename: Manor Road-London Road Existing Mini JC Geometry.j9
Path: G:\General\Projects\T18516 Sholden\Junction Assessments\Arcady
Report generation date: 25/02/2021 11:16:05

- »2019 Base, AM
- »2019 Base, PM
- »2021 Base, AM
- »2021 Base, PM
- »2026 Base + Committed, AM
- »2026 Base + Committed, PM
- »2026 Base + Committed + Development, AM
- »2026 Base + Committed + Development, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2019 Base										
Arm 1	D1	6.0	32.51	0.86	D	D2	3.7	23.95	0.79	C
Arm 2		2.9	20.16	0.75	C		0.9	8.32	0.47	A
Arm 3		2.1	11.79	0.67	B		6.1	27.37	0.86	D
2021 Base										
Arm 1	D3	7.4	39.47	0.89	E	D4	4.3	27.49	0.81	D
Arm 2		3.4	23.15	0.78	C		1.0	8.65	0.49	A
Arm 3		2.3	12.62	0.69	B		7.5	33.08	0.89	D
2026 Base + Committed										
Arm 1	D5	59.0	256.38	1.06	F	D6	9.3	55.57	0.92	F
Arm 2		7.3	47.37	0.89	E		1.3	10.57	0.57	B
Arm 3		3.4	17.05	0.77	C		39.2	148.30	1.02	F
2026 Base + Committed + Development										
Arm 1	D7	66.0	285.55	1.07	F	D8	11.2	66.04	0.93	F
Arm 2		7.5	48.48	0.89	E		1.4	11.10	0.58	B
Arm 3		3.8	18.62	0.79	C		46.5	172.35	1.03	F

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

File summary

File Description

Title	
Location	
Site number	
Date	21/02/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	PTBTRANSPORT\james.corbett
Description	

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	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	2019 Base	AM	FLAT	08:00	09:00	60	15	✓
D2	2019 Base	PM	FLAT	17:00	18:00	60	15	✓
D3	2021 Base	AM	FLAT	08:00	09:00	60	15	✓
D4	2021 Base	PM	FLAT	17:00	18:00	60	15	✓
D5	2026 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D6	2026 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓
D7	2026 Base + Committed + Development	AM	FLAT	08:00	09:00	60	15	✓
D8	2026 Base + Committed + Development	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

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

2019 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3	21.80	C

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	London Road Northeast	
2	Manor Road	
3	London Road Northwest	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	2.70	2.70	4.40	3.3	8.00	4.20	0.0	
2	3.00	3.00	4.40	13.0	15.00	16.00	0.0	
3	3.50	3.50	4.60	3.3	12.00	10.80	0.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
1	Percentage		110.00
2	None		
3	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.603	926
2	0.671	1096
3	0.632	1090

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

Arm Capacity Adjustments

Arm	Type	Reason	Direct capacity adjustment (PCU/hr)
3	Direct		0

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	2019 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	Average Demand (PCU/hr)	Scaling Factor (%)
1		FLAT	✓	687	100.000
2		FLAT	✓	532	100.000
3		FLAT	✓	647	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	116	571
	2	192	0	340
	3	436	211	0

Proportions

		To		
		1	2	3
From	1	0.00	0.17	0.83
	2	0.36	0.00	0.64
	3	0.67	0.33	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	5	3
	2	2	0	2
	3	6	4	0

Average PCU Per Veh

		To		
		1	2	3
From	1	1.000	1.050	1.030
	2	1.020	1.000	1.020
	3	1.060	1.040	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	1	687	687
	2	532	532
	3	647	647
08:15-08:30	1	687	687
	2	532	532
	3	647	647
08:30-08:45	1	687	687
	2	532	532
	3	647	647
08:45-09:00	1	687	687
	2	532	532
	3	647	647

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.86	32.51	6.0	D	687	687
2	0.75	20.16	2.9	C	532	532
3	0.67	11.79	2.1	B	647	647

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	687	172	208	800	0.858	666	619	0.0	5.1	24.892	C
2	532	133	554	725	0.734	522	321	0.0	2.6	17.292	C
3	647	162	188	971	0.667	639	887	0.0	2.0	11.175	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	687	172	211	799	0.860	685	628	5.1	5.6	31.440	D
2	532	133	569	714	0.745	531	327	2.6	2.8	19.871	C
3	647	162	192	968	0.668	647	909	2.0	2.1	11.773	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	687	172	211	799	0.860	686	628	5.6	5.9	32.195	D
2	532	133	570	714	0.745	532	327	2.8	2.9	20.091	C
3	647	162	192	968	0.668	647	910	2.1	2.1	11.789	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	687	172	211	799	0.860	687	628	5.9	6.0	32.506	D
2	532	133	571	713	0.746	532	327	2.9	2.9	20.158	C
3	647	162	192	968	0.668	647	911	2.1	2.1	11.795	B

2019 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3	22.07	C

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	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
D2	2019 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	Average Demand (PCU/hr)	Scaling Factor (%)
1		FLAT	✓	563	100.000
2		FLAT	✓	396	100.000
3		FLAT	✓	827	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	177	386
	2	210	0	186
	3	479	348	0

Proportions

		To		
		1	2	3
From	1	0.00	0.31	0.69
	2	0.53	0.00	0.47
	3	0.58	0.42	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	2	3
	2	2	0	2
	3	1	0	1

Average PCU Per Veh

		To		
		1	2	3
From	1	1.000	1.020	1.030
	2	1.020	1.000	1.020
	3	1.010	1.000	1.010

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
17:00-17:15	1	563	563
	2	396	396
	3	827	827
17:15-17:30	1	563	563
	2	396	396
	3	827	827
17:30-17:45	1	563	563
	2	396	396
	3	827	827
17:45-18:00	1	563	563
	2	396	396
	3	827	827

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.79	23.95	3.7	C	563	563
2	0.47	8.32	0.9	A	396	396
3	0.86	27.37	6.1	D	827	827

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	563	141	339	722	0.780	550	675	0.0	3.3	20.224	C
2	396	99	377	843	0.470	392	512	0.0	0.9	8.083	A
3	827	207	208	958	0.863	806	561	0.0	5.3	21.460	C

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	563	141	347	717	0.786	562	688	3.3	3.5	23.584	C
2	396	99	385	838	0.473	396	524	0.9	0.9	8.309	A
3	827	207	210	957	0.864	825	571	5.3	5.8	26.633	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 side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	563	141	348	716	0.786	563	689	3.5	3.6	23.856	C
2	396	99	386	837	0.473	396	525	0.9	0.9	8.317	A
3	827	207	210	957	0.864	826	572	5.8	6.0	27.157	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 side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	563	141	348	716	0.786	563	689	3.6	3.7	23.950	C
2	396	99	386	837	0.473	396	525	0.9	0.9	8.319	A
3	827	207	210	957	0.864	827	572	6.0	6.1	27.370	D

2021 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3	25.50	D

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	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	2021 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	Average Demand (PCU/hr)	Scaling Factor (%)
1		FLAT	✓	705	100.000
2		FLAT	✓	546	100.000
3		FLAT	✓	665	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	119	586
	2	197	0	349
	3	448	217	0

Proportions

		To		
		1	2	3
From	1	0.00	0.17	0.83
	2	0.36	0.00	0.64
	3	0.67	0.33	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	5	3
	2	2	0	2
	3	6	4	0

Average PCU Per Veh

		To		
		1	2	3
From	1	1.000	1.050	1.030
	2	1.020	1.000	1.020
	3	1.060	1.040	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	1	705	705
	2	546	546
	3	665	665
08:15-08:30	1	705	705
	2	546	546
	3	665	665
08:30-08:45	1	705	705
	2	546	546
	3	665	665
08:45-09:00	1	705	705
	2	546	546
	3	665	665

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.89	39.47	7.4	E	705	705
2	0.78	23.15	3.4	C	546	546
3	0.69	12.62	2.3	B	665	665

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	705	176	214	797	0.885	681	635	0.0	6.1	27.934	D
2	546	137	566	717	0.762	534	329	0.0	3.0	19.044	C
3	665	166	193	968	0.687	656	907	0.0	2.2	11.853	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	705	176	217	795	0.886	702	644	6.1	6.8	37.356	E
2	546	137	583	705	0.775	545	335	3.0	3.3	22.622	C
3	665	166	197	965	0.689	665	932	2.2	2.3	12.589	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	705	176	217	795	0.887	704	645	6.8	7.2	38.821	E
2	546	137	585	704	0.776	546	336	3.3	3.4	23.019	C
3	665	166	197	965	0.689	665	934	2.3	2.3	12.614	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	705	176	217	795	0.887	704	645	7.2	7.4	39.470	E
2	546	137	585	704	0.776	546	336	3.4	3.4	23.149	C
3	665	166	197	965	0.689	665	934	2.3	2.3	12.623	B

2021 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3	25.90	D

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	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	2021 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	Average Demand (PCU/hr)	Scaling Factor (%)
1		FLAT	✓	578	100.000
2		FLAT	✓	406	100.000
3		FLAT	✓	848	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	182	396
	2	215	0	191
	3	491	357	0

Proportions

		To		
		1	2	3
From	1	0.00	0.31	0.69
	2	0.53	0.00	0.47
	3	0.58	0.42	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	2	3
	2	2	0	2
	3	1	0	1

Average PCU Per Veh

		To		
		1	2	3
From	1	1.000	1.020	1.030
	2	1.020	1.000	1.020
	3	1.010	1.000	1.010

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
17:00-17:15	1	578	578
	2	406	406
	3	848	848
17:15-17:30	1	578	578
	2	406	406
	3	848	848
17:30-17:45	1	578	578
	2	406	406
	3	848	848
17:45-18:00	1	578	578
	2	406	406
	3	848	848

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.81	27.49	4.3	D	578	578
2	0.49	8.65	1.0	A	406	406
3	0.89	33.08	7.5	D	848	848

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	578	145	346	717	0.806	563	689	0.0	3.8	22.221	C
2	406	102	386	837	0.485	402	524	0.0	0.9	8.367	A
3	848	212	213	955	0.888	823	575	0.0	6.3	24.118	C

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	578	145	356	712	0.812	577	704	3.8	4.1	26.839	D
2	406	102	395	831	0.488	406	537	0.9	1.0	8.632	A
3	848	212	215	954	0.889	845	586	6.3	7.0	31.606	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 side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	578	145	356	711	0.813	578	705	4.1	4.2	27.317	D
2	406	102	396	831	0.489	406	538	1.0	1.0	8.641	A
3	848	212	215	954	0.889	847	587	7.0	7.3	32.632	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 side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	578	145	357	711	0.813	578	706	4.2	4.3	27.492	D
2	406	102	396	831	0.489	406	539	1.0	1.0	8.645	A
3	848	212	215	954	0.889	847	587	7.3	7.5	33.080	D

2026 Base + Committed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3	117.07	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	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
D5	2026 Base + Committed	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	Average Demand (PCU/hr)	Scaling Factor (%)
1		FLAT	✓	822	100.000
2		FLAT	✓	591	100.000
3		FLAT	✓	733	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	135	687
	2	214	0	377
	3	484	249	0

Proportions

		To		
		1	2	3
From	1	0.00	0.16	0.84
	2	0.36	0.00	0.64
	3	0.66	0.34	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	5	3
	2	2	0	2
	3	6	4	0

Average PCU Per Veh

		To		
		1	2	3
From	1	1.000	1.050	1.030
	2	1.020	1.000	1.020
	3	1.060	1.040	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	1	822	822
	2	591	591
	3	733	733
08:15-08:30	1	822	822
	2	591	591
	3	733	733
08:30-08:45	1	822	822
	2	591	591
	3	733	733
08:45-09:00	1	822	822
	2	591	591
	3	733	733

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1.06	256.38	59.0	F	822	822
2	0.89	47.37	7.3	E	591	591
3	0.77	17.05	3.4	C	733	733

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	206	245	779	1.056	741	682	0.0	20.3	63.689	F
2	591	148	619	681	0.868	570	366	0.0	5.2	29.168	D
3	733	183	206	959	0.764	720	983	0.0	3.2	15.161	C

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	206	249	776	1.059	767	696	20.3	34.0	140.905	F
2	591	148	641	666	0.887	586	375	5.2	6.5	42.100	E
3	733	183	212	955	0.767	732	1015	3.2	3.3	16.887	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	206	249	776	1.059	771	697	34.0	46.7	199.801	F
2	591	148	645	664	0.890	589	376	6.5	7.0	45.649	E
3	733	183	213	955	0.768	733	1020	3.3	3.4	17.006	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	822	206	249	776	1.059	773	697	46.7	59.0	256.382	F
2	591	148	646	663	0.891	590	376	7.0	7.3	47.372	E
3	733	183	214	955	0.768	733	1022	3.4	3.4	17.049	C

2026 Base + Committed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3	88.88	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	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	2026 Base + Committed	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	Average Demand (PCU/hr)	Scaling Factor (%)
1		FLAT	✓	640	100.000
2		FLAT	✓	454	100.000
3		FLAT	✓	957	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	199	441
	2	235	0	219
	3	570	387	0

Proportions

		To		
		1	2	3
From	1	0.00	0.31	0.69
	2	0.52	0.00	0.48
	3	0.60	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	2	3
	2	2	0	2
	3	1	0	1

Average PCU Per Veh

		To		
		1	2	3
From	1	1.000	1.020	1.030
	2	1.020	1.000	1.020
	3	1.010	1.000	1.010

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
17:00-17:15	1	640	640
	2	454	454
	3	957	957
17:15-17:30	1	640	640
	2	454	454
	3	957	957
17:30-17:45	1	640	640
	2	454	454
	3	957	957
17:45-18:00	1	640	640
	2	454	454
	3	957	957

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.92	55.57	9.3	F	640	640
2	0.57	10.57	1.3	B	454	454
3	1.02	148.30	39.2	F	957	957

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	640	160	360	709	0.903	614	762	0.0	6.6	32.821	D
2	454	114	423	813	0.559	449	551	0.0	1.3	9.967	A
3	957	239	232	943	1.015	890	639	0.0	16.8	47.245	E

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	640	160	373	701	0.913	634	784	6.6	8.1	48.662	E
2	454	114	437	803	0.565	454	570	1.3	1.3	10.502	B
3	957	239	235	941	1.017	922	656	16.8	25.5	94.245	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	640	160	375	700	0.915	637	788	8.1	8.8	53.130	F
2	454	114	439	802	0.566	454	573	1.3	1.3	10.551	B
3	957	239	235	941	1.017	928	658	25.5	32.7	123.081	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 side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	640	160	377	699	0.916	638	790	8.8	9.3	55.571	F
2	454	114	440	801	0.567	454	575	1.3	1.3	10.572	B
3	957	239	235	941	1.017	931	659	32.7	39.2	148.298	F

2026 Base + Committed + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3	128.37	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	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
D7	2026 Base + Committed + Development	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	Average Demand (PCU/hr)	Scaling Factor (%)
1		FLAT	✓	827	100.000
2		FLAT	✓	594	100.000
3		FLAT	✓	752	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	135	692
	2	214	0	380
	3	497	255	0

Proportions

		To		
		1	2	3
From	1	0.00	0.16	0.84
	2	0.36	0.00	0.64
	3	0.66	0.34	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	5	3
	2	2	0	2
	3	6	4	0

Average PCU Per Veh

		To		
		1	2	3
From	1	1.000	1.050	1.030
	2	1.020	1.000	1.020
	3	1.060	1.040	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
08:00-08:15	1	827	827
	2	594	594
	3	752	752
08:15-08:30	1	827	827
	2	594	594
	3	752	752
08:30-08:45	1	827	827
	2	594	594
	3	752	752
08:45-09:00	1	827	827
	2	594	594
	3	752	752

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	1.07	285.55	66.0	F	827	827
2	0.89	48.48	7.5	E	594	594
3	0.79	18.62	3.8	C	752	752

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	827	207	250	775	1.067	740	694	0.0	21.7	67.094	F
2	594	149	619	681	0.872	572	371	0.0	5.4	29.698	D
3	752	188	206	959	0.784	738	985	0.0	3.5	16.240	C

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	827	207	255	772	1.071	765	709	21.7	37.2	152.177	F
2	594	149	640	667	0.891	589	380	5.4	6.6	43.076	E
3	752	188	212	956	0.787	751	1017	3.5	3.7	18.400	C

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	827	207	255	772	1.071	769	710	37.2	51.8	219.765	F
2	594	149	643	665	0.893	592	380	6.6	7.2	46.720	E
3	752	188	213	955	0.788	752	1022	3.7	3.8	18.563	C

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	827	207	255	772	1.071	770	710	51.8	66.0	285.553	F
2	594	149	644	664	0.895	593	381	7.2	7.5	48.478	E
3	752	188	214	955	0.788	752	1023	3.8	3.8	18.624	C

2026 Base + Committed + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout		1, 2, 3	103.23	F

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	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	2026 Base + Committed + Development	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	Average Demand (PCU/hr)	Scaling Factor (%)
1		FLAT	✓	652	100.000
2		FLAT	✓	463	100.000
3		FLAT	✓	968	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	0	199	453
	2	235	0	228
	3	576	392	0

