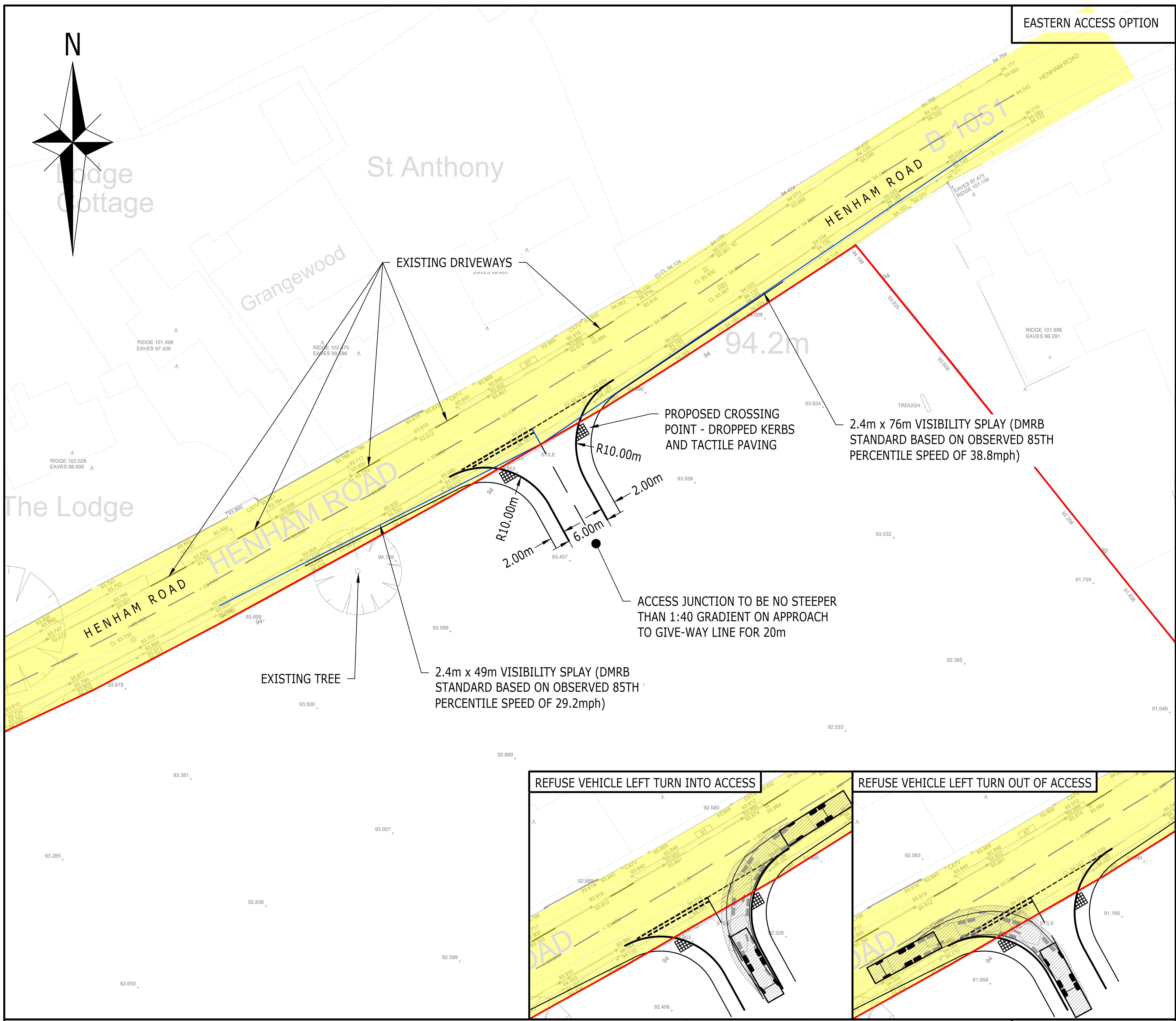
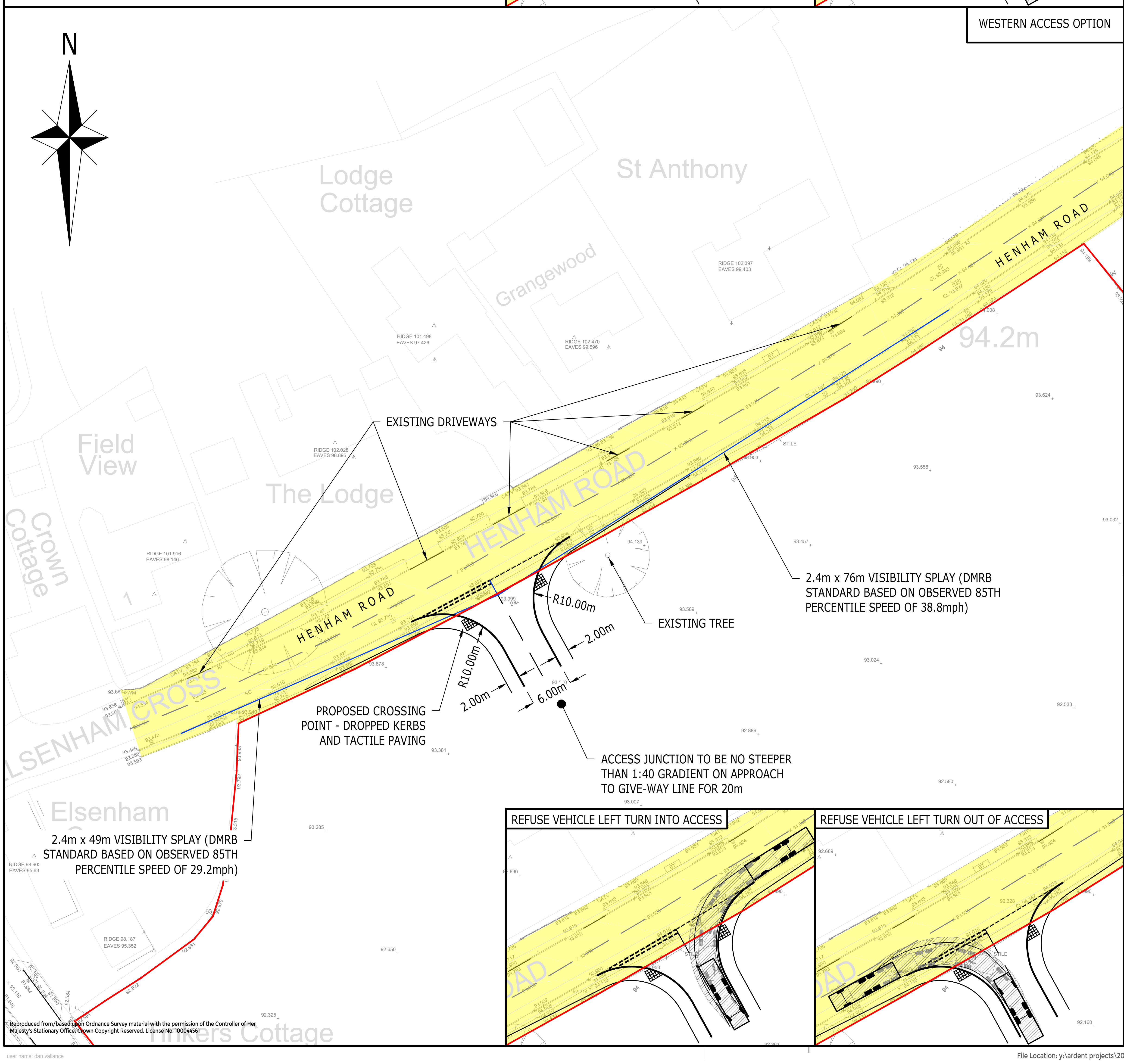


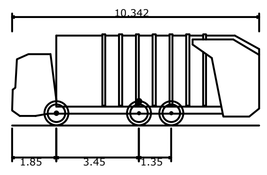






NOTES:

DESIGN SUBJECT TO CAPACITY ANALYSIS.

VEHICLE USED:



| | |
|---|---|
| Essex Large Refuse Vehicle (3 axle) | |
| Overall Length | 10.342m |
| Overall Width | 2.450m |
| Overall Body Height | 3.814m |
| Min Body Ground Clearance | 0.366m |
| Track Width | 2.450m |
| Lock to lock time | 4.00s |
| Kerb to Kerb Turning Radius | 9.500m |

KEY:

REDLINE BOUNDARY TRANSCRIBED FROM PDF

HIGHWAY BOUNDARY TRANSCRIBED FROM ECC RECORDS

DRAFT

| Rev | Description | Drn | Chk | App | Date |
|---|---|---|---|---|---|
| B | UPDATED FOLLOWING STAGE 1 RSA COMMENTS | DV | DV | IW | 29.03.21 |
| A | VISIBILITY SPLAYS UPDATED | AA | DV | IW | 16.03.21 |

ARDENT CONSULTING ENGINEERS

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
[redacted]
E-mail: enquiries@ardent-ce.co.uk

Client
COUNTRYSIDE PROPERTIES LTD

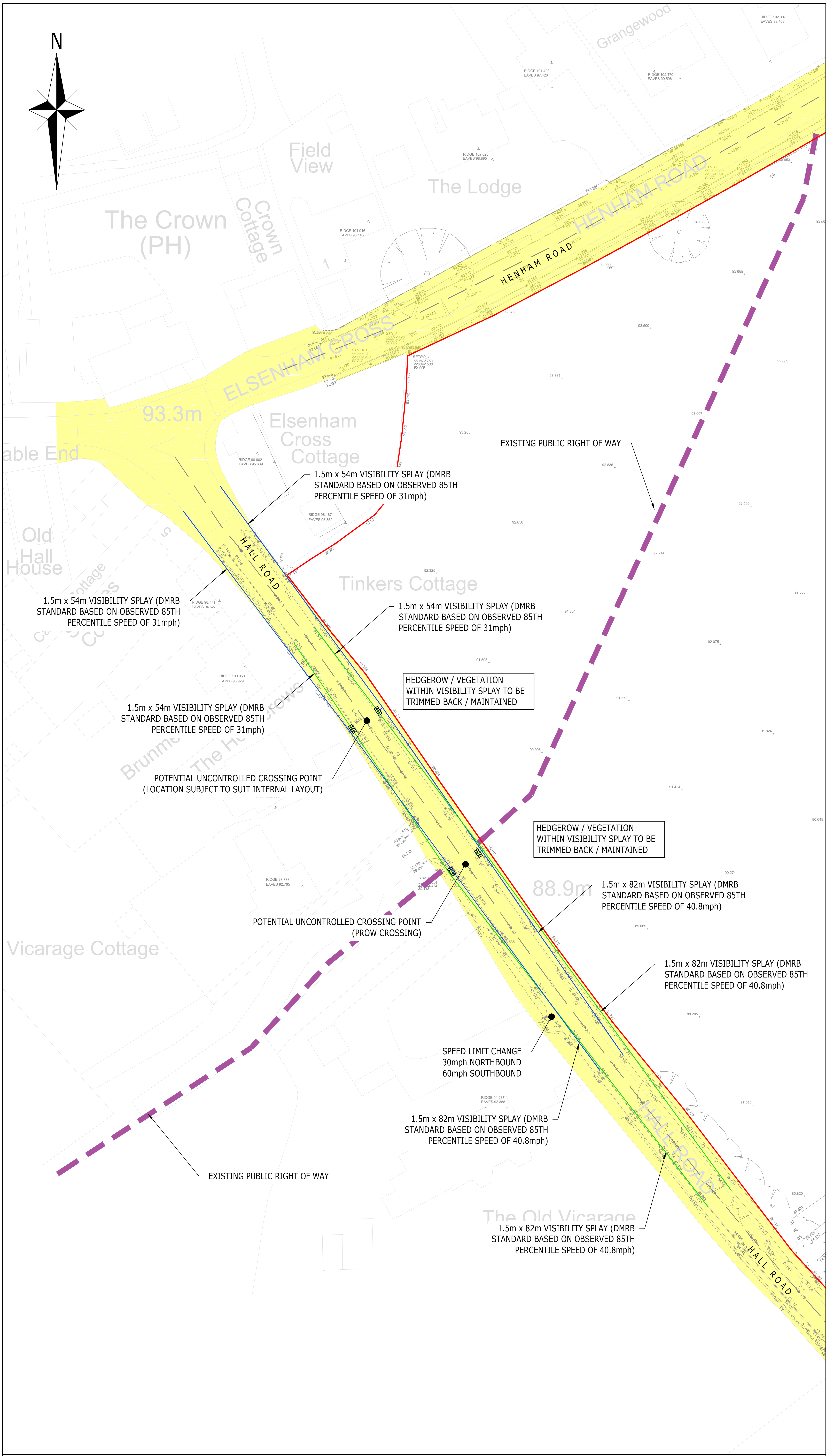
Project Title:
LAND SOUTH OF HENHAM ROAD, ELSENHAM

Drawing Title:
HENHAM ROAD PROPOSED ACCESS ARRANGEMENTS

| A2 Scale | Date | Designed by |
|---|---|---|
| 1:500 | 07.12.20 | DV |
| **Drawn by** | **Checked by** | **Approved by** |
| DV | DV | IW |

Drawing Number: 2008170-001 Rev B

File Location: y:\ardent projects\2008170 - land south of henham road, elsenham\technical\acad\drawings\2008170-001b.dwg




NOTES:

UNCONTROLLED CROSSING POINT CONSISTS OF DROPPED KERB AND TACTILE PAVING

FOR FOOTWAY CONNECTIONS ON HALL ROAD THE GRADIENT SHOULD NOT EXCEED 1 IN 12, WHERE A 1 IN 20 GRADIENT IS PREFERRED.