Proportions

		To		
		1	2	3
From	1	0.00	0.31	0.69
	2	0.51	0.00	0.49
	3	0.60	0.40	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	2	3
	2	2	0	2
	3	1	0	1

Average PCU Per Veh

		To		
		1	2	3
From	1	1.000	1.020	1.030
	2	1.020	1.000	1.020
	3	1.010	1.000	1.010

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
17:00-17:15	1	652	652
	2	463	463
	3	968	968
17:15-17:30	1	652	652
	2	463	463
	3	968	968
17:30-17:45	1	652	652
	2	463	463
	3	968	968
17:45-18:00	1	652	652
	2	463	463
	3	968	968

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1	0.93	66.04	11.2	F	652	652
2	0.58	11.10	1.4	B	463	463
3	1.03	172.35	46.5	F	968	968

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	362	708	0.921	622	764	0.0	7.5	35.679	E
2	463	116	432	806	0.574	458	552	0.0	1.3	10.381	B
3	968	242	232	943	1.027	894	658	0.0	18.5	50.261	F

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	375	700	0.932	644	786	7.5	9.4	55.618	F
2	463	116	448	796	0.582	463	572	1.3	1.4	11.006	B
3	968	242	235	941	1.029	926	675	18.5	28.9	103.993	F

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	377	699	0.933	648	789	9.4	10.5	62.184	F
2	463	116	450	794	0.583	463	575	1.4	1.4	11.076	B
3	968	242	235	941	1.029	931	678	28.9	38.1	139.772	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 side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	652	163	378	698	0.934	649	791	10.5	11.2	66.042	F
2	463	116	451	794	0.583	463	576	1.4	1.4	11.098	B
3	968	242	235	941	1.029	934	679	38.1	46.5	172.355	F

T18516
Sandwich Road, Sholden



Appendix I

Recent Inspector's Decision



Appeal Decisions

Inquiry Held on 23-27 November 2020 and 30 November 2020

Site visit made on 19 November 2020

by Stephen Normington BSc DipTP MRICS MRTPI FIQ FIHE

an Inspector appointed by the Secretary of State

Decision date: 7th January 2021

Appeal A - Ref: APP/U2235/W/20/3254134 Land West of Church Road, Otham, Kent ME15 8SB

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a failure to give notice within the prescribed period of a decision on an application for outline planning permission.
 - The appeal is made by Bellway Homes Limited against Maidstone Borough Council.
 - The application Ref 19/501600/OUT, is dated 27 March 2019.
 - The development proposed is an outline planning application for up to 440 residential dwellings, with associated access, infrastructure, drainage, landscaping and open space. Access to be considered in detail and all other matters reserved for future consideration.
-

Appeal B - Ref: APP/U2235/W/20/3256952 Land West of Church Road, Otham, Kent ME15 8SB

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
 - The appeal is made by Bellway Homes Limited against Maidstone Borough Council.
 - The application Ref 19/506182/FULL, dated 6 December 2019, was refused by notice dated 15 July 2020.
 - The development proposed is residential development for 421 dwellings with associated access, infrastructure, drainage, open space and landscaping.
-

Decisions

Appeal A

1. The appeal is allowed and outline planning permission is granted for up to 440 residential dwellings, with associated access, infrastructure, drainage, landscaping and open space. Access to be considered in detail and all other matters reserved for future consideration at Land West of Church Road, Otham, Kent ME15 8SB in accordance with the terms of the application, Ref 19/501600/OUT, dated 27 March 2019, subject to the conditions set out in the attached schedule.

Appeal B

2. The appeal is allowed and planning permission is granted for residential development for 421 dwellings with associated access, infrastructure, drainage, open space and landscaping at Land West of Church Road, Otham, Kent ME15 8SB in accordance with the terms of the application, Ref 19/506182/FULL dated 6 December 2019, subject to the conditions set out in the attached schedule.

Application for costs

3. At the Inquiry an application for costs was made by Bellway Homes Limited against Maidstone Borough Council in relation to both appeals. That application is the subject of a separate Decision.

Preliminary and procedural matters

4. The appeals relate to two applications on the same site with the same means of access. For ease of reference I have referred to the two cases as Appeals A and B in this decision letter as set out in the headers. Whilst I have dealt with each appeal on its individual merits there are many similarities in the planning issues that are set out below. I have considered the proposals together in this Decision Letter. Although there are two appeals, I use singular terms such as 'appellant' and 'appeal site' for ease of reference.
5. There is some discrepancy in the address of the appeal site from that contained within the relevant planning applications and that used by the Council. In the banner headings above I have used the address of the appeal site as that contained on the Council's Decision Notice in respect of Appeal B, dated 15 July 2020.
6. The application (Ref 19/501600/OUT) in Appeal A was submitted in outline with all matters, apart from the means of access onto Church Road, reserved for future determination. I have considered Appeal A on that basis. The submission documents included a Parameter Plan and Illustrative Masterplan which I have taken into account in the determination of this appeal.
7. At the Inquiry draft agreements under Section 106 of the Town and Country Planning Act (S106 Agreements) were provided in respect of both appeals. These were subsequently signed and dated 14 December 2020 and would take effect should planning permission be granted. The S106 Agreements pursuant to both appeals include obligations relating to affordable housing, provision of a car park for St Nicholas Church and financial contributions relating to primary education, cycleway improvements and monitoring of the Travel Plan.
8. A Community Infrastructure Levy (CIL) Compliance Statement was submitted at the Inquiry by the Council. I have had regard to the provisions of this in consideration of the S106 Agreements relative to both of these appeals. I shall return to these matters later in this decision.
9. The Kent Branch of the Campaign to Protect Rural England (CPRE), Maidstone Borough Council Labour Group, Downswood Parish Council and the Maidstone Cycle Campaign Forum were accorded Rule 6(6) party status and presented evidence in support of their objections to the proposals. These included matters in relation to the Council's reasons for refusal of planning permission in respect of the application relevant to Appeal B and the reasons that the Council would have refused the outline application in Appeal A. However, they also included a number of other matters that were not contested by the Council or Kent County Council (KCC) in its capacity as highway authority. In particular, Rule 6 Party concerns, amongst other things, related to the effect of the developments on heritage assets and a number of other matters including the effect on the character and appearance of the surrounding area, the living conditions of nearby residents, drainage, land stability, fear of crime and air quality.

10. The Inquiry was conducted on the basis of topic based round table sessions (RTS) involving discussions in relation to the effect on heritage assets and other matters raised by the Rule 6 Parties. Matters relating to the effect of the developments on highway safety, the free flow of traffic, planning issues and the planning balance were considered by the formal presentation of evidence.
11. Although the CPRE had submitted a proof of evidence in relation to the effect of the development proposals on heritage assets, the relevant witness was unable to attend the Inquiry. The CPRE Advocate confirmed that the Rule 6 Party was content for the evidence to be taken as read and discussed in the RTS without the witness being present. The RTS proceeded on that basis.

Background and Main Issues

12. Appeal A was submitted in respect of the non-determination of the outline planning application. The Council refused planning permission for the application relating to Appeal B and resolved that it was minded to refuse planning permission for Appeal A had it been in a position to determine the relevant planning application. The same two reasons for the refusal of planning permission were applicable to both applications and related to the impacts of the developments on traffic congestion on Willington Street and would worsen highway safety issues on Church Road.
13. There are no designated heritage assets within the boundary of the appeal site. However, there are a number of designated heritage assets located adjacent to it and within the immediate area. The Council did not identify the effects of the proposed developments on nearby heritage assets as a reason to refuse planning permission in respect of both appeals.
14. Rule 6 Parties and a number of other interested parties expressed concerns at the impact of the proposed developments on designated and non-designated heritage assets. I have therefore taken into account the requirements of section 66(1) of the Planning (Listed Buildings and Conservation Areas) Act 1990, in respect of the special regard to the desirability of preserving a listed building or its setting, and the advice provided in Paragraph 193 of the National Planning Policy Framework (NPPF)
15. Having taken into account this background, the evidence before me and from what I heard at the Inquiry, the main issues are:
 - the effects of the proposed developments on the safe and efficient operation of the highway network in the vicinity of the appeal site; and,
 - the effects of the proposed developments on the special interest of nearby heritage assets.

Reasons

The appeal site and proposed developments

16. The appeal site is located to the south east of Maidstone. It comprises an agricultural field situated to the west of Church Road, to the east of Chapman Avenue. It is located on the south-eastern edge of Maidstone between substantial residential areas to the north, west and southwest, namely cul-de-sacs within the Downswood area to the north, Chapman Avenue to the west

- and Woolley Road to the south. To the east are open agricultural fields with the village of Otham lying beyond.
17. The site is highest at its southern end with a gradual fall to the north. To the west, the site abuts the rear boundaries of properties on Chapman Avenue with the houses being positioned at a lower level than the appeal site.
 18. To the north of the site is the Grade I listed St Nicholas Church, and Grade II Church House. Immediately to the south/southeast are a number of detached residential properties at The Rectory (Grade II listed) and Squerryes Oast.
 19. A Public Right of Way passes through the northern part of the site (KM86) that provides connectivity between Church Road and the area of open space outside the northwest corner of the site between The Beams and Longham Copse. To the east, the site is bound by a mature hedgerow which runs along Church Road. To the southeast is an area of recreational amenity space, Ancient Woodland, and an area of green space locally known as 'Glebe Land'.
 20. Appeal A relates to an outline planning application for up to 440 residential dwellings with all matters, other than access reserved for future consideration. The submitted 'Parameter Plan' shows a central area of open space linking to landscape buffers along the northern and eastern boundaries of the site. The plan shows vehicular access is proposed to the east of the site from Church Road via two priority access junctions which will link to a proposed spine road looping within the site.
 21. Appeal B relates to an application for full planning permission for 421 houses. The same two access points off Church Road, as proposed in Appeal A, are also proposed. The proposed layout would broadly follow the form of development proposed in the Parameter Plan and would provide for a range of detached, semi-detached, and terraced houses with a number of apartment blocks with development extending over 2 and 3 storeys. Affordable housing is proposed at 30% which equates to 126 units.

Planning policy context

22. The development plan comprises the Maidstone Borough Local Plan adopted in October 2017 (the Local Plan). Policy SP3 identifies land to the south east of the Maidstone urban area, which includes the appeal site, as a strategic development location for housing growth with supporting infrastructure. It is defined as the South East Maidstone Strategic Development Location (SEMSDL). Amongst other things, the policy sets out that approximately 2,651 new dwellings will be delivered in this area on six allocated sites (policies H1(5) to H1(10)). Policy H1(8) relates to the appeal site.
23. Policy H1 of the Local Plan sets out the Council's general approach to the consideration of development proposals on allocated sites. It provides a number of criteria that development on all sites should adhere and includes, amongst other things, that an individual transport assessment for development proposals will be required to demonstrate how proposed mitigation measures address the cumulative impacts of all sites taken together.
24. The appeal site is allocated under Policy H1(8) for development of approximately 440 dwellings at an average density of 35 dwellings per hectare. This policy also sets out a number of criteria that development proposals should meet. These include, amongst other things, a need to retain an

- undeveloped section of land along the eastern edge of the site in order to protect the setting of St Nicholas Church and maintain clear views of the Church from Church Road; the Church Road frontage to be built at a lower density from the remainder of the site; the hedge line along the eastern boundary of the site with Church Road to be retained and strengthened where not required for access to the site and access to be taken from Church Road only.
25. The Council identified two reasons for the refusal of planning permission for the development proposed in Appeal B, and the same two reasons for contesting the development proposed in Appeal A. The first reason was that that the proposed developments would result in severe traffic congestion on Willington Street, contrary to Policy DM21 of the Local Plan. This policy requires that development proposals demonstrate that the impacts of trips generated to and from the development are accommodated, remedied or mitigated to prevent severe residual impacts, including where necessary an exploration of delivering mitigation measures ahead of the development being occupied.
 26. The second reason identified that the proposals would result in the worsening of safety issues on Church Road to the south of the site and that the mitigation proposed was not sufficient to overcome these safety concerns contrary to Policy DM1 of the Local Plan. This policy sets out the Council's approach to good design. Criterion ix of the policy requires development to safely accommodate the vehicular and pedestrian movement generated by the proposal on the local highway network and through the site access.
 27. The main parties agree that the Council can demonstrate a 5 year supply of land for housing.¹ This being the case, none of the relevant policies in the recently adopted development plan can be considered as being out-of-date. Paragraph 11 (d) of the NPPF is therefore not engaged.
 28. Policy SP18 of the Local Plan sets out the Council's general approach to the conservation and enhancement of the historic environment. In particular, it identifies that this will be achieved through the development management process by securing the sensitive management and design of development which impacts on heritage assets and their settings and ensuring relevant heritage considerations are a key aspect of site master plans prepared in support of development allocations identified in the Local Plan.
 29. Policy DM4 of the Local Plan relates to development affecting designated and non-designated heritage assets. Amongst other things, this policy states that the Council will apply the relevant tests and assessment factors specified in the NPPF when determining applications for development which would result in the loss of, or harm to, the significance of a heritage asset and/or its setting.
 30. Policy SP20 sets out the Council's requirements for the provision of affordable housing. Developments of 11 units and more are required to provide 30% of the units as affordable housing with a tenure split of 70% affordable rented housing and 30% intermediate affordable housing (shared ownership and/or intermediate rent).
 31. The village of Otham is in the process of producing a Neighbourhood Plan for the period 2020 to 2035. This emerging Neighbourhood Plan follows the Otham

¹ Agreed Statement of Common Ground – CD166

Parish Boundary and therefore includes the appeal site. Consultation on this Plan, pursuant to Regulation 16 of the Neighbourhood Planning (General) Regulations 2012, was concluded during the Inquiry (27th November 2020). However, there is no evidence before me of the results of the consultation exercise or the extent to which any objections made are capable of resolution. Moreover, no date is available as to when this Plan may be subject to formal examination. Consequently, the emerging Neighbourhood Plan is currently not made and I have afforded the policies contained therein little weight in the determination of this appeal.

Effect on the efficient operation of the local highway network

32. The effect of development of the SEMSDL, including the appeal site, on the highway network was considered in the examination of the Local Plan. In particular, paragraph 173 of the Inspectors Report on the Examination of the Local Plan², dated 27 July 2017, states, *"In conclusion the Policy SP3 South East Maidstone Strategic Development Location will generate additional traffic and could contribute to an increase in congestion, particularly at peak hours, even after mitigation in the form of road improvements and other measures to make sustainable travel more attractive and effective. However the concentration of development close to the town does allow alternative and more sustainable means of travel to be made available. That is less likely to be the case were the housing to be located away from the town in another part of the Borough where residents would still need access to employment and services in the town."*
33. The adopted Local Plan includes the same strategic highways and transportation improvements in each of the relevant policies applicable to the six allocated sites in policies H1(5) to H1(10) that are required to be met. In the case of Policy H1(8) these are outlined in criterion 13 to 17. They include bus prioritisation measures on the A274 Sutton Road together with bus infrastructure improvements; improvements to capacity at the junctions of Willington Street/Wallis Avenue and Sutton Road; a package of measures to significantly relieve traffic congestion on Sutton Road and Willington Street; improvements to capacity at the A229/A274 Wheatsheaf junction and improvements to the frequency/quality of bus services on the Sutton Road corridor.
34. Planning permission for the H1(5) and H1(6) sites was granted in 2014 and each planning permission provided a unilateral planning obligation to provide the road capacity improvements identified in the relevant policies and measures to encourage sustainable travel modes. Planning permission was granted in 2018 for site H1(7) and site H1(10) and included similar obligations³. Following the introduction of the Council's Community Infrastructure Levy (CIL) any monies to strategic highway improvements would thereafter be via CIL, including those arising from the development of the appeal site. In respect of land at Bicknor Farm, site H1(9), the first of four CIL instalments was due on 25 September 2020⁴.
35. I have taken into account the concerns of Rule 6 and other interested parties that the identified improvements in Policies H1(5) to H1(10) have not yet been

² CPRE: Proof of Evidence – Otham Parish Council – Appendix 5

³ Paragraph 6.49 – CD169

⁴ ID12

delivered. However, other than the contributions that would be delivered in respect of the appeal site, there are appropriate planning mechanisms in place to secure the funding identified by the Council to contribute to the highway and public transport improvements required to support the delivery of the SEMSDL as identified in the relevant policies H1(5) – H1(10) of the Local Plan. Whilst none of the identified improvements have yet commenced, the fact remains that the planning mechanisms to secure financial contributions have been made to address the cumulative impact on the highway network in respect of five of the six sites as clearly set out in the Local Plan.