KEY:

- REDLINE BOUNDARY TRANSCRIBED FROM PDF
- HIGHWAY BOUNDARY TRANSCRIBED FROM ECC RECORDS
- EXISTING PROW

DRAFT

| Rev | Description | Drn | Chk | App | Date |
|---|---|---|---|---|---|
| A | UPDATED FOLLOWING STAGE 1 RSA COMMENTS | DV | DV | IW | 29.03.21 |

ARDENT CONSULTING ENGINEERS

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
[redacted]
E-mail: enquiries@ardent-ce.co.uk

Client
COUNTRYSIDE PROPERTIES LTD

Project Title:
LAND SOUTH OF HENHAM ROAD, ELSENHAM

Drawing Title:
PROPOSED PEDESTRIAN CONNECTIVITY

| A2 Scale | Date | Designed by |
|---|---|---|
| 1:500 | 02.03.21 | DV |
| Drawn by | Checked by | Approved by |
| DV | DV | IW |

Drawing Number 2008170-004 Rev A

# Appendix E

Calculation Reference: AUDIT-437201-220315-0304

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : M - MIXED PRIVATE/AFFORDABLE HOUSING

MULTI-MODAL TOTAL VEHICLES

*Selected regions and areas:*

| | | | |
|---|---|---|---|
| 02 | SOUTH EAST | | |
| | ES | EAST SUSSEX | 6 days |
| | HC | HAMPSHIRE | 1 days |
| | KC | KENT | 2 days |
| | OX | OXFORDSHIRE | 1 days |
| | WS | WEST SUSSEX | 6 days |
| 03 | SOUTH WEST | | |
| | DV | DEVON | 1 days |
| 04 | EAST ANGLIA | | |
| | CA | CAMBRIDGESHIRE | 1 days |
| | NF | NORFOLK | 2 days |
| 06 | WEST MIDLANDS | | |
| | WK | WARWICKSHIRE | 1 days |
| 09 | NORTH | | |
| | TW | TYNE & WEAR | 1 days |

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

Primary 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: No of Dwellings
Actual Range: 52 to 140 (units: )
Range Selected by User: 50 to 150 (units: )

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 28/02/21

*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 | 2 days |
| Tuesday | 3 days |
| Wednesday | 5 days |
| Thursday | 8 days |
| Friday | 4 days |

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

*Selected survey types:*

| | |
|---|---|
| Manual count | 22 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 undertaking using machines.*

*Selected Locations:*

| | |
|---|---|
| Suburban Area (PPS6 Out of Centre) | 3 |
| Edge of Town | 19 |

*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.*

*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 | 22 days |

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

*Population within 500m Range:*
All Surveys Included
*Population within 1 mile:*

| | |
|---|---|
| 1,001 to 5,000 | 4 days |
| 5,001 to 10,000 | 9 days |
| 10,001 to 15,000 | 2 days |
| 15,001 to 20,000 | 2 days |
| 20,001 to 25,000 | 1 days |
| 25,001 to 50,000 | 4 days |

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

*Population within 5 miles:*

| | |
|---|---|
| 5,001 to 25,000 | 2 days |
| 25,001 to 50,000 | 4 days |
| 50,001 to 75,000 | 5 days |
| 75,001 to 100,000 | 1 days |
| 100,001 to 125,000 | 2 days |
| 125,001 to 250,000 | 6 days |
| 250,001 to 500,000 | 1 days |
| 500,001 or More | 1 days |

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

*Car ownership within 5 miles:*

| | |
|---|---|
| 0.6 to 1.0 | 2 days |
| 1.1 to 1.5 | 18 days |
| 1.6 to 2.0 | 2 days |

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

*Travel Plan:*

| | |
|---|---|
| Yes | 17 days |
| No | 5 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 | 22 days |

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

| | | |
|---|---|---|
| Covid-19 Restrictions | Yes | At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions |

*LIST OF SITES relevant to selection parameters*

1 CA-03-M-01 MIXED HOUSES & FLATS CAMBRIDGESHIRE
BANNOLD ROAD
WATERBEACH

Edge of Town
Residential Zone
Total No of Dwellings: 52
*Survey date: WEDNESDAY 20/06/18 Survey Type: MANUAL*

2 DV-03-M-02 MIXED HOUSES & FLATS DEVON
SAINT PETER ' SQUAY
TOTNES

Edge of Town
Residential Zone
Total No of Dwellings: 90
*Survey date: FRIDAY 29/03/19 Survey Type: MANUAL*

3 ES-03-M-10 MIXED HOUSES & FLATS EAST SUSSEX
DITTONS ROAD
POLEGATE

Edge of Town
Residential Zone
Total No of Dwellings: 108
*Survey date: MONDAY 11/07/16 Survey Type: MANUAL*

4 ES-03-M-12 MIXED HOUSES & FLATS EAST SUSSEX
PARK ROAD
HAILSHAM

Edge of Town
Residential Zone
Total No of Dwellings: 93
*Survey date: THURSDAY 21/06/18 Survey Type: MANUAL*

5 ES-03-M-14 MIXED HOUSES & FLATS EAST SUSSEX
KINGS DRIVE
EASTBOURNE
UPPERTON
Edge of Town
Residential Zone
Total No of Dwellings: 119
*Survey date: THURSDAY 15/11/18 Survey Type: MANUAL*

6 ES-03-M-15 MIXED HOUSES EAST SUSSEX
FIELD END
MARESFIELD

Edge of Town
Residential Zone
Total No of Dwellings: 80
*Survey date: WEDNESDAY 13/03/19 Survey Type: MANUAL*

7 ES-03-M-16 MIXED HOUSES & FLATS EAST SUSSEX
BARNHORN ROAD
BEXHILL
LITTLE COMMON
Edge of Town
Residential Zone
Total No of Dwellings: 119
*Survey date: WEDNESDAY 10/07/19 Survey Type: MANUAL*

8 ES-03-M-17 MIXED HOUSES & FLATS EAST SUSSEX
NEW ROAD
HAILSHAM
AMBERSTONE
Edge of Town
Residential Zone
Total No of Dwellings: 91
*Survey date: THURSDAY 07/11/19 Survey Type: MANUAL*

*LIST OF SITES relevant to selection parameters (Cont.)*

9 HC-03-M-05 HOUSES & FLATS HAMPSHIRE
WIMPSON LANE
SOUTHAMPTON
MAYBUSH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 62
*Survey date: FRIDAY 03/10/14 Survey Type: MANUAL*

10 KC-03-M-02 MIXED HOUSES AND FLATS KENT
HERMITAGE LANE
MAIDSTONE
BARMING
Edge of Town
No Sub Category
Total No of Dwellings: 119
*Survey date: TUESDAY 05/06/18 Survey Type: MANUAL*

11 KC-03-M-03 MIXED HOUSES & FLATS KENT
BUNYARD WAY
MAIDSTONE
ALLINGTON
Edge of Town
Residential Zone
Total No of Dwellings: 140
*Survey date: TUESDAY 22/05/18 Survey Type: MANUAL*

12 NF-03-M-04 MIXED HOUSES & FLATS NORFOLK
HUNSTANTON ROAD
HUNSTANTON

Edge of Town
Residential Zone
Total No of Dwellings: 70
*Survey date: THURSDAY 19/09/19 Survey Type: MANUAL*

13 NF-03-M-39 MIXED HOUSES NORFOLK
LONDON ROAD
ATTLEBOROUGH

Edge of Town
Residential Zone
Total No of Dwellings: 61
*Survey date: WEDNESDAY 14/10/20 Survey Type: MANUAL*

14 OX-03-M-01 MIXED HOUSES OXFORDSHIRE
WENMAN ROAD
THAME

Edge of Town
Industrial Zone
Total No of Dwellings: 100
*Survey date: THURSDAY 28/06/18 Survey Type: MANUAL*

15 TW-03-M-02 MIXED HOUSES & FLATS TYNE & WEAR
BENTON ROAD
NEWCASTLE UPON TYNE

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 108
*Survey date: FRIDAY 19/10/18 Survey Type: MANUAL*

_LIST OF SITES relevant to selection parameters (Cont.)_

16 WK-03-M-02 MIXED HOUSES WARWICKSHIRE
BISHOPTON LANE
STRATFORD UPON AVON
BISHOPTON
Edge of Town
Residential Zone
Total No of Dwellings: 130
*Survey date: FRIDAY 29/06/18 Survey Type: MANUAL*

17 WS-03-M-05 MIXED HOUSING WEST SUSSEX
ELLIS ROAD
WEST HORSHAM
S BROADBRIDGE HEATH
Edge of Town
Residential Zone
Total No of Dwellings: 92
*Survey date: THURSDAY 23/10/14 Survey Type: MANUAL*

18 WS-03-M-06 SEMI DETACHED/DETACHED WEST SUSSEX
SOUTHFIELDS CLOSE
CHICHESTER

Edge of Town
Residential Zone
Total No of Dwellings: 67
*Survey date: TUESDAY 27/01/15 Survey Type: MANUAL*

19 WS-03-M-07 HOUSES & FLATS WEST SUSSEX
ROSE GREEN ROAD
BOGNOR REGIS
ALDWICK
Edge of Town
Residential Zone
Total No of Dwellings: 90
*Survey date: WEDNESDAY 05/03/14 Survey Type: MANUAL*

20 WS-03-M-18 MIXED HOUSES & FLATS WEST SUSSEX
WESTLOATS LANE
BOGNOR REGIS
NORTH BERSTED
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 86
*Survey date: THURSDAY 17/10/19 Survey Type: MANUAL*

21 WS-03-M-21 MIXED HOUSES WEST SUSSEX
CLAPPERS LANE
BRACKLESHAM BAY

Edge of Town
Residential Zone
Total No of Dwellings: 57
*Survey date: THURSDAY 14/11/19 Survey Type: MANUAL*

22 WS-03-M-22 MIXED HOUSES & FLATS WEST SUSSEX
RUSPER ROAD
CRAWLEY
IFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 91
*Survey date: MONDAY 19/10/20 Survey Type: MANUAL*

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.81

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.084 | 22 | 92 | 0.284 | 22 | 92 | 0.368 |
| 08:00 - 09:00 | 22 | 92 | 0.110 | 22 | 92 | **0.358** | 22 | 92 | 0.468 |
| 09:00 - 10:00 | 22 | 92 | 0.144 | 22 | 92 | 0.179 | 22 | 92 | 0.323 |
| 10:00 - 11:00 | 22 | 92 | 0.133 | 22 | 92 | 0.140 | 22 | 92 | 0.273 |
| 11:00 - 12:00 | 22 | 92 | 0.143 | 22 | 92 | 0.157 | 22 | 92 | 0.300 |
| 12:00 - 13:00 | 22 | 92 | 0.179 | 22 | 92 | 0.156 | 22 | 92 | 0.335 |
| 13:00 - 14:00 | 22 | 92 | 0.171 | 22 | 92 | 0.172 | 22 | 92 | 0.343 |
| 14:00 - 15:00 | 22 | 92 | 0.144 | 22 | 92 | 0.182 | 22 | 92 | 0.326 |
| 15:00 - 16:00 | 22 | 92 | 0.246 | 22 | 92 | 0.181 | 22 | 92 | 0.427 |
| 16:00 - 17:00 | 22 | 92 | 0.235 | 22 | 92 | 0.150 | 22 | 92 | 0.385 |
| 17:00 - 18:00 | 22 | 92 | **0.320** | 22 | 92 | 0.156 | 22 | 92 | **0.476** |
| 18:00 - 19:00 | 22 | 92 | 0.284 | 22 | 92 | 0.161 | 22 | 92 | 0.445 |
| 19:00 - 20:00 | 1 | 119 | 0.126 | 1 | 119 | 0.008 | 1 | 119 | 0.134 |
| 20:00 - 21:00 | 1 | 119 | 0.101 | 1 | 119 | 0.017 | 1 | 119 | 0.118 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 2.420 | | | 2.301 | | | 4.721 |

*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.*



Parameter summary

| | |
|---|---|
| Trip rate parameter range selected: | 52 - 140 (units: ) |
| Survey date date range: | 01/01/13 - 28/02/21 |
| Number of weekdays (Monday-Friday): | 22 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys automatically removed from selection: | 5 |
| Surveys manually removed from selection: | 0 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.003 | 22 | 92 | 0.003 | 22 | 92 | 0.006 |
| 08:00 - 09:00 | 22 | 92 | 0.004 | 22 | 92 | 0.006 | 22 | 92 | 0.010 |
| 09:00 - 10:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 11:00 - 12:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 12:00 - 13:00 | 22 | 92 | 0.001 | 22 | 92 | 0.000 | 22 | 92 | 0.001 |
| 13:00 - 14:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 14:00 - 15:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 15:00 - 16:00 | 22 | 92 | 0.006 | 22 | 92 | 0.006 | 22 | 92 | 0.012 |
| 16:00 - 17:00 | 22 | 92 | 0.002 | 22 | 92 | 0.001 | 22 | 92 | 0.003 |
| 17:00 - 18:00 | 22 | 92 | 0.002 | 22 | 92 | 0.002 | 22 | 92 | 0.004 |
| 18:00 - 19:00 | 22 | 92 | 0.002 | 22 | 92 | 0.001 | 22 | 92 | 0.003 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.023 | | | 0.022 | | | 0.045 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 08:00 - 09:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 09:00 - 10:00 | 22 | 92 | 0.002 | 22 | 92 | 0.003 | 22 | 92 | 0.005 |
| 10:00 - 11:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 11:00 - 12:00 | 22 | 92 | 0.003 | 22 | 92 | 0.004 | 22 | 92 | 0.007 |
| 12:00 - 13:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 13:00 - 14:00 | 22 | 92 | 0.003 | 22 | 92 | 0.002 | 22 | 92 | 0.005 |
| 14:00 - 15:00 | 22 | 92 | 0.000 | 22 | 92 | 0.001 | 22 | 92 | 0.001 |
| 15:00 - 16:00 | 22 | 92 | 0.002 | 22 | 92 | 0.002 | 22 | 92 | 0.004 |
| 16:00 - 17:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 17:00 - 18:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 18:00 - 19:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.015 | | | 0.017 | | | 0.032 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 08:00 - 09:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 09:00 - 10:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 11:00 - 12:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 12:00 - 13:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 13:00 - 14:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 14:00 - 15:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 15:00 - 16:00 | **22** | **92** | **0.002** | **22** | **92** | **0.002** | **22** | **92** | **0.004** |
| 16:00 - 17:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 17:00 - 18:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 18:00 - 19:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.003 | | | 0.003 | | | 0.006 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.003 | 22 | 92 | 0.007 | 22 | 92 | 0.010 |
| 08:00 - 09:00 | 22 | 92 | 0.002 | **22** | **92** | **0.014** | **22** | **92** | **0.016** |
| 09:00 - 10:00 | 22 | 92 | 0.002 | 22 | 92 | 0.002 | 22 | 92 | 0.004 |
| 10:00 - 11:00 | 22 | 92 | 0.002 | 22 | 92 | 0.003 | 22 | 92 | 0.005 |
| 11:00 - 12:00 | 22 | 92 | 0.002 | 22 | 92 | 0.002 | 22 | 92 | 0.004 |
| 12:00 - 13:00 | 22 | 92 | 0.002 | 22 | 92 | 0.003 | 22 | 92 | 0.005 |
| 13:00 - 14:00 | 22 | 92 | 0.005 | 22 | 92 | 0.002 | 22 | 92 | 0.007 |
| 14:00 - 15:00 | 22 | 92 | 0.003 | 22 | 92 | 0.005 | 22 | 92 | 0.008 |
| 15:00 - 16:00 | **22** | **92** | **0.010** | 22 | 92 | 0.005 | 22 | 92 | 0.015 |
| 16:00 - 17:00 | 22 | 92 | 0.006 | 22 | 92 | 0.008 | 22 | 92 | 0.014 |
| 17:00 - 18:00 | 22 | 92 | 0.008 | 22 | 92 | 0.004 | 22 | 92 | 0.012 |
| 18:00 - 19:00 | 22 | 92 | 0.004 | 22 | 92 | 0.003 | 22 | 92 | 0.007 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.049 | | | 0.058 | | | 0.107 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
**BOLD print indicates peak (busiest) period**

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.093 | 22 | 92 | 0.413 | 22 | 92 | 0.506 |
| 08:00 - 09:00 | 22 | 92 | 0.132 | **22** | **92** | **0.619** | **22** | **92** | **0.751** |
| 09:00 - 10:00 | 22 | 92 | 0.168 | 22 | 92 | 0.256 | 22 | 92 | 0.424 |
| 10:00 - 11:00 | 22 | 92 | 0.162 | 22 | 92 | 0.200 | 22 | 92 | 0.362 |
| 11:00 - 12:00 | 22 | 92 | 0.190 | 22 | 92 | 0.220 | 22 | 92 | 0.410 |
| 12:00 - 13:00 | 22 | 92 | 0.242 | 22 | 92 | 0.205 | 22 | 92 | 0.447 |
| 13:00 - 14:00 | 22 | 92 | 0.235 | 22 | 92 | 0.227 | 22 | 92 | 0.462 |
| 14:00 - 15:00 | 22 | 92 | 0.194 | 22 | 92 | 0.242 | 22 | 92 | 0.436 |
| 15:00 - 16:00 | 22 | 92 | 0.430 | 22 | 92 | 0.247 | 22 | 92 | 0.677 |
| 16:00 - 17:00 | 22 | 92 | 0.356 | 22 | 92 | 0.217 | 22 | 92 | 0.573 |
| 17:00 - 18:00 | **22** | **92** | **0.460** | 22 | 92 | 0.228 | 22 | 92 | 0.688 |
| 18:00 - 19:00 | 22 | 92 | 0.408 | 22 | 92 | 0.222 | 22 | 92 | 0.630 |
| 19:00 - 20:00 | 1 | 119 | 0.168 | 1 | 119 | 0.017 | 1 | 119 | 0.185 |
| 20:00 - 21:00 | 1 | 119 | 0.151 | 1 | 119 | 0.017 | 1 | 119 | 0.168 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 3.389 | | | 3.330 | | | 6.719 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.025 | 22 | 92 | 0.050 | 22 | 92 | 0.075 |
| 08:00 - 09:00 | 22 | 92 | 0.049 | 22 | 92 | 0.159 | 22 | 92 | 0.208 |
| 09:00 - 10:00 | 22 | 92 | 0.042 | 22 | 92 | 0.037 | 22 | 92 | 0.079 |
| 10:00 - 11:00 | 22 | 92 | 0.024 | 22 | 92 | 0.042 | 22 | 92 | 0.066 |
| 11:00 - 12:00 | 22 | 92 | 0.038 | 22 | 92 | 0.042 | 22 | 92 | 0.080 |
| 12:00 - 13:00 | 22 | 92 | 0.042 | 22 | 92 | 0.029 | 22 | 92 | 0.071 |
| 13:00 - 14:00 | 22 | 92 | 0.034 | 22 | 92 | 0.033 | 22 | 92 | 0.067 |
| 14:00 - 15:00 | 22 | 92 | 0.034 | 22 | 92 | 0.061 | 22 | 92 | 0.095 |
| 15:00 - 16:00 | 22 | 92 | 0.155 | 22 | 92 | 0.054 | 22 | 92 | 0.209 |
| 16:00 - 17:00 | 22 | 92 | 0.081 | 22 | 92 | 0.047 | 22 | 92 | 0.128 |
| 17:00 - 18:00 | 22 | 92 | 0.050 | 22 | 92 | 0.040 | 22 | 92 | 0.090 |
| 18:00 - 19:00 | 22 | 92 | 0.042 | 22 | 92 | 0.042 | 22 | 92 | 0.084 |
| 19:00 - 20:00 | 1 | 119 | 0.008 | 1 | 119 | 0.008 | 1 | 119 | 0.016 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.624 | | | 0.644 | | | 1.268 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL BUS/TRAM PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | 22 | 92 | 0.028 | 22 | 92 | 0.028 |
| 08:00 - 09:00 | 22 | 92 | 0.002 | 22 | 92 | 0.025 | 22 | 92 | 0.027 |
| 09:00 - 10:00 | 22 | 92 | 0.006 | 22 | 92 | 0.008 | 22 | 92 | 0.014 |
| 10:00 - 11:00 | 22 | 92 | 0.004 | 22 | 92 | 0.009 | 22 | 92 | 0.013 |
| 11:00 - 12:00 | 22 | 92 | 0.010 | 22 | 92 | 0.012 | 22 | 92 | 0.022 |
| 12:00 - 13:00 | 22 | 92 | 0.009 | 22 | 92 | 0.012 | 22 | 92 | 0.021 |
| 13:00 - 14:00 | 22 | 92 | 0.010 | 22 | 92 | 0.011 | 22 | 92 | 0.021 |
| 14:00 - 15:00 | 22 | 92 | 0.006 | 22 | 92 | 0.009 | 22 | 92 | 0.015 |
| 15:00 - 16:00 | 22 | 92 | 0.033 | 22 | 92 | 0.012 | 22 | 92 | 0.045 |
| 16:00 - 17:00 | 22 | 92 | 0.021 | 22 | 92 | 0.007 | 22 | 92 | 0.028 |
| 17:00 - 18:00 | 22 | 92 | 0.019 | 22 | 92 | 0.009 | 22 | 92 | 0.028 |
| 18:00 - 19:00 | 22 | 92 | 0.017 | 22 | 92 | 0.006 | 22 | 92 | 0.023 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.137 | | | 0.148 | | | 0.285 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL RAIL PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | 22 | 92 | **0.015** | 22 | 92 | **0.015** |
| 08:00 - 09:00 | 22 | 92 | 0.000 | 22 | 92 | 0.010 | 22 | 92 | 0.010 |
| 09:00 - 10:00 | 22 | 92 | 0.000 | 22 | 92 | 0.002 | 22 | 92 | 0.002 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.005 | 22 | 92 | 0.005 |
| 11:00 - 12:00 | 22 | 92 | 0.002 | 22 | 92 | 0.003 | 22 | 92 | 0.005 |
| 12:00 - 13:00 | 22 | 92 | 0.003 | 22 | 92 | 0.002 | 22 | 92 | 0.005 |
| 13:00 - 14:00 | 22 | 92 | 0.002 | 22 | 92 | 0.001 | 22 | 92 | 0.003 |
| 14:00 - 15:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 15:00 - 16:00 | 22 | 92 | 0.008 | 22 | 92 | 0.001 | 22 | 92 | 0.009 |
| 16:00 - 17:00 | 22 | 92 | **0.010** | 22 | 92 | 0.000 | 22 | 92 | 0.010 |
| 17:00 - 18:00 | 22 | 92 | 0.009 | 22 | 92 | 0.000 | 22 | 92 | 0.009 |
| 18:00 - 19:00 | 22 | 92 | 0.007 | 22 | 92 | 0.002 | 22 | 92 | 0.009 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.042 | | | 0.042 | | | 0.084 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL COACH PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | 22 | 92 | 0.003 | 22 | 92 | 0.003 |
| 08:00 - 09:00 | 22 | 92 | 0.000 | 22 | 92 | 0.001 | 22 | 92 | 0.001 |
| 09:00 - 10:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 11:00 - 12:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 12:00 - 13:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 13:00 - 14:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 14:00 - 15:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 15:00 - 16:00 | 22 | 92 | 0.004 | 22 | 92 | 0.000 | 22 | 92 | 0.004 |
| 16:00 - 17:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 17:00 - 18:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 18:00 - 19:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.004 | | | 0.004 | | | 0.008 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | 22 | 92 | 0.046 | 22 | 92 | 0.046 |
| 08:00 - 09:00 | 22 | 92 | 0.002 | 22 | 92 | 0.037 | 22 | 92 | 0.039 |
| 09:00 - 10:00 | 22 | 92 | 0.006 | 22 | 92 | 0.011 | 22 | 92 | 0.017 |
| 10:00 - 11:00 | 22 | 92 | 0.004 | 22 | 92 | 0.014 | 22 | 92 | 0.018 |
| 11:00 - 12:00 | 22 | 92 | 0.012 | 22 | 92 | 0.015 | 22 | 92 | 0.027 |
| 12:00 - 13:00 | 22 | 92 | 0.013 | 22 | 92 | 0.014 | 22 | 92 | 0.027 |
| 13:00 - 14:00 | 22 | 92 | 0.012 | 22 | 92 | 0.013 | 22 | 92 | 0.025 |
| 14:00 - 15:00 | 22 | 92 | 0.008 | 22 | 92 | 0.010 | 22 | 92 | 0.018 |
| 15:00 - 16:00 | 22 | 92 | 0.045 | 22 | 92 | 0.014 | 22 | 92 | 0.059 |
| 16:00 - 17:00 | 22 | 92 | 0.032 | 22 | 92 | 0.008 | 22 | 92 | 0.040 |
| 17:00 - 18:00 | 22 | 92 | 0.028 | 22 | 92 | 0.009 | 22 | 92 | 0.037 |
| 18:00 - 19:00 | 22 | 92 | 0.025 | 22 | 92 | 0.008 | 22 | 92 | 0.033 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.187 | | | 0.199 | | | 0.386 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.81