36. The Deringwood Drive and Willington Street junction is not identified in the Local Plan as a junction requiring improvement to deliver the SEMSDL. Furthermore, I have no evidence to suggest that any issues with this junction were identified in the consideration of planning applications associated with the other five sites in the SEMSDL.
37. The proposed signalised junction improvement scheme has been subject to an independent Stage 1 Road Safety Audit and the Council has raised no highway safety issues associated with the proposed scheme⁵. The Council's concern is that the signalisation scheme would introduce a new delay on Willington Street thereby causing severe congestion on this road.
38. Following the submission of the Transport Assessments in respect of both appeals,⁶ a number of Transport Notes and Transport Technical Notes were submitted in response to issues raised by consultees.⁷ The Willington Street/Deringwood Drive junction currently takes the form of an uncontrolled priority junction. The submitted information identifies that, on completion of local committed developments, the junction will experience capacity issues, specifically on the Deringwood Drive arm, with drivers unable to exit this arm due to the increasingly heavy traffic volumes on Willington Street. This issue would be exacerbated by the implementation of the proposed development.
39. The forecasts in the Appellant's Transport Assessment indicates that on Deringwood Drive between Church Road and Willington Street the proposed development would result in 112 two-way traffic movements in the AM peak and 109 two-way traffic movements in the PM peak⁸. This means that the proposed developments would add up to 25% of traffic to the section of Deringwood Drive west of its junction with Church Road in peak hours in 2029.
40. The 'Iceni Transport Note' dated September 2019 shows that the Mean Maximum Queue (MMQ) of vehicles queuing on Deringwood Drive in the AM peak hour (08.00 - 09.00) without the proposed development would be 1.4 in the year 2018, 17.8 in 2019 and 57.9 in 2029. In 2029 with the proposed developments in this appeal in place the MMQ would be 144.2. The Rate of Flow to Capacity (RFC) of the Deringwood Drive arm of the junction in the AM peak was also considered. A RFC value of 1.0 is a point at which a junction becomes saturated. The RFCs were 0.60 in 2018, 1.38 in 2019, 2.34 in 2029 and 3.88 in 2029 with the proposed developments included.
41. Therefore, irrespective of whether the appeal schemes are allowed, the submitted Transport Assessment suggests that the Willington

⁵ KCC Consultation Response 27 March 2020.

⁶ CD26 and CD145

⁷ CDs 30 – 34, CD37, CD152, CD153

⁸ Paragraph 5.38-5.39 and Appendix 2 of B Mr Wrights Proof of Evidence (PoE)

- Street/Deringwood Drive junction cannot remain to operate within its existing arrangement over the next few years with the various committed development schemes currently completed or under construction in south-east Maidstone.
42. The proposed developments would involve the signalisation of this junction that would provide better opportunities for traffic queuing on Deringwood Drive to exit on to Willington Street and would introduce a Toucan Crossing to improve pedestrian/cyclist crossing of the road. In considering the effect of the signalisation of the junction on traffic flows, the appellant has provided modelling data both with the interaction between this junction and the two signalised junctions to the north (A20 Ashford Road/Willington Street and Willington Street/Madginford Road/Moat House) with account taken of the committed capacity enhancement scheme to the A20 Ashford Road/Willington Street junction. This modelling has considered the existing uncontrolled layout of the Willington Street/Deringwood Drive junction without the proposed development and a 'with mitigation' scenario with the proposed development, the transport mitigation measures identified in Policy H1(8) and signalling of the junction in place.
43. Whilst several iterations of the model have been produced, some of the latest outputs are provided in the Rebuttal Statement submitted by the appellant's highway witness. However, the Council consider that this latest modelling does not take into account the latest proposed designs for the A20 Ashford Road/Willington Street junction.
44. At the time the planning applications were considered by the Council the latest modelling at that time was based on that contained within the Transport Technical Note of February 2020. This shows that in 2029 with the development in place the proposed signalisation of the junction would result in AM Peak MMQs on Deringwood Drive of 38.2 with MMQs on Willington Street (South) Arm of 144.5 in the AM Peak and 122.1 in the PM Peak. The Council suggests that a 144 vehicle queue would extend beyond the School Lane/Willington Street junction.
45. The numerous iterations of the modelling data have considered the 2029 position both with and without the proposed development. The modelling contained within the evidence of Mr Lulham suggests that without the proposed development the AM peak MMQ on Willington Street (South) would be 244.9 and would be 192.3 with the proposed development and signalised junction⁹. In terms of Deringwood Drive this evidence suggest AM peak MMQs of 5.3 in 2029 without the development and 46.8 with.
46. The evidence in the appellant's Rebuttal Statement suggests that without the proposed development the AM peak MMQ on Willington Street (South) would be 86.5 and would be 127.4 with the proposed development and signalised junction. In terms of Deringwood Drive this evidence suggest AM peak MMQs of 5.0 in 2029 without the development and 16.4 with. This evidence also shows a MMQ of 67 vehicles that would queue back from the Madginford Road signals on Willington Street (South) in the AM peak which is long enough to extend beyond the Deringwood Drive junction.
47. Whichever modelling scenario is used, I find that the Council's assertion that whilst mitigating increased traffic congestion on Deringwood Drive, the

⁹ Tables 1 and 2 – Mr Lulham PoE

- proposed improvements to the Deringwood Drive and Willington Street junction will result in traffic congestion on Willington Street is not without basis. Furthermore, this would be also influenced by the frequency of operation of the Toucan Crossing, the speed which vehicles clear the junction, particularly HGV's, given the 'bowl' vertical alignment of the Willington Street arms and the extent to which the junction becomes blocked due to queuing traffic.
48. No agreement was reached between the main parties as which of the modelling results should be relied upon as being a realistic interpretation of vehicle queues and comprise a definitive position. The signalisation of the junction will undoubtedly interrupt traffic flows on Willington Street.
49. I have no conclusive evidence to suggest that the proposed signalised junction would have an unacceptable impact on highway safety. The key issue is whether this increase in congestion can be considered 'severe' within the context of the advice provided in paragraph 109 of the NPPF to the extent that these appeals should be dismissed.
50. There is no national definition of what may constitute a severe impact in the context of paragraph 109 of the NPPF. The appellant provided three Secretary of State decisions as examples of how the severe impact threshold has been considered¹⁰. No contrary evidence was provided by the Council as to how a severe impact should be considered or any quantification or threshold that should be applied in the context of these appeals to assess at what point, if any, an increase in congestion would amount to a severe residual impact on the road network.
51. In these circumstances, I consider that the Secretary of State's agreement to the general approach taken in these decisions, in that the NPPF sets a high bar for the refusal of planning permission in respect of the traffic effects arising from development, is correct. I have therefore attached significant weight to the interpretation of 'severe' constituting a 'high bar' or 'high threshold' as contained within these decisions.
52. The examination process which led to the adoption of the Local Plan involved the provision and consideration of evidence, including the Council's own commissioned modelling, relating to the highways impacts and mitigation required to support the allocation of the SEMSDL sites. In addition, the Council was provided with the Inspectors Report that clearly identifies that the "SEMSDL will generate additional traffic and could contribute to an increase in congestion, particularly at peak hours, even after mitigation in the form of road improvements and other measures to make sustainable travel more attractive and effective".
53. There was therefore a degree of acceptance by the Council in the adoption of the Local Plan that these sites would have some impact on congestion. To some extent this provided the justification for the need for the strategic highways and transportation improvements identified in each of the relevant policies applicable to the six allocated sites. There are mechanisms in place to secure the necessary funding for these improvements.
54. I recognise that drivers may seek alternative routes to avoid congested roads and therefore increase traffic on other roads. However, I have no substantive

¹⁰ ID7

evidence to suggest that there has been a fundamental change in the traffic data or highway conditions in the Borough since the Local Plan was adopted only three years ago when the traffic implications of the SEMSDL for the Plan Period to 2031 were comprehensively assessed. Therefore, to some extent, the implications of the traffic likely to be generated by the development of the appeal site on localised congestion was known to the Council at the time the Local Plan was adopted.

55. Furthermore, the Planning Officer's Report to Planning Committee on 28 May 2020¹¹ identifies that in considering the wider/strategic junctions, the appellant's evidence provides the likely additional impact of the development but relies upon the cumulative assessments of transport impacts carried out to support the planning applications for the development on allocated sites H1(7) and H1(10) and included the likely traffic arising from the appeal site. These assessments concluded that the cumulative traffic impact upon the local network (including the appeal site) would not be severe subject to the improvements outlined in the relevant policies to junctions and public transport. This suggests that in respect of the planning applications relevant to the H1(7) and H1(10) sites the Council had accepted the conclusion that there would not be a severe cumulative effect on the local network as a consequence of developing these SEMSDL sites, including the appeal site.
56. Taking into account all of the modelling scenarios it is clear that Willington Street will likely experience an increase in MMQs by 2029 as a consequence of development already permitted and irrespective of whether these appeals are allowed. This would correspondingly make right turn movements from the existing junction of Deringwood Drive increasingly more difficult without intervention. In considering the additional traffic arising from the appeal schemes, the appellant has understandably sought to address this matter to provide a mechanism to access Willington Street from Deringwood Drive. Equally understandable is that in doing so there would be some impact on MMQs on Willington Street as a consequence of signals introducing a break and delay in traffic flows along Willington Street. In my view, this is an entirely understandable consequence of developing the allocated site in accordance with the requirements of Policy H1(8). I consider that the appeal proposals provide a balanced approach in enabling traffic arising from the proposed development to access Willington Street from Deringwood Drive and hence the strategic highway network beyond.
57. There is no doubt in my mind that the appeal proposals will contribute to the congestion already experienced on Willington Street to a degree. Whilst this would undoubtedly cause driver inconvenience, I have no substantive evidence to suggest that this would cause a highway safety problem.
58. Taking into account the above factors and the context of paragraph 109 of the NPPF, I do not consider that the potential increase in MMQs and congestion on Willington Street as a consequence of the appeal proposals can be considered to constitute a severe residual cumulative impact on the road network. Therefore, there would be no conflict with Policy DM21 of the Local Plan. Furthermore, I do not consider that it would constitute a severe residual impact in the context of paragraph 109 of the NPPF.

¹¹ CD168 & 169 Planning Committee Report - 28 May 2020

Effects on highway safety

59. The appeal proposals provide for two vehicular access points onto Church Road which take the form of priority T-junctions that serve the 6m wide development spine road and incorporate 9m corner radii and 2m wide footways on each side. In this regard, the proposals accord with criterion 8 of Policy H1(8) of the Local Plan, which requires that 'access will be taken from Church Road only'. Visibility sightlines of 2.4m x 45m are proposed at both access junctions on the basis that the 30mph speed restriction will be extended southwards along Church Road. Swept path analysis demonstrates that the turning manoeuvres of refuse vehicles, buses and fire tenders can be accommodated at the junctions.
60. The Council and Kent County Council (KCC) in its capacity as Highway Authority have raised no objections to the design of the proposed junctions off Church Road to serve the developments. The Council's concerns, as articulated in the reasons for refusal, relate to the worsening of safety issues on Church Road to the south of the site.
61. Whilst Rule 6 parties provided anecdotal evidence of 'near misses' the fact remains that since 2013 no Personal Injury Accidents (PIAs) were recorded on Church Road within close proximity to the proposed site access. However, two PIAs were recorded elsewhere on Church Road, one causing slight injury in 2015 and one causing a serious injury in 2018¹². The serious injury accident occurred at the junction of Church Road with Gore Court Road and White Horse Lane whereby a vehicle swerved to avoid an animal causing a loss of control and a collision with a tree, which fell on top of the vehicle itself.
62. There is some discrepancy between KCC and the appellant as to the nature and location of the slight injury accident. The appellant identifies this as involving a driver exiting Church Road onto Deringwood Drive pulling out into the path of an oncoming vehicle. The Council refer to a cycle skidding on ice in the vicinity of Ellenswood Close. Irrespective, these therefore occurred towards each end of Church Road and were not located near to the proposed access points.
63. I accept that there may have been other unrecorded accidents on Church Road for which no data is available. However, the data on PIAs is commonly used as one source of information to assess highway safety matters relevant to a stretch of road. The source of the PIA data for Church Road is KCC and the PIAs identified appear to be driver and weather related that do not conclusively demonstrate a safety issue with the road itself. The data does not evidentially support any view that Church Road already has a poor safety record.
64. Church Road currently varies in width along its length between approximately 4.3m to 5.0m, has limited forward visibility in parts, no lighting and no pedestrian facilities. There are isolated areas where the road width is below these dimensions. It is currently subject to a 60mph speed limit along most of its length. The appeal proposals would involve the widening of the road to achieve a carriageway width of approximately 5.5m to the north of the southern access point. A new section of footway would extend from the northern site access, along the current highway verge outside of St Nicholas Church, to connect to the existing footway to the north.

¹² Table 3.1 -Transport Assessment (Iceni, December 2019) – CD145

65. The ability to widen Church Lane to the south of the proposed southern access is constrained by the extent of land in the control of the highway authority and the appellant and the proximity of ancient woodland. The appeals proposals provide for some widening to achieve a carriageway width of 4.8m along the majority of Church Road to the junction with White Horse Lane, although there would be localised areas where the carriageway width would remain at less than 4.8m. In addition, 'build outs' with a give way feature would also be provided on a bend in the vicinity of 'Little Squerryes' to the south of the site where there is currently limited forward visibility. As part of this scheme it is proposed that the existing 30mph speed restriction is extended from its current location outside the Church, to the south along the site frontage, to include the area containing the build outs.
66. The ecological and ownership constraints that affect the ability to widen Church Road, other than as proposed in these appeals, have not change since the adoption of the Local Plan which defined access onto this road only. Policy H1(8) is not prescriptive regarding the widening of the whole length of Church Road. Criterion 12 only requires road widening off Gore Court Road between the new road required under policy H1(6) and White Horse Lane. That widening will be delivered in connection with the permission being developed out on that site. In my view, taking into account ownership constraints and the position of the ancient woodland, the appellant's proposals to widen the road are the maximum of what can reasonably be achieved within the constraints identified.
67. KCC refer to the Kent County Council Design Guide (2005) which, amongst other things, sets out recommended carriageway widths for roads serving a development. Although its primary purpose is to inform the design of new roads, KCC use this as a reference when assessing the suitability of existing roads.¹³ The Council has not adopted the Guide as a Supplementary Planning Document. It has, however, approved the document for use as approved planning guidance¹⁴ and as such it can be afforded moderate weight.
68. In applying the principles of the Design Guide, KCC suggest that the whole length of Church Lane should have a minimum carriageway width of 5.5m¹⁵. KCC refer to Figure 7.1 of the Manual for Streets which indicates that a carriageway width of 4.8m would enable a Heavy Goods Vehicle (HGV) to pass a car and a width of 5.5m enables two opposing HGV's to pass one another. As there are parts of Church Road that are not proposed to be widened to those widths, KCC consider that Church Road would not conform to national or local standards. In particular, the unmodified parts of Church Road where the carriageway width would remain below 4.8m would not enable a car to pass an opposing HGV.
69. The submitted Transport Assessment identifies that traffic flows arising from the development proposals would add 84 two-way vehicle movements to Church Road to the south of the site during the weekday AM peak hour (08.00 – 09.00) and 81 two-way vehicle movements during the PM peak hour (17.00 – 18.00). This equates to just over one additional vehicle movement per minute at these times. Automatic Traffic Count Data collected during the week commencing 9 February 2020 identified that a maximum of 171 two-way HGV movements were recorded on a weekday on Church Road. The maximum

¹³ Paragraph 4.50 – Mr Wrights PoE

¹⁴ ID9

¹⁵ Appendix A – Mr Wrights PoE – KCC consultation response 13 February 2020

hourly HGV volumes were 25 northbound and 15 southbound¹⁶, although I have no evidence as to how these relate to peak hours.

70. It would not be possible to widen the full length of Church Road to 5.5m without encroaching into the ancient woodland and acquiring third party land. Whilst I recognise the desirability of KCC to achieve this width, in this case it is neither reasonable nor achievable in the appeals before me. Furthermore, there is no evidence before me to suggest that such widening was a prerequisite to the allocation of the site in the Local Plan. Strict adherence to KCC's requirements in this regard would effectively render the development of this carefully considered site allocation in the Local Plan as being undeliverable.
71. In my view, the appellant has provided optimum measures to widen Church Road, extend the 30mph speed limit and improve visibility within the parameters constrained by ownership and the proximity of ancient woodland. I do not consider that the additional traffic movements at peak hours of just over one per minute represents a significant increase in movements on Church Road.
72. I recognise that there is a possibility of an increased frequency of car and HGV conflict that would inhibit these vehicles to pass each other on the remaining sections of the road where widening is not possible. However, currently the potential for such conflict already occurs over a significant length of the road. As a consequence of the proposed works, the length of Church Road where such conflict could occur would be significantly reduced.
73. Taking into account the above factors, I do not consider that the proposed developments would demonstrably cause worsening safety issues on Church Road to the south of the site to the extent that both these appeals should be dismissed. In light of this conclusion, I do not consider that there would be conflict with Policy DM1 of the Local Plan.

Highway issues - Conclusion

74. I have found that there is no demonstrable evidence before me to suggest that the development proposals would give rise to a material worsening of highway safety conditions on Church Road. They would contribute to an increase in congestion on Willington Street. I accept that this would cause an inconvenience for drivers, but I have no evidence to suggest that this would cause any highway safety implications. In the context of paragraph 109 of the NPPF, I do not consider that that this would amount to a severe impact.
75. I have also taken into account the other proposed highway mitigation measures. These include the proposed improvements to the A20/Spot Lane Junction, the Deringwood Drive/Church Lane Junction and accessibility improvements that are considered elsewhere in this decision. These mitigation measures provide benefits that will be experienced by all users of the highway and the cycle/footpath network in the locality and not just those residing on the appeal site. Consequently, these benefits carry modest weight.
76. Therefore, taking all of the above factors into account, I do not consider that the proposed developments would have a material severe detrimental effect on the safe and efficient operation of the highway network in the vicinity of the

¹⁶ Paragraph 2.2.12 Mr Lulham PoE

appeal site. As such there would be no conflict with the relevant policies contained within the Local Plan.