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.121 | 22 | 92 | 0.516 | 22 | 92 | 0.637 |
| 08:00 - 09:00 | 22 | 92 | 0.185 | 22 | 92 | **0.828** | 22 | 92 | **1.013** |
| 09:00 - 10:00 | 22 | 92 | 0.218 | 22 | 92 | 0.306 | 22 | 92 | 0.524 |
| 10:00 - 11:00 | 22 | 92 | 0.193 | 22 | 92 | 0.259 | 22 | 92 | 0.452 |
| 11:00 - 12:00 | 22 | 92 | 0.241 | 22 | 92 | 0.279 | 22 | 92 | 0.520 |
| 12:00 - 13:00 | 22 | 92 | 0.299 | 22 | 92 | 0.250 | 22 | 92 | 0.549 |
| 13:00 - 14:00 | 22 | 92 | 0.285 | 22 | 92 | 0.275 | 22 | 92 | 0.560 |
| 14:00 - 15:00 | 22 | 92 | 0.239 | 22 | 92 | 0.319 | 22 | 92 | 0.558 |
| 15:00 - 16:00 | 22 | 92 | **0.640** | 22 | 92 | 0.320 | 22 | 92 | 0.960 |
| 16:00 - 17:00 | 22 | 92 | 0.475 | 22 | 92 | 0.280 | 22 | 92 | 0.755 |
| 17:00 - 18:00 | 22 | 92 | 0.546 | 22 | 92 | 0.281 | 22 | 92 | 0.827 |
| 18:00 - 19:00 | 22 | 92 | 0.480 | 22 | 92 | 0.276 | 22 | 92 | 0.756 |
| 19:00 - 20:00 | 1 | 119 | 0.176 | 1 | 119 | 0.025 | 1 | 119 | 0.201 |
| 20:00 - 21:00 | 1 | 119 | 0.151 | 1 | 119 | 0.017 | 1 | 119 | 0.168 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 4.249 | | | 4.231 | | | 8.480 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL CARS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.067 | 22 | 92 | 0.253 | 22 | 92 | 0.320 |
| 08:00 - 09:00 | 22 | 92 | 0.086 | **22** | **92** | **0.328** | 22 | 92 | 0.414 |
| 09:00 - 10:00 | 22 | 92 | 0.114 | 22 | 92 | 0.150 | 22 | 92 | 0.264 |
| 10:00 - 11:00 | 22 | 92 | 0.101 | 22 | 92 | 0.111 | 22 | 92 | 0.212 |
| 11:00 - 12:00 | 22 | 92 | 0.117 | 22 | 92 | 0.122 | 22 | 92 | 0.239 |
| 12:00 - 13:00 | 22 | 92 | 0.143 | 22 | 92 | 0.126 | 22 | 92 | 0.269 |
| 13:00 - 14:00 | 22 | 92 | 0.139 | 22 | 92 | 0.138 | 22 | 92 | 0.277 |
| 14:00 - 15:00 | 22 | 92 | 0.120 | 22 | 92 | 0.160 | 22 | 92 | 0.280 |
| 15:00 - 16:00 | 22 | 92 | 0.214 | 22 | 92 | 0.145 | 22 | 92 | 0.359 |
| 16:00 - 17:00 | 22 | 92 | 0.202 | 22 | 92 | 0.129 | 22 | 92 | 0.331 |
| 17:00 - 18:00 | **22** | **92** | **0.287** | 22 | 92 | 0.138 | **22** | **92** | **0.425** |
| 18:00 - 19:00 | 22 | 92 | 0.261 | 22 | 92 | 0.147 | 22 | 92 | 0.408 |
| 19:00 - 20:00 | 1 | 119 | 0.126 | 1 | 119 | 0.008 | 1 | 119 | 0.134 |
| 20:00 - 21:00 | 1 | 119 | 0.101 | 1 | 119 | 0.017 | 1 | 119 | 0.118 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 2.078 | | | 1.972 | | | 4.050 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL LGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.010 | 22 | 92 | 0.022 | 22 | 92 | 0.032 |
| 08:00 - 09:00 | 22 | 92 | 0.018 | 22 | 92 | 0.020 | 22 | 92 | 0.038 |
| 09:00 - 10:00 | 22 | 92 | 0.026 | 22 | 92 | 0.026 | 22 | 92 | 0.052 |
| 10:00 - 11:00 | 22 | 92 | 0.030 | 22 | 92 | 0.028 | 22 | 92 | 0.058 |
| 11:00 - 12:00 | 22 | 92 | 0.023 | 22 | 92 | 0.030 | 22 | 92 | 0.053 |
| 12:00 - 13:00 | 22 | 92 | 0.032 | 22 | 92 | 0.027 | 22 | 92 | 0.059 |
| 13:00 - 14:00 | 22 | 92 | 0.027 | 22 | 92 | 0.029 | 22 | 92 | 0.056 |
| 14:00 - 15:00 | 22 | 92 | 0.021 | 22 | 92 | 0.020 | 22 | 92 | 0.041 |
| 15:00 - 16:00 | 22 | 92 | 0.021 | 22 | 92 | 0.025 | 22 | 92 | 0.046 |
| 16:00 - 17:00 | 22 | 92 | 0.028 | 22 | 92 | 0.018 | 22 | 92 | 0.046 |
| 17:00 - 18:00 | 22 | 92 | 0.029 | 22 | 92 | 0.013 | 22 | 92 | 0.042 |
| 18:00 - 19:00 | 22 | 92 | 0.018 | 22 | 92 | 0.012 | 22 | 92 | 0.030 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.283 | | | 0.270 | | | 0.553 |

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

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

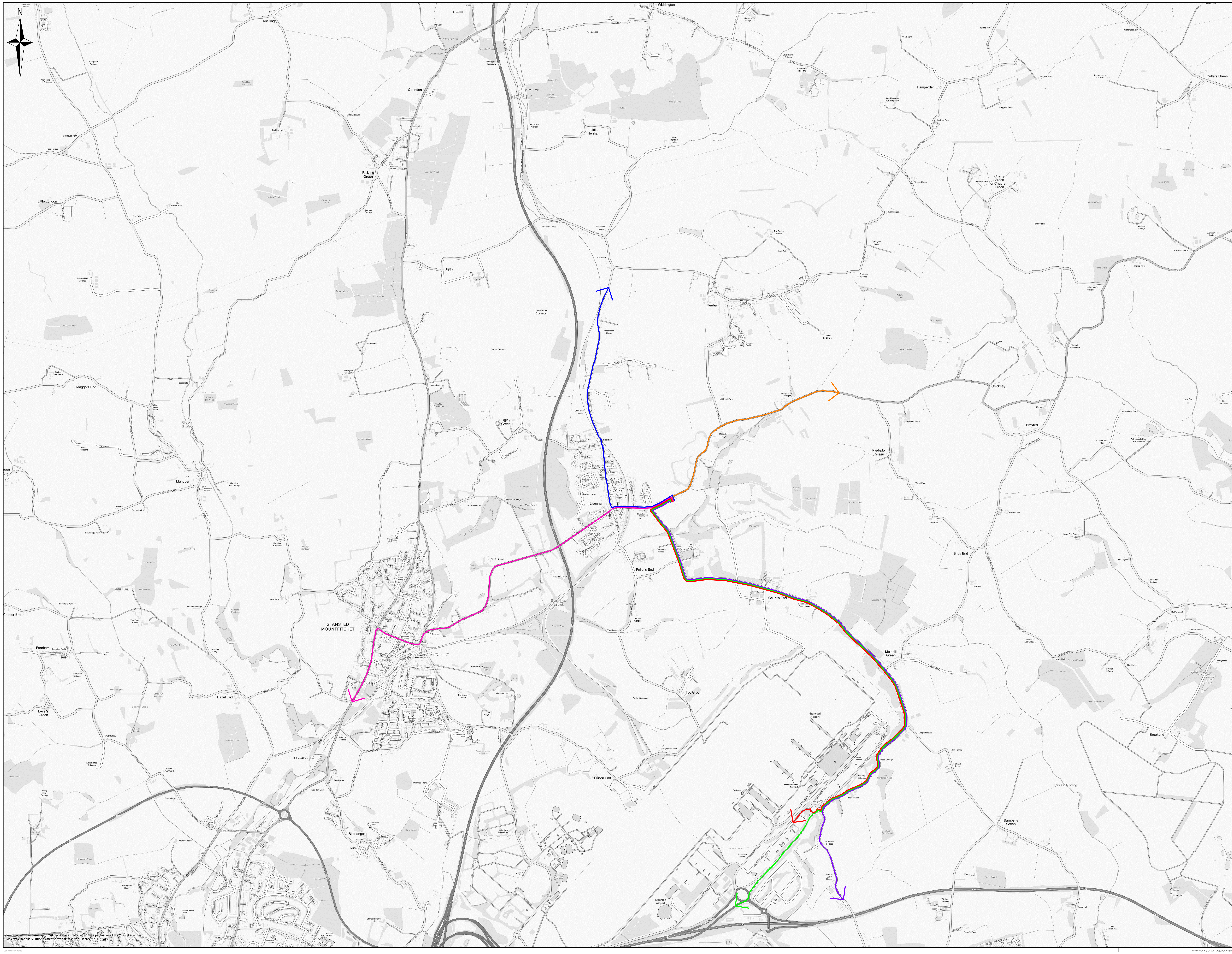
TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL MOTOR CYCLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | 22 | 92 | 0.003 | 22 | 92 | 0.003 |
| 08:00 - 09:00 | 22 | 92 | 0.000 | 22 | 92 | 0.001 | 22 | 92 | 0.001 |
| 09:00 - 10:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 11:00 - 12:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 12:00 - 13:00 | 22 | 92 | 0.002 | 22 | 92 | 0.001 | 22 | 92 | 0.003 |
| 13:00 - 14:00 | 22 | 92 | 0.000 | 22 | 92 | 0.001 | 22 | 92 | 0.001 |
| 14:00 - 15:00 | 22 | 92 | 0.001 | 22 | 92 | 0.000 | 22 | 92 | 0.001 |
| 15:00 - 16:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 16:00 - 17:00 | 22 | 92 | 0.001 | 22 | 92 | 0.000 | 22 | 92 | 0.001 |
| 17:00 - 18:00 | 22 | 92 | 0.001 | 22 | 92 | 0.002 | 22 | 92 | 0.003 |
| 18:00 - 19:00 | 22 | 92 | 0.002 | 22 | 92 | 0.000 | 22 | 92 | 0.002 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.008 | | | 0.009 | | | 0.017 |

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

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

# Appendix F




ROUTE 1: WEST VIA STANSTED MOUNTFITCHET

ROUTE 2: SOUTH VIA HALL ROAD/THREMHALL AVE

ROUTE 3: NORTH VIA STATION ROAD

ROUTE 4: EAST VIA HENHAM ROAD

ROUTE 5: SOUTH VIA HALL ROAD/PARSONAGE ROAD

ROUTE 6: SOUTH VIA HALL ROAD/COOPERS END ROAD

DRAFT

| Rev | Description | Drn | Chk | App | Date |
|---|---|---|---|---|---|

ARDENT | CONSULTING ENGINEERS

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
[redacted]
E-mail: enquiries@ardent-ce.co.uk

Client
COUNTRYSIDE PROPERTIES (UK) LIMITED

Project Title:
LAND SOUTH OF HENHAM ROAD, ELSENHAM

Drawing Title:
PROPOSED DEVELOPMENT ROUTES

| A0 Scale | Date | Designed by |
|---|---|---|
| 1:12000 | 14.03.22 | BT |
| Drawn by | Checked by | Approved by |
| BT | FM | IW |

| Drawing Number | Rev |
|---|---|
| 2008170-014 | - |



user name: faye murray

File Location: y:\ardent projects\2008170 - land south of henham road, elsenham\technical\acad\drawings\2008170-014 proposed development routes.dwg

**WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)**

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| | |
|---|---|
| population | All usual residents aged 16 and over in employment the week before the census |
| units | Persons |
| date | 2011 |
| method of travel to work | Driving a car or van |

| | | | | | | | % |
|---|---|---|---|---|---|---|---|
| 1 | West | | | | B1051 via Stansted M | | **47%** |
| 2 | South | | | | Hall Road/Thremhall Avenue | | **28%** |
| 3 | North | | | | B1051/Station Road | | **5%** |
| 4 | East | | | | B1051 Henham Road | | **6%** |
| 5 | South | | | | Hall Road/Coopers End Road | | 12% |
| 6 | South | | | | Hall Road/Parsonage Road | | 1% |
| | | | | | | | 100% |

| | | Route assignment | | | | | | Percentage applied to routes | | | | | | Vehicles applied to routes | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **place of work : 2011 super output area - middle layer** | **E02004595 : Uttlesford 005** | Route 1 | Route 2 | Route 3 | Route 4 | Route 5 | Route 6 | Route 1 | Route 2 | Route 3 | Route 4 | Route 5 | Route 6 | Route 1 | Route 2 | Route 3 | Route 4 | Route 5 | Route 6 |
| E02000001 : City of London 001 | 13 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 |
| E02000003 : Barking and Dagenham 002 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000008 : Barking and Dagenham 007 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000012 : Barking and Dagenham 011 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000014 : Barking and Dagenham 013 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000015 : Barking and Dagenham 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000016 : Barking and Dagenham 015 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000019 : Barking and Dagenham 018 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000020 : Barking and Dagenham 019 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000021 : Barking and Dagenham 020 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000024 : Barnet 001 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000028 : Barnet 005 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000031 : Barnet 008 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000033 : Barnet 010 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02000038 : Barnet 015 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000045 : Barnet 022 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000046 : Barnet 023 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000055 : Barnet 032 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000083 : Bexley 019 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02000090 : Bexley 026 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000100 : Brent 008 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000119 : Brent 027 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000134 : Bromley 008 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000172 : Camden 007 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000184 : Camden 019 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000191 : Camden 026 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02000192 : Camden 027 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000193 : Camden 028 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000242 : Ealing 005 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000243 : Ealing 006 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000256 : Ealing 019 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000279 : Enfield 003 | 5 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2.5 | 2.5 | 0 | 0 | 0 | 0 |
| E02000280 : Enfield 004 | 4 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| E02000283 : Enfield 007 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000284 : Enfield 008 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000285 : Enfield 009 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02000286 : Enfield 010 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000288 : Enfield 012 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02000290 : Enfield 014 | 10 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 5 | 5 | 0 | 0 | 0 | 0 |
| E02000292 : Enfield 016 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02000294 : Enfield 018 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000296 : Enfield 020 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000298 : Enfield 022 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000300 : Enfield 024 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000301 : Enfield 025 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000305 : Enfield 029 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000306 : Enfield 030 | 4 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| E02000308 : Enfield 032 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02000309 : Enfield 033 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02000316 : Greenwich 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

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| E02000340 : Greenwich 028 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000355 : Hackney 011 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000358 : Hackney 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000362 : Hackney 018 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000363 : Hackney 019 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000365 : Hackney 021 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000368 : Hackney 024 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000369 : Hackney 025 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000370 : Hackney 026 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000371 : Hackney 027 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000375 : Hammersmith and Fulham 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000384 : Hammersmith and Fulham 013 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000403 : Haringey 007 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02000408 : Haringey 012 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000412 : Haringey 016 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000418 : Haringey 022 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000423 : Haringey 027 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000428 : Haringey 032 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000443 : Harrow 011 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000448 : Harrow 016 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000467 : Havering 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000470 : Havering 007 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02000471 : Havering 008 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000474 : Havering 011 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000475 : Havering 012 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000476 : Havering 013 | 5 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| E02000477 : Havering 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000479 : Havering 016 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000483 : Havering 020 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000485 : Havering 022 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000486 : Havering 023 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000491 : Havering 028 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000507 : Hillingdon 014 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000518 : Hillingdon 025 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02000524 : Hillingdon 031 | 5 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2.5 | 2.5 | 0 | 0 | 0 | 0 |
| E02000531 : Hounslow 006 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000557 : Islington 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000559 : Islington 006 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000560 : Islington 007 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000568 : Islington 015 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000569 : Islington 016 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000571 : Islington 018 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000573 : Islington 020 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000574 : Islington 021 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000575 : Islington 022 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000576 : Islington 023 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000590 : Kensington and Chelsea 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000620 : Lambeth 003 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000626 : Lambeth 009 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000717 : Newham 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000718 : Newham 005 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000721 : Newham 008 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000725 : Newham 012 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000726 : Newham 013 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02000727 : Newham 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000731 : Newham 018 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000735 : Newham 022 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000738 : Newham 025 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000739 : Newham 026 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000741 : Newham 028 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000746 : Newham 033 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02000747 : Newham 034 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |

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| E02000748 : Newham 035 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02000749 : Newham 036 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000750 : Newham 037 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000751 : Redbridge 001 | 5 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| E02000752 : Redbridge 002 | 5 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| E02000754 : Redbridge 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000755 : Redbridge 005 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000757 : Redbridge 007 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000759 : Redbridge 009 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02000760 : Redbridge 010 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000764 : Redbridge 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000767 : Redbridge 017 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02000769 : Redbridge 019 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000770 : Redbridge 020 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000772 : Redbridge 022 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000773 : Redbridge 023 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000780 : Redbridge 030 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02000809 : Southwark 003 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000814 : Southwark 008 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000831 : Southwark 025 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000864 : Tower Hamlets 001 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000865 : Tower Hamlets 002 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000868 : Tower Hamlets 005 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000871 : Tower Hamlets 008 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000875 : Tower Hamlets 012 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000878 : Tower Hamlets 015 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000883 : Tower Hamlets 020 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000884 : Tower Hamlets 021 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000886 : Tower Hamlets 023 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000889 : Tower Hamlets 026 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000890 : Tower Hamlets 027 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000891 : Tower Hamlets 028 | 10 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 |
| E02000895 : Waltham Forest 001 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000896 : Waltham Forest 002 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000897 : Waltham Forest 003 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000898 : Waltham Forest 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000899 : Waltham Forest 005 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000900 : Waltham Forest 006 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000901 : Waltham Forest 007 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02000905 : Waltham Forest 011 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000906 : Waltham Forest 012 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000907 : Waltham Forest 013 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000908 : Waltham Forest 014 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02000910 : Waltham Forest 016 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02000911 : Waltham Forest 017 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000912 : Waltham Forest 018 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000913 : Waltham Forest 019 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000914 : Waltham Forest 020 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000916 : Waltham Forest 022 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02000917 : Waltham Forest 023 | 5 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| E02000919 : Waltham Forest 025 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000920 : Waltham Forest 026 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02000924 : Wandsworth 002 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000970 : Westminster 011 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02000972 : Westminster 013 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02000975 : Westminster 016 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02000977 : Westminster 018 | 7 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| E02000979 : Westminster 020 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| E02000983 : Westminster 024 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02001014 : Bolton 031 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02001260 : Trafford 002 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02001988 : Coventry 031 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |

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| E02002062 : Sandwell 020 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02002089 : Solihull 009 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02002424 : Leeds 095 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02002593 : Warrington 004 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02002802 : Derby 007 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02002992 : Bath and North East Somerset ( | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003064 : Bristol 053 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003197 : Poole 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003225 : Swindon 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003249 : Peterborough 013 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02003254 : Peterborough 018 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003255 : Peterborough 019 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02003262 : Luton 005 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02003269 : Luton 012 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02003271 : Luton 014 | 17 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 8.5 | 8.5 | 0 | 0 | 0 | 0 |
| E02003272 : Luton 015 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02003274 : Luton 017 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02003275 : Luton 018 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02003278 : Luton 021 | 5 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2.5 | 2.5 | 0 | 0 | 0 | 0 |
| E02003282 : Southend-on-Sea 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003285 : Southend-on-Sea 007 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02003287 : Southend-on-Sea 009 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003293 : Southend-on-Sea 015 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003296 : Thurrock 001 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003301 : Thurrock 006 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003303 : Thurrock 008 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02003310 : Thurrock 015 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02003313 : Thurrock 018 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02003320 : Medway 007 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003356 : Bracknell Forest 005 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003360 : Bracknell Forest 009 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02003366 : Bracknell Forest 015 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003385 : West Berkshire 019 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003415 : Slough 009 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02003422 : Windsor and Maidenhead 002 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003447 : Wokingham 009 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003465 : Milton Keynes 007 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02003472 : Milton Keynes 014 | 3 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1.5 | 1.5 | 0 | 0 | 0 | 0 |
| E02003475 : Milton Keynes 017 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02003478 : Milton Keynes 020 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02003602 : Central Bedfordshire 004 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02003608 : Central Bedfordshire 010 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02003632 : Bedford 017 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02003634 : Bedford 019 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02003643 : Central Bedfordshire 024 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02003690 : South Bucks 003 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003698 : Wycombe 003 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003712 : Wycombe 017 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02003720 : Cambridge 002 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02003721 : Cambridge 003 | 7 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 3.5 | 0 | 0 | 3.5 | 0 | 0 |
| E02003722 : Cambridge 004 | 3 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1.5 | 0 | 0 | 1.5 | 0 | 0 |
| E02003723 : Cambridge 005 | 4 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| E02003724 : Cambridge 006 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003725 : Cambridge 007 | 15 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 7.5 | 0 | 0 | 7.5 | 0 | 0 |
| E02003728 : Cambridge 010 | 4 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| E02003729 : Cambridge 011 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003730 : Cambridge 012 | 11 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 5.5 | 0 | 0 | 5.5 | 0 | 0 |
| E02003731 : Cambridge 013 | 25 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 12.5 | 0 | 0 | 12.5 | 0 | 0 |
| E02003735 : East Cambridgeshire 004 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02003738 : East Cambridgeshire 007 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003755 : Huntingdonshire 003 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02003757 : Huntingdonshire 005 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E02003762 : Huntingdonshire 010 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003764 : Huntingdonshire 012 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003766 : Huntingdonshire 014 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02003777 : South Cambridgeshire 003 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003778 : South Cambridgeshire 004 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003781 : South Cambridgeshire 007 | 10 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 5 | 0 | 0 | 5 | 0 | 0 |
| E02003783 : South Cambridgeshire 009 | 3 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1.5 | 0 | 0 | 1.5 | 0 | 0 |
| E02003785 : South Cambridgeshire 011 | 4 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| E02003786 : South Cambridgeshire 012 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003787 : South Cambridgeshire 013 | 3 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1.5 | 0 | 0 | 1.5 | 0 | 0 |
| E02003788 : South Cambridgeshire 014 | 2 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| E02003789 : South Cambridgeshire 015 | 4 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| E02003790 : South Cambridgeshire 016 | 4 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| E02003791 : South Cambridgeshire 017 | 25 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 12.5 | 0 | 0 | 12.5 | 0 | 0 |
| E02003792 : South Cambridgeshire 018 | 8 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 4 | 0 | 0 | 4 | 0 | 0 |
| E02003793 : South Cambridgeshire 019 | 4 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 2 | 0 | 0 | 2 | 0 | 0 |
| E02003864 : Cheshire East 012 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004266 : Purbeck 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004339 : County Durham 054 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004435 : Basildon 012 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| E02004437 : Basildon 014 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02004438 : Basildon 015 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004441 : Basildon 018 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004443 : Basildon 020 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004446 : Braintree 001 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004447 : Braintree 002 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004448 : Braintree 003 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004449 : Braintree 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004450 : Braintree 005 | 5 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| E02004451 : Braintree 006 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004452 : Braintree 007 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004453 : Braintree 008 | 8 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 |
| E02004454 : Braintree 009 | 11 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 0 | 0 | 0 |
| E02004455 : Braintree 010 | 7 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| E02004457 : Braintree 012 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004458 : Braintree 013 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02004459 : Braintree 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004461 : Braintree 016 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004462 : Braintree 017 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| E02004463 : Braintree 018 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004464 : Brentwood 001 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004467 : Brentwood 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004468 : Brentwood 005 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004470 : Brentwood 007 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004471 : Brentwood 008 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| E02004472 : Brentwood 009 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004474 : Castle Point 002 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004485 : Chelmsford 001 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004486 : Chelmsford 002 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004487 : Chelmsford 003 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004488 : Chelmsford 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004489 : Chelmsford 005 | 5 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| E02004492 : Chelmsford 008 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004493 : Chelmsford 009 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004494 : Chelmsford 010 | 30 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 |
| E02004495 : Chelmsford 011 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004498 : Chelmsford 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004500 : Chelmsford 016 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004506 : Colchester 001 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004507 : Colchester 002 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004509 : Colchester 004 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004512 : Colchester 007 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |

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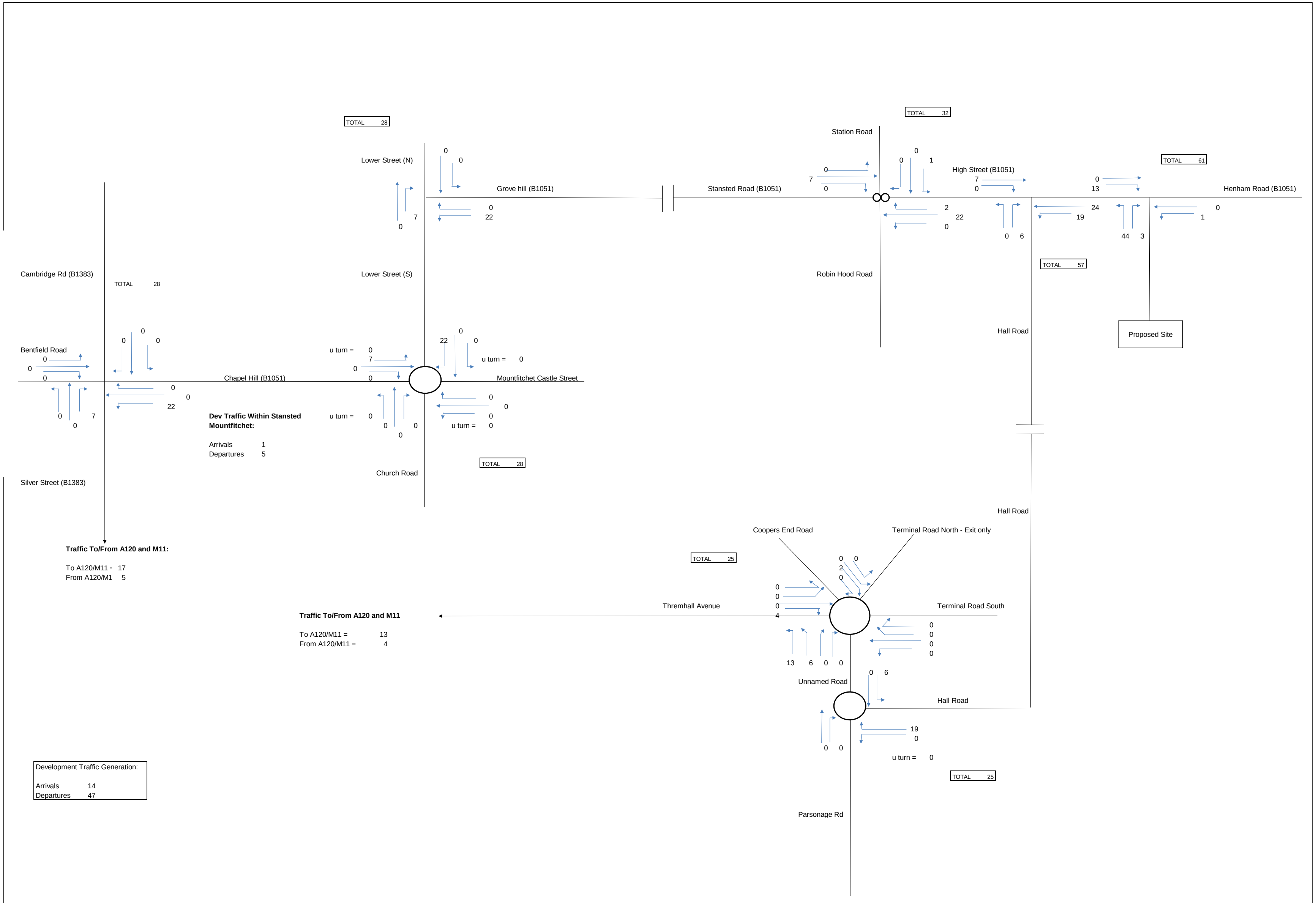
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E02004515 : Colchester 010 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004517 : Colchester 012 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004519 : Colchester 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004522 : Colchester 017 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004527 : Epping Forest 001 | 28 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 28 | 0 | 0 | 0 | 0 |
| E02004528 : Epping Forest 002 | 12 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 |
| E02004529 : Epping Forest 003 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004530 : Epping Forest 004 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| E02004531 : Epping Forest 005 | 22 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 |
| E02004532 : Epping Forest 006 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| E02004534 : Epping Forest 008 | 9 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| E02004535 : Epping Forest 009 | 9 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| E02004536 : Epping Forest 010 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004537 : Epping Forest 011 | 9 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 |
| E02004538 : Epping Forest 012 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| E02004539 : Epping Forest 013 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004540 : Epping Forest 014 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004541 : Epping Forest 015 | 4 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| E02004542 : Epping Forest 016 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004543 : Epping Forest 017 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004544 : Harlow 001 | 17 | | 1 | | | | 1 | 0 | 0.5 | 0 | 0 | 0 | 0.5 | 0 | 8.5 | 0 | 0 | 0 | 8.5 |
| E02004545 : Harlow 002 | 66 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 33 | 33 | 0 | 0 | 0 | 0 |
| E02004546 : Harlow 003 | 19 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 9.5 | 9.5 | 0 | 0 | 0 | 0 |
| E02004547 : Harlow 004 | 120 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 60 | 60 | 0 | 0 | 0 | 0 |
| E02004548 : Harlow 005 | 5 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2.5 | 2.5 | 0 | 0 | 0 | 0 |
| E02004549 : Harlow 006 | 8 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 |
| E02004550 : Harlow 007 | 36 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 18 | 18 | 0 | 0 | 0 | 0 |
| E02004552 : Harlow 009 | 5 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2.5 | 2.5 | 0 | 0 | 0 | 0 |
| E02004553 : Harlow 010 | 8 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 0 |
| E02004554 : Harlow 011 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004558 : Maldon 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004561 : Maldon 007 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004565 : Rochford 003 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004567 : Rochford 005 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004568 : Rochford 006 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004569 : Rochford 007 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004573 : Tendring 001 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004574 : Tendring 002 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004575 : Tendring 003 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004576 : Tendring 004 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004577 : Tendring 005 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004578 : Tendring 006 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004579 : Tendring 007 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004580 : Tendring 008 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004582 : Tendring 010 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| E02004583 : Tendring 011 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004585 : Tendring 013 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02004586 : Tendring 014 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004588 : Tendring 016 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| E02004590 : Tendring 018 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004591 : Uttlesford 001 | 56 | | | 1 | 1 | | | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 28 | 28 | 0 | 0 |
| E02004592 : Uttlesford 002 | 107 | | | 1 | 1 | | | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 53.5 | 53.5 | 0 | 0 |
| E02004593 : Uttlesford 003 | 71 | | | 1 | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 71 | 0 | 0 | 0 |
| E02004594 : Uttlesford 004 | 21 | | | 1 | | | | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 |
| E02004595 : Uttlesford 005 | 310 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 310 | 0 | 0 | 0 | 0 | 0 |
| E02004596 : Uttlesford 006 | 420 | | | | | 1 | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 420 | 0 |
| E02004597 : Uttlesford 007 | 49 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 24.5 | 0 | 24.5 | 0 | 0 |
| E02004598 : Uttlesford 008 | 25 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 12.5 | 0 | 12.5 | 0 | 0 |
| E02004599 : Uttlesford 009 | 50 | 1 | | | | | 1 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 25 | 0 | 0 | 0 | 0 | 25 |
| E02004608 : Cheltenham 009 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004610 : Cheltenham 011 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004615 : Cotswold 001 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E02004704 : East Hampshire 008 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004816 : Test Valley 003 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02004843 : Broxbourne 001 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02004844 : Broxbourne 002 | 15 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 |
| E02004845 : Broxbourne 003 | 19 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 |
| E02004846 : Broxbourne 004 | 4 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| E02004847 : Broxbourne 005 | 3 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1.5 | 1.5 | 0 | 0 | 0 | 0 |
| E02004849 : Broxbourne 007 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02004850 : Broxbourne 008 | 4 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| E02004851 : Broxbourne 009 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02004852 : Broxbourne 010 | 10 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 5 | 5 | 0 | 0 | 0 | 0 |
| E02004853 : Broxbourne 011 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004854 : Broxbourne 012 | 3 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1.5 | 1.5 | 0 | 0 | 0 | 0 |
| E02004855 : Broxbourne 013 | 6 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 |
| E02004865 : Dacorum 010 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004872 : Dacorum 017 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004876 : Dacorum 021 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004878 : East Hertfordshire 001 | 15 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 |
| E02004879 : East Hertfordshire 002 | 4 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| E02004880 : East Hertfordshire 003 | 105 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 105 | 0 | 0 | 0 | 0 | 0 |
| E02004881 : East Hertfordshire 004 | 236 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 236 | 0 | 0 | 0 | 0 | 0 |
| E02004882 : East Hertfordshire 005 | 178 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 178 | 0 | 0 | 0 | 0 | 0 |
| E02004883 : East Hertfordshire 006 | 7 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| E02004884 : East Hertfordshire 007 | 99 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 99 | 0 | 0 | 0 | 0 | 0 |
| E02004885 : East Hertfordshire 008 | 39 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 39 | 0 | 0 | 0 | 0 | 0 |
| E02004886 : East Hertfordshire 009 | 31 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 | 0 |
| E02004887 : East Hertfordshire 010 | 3 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| E02004888 : East Hertfordshire 011 | 40 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 40 | 0 | 0 | 0 | 0 | 0 |
| E02004889 : East Hertfordshire 012 | 9 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 |
| E02004890 : East Hertfordshire 013 | 30 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 0 |
| E02004891 : East Hertfordshire 014 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02004893 : East Hertfordshire 016 | 10 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 |
| E02004894 : East Hertfordshire 017 | 23 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 0 | 0 | 0 | 0 |
| E02004895 : East Hertfordshire 018 | 8 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 |
| E02004896 : Hertsmere 001 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02004899 : Hertsmere 004 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02004906 : Hertsmere 011 | 4 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| E02004907 : Hertsmere 012 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004909 : North Hertfordshire 001 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02004910 : North Hertfordshire 002 | 8 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 |
| E02004913 : North Hertfordshire 005 | 2 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| E02004914 : North Hertfordshire 006 | 2 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| E02004915 : North Hertfordshire 007 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02004916 : North Hertfordshire 008 | 3 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 |
| E02004918 : North Hertfordshire 010 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02004920 : North Hertfordshire 012 | 2 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| E02004933 : St Albans 010 | 3 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1.5 | 1.5 | 0 | 0 | 0 | 0 |
| E02004934 : St Albans 011 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004935 : St Albans 012 | 6 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 |
| E02004937 : St Albans 014 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02004938 : St Albans 015 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02004939 : St Albans 016 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004940 : St Albans 017 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02004942 : St Albans 019 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004943 : St Albans 020 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004945 : Stevenage 002 | 6 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 |
| E02004948 : Stevenage 005 | 3 | 1 | | 1 | | | | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 1.5 | 0 | 1.5 | 0 | 0 | 0 |
| E02004951 : Stevenage 008 | 13 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 0 | 0 | 0 |
| E02004954 : Stevenage 011 | 7 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 |
| E02004957 : Three Rivers 002 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02004964 : Three Rivers 009 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004976 : Watford 009 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E02004978 : Watford 011 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004981 : Welwyn Hatfield 002 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004983 : Welwyn Hatfield 004 | 4 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| E02004985 : Welwyn Hatfield 006 | 5 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2.5 | 2.5 | 0 | 0 | 0 | 0 |
| E02004986 : Welwyn Hatfield 007 | 5 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 2.5 | 2.5 | 0 | 0 | 0 | 0 |
| E02004987 : Welwyn Hatfield 008 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004989 : Welwyn Hatfield 010 | 6 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 |
| E02004990 : Welwyn Hatfield 011 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004991 : Welwyn Hatfield 012 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02004993 : Welwyn Hatfield 014 | 3 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1.5 | 1.5 | 0 | 0 | 0 | 0 |
| E02004995 : Welwyn Hatfield 016 | 3 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1.5 | 1.5 | 0 | 0 | 0 | 0 |
| E02005001 : Ashford 006 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02005033 : Dartford 006 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02005042 : Dover 002 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02005046 : Dover 006 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02005069 : Maidstone 002 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02005094 : Sevenoaks 008 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02005155 : Tonbridge and Malling 007 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02005160 : Tonbridge and Malling 012 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02005338 : Blaby 006 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02005406 : North West Leicestershire 010 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02005409 : North West Leicestershire 013 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02005412 : Oadby and Wigston 003 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02005439 : East Lindsey 016 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02005484 : South Kesteven 009 | 2 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| E02005575 : North Norfolk 006 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02005584 : Norwich 001 | 1 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0.5 | 0 | 0.5 | 0 | 0 |
| E02005645 : Kettering 007 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02005673 : Northampton 024 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02005695 : Wellingborough 004 | 1 | 1 | | | | | | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| E02005939 : Cherwell 019 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02005954 : Oxford 015 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02005968 : South Oxfordshire 011 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006034 : Shropshire 020 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02006230 : Babergh 004 | 1 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0.5 | 0 | 0.5 | 0 | 0 |
| E02006233 : Babergh 007 | 1 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0.5 | 0 | 0.5 | 0 | 0 |
| E02006234 : Babergh 008 | 1 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0.5 | 0 | 0.5 | 0 | 0 |
| E02006235 : Babergh 009 | 2 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| E02006237 : Babergh 011 | 1 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0.5 | 0 | 0.5 | 0 | 0 |
| E02006240 : Forest Heath 003 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006241 : Forest Heath 004 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006243 : Forest Heath 006 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006246 : Ipswich 002 | 1 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0.5 | 0 | 0.5 | 0 | 0 |
| E02006266 : Mid Suffolk 006 | 1 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0.5 | 0 | 0.5 | 0 | 0 |
| E02006271 : Mid Suffolk 011 | 3 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 1.5 | 0 | 1.5 | 0 | 0 |
| E02006277 : St Edmundsbury 005 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006279 : St Edmundsbury 007 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006280 : St Edmundsbury 008 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006281 : St Edmundsbury 009 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006283 : St Edmundsbury 011 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006284 : St Edmundsbury 012 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006286 : St Edmundsbury 014 | 9 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 4.5 | 0 | 0 | 4.5 | 0 | 0 |
| E02006345 : Guildford 002 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006350 : Guildford 007 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006457 : Woking 002 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006492 : Rugby 001 | 2 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| E02006494 : Rugby 003 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02006575 : Crawley 001 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006610 : Mid Sussex 007 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006615 : Mid Sussex 012 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006700 : Bromsgrove 005 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| E02006801 : Lambeth 036 | 3 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| E02006825 : East Cambridgeshire 011 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006826 : Forest Heath 008 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006853 : Tower Hamlets 032 | 2 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| E02006854 : Tower Hamlets 033 | 41 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 41 | 0 | 0 | 0 | 0 |
| E02006873 : South Cambridgeshire 020 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006874 : South Cambridgeshire 021 | 1 | 1 | | | 1 | | | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0 | 0 |
| E02006907 : Norwich 014 | 2 | | 1 | | 1 | | | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 |
| E02006924 : Redbridge 035 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006925 : Redbridge 036 | 6 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 0 |
| E02006928 : Greenwich 035 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006929 : Greenwich 036 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| E02006931 : Greenwich 038 | 1 | | 1 | | | | | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| W02000226 : Bridgend 009 | 1 | 1 | 1 | | | | | 0.5 | 0.5 | 0 | 0 | 0 | 0 | 0.5 | 0.5 | 0 | 0 | 0 | 0 |
| **TOTAL** | **3,425** | | | | | | | | | | | | | 1603 | 976 | 175 | 218 | 420 | 34 |
| | | | | | | | | | | | | | | 47% | 28% | 5% | 6% | 12% | 1% |