Effects on heritage assets

77. There are no designated heritage assets within the boundary of the appeal site but there are five statutorily listed buildings located adjacent to it and other designated heritage assets in the vicinity. In particular, these comprise St Nicholas's Church (Grade I listed) and two Grade II listed monuments within the graveyard, and 'Church House' (Grade II listed) immediately to the north of the site. There is also 'The Rectory' (Grade II listed). Further afield, the Otham Conservation Area is located to the southeast of the site and separated from it by intervening agricultural land. Gore Court (Grade II listed) and its extensive grounds are also located to the south-east of the site.
78. In my view, there would be inevitably some impact on the setting of nearby heritage assets as a consequence of development on the site. However, the site has been considered suitable for a development of up to 440 houses by the allocation in the Local Plan and, as such, the principle that there would be some impact on the setting of heritage assets has been established as a consequence of the site allocation.
79. Although there is no evidence before me on the extent to which heritage matters in relation to the site were considered in the examination in public of the Local Plan, it is clear that the Inspector, in considering the allocation of the site, was mindful of the impact of development on the setting of St Nicholas Church. In particular, paragraph 172 of the Inspectors Report on the Examination of the Local Plan, dated 27 July 2017, identified Main Modification 19 (MM19) to Policy H1(8) to specifically require an undeveloped section of land to be retained along the eastern edge of the site in order to protect the setting of the Church and maintain clear views of it from Church Road¹⁷. However, no other impact on heritage assets in the proximity of the site was identified in the Inspectors Report in respect of the development of the site.
80. The adopted Policy H1(8) considers the impact of development on the setting of the Church itself. In addition to requiring an undeveloped section of land to be retained along the eastern edge of the site, which is set out in criterion 3 of the policy, criterion 4 requires development on the Church Road frontage to be built at a lower density from the remainder of the site, to maintain and reflect the existing open character of the arable fields on the eastern side of Church Road and to provide an open setting to St Nicholas Church. Criterion 6 requires the retention of non-arable land to the north and east of St Nicholas Church, to protect its setting.
81. In considering the impact of the development proposals on St Nicholas Church, these would result in the development of a plot of rural open land adjacent to the Church that would inevitably alter what remains of its wider historical setting. The close proximity of the northern access road to the Church will also form part of that change in setting.
82. The visual effects of the development proposals will be most obvious in views across the appeal site and from the east where the new buildings will be visible above the hedgerow along Church Road. However, Policy H1(8) is prescriptive

¹⁷ CPRE: Proof of Evidence – Otham Parish Council – Appendix 5

- in identifying how development proposals should protect the setting of the Church.
83. In respect of Appeal A, the submitted Parameter Plan shows an undeveloped area of land along the east edge of the site to maintain clear views of St Nicholas Church from Church Road in line with criterion 3 of Policy H1(8). Further open space is also shown to the south and west of the Church to limit the impact upon the setting of the Church. Land to the north of the Church is shown as open space in line with criterion 6. Adherence to a form of development that is consistent with the provisions of the Parameter Plan can be secured by the imposition of a suitable planning condition were I minded to allow this appeal. Ensuring that development on the Church Road frontage would be built at a lower density from the remainder of the site can be secured through subsequent reserved matters submissions.
84. In respect of Appeal B, the submitted plans show that building would be set back just over 35m from the east edge of the site to maintain clear views of St Nicholas Church from Church Road in line with criterion 3. Open space is proposed to the south and southeast of the Church to provide undeveloped areas to limit the impact upon the setting of the Church. Land to the north and west of the Church would be maintained as undeveloped in line with criterion 6. The density of development along the Church Road frontage would be generally lower than the remainder of the site and would therefore be consistent with criterion 4.
85. The setting of the Church will undoubtedly change. However, the evidence before me suggests that the proposed change would accord with the requirements of Policy H1(8) in respect of how development should protect the setting of the Church. The proposed layout in respect of both appeals provides undeveloped areas to the north, west, and south and maintains clear views of the Church from Church Road.
86. Overall, taking the above factors into account, I do not consider that the degree of proposed change would amount to a total loss of significance of the heritage value of the Church. However, there would be less than substantial harm to the significance of this heritage asset.
87. With regard to the two Grade II listed monuments within the graveyard I agree with the findings of the submitted Heritage Assessment¹⁸ and the evidence of Liz Vinson that the heritage significance of these listed structures derives from their visual, spatial and historical relationship with the Church and other graves and funerary monuments within the graveyard. This relationship is experienced within a limited area and localised setting that is contained within, and dependent on, their relationship with the Church. This relationship will remain unaffected by the development proposals. Consequently, I do not consider that the development proposals would cause harm to the setting of these monuments.
88. With regard to Church House, I also agree with the Heritage Assessment in that the external heritage significance of Church House is best experienced and appreciated from within its own grounds, which are separated from the adjacent churchyard by a tall hedged and tree-lined boundary, and from the appeal site by a tall wooden fence. This building does not have a visual

¹⁸ Paragraph 4.7 – Heritage Assessment (March 2019) - CD22

- influence over its wider surroundings in the same way as the Church. However, the proposed developments would erode some of the rural context in which it is experienced and affect some incidental views.
89. The Parameter Plan in respect of Appeal A, and the submitted Plans in respect of Appeal B, maintain an undeveloped area of land to the west and north of Church House and limit the position of new housing further west and south from it. These factors would reduce the visual effect of new development on the visual experience of the listed building. Taking these factors into account, I consider that there would be less than substantial harm to the significance of this heritage asset.
90. The Rectory is set back from Church Road and is partially secluded from the highway by a dense treeline. The Council indicate that it is located approximately 50m to the south of the site boundary. Views of the Rectory from the appeal site are filtered by an adjacent modern house, a tree-lined track leading from Church Road to Squerryes Oast and by Squerryes Oast itself. The appeal site currently provides a rural backdrop to the Church Road when viewing it from distance or obliquely along Church Road. In other views the setting of the Rectory is fairly localised and self-contained.
91. However, the historical link to the Church is one aspect of its setting. The proposed provision of an undeveloped area of land along the east edge of the site would maintain clear views of St Nicholas Church from Church Road, in line with criterion 3 of Policy H1(8). Consequently, I consider that the historical connection will remain. Whilst there would be change to the wider surroundings of the Rectory, the most important elements of its setting, namely the historical character of its recessed roadside frontage and the visual link it has with the Church, would be preserved. For these reasons, I do not consider that the development of the site would cause harm to the setting of this listed building.
92. Squerryes Oast is located to the west of the Rectory and comprises two converted oast houses. They are not recognised formally as heritage assets but I agree with the Heritage Assessment in that they can be considered to be of heritage interest as they represent a distinctive and well-preserved survival of a beer brewing industry. The setting is enclosed within a self-contained plot of land provided with almost total seclusion by dense tree cover along all of its boundaries. In my view, the oast houses can only be completely experienced and appreciated from within their own immediate surroundings, with only limited views available from the application site and none from Church Road.
93. The proposed developments will alter part of the wider rural setting of Squerryes Oast but not its immediate confined setting. Consequently, I do not consider that the proposals will lessen the appreciation of its remaining heritage interest.
94. Gore Court is a Grade II listed building located at the centre of an extensive private park enclosed by woodland. It is located to the south east of the site and situated on elevated ground between Church Road and the village of Otham. I agree with the Heritage Assessment that the intrinsic heritage significance of the house can only be experienced from within the estate, which effectively forms its setting. Only the woodland forming the northern boundary of the estate is visible from the appeal site.

95. The appeal proposals would result in residential development of farm land formerly attached to the Gore Court estate. However, given the intervening distance from the appeal site, the extensive surrounding woodland and its location in the centre of parkland, I consider that the setting of the listed building will remain unchanged by the proposals.
96. The Otham Conservation Area is separated from the appeal site by intervening agricultural land and hedgerows on Church Lane. The Council indicates that the distance from the edge of the Conservation Area to the appeal site is approximately 770m. The appeal site is visible from the western periphery of the Conservation Area and its appearance will change as a consequence of the development proposals. However, views of the appeal site are relatively distant beyond a large open field and the hedge-lines along Church Road. Given the intervening distance and the context of these views, I do not consider that the development proposals would be consequential to the heritage value of the Conservation Area which was designated primarily for its combination of built form, pattern of development and rural setting. Therefore, I consider that no harm would be caused to the setting of the Conservation Area.
97. The submitted Heritage Assessment also considered the effect of the proposed developments on the setting of the Mote Park Registered Park and Gardens. The existing intervening housing, the road layout and the surrounding topography serve to screen Mote Park from the application site and vice versa. As such, Mote Park and the application site do not share a common setting. Consequently, I do not consider that the appeal proposals would cause any harm to the setting of Mote Park.
98. In arriving at my above views regarding the harm to the setting of heritage assets, I have carefully considered the evidence provided in the Heritage Statement produced by Janice Gooch Consultancy (HS-JCG) on behalf of the CPRE. This Heritage Statement acknowledges that the site could be developed but that the proposed scheme is considered to cause substantial harm to the setting of the Church and its relationship with the Rectory and Church House¹⁹. In particular, it considers that there has been limited consideration of the group value of these listed buildings and their setting. Although the HS-JCG refers to the 'scheme' I interpret this to mean the development proposals pursuant to both appeals.
99. The HS-JCG considers that the proposed buffer zones are insufficient to provide protection of the loss of setting or allow for the retention of the visual link between the ecclesiastical buildings and therefore the scheme is considered to cause substantial harm to the setting of listed buildings. However, for the reasons explained above, I do not find this to be the case. In my view, both appeal proposals would be consistent with the relevant criteria of Policy H1(8) in maintaining appropriate buffers around heritage assets and maintaining the visual link between the Church and the Rectory. I have found that there would be less than substantial harm to the setting of the Church and Church House but I do not agree with the conclusions of the HS-JCG that the extent of the harm would amount to substantial.

¹⁹ Paragraph 6.5 Heritage Statement – Janice Gooch Heritage Consultancy (27 October 2020) – CPRE 8

100. I have also taken into account the views of CPRE, and the appeal decision provided, in respect of development on Land at Church Hill, High Halden²⁰ (High Halden) and whether this is determinative in considering Church Road as a non-designated heritage asset in the appeals before me. It is quite clear in that case that Church Hill, located within a Conservation Area, was considered by the Council to be a non-designated heritage asset (NDHA)²¹, although I have no other evidence to explain how this was designated and published as such.
101. In the case of the appeals before me I have no evidence to suggest that the Council has determined Church Road as a NDHA. The circumstances in these appeals are very different to that in the High Halden case in that Church Road does not lie within a Conservation Area, is not identified as a NDHA by the Council or any other statutory body and is specifically identified in the Local Plan to be used for access to serve an allocated site. I therefore attach little weight to the High Halden appeal decision.
102. Historic England accept the principle of development at the site and accept that it is unlikely that the overall harm can be reduced given other constraints on the site but that the proposal is capable of meeting NPPF requirements to minimise and thus also justify harm. This position was on the basis that a dedicated car park was to be provided within the appeal site to serve the Church. Historic England considers that without a dedicated church car park in the application there is less heritage benefit which might outweigh the harm arising from the proposed developments.
103. Notwithstanding the fact that the car park was removed from the plans that were considered by the Council, the proposals in the appeals before me both provide for a dedicated car park to serve the Church. On this basis, I have no other evidence to suggest that Historic England have objections to the appeal proposals.
104. The proposed car park would have a functional link with the Church. In my view, this would provide a small heritage benefit to assist in maintaining appropriate access to the Church for its use as a community resource. The proposed car park would be sited on land to the south of Church House, currently visually separated from Church House by a close boarded timber fence, and within an area which is proposed to receive surrounding landscaping as shown on the plans relevant to both appeals. This would enable it to be integrated into the overall landscaping scheme for the site that could be secured by an appropriate condition were I minded to approve these appeals. I do not consider that the proposed car park would have any material bearing on the appreciation of the heritage values of Church House or St Nicholas Church.
105. In consultation on the planning application relevant to Appeal A the Council's Conservation Officer was "*satisfied that the outline application scheme seeks to limit the harm on the setting of the listed buildings, in particular the Church, the Church House and the Rectory*". In addition, it was also stated that the proposals "*will only have a minimal effect on the setting of the Conservation Area*".

²⁰ ID8 - Appeal Decision APP/E2205/W/19/3227775

²¹ Paragraph 17 - Appeal Decision APP/E2205/W/19/3227775

106. In respect of the application relating to Appeal B, the Council's Conservation Officer identified that the site has been laid out with regard to the parameters in Local Plan H1(8). In addition, the consultation response also identified that *"the development would result in harm to the setting and significance of the Church due to the erosion of its historic rural outlook. There would also be harm to the setting of Church House for the same reasons but to a slightly lesser degree as the building is not a prominent landmark. I consider that the harm to the Church and Church House would be less than substantial and that the above measures would assist in mitigating the adverse heritage impacts of the scheme. I do not consider there would be harm to The Rectory or Otham Conservation Area as their settings would not be directly affected"*.
107. Overall, I consider that the harm to the setting of the heritage assets identified above would be less than substantial. In arriving at this view, I have also taken into account the advice contained within the Planning Practice Guidance (PPG) which advises that substantial harm is 'in general terms, a high test'. In my view, the characterisation of this by the appellant's heritage witness as being 'at the lower end of less than substantial harm' is reasonable. Furthermore, I have no other reasons to disagree with the views of Historic England or the Council's Conservation Officer in relation to the appeals proposals.
108. In arriving at this conclusion, I have had full regard to the desirability of preserving the setting of heritage assets and the need to give due weight to any harm in that respect. In particular, I have taken into account the provisions of paragraphs 193, 194 and 196 of the NPPF, which are reflected in Policy DM4 of the Local Plan. Whilst great weight is to be given to the conservation of heritage assets, less than substantial harm is to be weighed against any public benefits of the proposal.
109. In my view, the Parameter Plan, Illustrative Masterplan and proposed layout demonstrate that the proposed development has carefully considered how the impact upon heritage assets would be minimised to an acceptable degree bearing in mind the site is allocated for housing. However, in the case of both these appeals I have found less than substantial harm to the setting of the Church and Church House would be caused.
110. The allocation of 440 houses at the site would inevitably result in some harm to the setting of the two listed buildings to the north. Such impacts upon the setting of these listed buildings were clearly accepted when the Local Plan Inspector agreed that the allocation was acceptable for 440 houses, subject to criterion 3, 4, and 6 of Policy H1(8).
111. I have also found that both proposals would be consistent with the relevant criteria of Policy H1(8) in respect of measures required to be demonstrated in development proposals to protect the setting of St Nicolas Church, and in turn Church House, and maintain an undeveloped visual link to the Rectory along the eastern boundary of the site. I have also taken into account the public benefits of providing up to 440 houses in the case of Appeal A and 421 houses in the case of Appeal B. These include affordable housing to meet housing needs on an allocated site. In addition, there would be social and economic benefits associated with the construction and occupation of the dwellings identified elsewhere in this decision.
112. Whilst having special regard to the preservation of the setting of the Church and Church House, I conclude that the benefits identified above and elsewhere

in this decision outweigh the less than substantial harm that would be caused to the setting of these heritage assets and provide a clear and convincing justification in support of development of the site. Consequently, the proposed developments would not be in conflict with the relevant provisions of Policies H1(8), SP18 and DM4, nor with the relevant provisions of the NPPF.

Other Matters raised by Rule 6 Parties and Interested Parties

Character and appearance

113. The impact of the development of the site on the character and appearance of the surrounding area was considered at the Local Plan allocation stage in the Council's Landscape Capacity Study Site Assessment (2015)²² which formed part of the local plan evidence base. This confirms the visual sensitivity of the site to be moderate, relates reasonably well to existing development to the north, south and west and has the capacity to accommodate housing.
114. The Council's acceptance that there would be a change in the character and appearance of the appeal site was reflected in its allocation in the Local Plan. No objections have been raised by the Council in respect of the appeal proposals before me regarding the effect on the character and appearance of the surrounding area.
115. I have carefully considered the submitted Landscape and Visual Impact Assessment²³ (LVIA) which concludes that views of the proposals will be highly localised as a result of the gently sloping topography, established vegetation cover and intervening built form associated with the immediate setting of the site. Where localised views are available, the LVIA identifies that the proposals will integrate into the surrounding landscape when considering the existing built form, urbanising components and adjacent road corridors. Furthermore, it identifies that as the landscape features proposed within the landscape buffer mature, the proposed built elements will be softened, and the scheme will become an integrated part of the view. I have also taken into account the proposed layout of development which has been arranged to allow views of the Church from along Church Road within the proposed landscape buffer, and from within the site (diagonally from the centre towards the Church).
116. I recognise that there will be a change to the character and appearance of the surrounding area and to localised views. However, I am not persuaded that the magnitude and extent of this change would be any different from that identified in the LVIA. In this regard, I have no reasons to disagree with the conclusions of the LVIA.
117. Concerns were expressed in the Inquiry that the proposed access arrangements would give rise to the loss of more hedgerow on the Church Row frontage than was envisaged by criterion 5 of Policy H1(8). However, this part of the policy is not prescriptive of the extent of hedgerow to be retained. Whilst there would be some loss of this hedgerow there would also be some landscape strengthening and improvement to the remaining parts. I do not consider that the appeal proposals would conflict with the provisions of this part of the policy.
118. Taking into account the findings of the Council's Landscape Capacity Study Site Assessment (2015) and the findings of the LVIA, I do not consider that the

²² Appendix MW6 – Mr Woodhead PoE

²³ CD23

degree of change would be of such magnitude to cause material harm to the character and appearance of the surrounding area of an extent to warrant the dismissal of this appeal on those grounds. Notwithstanding the weight to be attached to the emerging Otham Neighbourhood Plan, I have taken into account the landscape protection policies of that plan but these do not lead me to any different conclusion on my findings identified above.

Air Quality

119. Concerns were expressed that the submitted Air Quality Assessments²⁴ (AQAs) lack consideration of any mitigation measures and lack rigour in their assessment of the impact, particularly at the junction of Willington Street and Deringwood Drive.
120. The appeal site is not located in an Air Quality Management Area (AQMA). The AQAs have been prepared in accordance with relevant Defra and best practice guidance. These conclude that the proposed developments would not have any significant impact on local air quality and no objections were made by the Council's Environmental Health Team in response to the consultations on the planning applications subject to mitigation measures which include provision for electric vehicle charging points. I have no other contrary evidence to suggest that the modelling methodology used in the AQAs to determine the impact of the proposed developments on air quality may be incorrect.
121. Predictions of 'Air Quality Standard' (AQS) concentrations in 2029 for a number of key pollutants shows these to be below the annual mean AQS in the local area. The Council has not identified the junction of Deringwood Drive and Willington Street as an area of concern in the annual review of the Local Air Quality Management Framework.
122. Whilst I recognise that the AQAs did not specifically assess this junction, they did assess the impacts at a number of worst-case sensitive receptor locations where the magnitude of change would be greatest and near major A roads where existing air quality is less good with a conservative assumption that there would be no improvement in the vehicle fleet beyond 2025.
123. Despite not modelling the junction, in the absence of any technical objection from the Council I have no reasons to suggest that the AQAs lack rigour in their assessment methodology. I have also considered the additional evidence provided by the appellant in this regard²⁵ and I have no reason to disagree with the findings that even if the junction was able to be modelled and found to have a slight/moderate impact this would not change the overall conclusion that the developments would have an overall negligible impact on air quality. Consequently, on the basis of the evidence provided, I am not persuaded that the proposed developments would have a material detrimental effect on air quality.
124. In arriving at the above view, I have taken into account the appeal decisions referred to by CPRE at London Road, Newington, Kent²⁶. However, the issues in relation to air quality in those cases are very different to those in the appeals before me. In particular, an AQMA was declared along a section of London Road in 2009 because the annual mean concentrations of the nitrogen dioxide

²⁴ CD17 and CD137

²⁵ Appendix MW2 – Air Quality Statement – Mr Woodhead PoE

²⁶ ID8

(NO₂) objective was exceeded. Modelling of “without development” and “with development” scenarios showed that for both appeal schemes there would be “substantial adverse” effects at three receptor sites in Newington. There were also “moderate adverse” and “slight adverse” effects at between three and five other receptor sites in each of these scenarios. In each case the limit value for annual mean NO₂ concentrations would be exceeded at five receptor sites, in some cases by a considerable amount. This is very different to the appeals before me where the modelling predicts that the highest concentration of NO₂ in 2029 to be 23.3% below the annual mean AQS. I have therefore attached little weight to these appeal decisions.

Flood risk and ground water

125. No objections have been received from statutory consultees regarding the submitted Flood Risk and Sustainable Drainage Assessment in respect of both appeals.²⁷ However, I have considered the concerns expressed by CPRE and the additional information provided by the appellant in response to these concerns.²⁸ In addition, the Council and the appellant have agreed planning conditions in respect of both appeals requiring the submission of the detailed design of the proposed surface water drainage scheme and specifying that infiltration to manage the surface water from the development will only be allowed where it is demonstrated that there is no resultant unacceptable risk to controlled waters and/or ground stability.
126. On the basis of the information submitted by the appellant, the responses from statutory and technical consultees, and subject to the imposition of suitable planning conditions, I am satisfied that an appropriate surface water drainage scheme can be provided that ensures that there would be no resultant unacceptable risk to controlled waters and/or ground stability.

Land stability

127. The Chapman Avenue Residents Association, in addition to written evidence submitted by Dr J M Speight, expressed concerns at the potential impact of the proposed developments on slope stability of the north western and northern boundary of the site. The submitted Outline Slope Stability Addendum Report²⁹ specifically considers this matter.
128. Following site investigation work, the report recommends that a sterilising strip of a distance twice that of the cliff/slope vertical height is allowed for from the crest of the slope. Within this zone it is recommended that all development is avoided as well as any temporary works that might impose loads on the slope. It was also recommended that any deep bore soakaways relatively close to the slope, should discharge at a depth lower than the base of the slope/cliff.
129. The proposed layout and the Parameter Plan show that no proposed plots would be sited in the sterilising strip. However, the report also identifies that this work does not constitute a full detailed slope stability analysis and that further detailed slope stability analysis could be carried out to further refine the safe distances from the toe of offsite slopes and cliffs.

²⁷ CD21 and CD142

²⁸ Appendix MW3 – Mr Woodhead PoE

²⁹ CD149

130. I have taken into account paragraph 170(e) of the NPPF which, amongst other things, requires that planning decisions should prevent existing development from being put at unacceptable risk from land instability. Whilst recognising the local concerns, the submitted Outline Slope Stability Addendum Report is based on the analysis of site investigations and I have no reasons to question the professional competence of the author of the report.
131. I have no reasons to suggest the advice contained within the report to be erroneous but I do recognise that it is essential to ensure that no development occurs within the sterilising strip and that further slope stability analysis should be carried out in accordance with the recommendations contained therein. These matters can be required by the imposition of a suitable planning condition. Consequently, subject to the imposition of such condition, I do not consider that there would be any conflict with the relevant provisions of the NPPF.

Living conditions

132. The Council suggests that the proposed dwellings would be positioned, at their closest, approximately 16m from end of the rear gardens of properties to the west on Chapman Avenue and 'The Beams', and at least 30m from the rear of the existing houses³⁰. The existing properties are positioned at a lower level than the appeal site and the submitted plans indicates that there would be landscaping along the western boundary of the site. Given these separation distances and the proposed intervening planting, I do not consider that the proposed developments would cause any overlooking, loss of privacy or overshadowing of an extent that that would cause material harm to the occupants of those existing properties sufficient to warrant the dismissal of these appeals.
133. Similarly, the Council also suggest that properties to the south on Woolley Road would be at least 24m away from the nearest proposed dwellings, properties to the north off Longham Copse would be at least 38m away, Squerryes Oast 70m away, Rectory Cottage 34m away, Church House and the Coach House at least 42m away. Given these separation distances I do not consider that the proposed developments would cause harm to the living conditions of the occupants of those existing properties.

Fear of crime

134. At the Inquiry concerns were raised that the proposed layout that provides for a footpath and trim trail along the western boundary of the site and in close proximity to the rear of property boundaries on Chapman Avenue could increase the risk of crime to those properties. There is currently an informal footpath route that runs along the western boundary of the site which is limited in public views in the context of providing surveillance.
135. The submitted Design and Access Statements demonstrate that the design of the proposed developments incorporate the principles of 'Secured by Design' and have taken into account the advice provided in the "Safer places – the Planning System and Crime Prevention" (Office of the Deputy Prime Minister, April 2004). The design of the proposed developments incorporates a number of attributes that are relevant to crime prevention.

³⁰ CD169 – paragraph 6.85

136. I have no evidence to indicate the extent to which properties in the local area, in particular properties on Chapman Avenue, already experience crime. The layout of the proposed developments would provide for the frontages of properties to have a degree of overlooking of the proposed footpath and other public areas. This therefore provides a degree of surveillance and defensible space.
137. Whilst I recognise local residents concerns in this matter, I do not consider that there is any demonstrable evidence before me to suggest that the proposed developments would give rise to a risk of increased crime in the area.

Use of Public Rights of Way

138. The proposed developments do not materially change the route of any Public Rights of Way in the area. They do include measures to improve the surfacing of path KM86 and provide for the landscaping along the route of the path through the site together with the creation of other informal paths along the western boundary and the provision of a connection to Woolley Road.
139. However, I recognise that there would be landscape change to the area surrounding footpath KM86 as it passes through the site as a consequence of the proposed developments. In addition, the users of the footpath network to the east of the site would experience a change in views looking to the west and towards Church Road. In respect of these matters I have carefully considered the concerns of The Ramblers.³¹
140. Taking into account my findings regarding the impact of the proposed developments on the character and appearance of the surrounding area, I accept that there would be a change to the landscape in the vicinity of St Nicholas Church when viewed from the public rights of way networks. This change would, to some degree, soften over time as the peripheral site landscaping matures.
141. I recognise that the degree of landscape change will have some detrimental impact on the enjoyment of the local public rights of way network. I also recognise that in allocating the site suitable for development such consequential landscape change was found acceptable by the Council. Notwithstanding this, the effect of the proposed developments on the enjoyment of the local public rights of way network does carry some limited weight against the schemes.

Access by emergency vehicles

142. Concerns were expressed in the Inquiry that the proposed access arrangements off Church Road may be unsuitable for access by emergency vehicles. A Swept Path Analysis exercise of a fire tender accessing the site was submitted with the planning applications³². In the absence of any other technical information, I have no contrary evidence to suggest that the swept path analysis may be incorrect and therefore no basis to suggest that emergency vehicles will be unable to access the site.

³¹ CPRE 5 PoE – The Ramblers

³² Appendix A17 of Transport Assessment – CD145

143. It is also proposed that the internal spine road is designed as a 6.0m wide major access road, to allow this to operate as a bus route. Such road width is suitable for use by emergency vehicles.

Church car park

144. In the Inquiry there were mixed views expressed by the Rule 6 Parties regarding the provision of a car park for the Church. The appeal proposals both provide for a dedicated car park. In my view, the provision of the car park has some limited benefit in assisting in sustaining the viability of the Church as a community asset. Furthermore, as explained above, I do not consider its provision would have any effect on the setting of nearby heritage assets.

Ancient woodland

145. The highway boundary on Church Road is located in close proximity to the ancient woodland. I have taken into account the provisions of paragraph 175(c) of the NNPF. The proposed widening of Church Road does not cause any encroachment of the highway boundary into the area designated as ancient woodland. Consequently, I do not consider that the proposed developments would result in any conflict with the relevant provisions of the NNPF.

Planning Obligations

146. Completed agreements pursuant to Section 106 of the Town and Country Planning Act 1990 have been provided in respect of both appeals. In considering whether the agreements are appropriate I have taken into account the provisions of the Community Infrastructure Levy (CIL) Compliance Statement provided by the Council³³.
147. Both agreements provide for a Primary Education Contribution which are defined as the expansion of the Greenfields Community Primary School and contain the agreed basis for calculating the required financial contribution. The CIL Compliance Statement identifies that there is express exclusion from CIL charges to secure contributions towards "expansion of an existing school within south-east Maidstone to accommodate site H1(8)", the appeal site, through a Section 106 obligation. These provisions are necessary to mitigate the impacts of the proposed developments on education services.
148. The agreements also make provision for 30% of the housing units to be provided as affordable dwellings of which 70% are to be affordable rented housing and 30% would be shared ownership dwellings. The agreement relative to Appeal A also includes an obligation to submit a Phasing Plan which would identify the location of affordable dwellings in each phase. These provisions are consistent with the requirements of Policy SP20 of the Local Plan.
149. The appellant has provided an Affordable Housing Statement³⁴ which demonstrates that there is a substantial unmet need for affordable housing across Kent. The provision required by the agreements would therefore represent a substantial social and public benefit.

³³ ID 22

³⁴ Appendix MW1 – Mr Woodhead PoE

150. Both agreements also provide for a financial contribution towards improvements to that part of the National Cycle Route 177 from Church Road to Deringwood Drive. This contribution is necessary to encourage sustainable transport modes and mitigate vehicle usage. The improvements to the cycle route would be a general public benefit to which I attach moderate weight.
151. A Framework Travel Plan was submitted to support the applications relevant to both appeals in accordance with the requirements of Policies SP23 and DM21 of the Local Plan and set out targets to reduce vehicle trips arising from the development proposals. Both agreements provide for a financial contribution payable to the Council for the purposes of monitoring the Travel Plan. These are necessary to assist in mitigating travel demand to the levels assumed in the Transport Assessment in accordance with the relevant policies.
152. Both agreements provide for the transfer of the proposed car park to serve St Nicholas Church to the Diocese of Canterbury for a nominal fee subject to certain obligations regarding its future use. The provision of the car park has some benefit to the free flow of traffic by reducing the number of vehicles that park on Church Road and thereby constraining the width of the useable carriageway. Whilst this has some degree of benefit to the general public, I consider that this attracts only limited weight.
153. All of the above obligations have been demonstrated to be necessary to make the developments acceptable and are relevant to the developments, reasonable in scale and kind and are justified in accordance with CIL Regulations. I am satisfied with the form, drafting and content of the obligations. I have therefore taken these into account and attached appropriate weight to the provisions contained therein that would provide public benefits.

Other benefits of the developments

154. In addition to the benefits already identified above, the developments would have significant benefits for the local and national economy. The investment represented by these developments would also be consistent with the economic dimension of sustainable development. The undisputed economic benefits would include investment in construction and related employment for its duration. Benefits would also include an increase in local household spending and demand for services. These benefits are also afforded substantial weight.
155. Improvements are also proposed by the appellants to the footpath KM86, including the provision of a ramped access at the north western corner of the site, and the provision of a linkage to Woolley Road. These improvements could be secured by planning conditions. Although minor in nature, they would have some benefit for existing residents as well as future occupiers of the development itself and therefore carry moderate weight.
156. Criterion 10 of Policy H1(8) requires that development of the site should provide for 2.88ha of natural/semi-natural open space. The proposals would provide for approximately 4.4ha of open space. In my view, the open space would primarily serve the residents of the proposed new houses and would be of limited benefit to the existing residents of the area. There is some encroachment of development in the south eastern corner of the site into the area required to be maintained as open space as identified in policies OS1(16) and DM19. However, I do not consider this to undermine the overall objective of these policies, particularly as the Council has raised no objections to this

encroachment. There is also a modest set of ecological enhancements proposed within both appeal schemes. Therefore, collectively I have afforded these benefits limited weight.

Planning Balance

157. The appeal site forms part of a number of sites in the SEMSDL that were allocated for housing development in a recently adopted Local Plan. Section 38(6) of the Planning and Compulsory Purchase Act 2004 requires that applications must be determined in accordance with the Development Plan unless material considerations indicate otherwise. The NPPF at paragraph 11(c) advises that for decision making development proposals that accord with an up-to date development plan should be approved without delay.
158. The appeal proposals relate to an allocated site and accord with the location and scale of development proposed in the Local Plan. There is no evidence to suggest that the site is otherwise than sustainably located in relation to its proximity to the town centre and local services. Connectivity would be improved by the enhanced accessibility proposals associated with the footpath and cycleway improvements and the opportunity for the site to be accessed by public transport.
159. Whilst there would be an impact on congestion, I have found that this would not constitute a conflict with Policy DM21 of the Local Plan. Furthermore, the potential congestion that would be caused to Willington Street would not be of an extent that can be considered to constitute a severe residual impact in the context of paragraph 109 of the NPPF.
160. In addition, I have found that the proposed developments would not demonstrably cause worsening safety issues on Church Road to the south of the site. Consequently, the proposals would not have a material detrimental effect on the safe and efficient operation of the highway network in the vicinity of the appeal site. As such there would be no conflict with the relevant policies contained within the Local Plan.
161. I have found that there would be less than substantial harm to the setting of heritage assets. In accordance with the relevant provisions of the NPPF I am required to weigh this less than substantial harm against any public benefits of the proposals.
162. I have set out above the public benefits of providing up to 440 houses in the case of Appeal A and 421 houses in the case of Appeal B. These include affordable housing to meet a demonstrable housing need on an allocated housing site. I have attached significant weight to these benefits. In addition, there are other social and economic benefits associated with the construction and occupation of the dwellings and improvements to the accessibility of the local footpath and cycle network that I have identified above. I have also identified the appropriate weight that should be attached to these benefits. The significance of these public benefits outweighs the less than substantial harm that would be caused to the setting of the heritage assets identified.
163. There would undoubtedly be a change to the character and appearance of the appeal site with the proposed housing in place as a result of a change in the land use from an agricultural one to a predominantly residential one. The appeal site is not protected for its landscape character or quality. I do not

consider that the site in its current form makes such a significant positive contribution to the localised or wider landscape setting to the extent that there would be serious harm to the character and appearance of the surrounding local area as a consequence of the proposed developments, particularly as these matters were also considered at the local plan allocation stage. The proposed enhanced green edge to the site will contribute to the local green infrastructure and, over time, mitigate some of the visual effects of the developments.