**Appendix G**

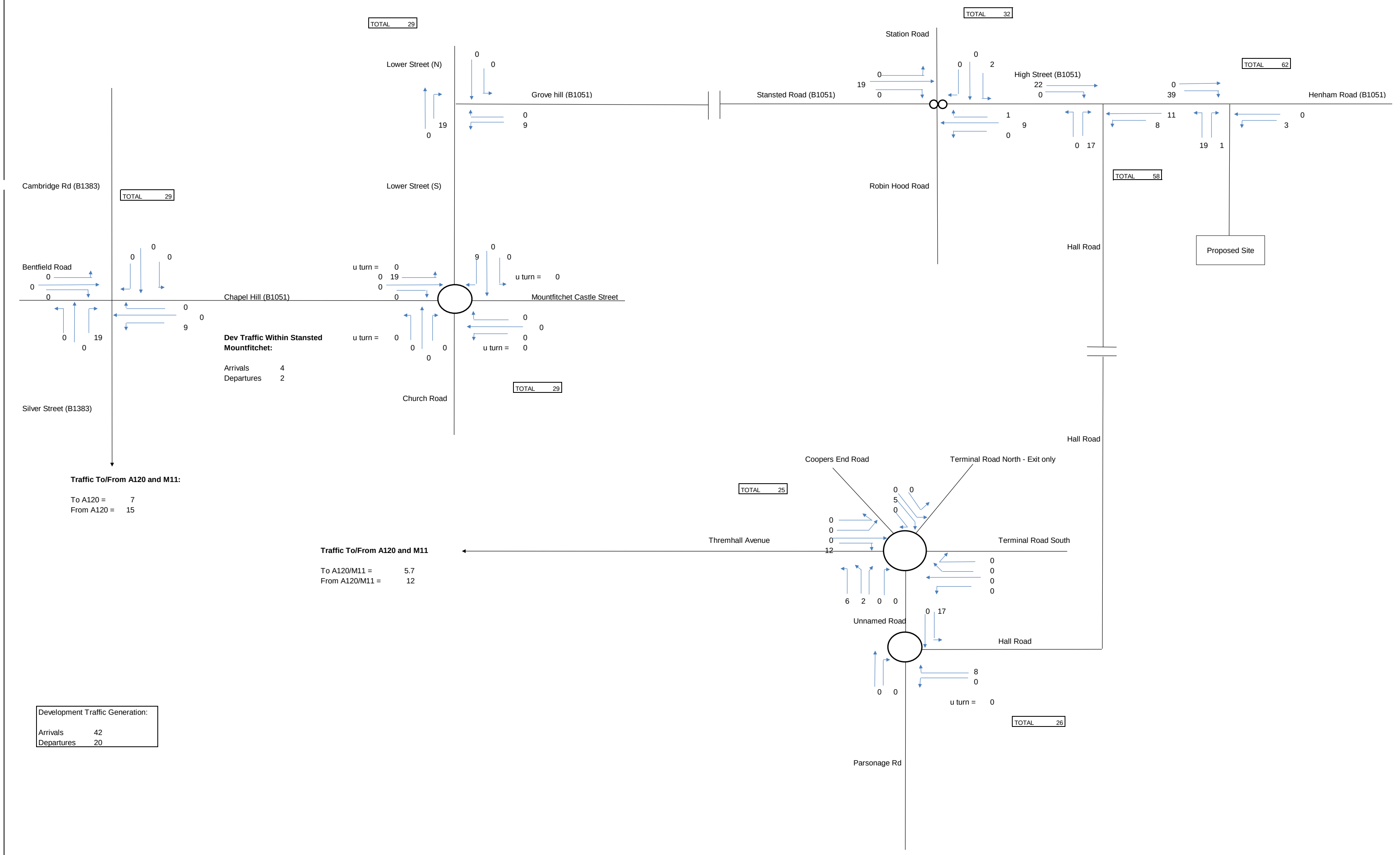



ARDENT CONSULTING ENGINEERS

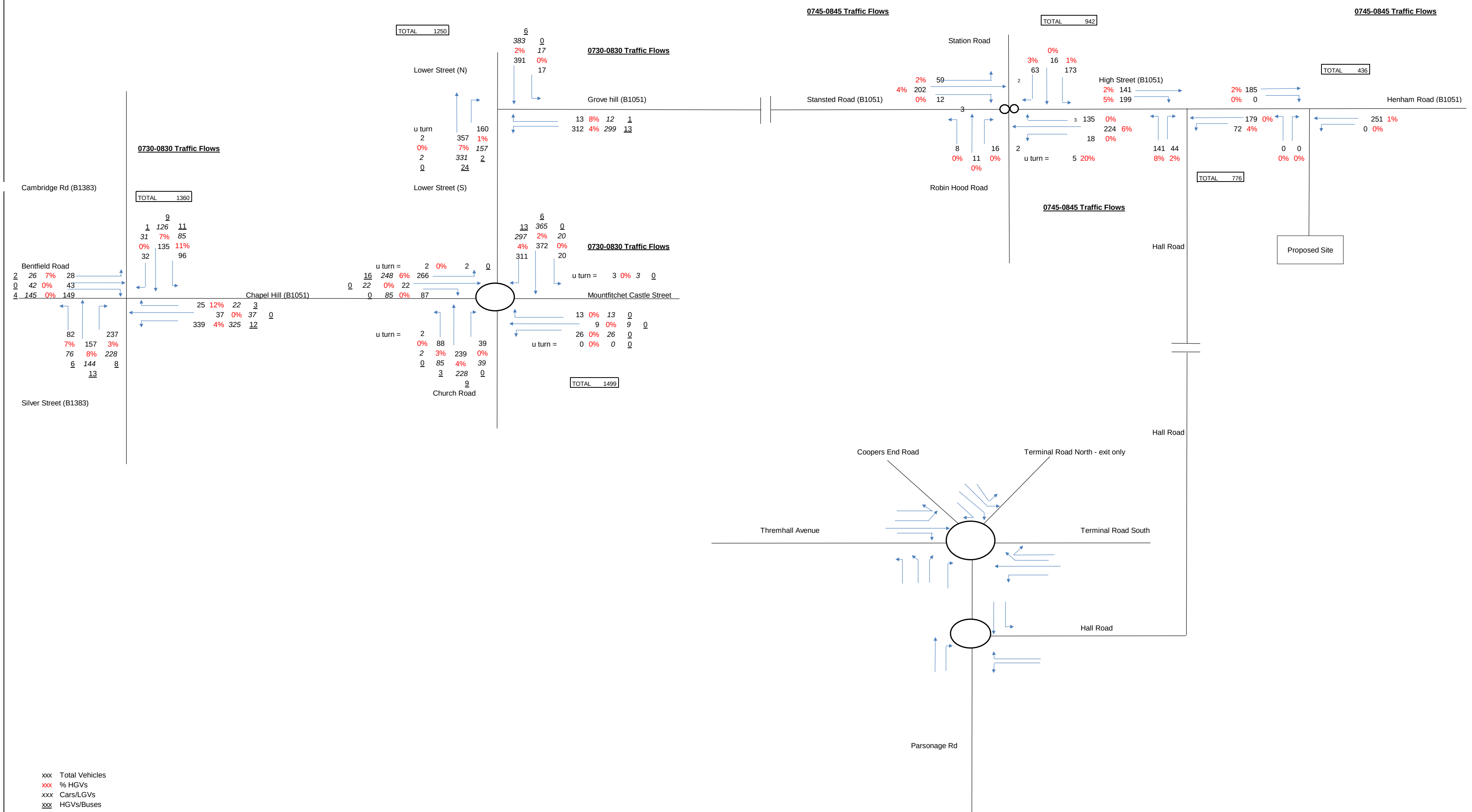
Third Floor, The Hallmark Building
52-56 Leadenhall Street
London EC3M 5JE

| Client | | Project |
|---|---|---|
| Countryside | | Land South of Henham Road, Elsenham |
| Date | Job No | Drawing No |
| July 2022 | 2008170 | |