164. Many other matters were raised by Rule 6 and interested parties in the Inquiry. Although these matters have been carefully considered, they do not alter the main issues which have been identified as the basis for the determination of these appeals, particularly in circumstances where the Council has not objected to the appeal schemes for these other reasons.
165. Overall, I find that the development proposals in both Appeal A and Appeal B accord with the development plan when taken as a whole. There are no other considerations of such weight as to warrant a decision other than in accordance with the aforementioned development plan policies and the NPPF. Therefore, in accordance with paragraph 11(c) of the NPPF these appeals should be allowed.

Conditions

166. I have considered the planning conditions, including a number of pre-commencement conditions, that were provided and agreed between the Council and the appellant and discussed at the Inquiry. I have considered these against the advice given in paragraph 55 of the Framework and the guidance contained in the section on 'Use of Planning Conditions' in the PPG. Where necessary I have amended them in the interests of clarity, precision, conciseness or enforceability.

Appeal A

168. I have attached conditions limiting the life of the planning permission and setting out the requirements for the submission of reserved matters (condition Nos. 1-3). I have imposed a condition (No. 4) relating to the approved plans in the interests of certainty.
169. As part of the submission of reserved matters conditions are necessary to set out the parameters for landscaping, the buffer to the Ancient Woodland, open space provision and details of the proposed car park for St Nicholas Church (conditions Nos. 6, 7, 8, 10 and 11). In order to encourage the use of sustainable travel modes conditions are also necessary to ensure that the layout details submitted as part of a reserved matters submission provide pedestrian and cycle links to link with off-site public rights of way, cycle routes, open space and to Woolley Road and that a ramp is provided at the north western corner of the site (condition Nos. 9 and 17). However, I have amended the suggested condition in No. 9 to ensure that consideration is also given to the access arrangements for cyclists from the proposed cycle link from Church Road to 'The Beams' and the open space area to the north west of the site.
170. In order to ensure that the surface water arising from the proposed development can be appropriately drained and does not either cause off-site or on-site flood risk or any resultant risk to controlled waters and/or ground

- instability, conditions are necessary requiring the submission of details of the proposed drainage scheme and the subsequent verification of its installation (conditions Nos. 12, 13 and 30). These are also required to ensure that the construction of the development accords with the submitted Flood Risk and Sustainable Drainage Assessment (March 2019).
171. In the interests of protecting the ecology of the area, a condition requiring the implementation of the submitted ecological mitigation measures, and any necessary updated measures, is necessary (Ecological Appraisal - Aspect Ecology - March 2019) (condition No. 14). Also, in the interests of protecting the ecology of the area, and in the interests of protecting the character and appearance of the area, a condition is necessary requiring the submission and implementation of a site-wide landscape and ecological management plan (condition No. 27).
 172. A condition requiring a site investigation of the nature and extent of any contamination affecting the site, along with any requisite remediation, is also necessary to safeguard the health and well-being of future occupiers (condition No. 15). A condition requiring an investigation and the recording of the potential archaeological interest on the site is necessary in order to ensure that any archaeological interest is recorded or safeguarded (condition No. 16).
 173. The submission and approval of a Construction Management Plan is necessary to safeguard the living conditions of local residents and in the interests of highway safety (condition No. 18). However, I have amended the suggested condition to include the submission of mitigation measures for noise, dust, vibration, the minimisation of the deposition of mud on Church Road and the hours of construction work and deliveries. In the interests of ensuring that the proposed development does not put existing development adjoining the site at an unacceptable risk from land instability, a condition is required requiring a slope stability analysis and measures to ensure that construction works do not give rise to land instability issues (condition No. 19).
 174. The submission of details of air quality mitigation, including electric vehicle charging points, is necessary in order to mitigate any effects of the development on air quality (condition No. 21). A condition requiring an external lighting scheme is also necessary to minimise the effect of artificial light on local species (condition No. 22).
 175. A condition requiring the early provision of the car park for St Nicholas Church is necessary in the interests of highway safety and to maintain the usability of the Church (condition No. 23). In the interests of highway safety and flow of traffic, conditions are necessary requiring the provision of the site access and off-site junction and highway improvement works (Conditions Nos. 5, 20, 24, and 25). However, I have amended the suggested condition relating to access to ensure that the access points are provided prior to the commencement of any development above slab level.
 176. To promote sustainable modes of transport and reduce the need for travel by car, conditions are necessary to secure the implementation of the Travel Plan, upgrade works to Public Right of Way KM86 and design details of pedestrian/cycle routes (conditions Nos. 26, 28 and 29).

177. In order to promote the minimisation of energy usage and in the interest of sustainable development, a condition is necessary to ensure the provision of photovoltaic panels on some of the proposed dwellings (Condition No. 31).

Appeal B

178. In addition to the standard time limit, I have imposed a condition (No. 2) relating to the approved plans in the interests of certainty.
179. In the interests of protecting the character and appearance of the area, conditions are necessary relating to boundary treatment, the treatment of hard surfaces, landscaping of the site, retention of open space areas, the details of the construction materials proposed to be used, phasing plan, the provision of public art, the implementation of a landscape and ecological management plan and arboricultural method statement (conditions Nos. 3, 4, 5, 6, 12, 18, 20, 22, 23, 24, 28 and 34).
180. Conditions requiring a site investigation of the nature and extent of any contamination affecting the site, along with any requisite remediation, are necessary to safeguard the health and well-being of future occupiers (condition Nos. 16 and 37). In the interests of ensuring that the proposed development does not put existing development adjoining the site at an unacceptable risk from land instability, a condition is required requiring a slope stability analysis and measures to ensure that construction works do not give rise to land instability issues (condition No. 19).
181. A condition requiring an investigation and the recording of the potential archaeological interest on the site is also necessary in order to ensure that any archaeological interest is recorded or safeguarded (condition No 17).
182. Conditions requiring an external lighting scheme are also necessary to minimise the effect of artificial light on local species and in the interests of protecting the living conditions of existing nearby residents and the future occupants of the development (condition Nos 26 and 27).
183. To promote sustainable modes of transport, reduce the need for travel by car and provide access for all users, conditions are necessary to secure the implementation of the Travel Plan and the provision of footpath, cycle links, ramped access in the north west corner of the site and electric vehicle charging points (conditions Nos 9, 11, 25, 33, 35, and 38).
184. The submission and approval of a Construction Management Plan is necessary to safeguard the living conditions of local residents and in the interests of highway safety (condition No. 8). However, I have amended the suggested condition to include the submission of mitigation measures for noise, dust, vibration and the minimisation of the deposition of mud on Church Road and the hours of construction work and deliveries
185. A condition requiring the early provision of the car park for St Nicholas Church is necessary in the interests of highway safety and to maintain the usability of the Church (condition No. 10). Also in the interests of highway safety, conditions are necessary requiring the provision of the site accesses, off-site highway improvements, measures to maintain the access visibility splays and the provision of parking/turning areas for each building (conditions Nos. 7, 29, 30 and 32). However, I have amended the suggested condition relating to

access to ensure that the access points are provided prior to the commencement of any development above slab level.

186. In the interests of protecting the ecology of the area, conditions are necessary requiring the implementation of the submitted ecological mitigation measures and any necessary updated measures (Ecological Appraisal - Aspect Ecology - March 2019) (condition Nos. 13 and 21).
187. In order to ensure that the surface water arising from the proposed development can be appropriately drained and does not either cause off-site or on-site flood risk or land instability problems, conditions are necessary requiring the submission of details of the proposed drainage scheme and measures to ensure that the construction of the development accords with the submitted Flood Risk and Sustainable Drainage Assessment (dated January 2020 by Herrington) and does not cause harm to controlled waters (conditions Nos. 14, 15 and 36).
188. The submission of details of air quality mitigation, including electric vehicle charging points, is necessary in order to mitigate any effects of the development on air quality (condition No. 25). In order to promote the minimisation of energy usage and in the interest of sustainable development, a condition is necessary to ensure the provision of photovoltaic panels on some of the proposed dwellings (condition No. 31).

Conclusion

189. There are no other considerations of such weight as to warrant a decision other than in accordance with the aforementioned development plan policies and the Framework. Consequently, for the above reasons, based on the evidence before me and all other matters raised, I conclude that both appeals should be allowed subject to conditions.

Stephen Normington

INSPECTOR

Attached

1. Appearances
2. List of Plans and documents submitted during the Inquiry
3. Schedule of conditions for Appeal A
4. Schedule of conditions for Appeal B

1. APPEARANCES

FOR THE LOCAL PLANNING AUTHORITY

Megan Thomas

of Counsel instructed by Maidstone
Borough Council

She called

Brendan Wright BA(Hons) MCIHT

Principal Transport and Development
Planner, Highways and
Transportation, Kent County Council

Robert McQuillan BA(Hons) MCD
MRICS MRTPI

Planning Consultant
Robinson Escott Planning LLP

FOR THE APPELLANT

Hashi Mohamed

of Counsel instructed by Bellway
Homes Limited

He called

Paul Lulham MSc MA MCILT

Director of Transport Planning, DHA
Planning

Matthew Woodhead BA(Hons)
BTP, MAUD, MRTPI

Director of Planning and Urban Design
DHA Planning

For the Appellant
(Round Table Sessions)

Liz Vinson BA(Hons) MSc IHBC

Director of HCUK Group

Harvey Parfitt

Phlorum Limited

RULE 6 PARTIES

CPRE (Kent)

Richard Knox-Johnston

Maidstone District CPRE

Rachel Gray

Otham Parish Council

Brian Page

St Nicholas Church Otham PCC

Malcolm Kersey

Local Resident

David Hatcher

Chapman Avenue Area Residents
Association

Councillor George Newton

Maidstone Borough Councillor

Graham Smith

Ramblers Maidstone Branch

MAIDSTONE BOROUGH COUNCIL LABOUR GROUP

Councillor Malcolm McKay

Maidstone Borough Councillor

DOWNSWOOD PARISH COUNCIL

Councillor Martin Weeks

Downswood Parish Councillor

MAIDSTONE CYCLE CAMPAIGN FORUM

Duncan Edwards

Maidstone Cycle Campaign Forum

INTERESTED PERSONS

Councillor Val Springett

Maidstone Borough Councillor

Councillor Paul Harper

Maidstone Borough Councillor

2. LIST OF PLANS AND DOCUMENTS SUBMITTED DURING THE INQUIRY

- ID1 Appellant's opening statement
- ID2 Council's opening statement
- ID3 CPRE opening statement
- ID4 Maidstone Borough Council Labour Group opening statement
- ID5 Downswood Parish Council opening statement
- ID6 Maidstone Cycle Campaign Forum opening statement
- ID7 Appeal Decisions APP/U1105/A/13/2208393, APP/M2325/A/14/2217060 and APP/N4720/W/15/3004034 submitted by the appellant.
- ID8 Appeal Decisions APP/E2205/W/19/3227775, APP/V2255/15/3067053 and APP/V2235/16/3148140 submitted by CPRE
- ID9 Note submitted by the Council setting out the planning policy status of the Kent County Council Design Guide 2005
- ID10 Plans List submitted by the appellant in respect of both appeals
- ID11 Schedule of resident parking per plot in respect of Appeal B submitted by the appellant
- ID12 Note submitted by the appellant regarding the funding status of Highways Improvement Package 1 – South East Maidstone Strategic Development Location (SEMSDL) within the adopted Local Plan
- ID13 Note submitted by Council on Wavendon Properties Ltd v. Secretary of State for Housing, Communities and Local Government [2019] EWHC 1524 (Admin) and Hallam Land Management Ltd v Secretary of State for Communities and Local Government [2018] EWCA Civ 1808
- ID14 Closing submissions by the Council
- ID15 Closing submissions by CPRE
- ID16 Closing submissions by Maidstone Borough Council Labour Group
- ID17 Closing submissions by Downswood Parish Council
- ID18 Closing submissions by Maidstone Cycle Campaign Forum
- ID19 Closing submissions by appellant
- ID20 List of conditions for Appeal A agreed between the appellant and the Council
- ID21 List of conditions for Appeal B agreed between the appellant and the Council

ID22 CIL Compliance Statement

ID23 Completed Deed of Agreement pursuant to Section 106 of the Town & Country Planning Act 1990 for Appeal A dated 14 December 2020 submitted by the appellant

ID24 Completed Deed of Agreement pursuant to Section 106 of the Town & Country Planning Act 1990 for Appeal B dated 14 December 2020 submitted by the appellant

3. SCHEDULE OF CONDITIONS FOR APPEAL A

Standard time limit

- 1) No phase of the development hereby approved shall commence until the following reserved matters have been submitted to and approval has been obtained in writing from the local planning authority for that phase: a) Scale b) Layout c) Appearance d) Landscaping. The development shall be carried out in accordance with the approved details.
- 2) Application for approval of the reserved matters shall be made to the local planning authority not later than three years from the date of this permission.
- 3) The development hereby permitted shall be begun either before the expiration of three years from the date of this permission, or before the expiration of two years from the date of approval of the last of the reserved matters to be approved, whichever is the later.

Details and drawings subject to the permission

- 4) The development hereby permitted shall be carried out in accordance with the following approved plans:
Site Location Plan - 16206 S102 Rev A
Parameter Plan - 16206 C03 Rev M
Proposed Access Arrangement - 16-T114 06 Rev F
Proposed Amendments to Church Road Northern Section (junction with Deringwood Drive) - Drawing 16-T114 34.1
Proposed Amendments to Church Road Section Immediately Outside Site Area - Drawing 16-T114 34.2
Proposed Off Site Highway Improvements (1 of 4) - 14590-H-01 P1
Proposed Off Site Highway Improvements (2 of 4) - 14590-H-02 P1
Proposed Off Site Highway Improvements (3 of 4) - 14590-H-03 P2
Proposed Off Site Highway Improvements (4 of 4) - 14590-H-03 P2
Wellington Street/Deringwood Drive Junction - Proposed Traffic Signals - 14195-H-01 P5
Spot Lane Junction Potential Adjustments - 14195-H-02 P2

Access

- 5) No development above slab level shall take place until the access points hereby permitted have been provided in accordance with drawing No. 16-T114 06 Rev F (Proposed Access Arrangement) and thereafter the visibility splays shall be kept free of obstruction above a height of 1 metre.

Parameters

- 6) The layout details submitted pursuant to condition 1 shall follow the principles of the development areas and buffers/landscape areas as shown on the approved Parameter Plan (Drawing No. 16206 C03 Rev M).
- 7) The layout details submitted pursuant to condition 1 shall provide at least a 30m woodland planted development free buffer to the Ancient Woodland in the southern part of the site as shown on the approved Parameter Plan (Drawing No. 16206 C03 Rev M).

- 8) The layout details submitted pursuant to condition 1 shall provide at least 2.88 hectares of on-site public open space.
- 9) The layout and access details submitted pursuant to condition 1 shall provide the following:
 - A pedestrian and cycle link from Church Road to the development area via the open space to the north of St Nicholas Church and Church House.
 - A pedestrian and cycle link to and across the area of Council owned land to the south of the site providing a link to Woolley Road.
 - Measures to ensure that cyclists can gain access to the The Beams and the Play area to the north west of the site from the cycle link identified above from Church Road to the development area via the open space to the north of St Nicholas Church and Church House.
- 10) The landscape details submitted pursuant to condition 1 shall provide the following:
 - Native planting within the buffers areas as shown on the Parameter Plan (Drawing No. 16206 C03 Rev M).
 - Strengthening and replacement native hedge planting along the site frontage with Church Road.
 - Woodland planting within the Ancient Woodland buffer
 - Orchard planting to the south of St Nicholas Church.
- 11) The details submitted pursuant to condition 1 shall include full details of the proposed car park for St Nicholas Church (as identified on Drawing No. 16206 C03 Rev M - Parameter Plan) including the detailed layout, barrier, overall design and implementation programme. Once implemented the car park shall only be used in connection with use of the Church for parking purposes only.

Pre-Commencement conditions

- 12) No development shall take place until a detailed sustainable surface water drainage scheme for the site has been submitted to and approved in writing by the local planning authority. The detailed drainage scheme shall be based upon the principles within the Flood Risk and Sustainable Drainage Assessment (Herrington, March 2019) and shall demonstrate that the surface water generated by this development (for all rainfall durations and intensities up to and including the climate change adjusted critical 100 year storm) can be accommodated and disposed of without increase to flood risk on or off site.

The drainage scheme shall also demonstrate (with reference to published guidance):

- That silt and pollutants resulting from the site use can be adequately managed to ensure there is no pollution risk to receiving waters.
- Appropriate operational, maintenance and access requirements for each drainage feature or SuDS component are adequately considered, including any proposed arrangements for future adoption by any public body or statutory undertaker.

The drainage scheme shall be implemented in accordance with the approved details prior to occupation.

- 13) Where infiltration is to be used to manage the surface water from the development hereby permitted, it will only be allowed within those parts of the site where information has been submitted to, and approved in writing by the local planning authority, to demonstrate that there is no resultant unacceptable risk to controlled waters and/or ground stability. The development shall only then be carried out in accordance with the approved details.
- 14) No development shall take place until the mitigation measures detailed within chapter 6 of the Ecological Appraisal (Aspect Ecology; March 2019) have been implemented as detailed. If works have not commenced by March 2021 an updated ecological mitigation strategy shall be submitted to the local planning authority for written approval. It must include the following information:
 - a) Updated ecological appraisal
 - b) Results of recommended specific species surveys
 - c) Overview of the ecological mitigation required
 - d) Detailed methodology to implement the mitigation
 - e) Timing of the proposed works
 - f) Details of who will be carrying out the works,
 - g) Maps clearly showing the mitigation areas.

The mitigation shall be implemented in accordance with the approved measures.

- 15) No development shall take place until the following components of a scheme to deal with the risks associated with contamination of the site have been submitted to and approved in writing by the local planning authority:
 - a) A preliminary risk assessment which has identified:
 - all previous uses
 - potential contaminants associated with those uses
 - a conceptual model of the site indicating sources, pathways and receptors
 - potentially unacceptable risks arising from contamination at the site.
 - b) A site investigation, based on (a) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.
 - c) A remediation method statement (RMS) based on the site investigation results and the detailed risk assessment (b). This should give full details of the remediation measures required and how they are to be undertaken. The RMS should also include a verification plan to detail the data that will be collected in order to demonstrate that the works set out in the RMS are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.

- d) A Closure Report is submitted upon completion of the works. The closure report shall include full verification details as set out in (c) above. This shall include details of any post remediation sampling and analysis, together with documentation certifying quantities and source/destination of any material brought onto or taken from the site. Any material brought onto the site shall be certified clean.

Any changes to these components require the express consent of the local planning authority. The scheme shall thereafter be implemented as approved.

- 16) No development shall take place until a Written Scheme of Archaeological Investigation has been submitted to and approved in writing by the local planning authority. The scheme shall include:
- a) archaeological field evaluation works in accordance with specification and written timetable for undertaking site investigation work.
 - b) the programme and methodology of site investigation and recording;
 - c) the programme for post investigation assessment and evaluation;
 - d) any safeguarding measures to ensure preservation in situ of important archaeological remains and/or further archaeological investigation and recording in accordance with a specification and timetable which has been submitted to and approved by the local planning authority.

The development shall thereafter be undertaken in accordance with the approved scheme.

- 17) Before any part of the development hereby permitted is first commenced, details of a ramp to provide accessibility for all users including disabled persons, wheelchairs, pushchairs and cycles at the steps to the north west of the site along PROW KM86 shall be submitted to and approved in writing by the local planning authority. The approved scheme shall be provided before any of the dwellings hereby permitted are first occupied and shall be retained as such thereafter.
- 18) No development shall take place until a Construction Environment Management Plan (CEMP) has been submitted to and approved in writing by the local planning authority. The CEMP shall include the following:
- Development contacts, roles and responsibilities;
 - Details of liaison arrangements to be carried out with local groups who may be affected by construction including the St Nicholas Church;
 - The hours of construction work and deliveries;
 - Provision of construction vehicle loading/unloading and turning facilities prior to commencement of work on site and for the duration of construction;
 - Provision of parking facilities for site personnel and visitors prior to commencement of work on site and for the duration of construction;
 - Details of the routing of construction traffic to the site and any traffic management measures.
 - Details of measures to be taken to minimise the deposition of mud and deleterious material on Church Road.

- Mitigation measures in respect of noise, dust, vibration and disturbance during the construction phases.

The development shall be carried out in accordance with the approved CEMP.

- 19) No development shall take place until details have been submitted to and approved in writing by the local planning authority which provide a slope stability analysis and identifies any remedial measures necessary to ensure that the proposed development does not give rise to any land instability issues both on and off the site. Such details shall provide:
- a) Analysis and details of any necessary on or off-site remediation measures necessary to ensure that the development will pose no unacceptable risk to land instability.
 - b) Measures to define the extent of any sterilisation strip on site and the measures to be employed to ensure that no development occurs within the sterilisation strip during construction operations that could prejudice the stability of land on or off-site.
 - c) The methodology to be employed to ensure that any necessary works within the sterilisation strip do not give rise to land instability issues.

The development shall thereafter be undertaken in accordance with the approved details.

Pre-Slab Level

- 20) No development above floor slab level shall take place until the access points hereby permitted have been provided in accordance with drawing No. 16-T114 06 Rev F (Proposed Access Arrangement) and thereafter the visibility splays kept free of obstruction above a height of 1 metre.
- 21) No development above floor slab level shall take place until details of air quality mitigation measures, which shall include the type and location of electric vehicle charging points, has been submitted to and approved in writing by the local planning authority. The development shall be carried out in accordance with the approved details.
- 22) No development above floor slab level shall take place until a "bat sensitive lighting plan" for the site boundaries has been submitted to and approved in writing by the local planning authority. The lighting plan shall:
- a) Identify those areas/features on site that are particularly sensitive for bats and that are likely to cause disturbance in or around their breeding sites and resting places or along important routes used to access key areas of their territory.
 - b) Show how and where external lighting will be installed so that it can be clearly demonstrated that areas to be lit will not disturb or prevent the above species using their territory.

All external lighting shall be installed in accordance with the specifications and locations set out in the strategy and these shall be maintained thereafter in accordance with the approved plan.

- 23) The development shall not commence above floor slab level until the proposed car park for St Nicholas Church has been constructed and is available for use in accordance with the details approved in writing by the local planning authority pursuant to the requirements of condition No. 11 above.
- 24) The development shall not commence above floor slab level until the following off-site highways works have been provided in full:
 - a) Improvements to the Church Road/Deringwood Drive junction as shown on drawing no. 34.1 within the 'Iceni Transport Note — July 2019' or any alternative scheme agreed in writing by the local planning authority;
 - b) Improvements to the Deringwood Drive/Willington Street junction as shown on drawing no. 14915-H01 Rev 5 (scheme to include toucan cycle crossing), or any alternative scheme agreed in writing by the local planning authority;
 - c) Road widening and new pavement provision on Church Road as shown on drawing nos. 34.1 and 34.2 within the 'Iceni Transport Note — July 2019'.

Pre-Occupation

- 25) The development shall not be occupied until the following off-site highways works have been provided in full:
 - a) The proposed work as shown in drawing Nos 14590 H-01 P1, 14590 H-02 P1, 14590 H-03 P2, and 14590 H-04 P2;
 - b) Extension of the 30mph speed limit to the south of the application site to a position agreed in writing by the local planning authority; and,
 - c) Improvements to the A20 Ashford Road/Spot Lane/Roseacre Lane junction as shown on drawing no. 14915-H-02 Rev P2, or any alternative scheme agreed in writing by the local planning authority.
- 26) The development shall not be occupied until a Detailed Travel Plan for the development which follows the principles of the Framework Travel Plan has been submitted to and approved in writing by the local planning authority. The development shall be carried out in accordance with the approved Detailed Travel Plan.
- 27) The development shall not be occupied until a site-wide landscape and ecological management plan (LEMP), including timetable for implementation, long term design objectives, management responsibilities and maintenance schedules for all landscaped, open space, and drainage areas, but excluding privately owned domestic gardens, has been submitted to and approved in writing by the local planning authority. Landscape and ecological management shall be carried out in accordance with the approved plan and its timetable.

- 28) The development shall not be occupied until details of upgrade works to PROW KM86 have been submitted to and approved in writing by the local planning authority. The development shall not be occupied until the approved works have been carried out in full.
- 29) Before any part of the development hereby permitted is first commenced, a plan and construction design specification shall be submitted to and approved by the local planning authority, which shows all pedestrian/cycle routes and design details, including links to the national cycle network and road network at the north east and south cycle/pedestrian access points. Such design specification shall ensure that the cycle routes provided are no less than 3m wide. The approved pedestrian/cycle routes shall be provided before any of the dwellings hereby permitted are first occupied and shall be retained as such thereafter.
- 30) No building on any phase (or within an agreed implementation schedule) of the development hereby permitted shall be occupied until a Verification Report pertaining to the surface water drainage system, carried out by a suitably qualified professional, has been submitted to and approved in writing by the local planning authority. Such Report shall demonstrate the suitable modelled operation of the drainage system such that flood risk is appropriately managed. The Report shall contain information and evidence (including photographs) of earthworks; details and locations of inlets, outlets and control structures; extent of planting; details of materials utilised in construction including subsoil, topsoil, aggregate and membrane liners; full as built drawings; topographical survey of 'as constructed' features; and an operation and maintenance manual for the sustainable drainage scheme as constructed. No development shall be occupied until the surface water drainage scheme has been implemented in accordance with the details provided in the Report.
- 31) The reserved matters details submitted pursuant to condition 1 shall provide for 10% of the affordable residential units to be provided with photovoltaic (PV) panels. Such PV panels shall be provided prior to the occupation of the residential unit on which they are proposed to be installed.

4. SCHEDULE OF CONDITIONS FOR APPEAL B

Standard time limit

- 1) The development hereby permitted shall begin not later than three years from the date of this decision.

Details and drawings subject to the permission

- 2) The development hereby permitted shall be carried out in accordance with the following approved plans:

Location plan - 16206 S101 Rev A
Existing Site Survey - 16206 S102 Rev B
Site Layout Masterplan - 16206 P101 Rev U
Coloured Site Layout Masterplan - 16206 C101 Rev S
Site Layout (North) - 16206 P102 Rev D
Site Layout (South) - 16206 P103 Rev B
Site Layout (Colour coded by type) - 16206 P104
Site Layout (Hard surfaces) - 16206 P105 Rev A
Proposed Street Scenes A-A & B-B - 16206 P110 Rev E
Proposed Street Scenes C-C & D-D - 16206 P111 Rev E
Proposed Street Scenes E-E to G-G - 16206 P112 Rev D
Proposed Street Scenes H-H & J-J - 16206 P113 Rev E
Proposed Street Scenes K-K to M-M - 16206 P114 Rev D
Proposed Street Scenes N-N & P-P - 16206 P115 Rev D
Proposed Street Scenes Q-Q & R-R - 16206 P116 Rev D
Coloured Street Scenes A-A & B-B - 16206 C110 Rev D
Coloured Street Scenes C-C & D-D - 16206 C111 Rev D
Coloured Street Scenes E-E to G-G - 16206 C112 Rev C
Coloured Street Scenes H-H & J-J - 16206 C113 Rev B
Coloured Street Scenes K-K to M-M - 16206 C114 Rev B
Coloured Street Scenes N-N & P-P - 16206 C115 Rev B
Coloured Street Scenes Q-Q & R-R - 16206 C116 Rev B
Affordable House types, 2 Bedroom - 16206 P120
Affordable House types, 3 Bedroom (1 of 2) - 16206 P121
Affordable House types, 3 Bedroom (2 of 2) - 16206 P122
Affordable House types, 4 Bedroom - 16206 P123 Rev A
Private 2 Bed Houses - Type 2A (1 of 2) - 16206 P130 Rev A
Private 2 Bed Houses - Type 2A (2 of 2) - 16206 P131 Rev A
Private 2 Bed Houses - Type 2A & 2B terrace - 16206 P132 Rev A
Private 2 Bed Houses - Type 2B (1 of 3) - 16206 P133 Rev A
Private 2 Bed Houses - Type 2B (2 of 3) - 16206 P134 Rev A
Private 2 Bed Houses - Type 2B (3 of 3) - 16206 P135 Rev A
Private 3 Bed Houses - Type 3A (1 of 2) - 16206 P136
Private 3 Bed Houses - Type 3A (2 of 2) - 16206 P137
Private 3 Bed Houses - Type 3B (1 of 2) - 16206 P138 Rev A
Private 3 Bed Houses - Type 3B (2 of 2) - 16206 P139 Rev B
Private 3 Bed Houses - Type 3C (1 of 2) - 16206 P140 Rev C
Private 3 Bed Houses - Type 3D (1 of 3) - 16206 P141
Private 3 Bed Houses - Type 3D (2 of 3) - 16206 P142

Private 3 Bed Houses - Type 3D (3 of 3) – 16206 P143
Private 3 Bed Houses - Type 3D/3B (1 of 7) – 16206 P144
Private 3 Bed Houses - Type 3D/3B (2 of 7) – 16206 P145 Rev A
Private 3 Bed Houses - Type 3D/3B (3 of 7) – 16206 P146
Private 3 Bed Houses - Type 3D/3B (4 of 7) – 16206 P147
Private 3 Bed Houses - Type 3D/3B (5 of 7) – 16206 P148 Rev A
Private 3 Bed Houses - Type 3D/3B (6 of 7) – 16206 P149 Rev A
Private 3 Bed Houses - Type 3D/3B (7 of 7) – 16206 P150 Rev A
Private 3 Bed Houses - Type 3E – 16206 P151 Rev B
Private 3 Bed Houses - Type 3C (2 of 2) – 16206 P152 Rev A
Private 3 Bed Houses - Type 3C1 – 16206 P153
Private 4 Bed Houses - Type 4A (1 of 2) – 16206 P155
Private 4 Bed Houses - Type 4A (2 of 2) – 16206 P156
Private 4 Bed Houses - Type 4B (1 of 4) – 16206 P157 Rev A
Private 4 Bed Houses - Type 4B (2 of 4) – 16206 P158 Rev A
Private 4 Bed Houses - Type 4B (3 of 4) – 16206 P159 Rev A
Private 4 Bed Houses - Type 4B (4 of 4) – 16206 P160 Rev B
Private 4 Bed Houses - Type 4C – 16206 P161
Private 4 Bed Houses - Type 4D (1 of 4) – 16206 P162
Private 4 Bed Houses - Type 4D (2 of 4) – 16206 P163 Rev B
Private 4 Bed Houses - Type 4D (3 of 4) – 16206 P164 Rev A
Private 4 Bed Houses - Type 4D (4 of 4) – 16206 P165 Rev A
Affordable apartments - Block 1 Plans (1 of 2) – 16206 P170 Rev B
Affordable apartments - Block 1 Plans (2 of 2) – 16206 P171 Rev B
Affordable apartments - Block 1 Elevations – 16206 P172 Rev B
Affordable apartments - Block 2 Plans (1 of 2) – 16206 P173 Rev B
Affordable apartments - Block 2 Plans (2 of 2) – 16206 P174 Rev B
Affordable apartments - Block 2 Elevations – 16206 P175 Rev C
Affordable apartments - Block 3 Plans – 16206 P176 Rev C
Affordable apartments - Block 3 Elevations – 16206 P178 Rev B
Affordable apartments - Block 4 Plans – 16206 P179 Rev B
Affordable apartments - Block 4 Elevations – 16206 P180 Rev B
Affordable apartments - Block 5 Plans – 16206 P181 Rev D
Affordable apartments - Block 5 Elevations – 16206 P182 Rev C
Affordable apartments - Block 6 Plans – 16206 P183 Rev C
Affordable apartments - Block 6 Elevations – 16206 P184 Rev D
Affordable apartments - Block 7 Plans – 16206 P185 Rev D
Affordable apartments - Block 7 Elevations – 16206 P186 Rev C
Affordable apartments - Block 8 Plans – 16206 P187 Rev C
Affordable apartments - Block 8 Elevations – 16206 P188 Rev C
Affordable apartments - Block 9 Plans – 16206 P189 Rev B
Affordable apartments - Block 9 Elevations – 16206 P190 Rev B
Private apartments - Block 10 Plans (1 of 2) – 16206 P191 Rev B
Private apartments - Block 10 Plans (2 of 2) – 16206 P192 Rev B
Private apartments - Block 10 Elevations – 16206 P193 Rev B
Private apartments - Block 11 Plans – 16206 P194 Rev B
Private apartments - Block 11 Elevations – 16206 P195 Rev C
2 Bedroom F.O.G - Plans & Elevations (1 of 2) – 16206 P196
2 Bedroom F.O.G - Plans & Elevations (2 of 2) – 16206 P197 Rev A
2 Bedroom Gate House - Plans & Elevations – 16206 P198 Rev A
Ancillary Buildings (Garages & substation) – 16206 P199 Rev B

OSP drawings listed within the drawing issue sheet dated 5/09/2020 (CD132) (all drawings in CD1, CD50-CD130, and CD133-137)

Materials Distribution Diagram - 16206 - SK55D

Landscape Strategy Plan - 6703.LSP.ASP5 Rev L

Proposed Access Arrangement - Drawing 16-T114 06 Rev F

Proposed Amendments to Church Road Northern Section (Junction with Deringwood Drive) - 16-T114 34.1

Proposed Amendments to Church Road Section Immediately Outside Site Area - Drawing 16-T114 34.2

Proposed Off Site Highway Improvements (1 of 4) - 14590-H-01 P1

Proposed Off Site Highway Improvements (2 of 4) - 14590-H-02 P1

Proposed Off Site Highway Improvements (3 of 4) - 14590-H-03 P2

Proposed Off Site Highway Improvements (4 of 4) - 14590-H-04 P2

Willington Street/Deringwood Drive Junction - Proposed Traffic Signals - 14195-H-01 P5

Spot Lane Junction Potential Adjustments - 14195-H-02 P2-

Compliance

- 3) The development shall be carried out in accordance with the boundary treatments as shown on drawing nos. 16206 P101 Rev U and 16206/SK55D and shall be retained and maintained thereafter.
- 4) The development shall be carried out in accordance with the hard surfaces as shown on drawing no. 16206 P105 Rev A and maintained thereafter.
- 5) All planting, seeding and turfing specified in the approved landscape details shall be carried out either before or in the first planting season (October to February) following the occupation of the building(s) or the completion of the development to which phase they relate, whichever is the sooner; and any seeding or turfing which fails to establish or any trees or plants which, within five years from the first occupation of a property, commencement of use or adoption of land, die or become so seriously damaged or diseased that their long term amenity value has been adversely affected shall be replaced in the next planting season with plants of the same species and size as detailed in the approved landscape scheme unless the local planning authority gives written consent to any variation.
- 6) Excluding the area in the southeast corner of the site adjacent to ancient woodland, the areas of open space as shown on pages 58 and 59 of the Design & Access Statement shall be maintained as publicly accessible open space in perpetuity.
- 7) The approved details of the parking/turning areas for each building shall be completed before the commencement of the use of the land or buildings to which they relate and shall thereafter be kept available for such use. No development, whether permitted by the Town and Country Planning (General Permitted Development) (England) Order 2015 (or any order revoking and re-enacting that Order, with or without modification) or not, shall be carried out on parking/turning areas for each building or in such a position as to preclude vehicular access to them.

Pre-Commencement

- 8) No development shall take place until a Construction Environment Management Plan (CEMP) has been submitted to and approved in writing by the local planning authority. The CEMP shall include the following:
- Development contacts, roles and responsibilities;
 - Details of liaison arrangements to be carried out with local groups who may be affected by construction including the St Nicholas Church;
 - The hours of construction work and deliveries;
 - Provision of construction vehicle loading/unloading and turning facilities prior to commencement of work on site and for the duration of construction;
 - Provision of parking facilities for site personnel and visitors prior to commencement of work on site and for the duration of construction;
 - Details of the routing of construction traffic to the site and any traffic management measures.
 - Details of measures to be taken to minimise the deposition of mud and deleterious material on Church Road.
 - Mitigation measures in respect of noise, dust, vibration and disturbance during the construction phases.

The development shall be carried out in accordance with the approved CEMP.

- 9) Before any part of the development hereby permitted is first commenced, details of a ramp to provide accessibility for all users including disabled persons, wheelchairs, pushchairs and cycles at the steps to the north west of the site along PROW KM86 shall be submitted to and approved in writing by the local planning authority. The approved scheme shall be provided before any of the dwellings hereby permitted are first occupied and shall be retained as such thereafter.
- 10) Before any part of the development hereby permitted is first commenced the details of those works proposed in the area identified as Church Parking on drawing 16206 - C101S (Coloured Site Layout) including the detailed layout, barrier, overall design and implementation programme has been submitted to and approved in writing by the local planning authority. The development shall not commence above slab level until the proposed car park for St Nicholas Church has been constructed and is available for use in accordance with the details approved. Once implemented the car park shall only be used in connection with use of the Church for parking purposes.
- 11) Before any part of the development hereby permitted is first commenced, a plan and construction design specification shall be submitted to and approved by the local planning authority, which shows:
- a) all pedestrian/cycle routes and design details, including links to the national cycle network and road network at the north east and south cycle/pedestrian access points;
 - b) measures to ensure that cyclists can gain cycle access to 'The Beams' and the Play area to the north west of the site from the cycle routes.

Such design specification shall ensure that the cycle routes provided are no less than 3m wide. The approved pedestrian/cycle routes shall be provided before any of the dwellings hereby permitted are first occupied and shall be retained as such thereafter.

- 12) No development shall take place until a Phasing Plan for the development including open space areas has been submitted to and approved in writing by the local planning authority. The development shall be carried out in accordance with the approved phasing plan unless otherwise agreed in writing by the local planning authority.
- 13) No development shall take place until a review and, if required, an update of the mitigation measures detailed within chapter 6 of the Ecological Appraisal (Aspect Ecology; March 2019), which shall be informed by updated ecological survey(s), have been submitted to and approved in writing by the local planning authority. The review and update shall include the following information:
 - a) Updated ecological appraisal
 - b) Results of recommended specific species surveys (where required)
 - c) Letter detailing why the mitigation detailed within the Ecological Appraisal is still valid, or;
 - d) Updated mitigation strategy — including the following:
 - Over view of the ecological mitigation required
 - Detailed methodology to implement the mitigation
 - Timing of the proposed works
 - Details of who will be carrying out the works
 - Maps clearly showing the mitigation areas

The development shall proceed, and mitigation measures implemented, in accordance with the approved Ecological Appraisal and review or update.

- 14) No development shall take place until a detailed sustainable surface water drainage scheme for the site has been submitted to and approved in writing by the local planning authority. The detailed drainage scheme shall be based upon the Flood Risk and Sustainable Drainage Assessment (dated January 2020 by Herrington) and shall demonstrate that the surface water generated by this development (for all rainfall durations and intensities up to and including the climate change adjusted critical 100 year storm) can be accommodated and disposed of without increase to flood risk on or offsite. It shall also explore the use of more swales within the development. The drainage scheme shall also demonstrate (with reference to published guidance):
 - a) That silt and pollutants resulting from the site use can be adequately managed to ensure there is no pollution risk to receiving waters.
 - b) Appropriate operational, maintenance and access requirements for each drainage feature or SUDS component are adequately

considered, including any proposed arrangements for future adoption by any public body or statutory undertaker.

The drainage scheme shall be implemented in accordance with the approved details and prior to occupation.

- 15) Where infiltration is to be used to manage the surface water from the development hereby permitted, it will only be allowed within those parts of the site where information is submitted to and approved in writing by, the local planning authority that demonstrates that there is no resultant unacceptable risk to controlled waters and/or ground stability. The development shall only then be carried out in accordance with the approved details.
- 16) No development shall take place until the following components of a scheme to deal with the risks associated with contamination of the site shall have been submitted to and approved in writing by the local planning authority:
 - a) A preliminary risk assessment which has identified:
 - all previous uses
 - potential contaminants associated with those uses
 - a conceptual model of the site indicating sources, pathways and receptors of potentially unacceptable risks arising from contamination at the site.
 - b) A site investigation, based on (a) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.
 - c) A remediation method statement (RMS) based on the site investigation results and the detailed risk assessment (b). This should give full details of the remediation measures required and how they are to be undertaken. The RMS should also include a verification plan to detail the data that will be collected in order to demonstrate that the works set out in the RMS are complete and identifying any requirements for longer term monitoring of pollutant linkages, maintenance and arrangements for contingency action.
 - d) A Closure Report shall be submitted upon completion of the works. The closure report shall include full verification details as set out in 'c'. This should include details of any post remediation sampling and analysis, together with documentation certifying quantities and source/destination of any material brought onto or taken from the site. Any material brought onto the site shall be certified clean. Any changes to these components require the express consent of the local planning authority.

The development shall be undertaken in accordance with the approved scheme.

- 17) No development in any phase shall take place until a Written Scheme of Archaeological Investigation has been submitted to and approved in writing by the local planning authority. The scheme shall include:
 - a) archaeological field evaluation works in accordance with a specification and written timetable for each phase of development; and

- b) following on from the evaluation, any safeguarding measures to ensure preservation in situ of important archaeological remains and/or further archaeological investigation and recording in accordance with a specification and timetable which has been submitted to and approved by the local planning authority

The development shall be carried out in accordance with the approved details.

- 18) No development in any phase shall take place until an Arboricultural Method Statement (AMS) which accords with the current edition of BS 5837 has been submitted to and approved in writing by the local planning authority for that phase. The AMS should detail implementation of any aspect of the development that has the potential to result in the loss of, or damage to trees, including their roots, and shall take account of site access, demolition and construction activities, foundations, service runs and level changes. It should also detail any tree works necessary to implement the approved scheme and include a tree protection plan. The development shall be undertaken in accordance with the approved AMS.
- 19) No development shall take place until details have been submitted to and approved in writing by the local planning authority which provides a slope stability analysis and identifies any remedial measures necessary to ensure that the proposed development does not give rise to any land instability issues both on and off the site. Such details shall provide:
 - a) Analysis and details of any necessary on or off-site remediation measures necessary to ensure that the development will pose no unacceptable risk to land instability.
 - b) Measures to define the extent of any sterilisation strip on site and the measures to be employed to ensure that no development occurs within the sterilisation strip during construction operations that could prejudice the stability of land on or off-site.
 - c) The methodology to be employed to ensure that any necessary works within the sterilisation strip do not give rise to land instability issues.

The development shall thereafter be undertaken in accordance with the approved details.

Pre-Floor Slab Level

- 20) No development above floor slab level shall take place until specific details of the landscaping proposals, which shall follow the principles shown on the Landscape Strategy Plan (drawing no. 6703 LSP ASP5 Rev L), have been submitted to and approved in writing by the local planning authority. The scheme shall be designed in accordance with the principles of the Council's landscape character guidance and include a planting specification, a programme of implementation and a 5 year management plan. The landscape scheme shall specifically address the need to provide the following:

- a) A landscape phasing plan for the site which shall include the planting along the west boundary within the first phase.
- b) Strengthening and replacement native hedge planting along the site frontage with Church Road.
- c) Structural native tree and shrub planting along the site frontage with Church Road.
- d) Retention of trees along the western boundary and new native tree and shrub planting.
- e) Retention of trees along the southern boundary and new native tree and shrub planting.
- f) Retention of trees along the boundaries with the property 'Squerrys Oast'
- g) Native woodland and shrub planting to create at least a 30m buffer from the Ancient Woodland in the south east corner
- h) Orchard planting to the south of St Nicholas Church.
- i) Native hedge planting within the development.
- j) LEAP and LAP details.
- k) All proposed boundary treatments for the site beyond those approved under condition No. 3.

Landscaping shall be implemented in accordance with the approved details and programme.

- 21) No development above floor slab level shall take place in any phase until full details of the ecological enhancements outlined in the Ecological Appraisal and their delivery have been submitted to and approved in writing by the local planning authority for that phase. The development shall be carried out in accordance with the approved details and measures which shall include the following:
 - a) Wildflower grassland
 - b) Measures to allow hedgehogs to move through the development
 - c) Bat and bird boxes
 - d) Habitat piles.
- 22) No development above floor slab level shall take place in any phase until written details and samples of the materials to be used in the construction of the external surfaces of the building(s) for that phase have been submitted to and approved in writing by the local planning authority. The materials shall follow the 'Materials Distribution Diagram' (16206/SK55D) and include the following unless otherwise agreed in writing by the local planning authority:
 - a) Multi stock facing bricks
 - b) Clay hanging tiles
 - c) Clay roof tiles
 - d) Slate roof tiles
 - e) Ragstone on buildings
 - f) Ragstone walling.

The development shall be constructed using the approved materials unless otherwise agreed in writing by the local planning authority.

- 23) No development above floor slab level shall take place in any phase until written details and large-scale plans showing the following architectural detailing have been submitted to and approved in writing by the local planning authority for that phase:

- a) Soldier courses
- b) Bricked arches above windows
- c) Bullnose hanging tile detailing.
- d) Roof overhangs.

The development shall be constructed in accordance with the approved materials.

- 24) No development above floor slab level shall take place until a sample panel of the ragstone for the walling and buildings, including mortar mix details, has been submitted to and approved in writing by the local planning authority. Such details as approved shall be fully implemented on site.
- 25) No development above floor slab level shall take place until the specific air quality mitigation measures, which shall include the type and location of electric vehicle charging points (which equates to 1 EV charge point per dwelling with dedicated parking) and details of charging for properties without on-plot parking, have been submitted to and approved in writing by the local planning authority. The development shall be carried out in accordance with the approved details.
- 26) No development above floor slab level shall take place until a "bat sensitive lighting scheme" for the site boundaries has been submitted to and approved in writing by the local planning authority. The lighting plan shall:
- a) Identify those areas/features on site that are particularly sensitive for bats and that are likely to cause disturbance in or around their breeding sites and resting places or along important routes used to access key areas of their territory;
 - b) Show how and where external lighting will be installed so that it can be clearly demonstrated that areas to be lit will not disturb or prevent the above species using their territory.

All external lighting shall be installed in accordance with the specifications and locations set out in the approved scheme and these shall be maintained thereafter.

- 27) No development above floor slab level for any phase shall take place until details of lighting for streets and houses have been submitted to and approved in writing by the local planning authority for that phase. The lighting provided shall be carried out in accordance with the approved scheme.
- 28) No development above floor slab level shall take place until a written statement of public art to be provided on site in the form of a Public Art Delivery Plan in line with the thresholds set within the Public Art Guidance has been submitted to and approved in writing by the local planning

- authority. This should include the selection and commissioning process, the artist's brief, the budget, possible form, materials and locations of public art, the timetable for provision, maintenance agreement and community engagement. The development shall be carried out in accordance with the approved details.
- 29) No development above floor slab level shall take place until the access points hereby permitted have been provided in accordance with drawing No. 16-T114 06 Rev F (Proposed Access Arrangement) and thereafter the visibility splays shall be kept free of obstruction above a height of 1 metre.
- 30) The development shall not commence above floor slab level until the following off-site highways works have been provided in full:
- a) Improvements to the Church Road/Deringwood Drive junction as shown on drawing no. 34.1 within the 'Iceni Transport Note — July 2019' or any alternative scheme agreed in writing with the local planning authority;
 - b) Improvements to the Deringwood Drive/Willington Street junction as shown on drawing no. 14915-H01 Rev 5, or any alternative scheme agreed in writing with the local planning authority;
 - c) Road widening and new pavement provision on Church Road as shown on drawing nos. 34.1 and 34.2 within the 'Iceni Transport Note — July 2019'.
- 31) The development shall not commence above floor slab level until full details of the proposed PV panels on 10% of the affordable residential units has been submitted to and approved in writing by the Local Planning Authority. The PV panels shall thereafter be provided in accordance with the approved details.

Pre-Occupation

- 32) The development shall not be occupied until the following off-site highways works have been provided in full:
- a) The proposed work as shown in drawing Nos 14590 H-01 P1, 14590 H-02 P1, 14590 H-03 P2, and 14590 H-04 P2;
 - b) Extension of the 30mph speed limit to the south of the application site to a position agreed in writing with the local planning authority; and
 - c) Improvements to the A20 Ashford Road/Spot Lane/Roseacre Lane junction as shown on drawing no. 14915-H-02 Rev P2, or any alternative scheme agreed in writing with the local planning authority.
- 33) The development shall not be occupied until a Detailed Travel Plan for the development which follows the principles of the Framework Travel Plan has been submitted to and approved in writing by the local planning authority. The development shall be carried out in accordance with the approved Detailed Travel Plan.

- 34) The development shall not be occupied until a site-wide landscape and ecological management plan (LEMP), including timetable for implementation, long term design objectives, management responsibilities and maintenance schedules for all landscaped, open space, and drainage areas, but excluding privately owned domestic gardens, has been submitted to and approved in writing by the local planning authority. Landscape and ecological management shall be carried out in accordance with the approved plan and its timetable unless the local planning authority gives written consent to any variation.
- 35) The development shall not be occupied until details of the pedestrian and cycle link to and across the area of Council owned land to the south of the site providing a link to Woolley Road and the timing of its delivery have been submitted to and approved in writing by the local planning authority. The development shall be carried out in accordance with the approved details.
- 36) No building on any phase (or within an agreed implementation schedule) of the development hereby permitted shall be occupied until a Verification Report pertaining to the surface water drainage system, carried out by a suitably qualified professional, has been submitted to the local planning authority which demonstrates the suitable modelled operation of the drainage system such that flood risk is appropriately managed, as approved by the Lead Local Flood Authority. The Report shall contain information and evidence (including photographs) of earthworks; details and locations of inlets, outlets and control structures; extent of planting; details of materials utilised in construction including subsoil, topsoil, aggregate and membrane liners; full as built drawings; topographical survey of 'as constructed' features; and an operation and maintenance manual for the sustainable drainage scheme as constructed. No development shall be occupied until the approved scheme has been implemented.
- 37) If during construction/demolition works evidence of potential contamination is encountered, works shall cease and the site fully assessed to enable an appropriate remediation plan to be developed. Works shall not recommence until an appropriate remediation scheme has been submitted to and approved in writing by the local planning authority and the remediation has been completed. Upon completion of the building works, this condition shall not be discharged until a closure report has been submitted to and approved in writing by the local planning authority.
The closure report shall include details of:
- a) Details of any sampling and remediation works conducted and quality assurance certificates to show that the works have been carried out in full in accordance with the approved methodology;
 - b) Details of any post-remedial sampling and analysis to show the site has reached the required clean-up criteria shall be included in the closure report together with the necessary documentation detailing what waste materials have been removed from the site;

- c) If no contamination has been discovered during the construction works then evidence (e.g. photos or letters from site manager) to show that no contamination was discovered should be included.
- 38) The development shall not be occupied until details of upgrade works to PROW KM86 have been submitted to and approved in writing by the local planning authority. The development shall not be occupied until the approved works have been carried out in full.