**Proposed Development Flows - AM Peak**




| | | |
|---|---|---|
| ARDENT CONSULTING ENGINEERS<br>Third Floor, The Hallmark Building<br>52-56 Leadenhall Street<br>London EC3M 5JE | Client<br>**Countryside** | Project<br>**Land South of Henham Road, Elsenham** |
| | Date **July 2022** — Job No **2008170** | Drawing No |
| | **Proposed Development Flows - PM Peak** | |




| | | | |
|---|---|---|---|
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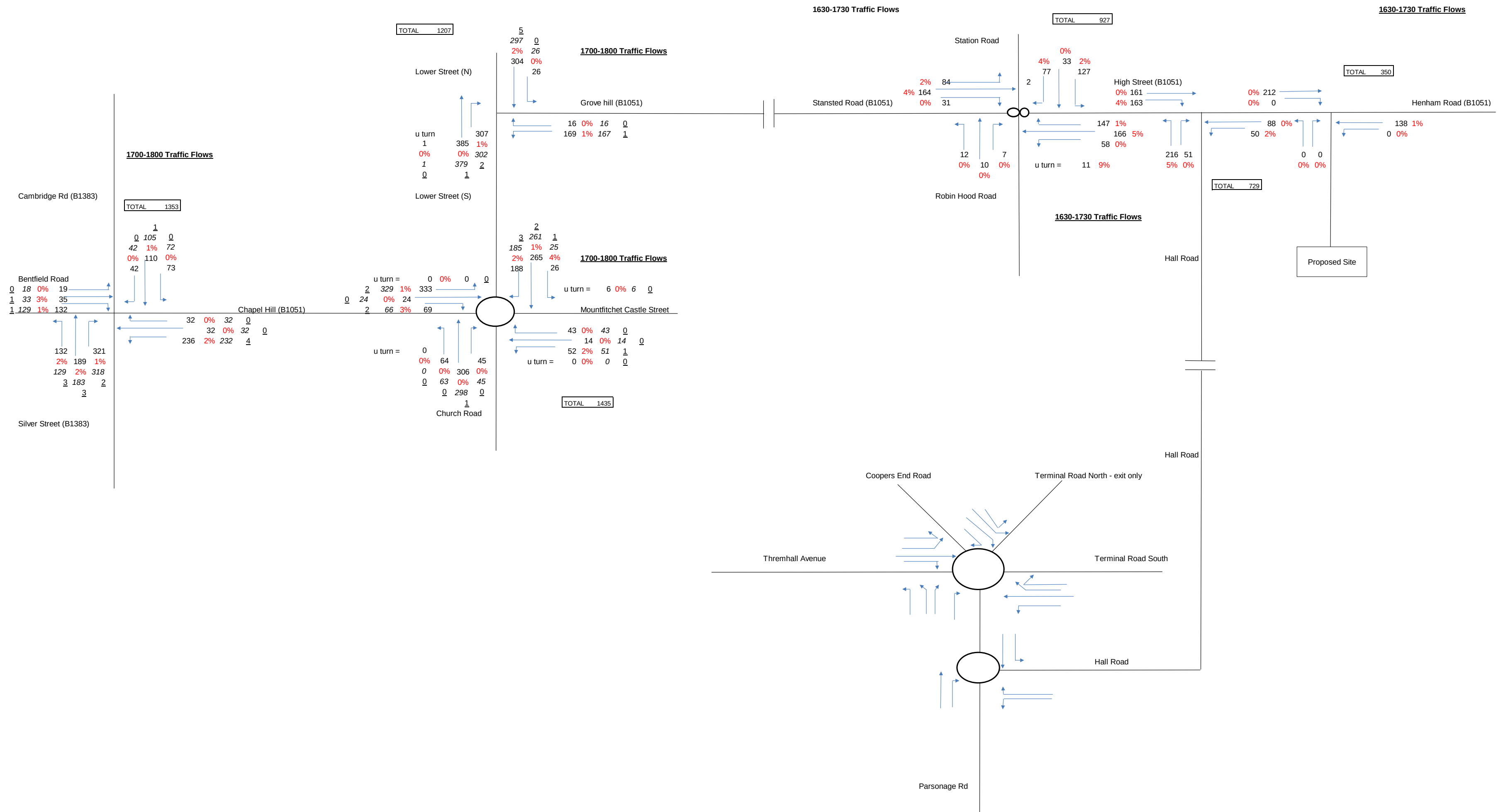
| | Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| | **2022 Surveyed Flows - AM Peak (0745-0845 and 0730-0830)** | | |




xxx Total Vehicles
xxx % HGVs
*xxx* Cars/LGVs
xxx HGVs/Buses

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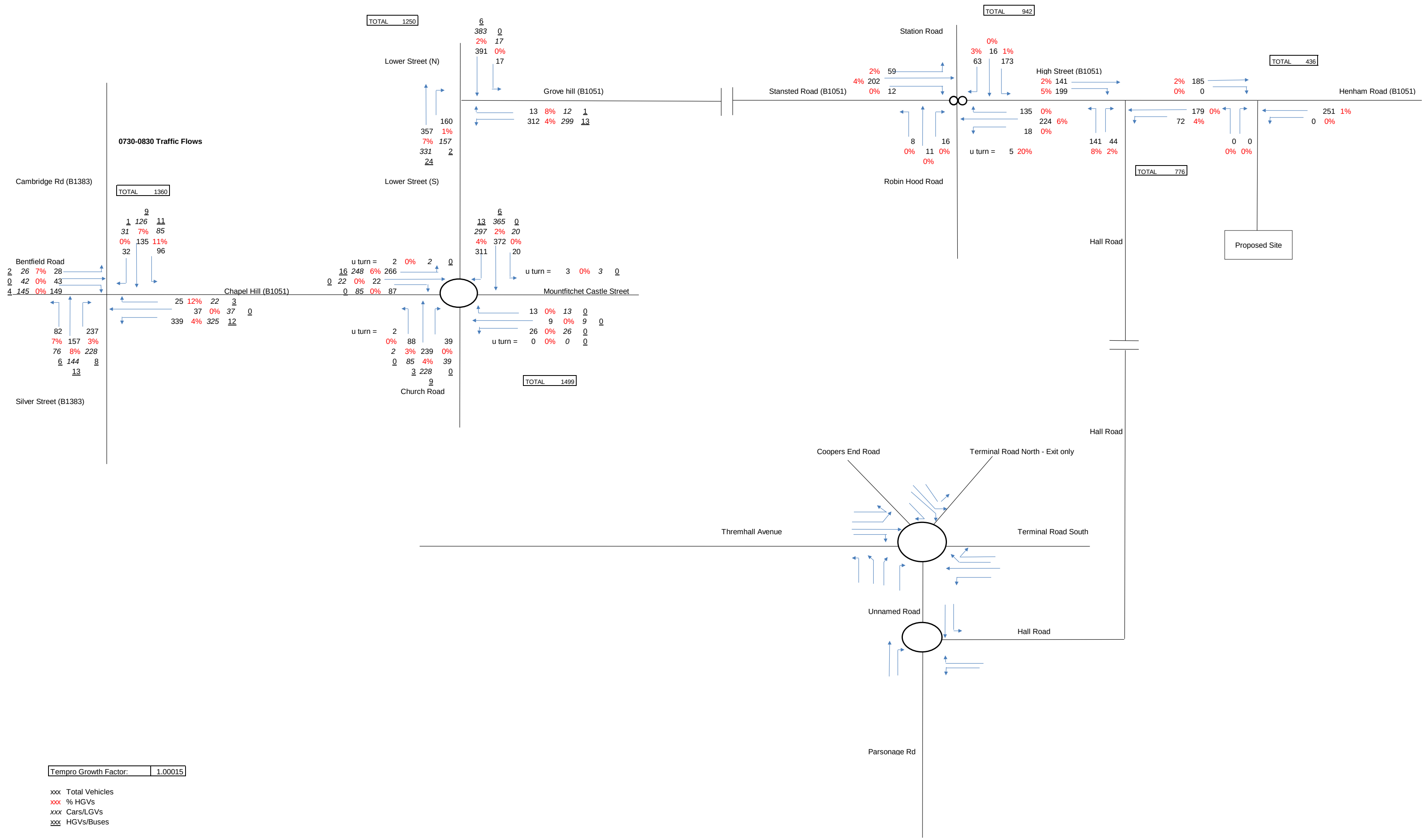
| Client | Project |
|---|---|
| **Countryside** | **Land South of Henham Road, Elsenham** |

| Date | Job No | Drawing No |
|---|---|---|
| **July 2022** | **2008170** | |

**2022 Surveyed Flows - PM Peak (1700-1800 and 1630-1730)**

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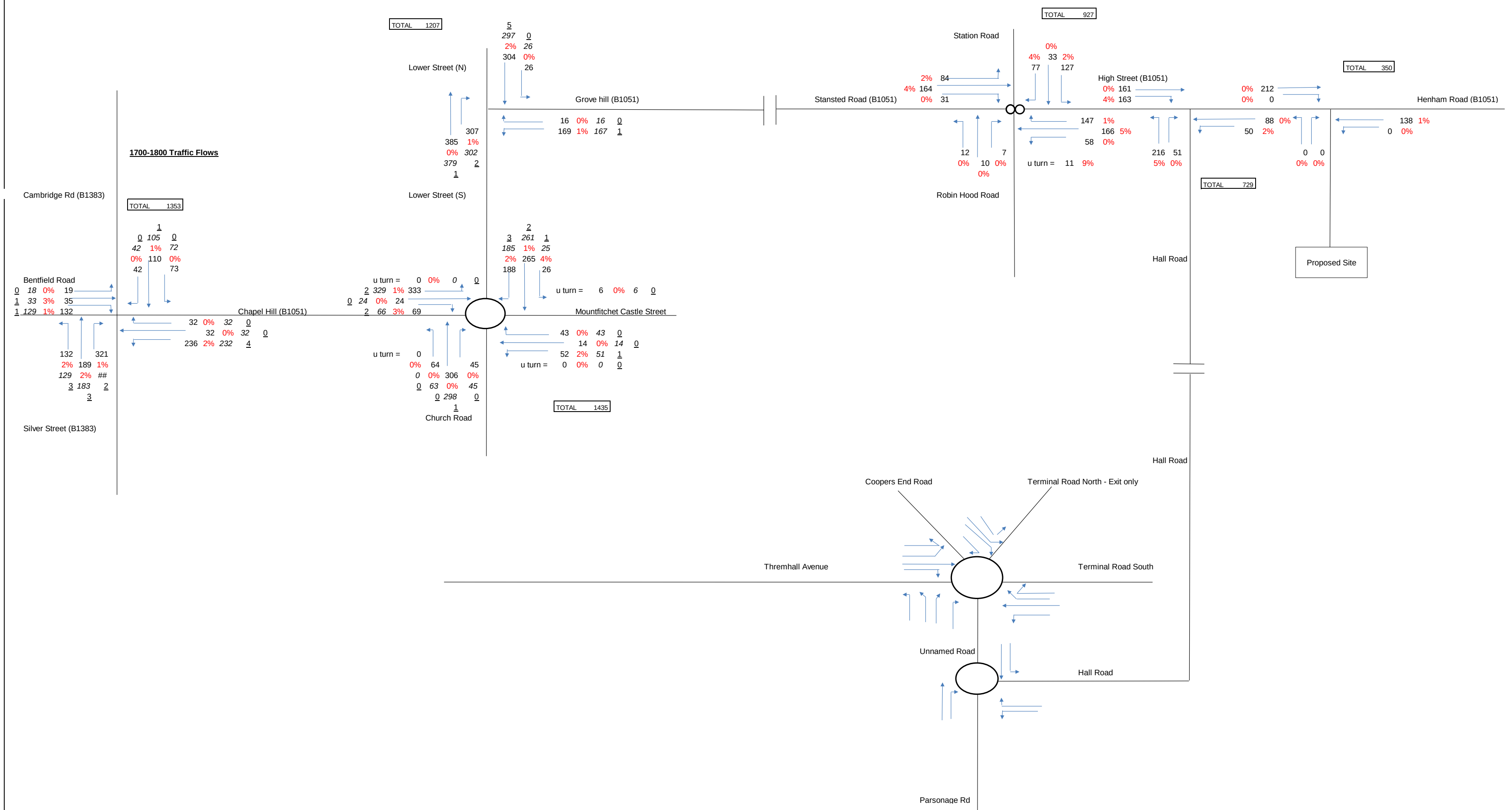
| | | | |
|---|---|---|---|
| Client: **Countryside** | | Project: **Land South of Henham Road, Elsenham** | |
| Date: **July 2022** | Job No: **2008170** | | Drawing No |
| **2027 Background Flows (using 2022 survey flows + Tempro Growth) - AM Peak** | | | |




| Tempro Growth Factor: | 0.99975 |
|---|---|

xxx Total Vehicles
xxx % HGVs
*xxx* Cars/LGVs
xxx HGVs/Buses

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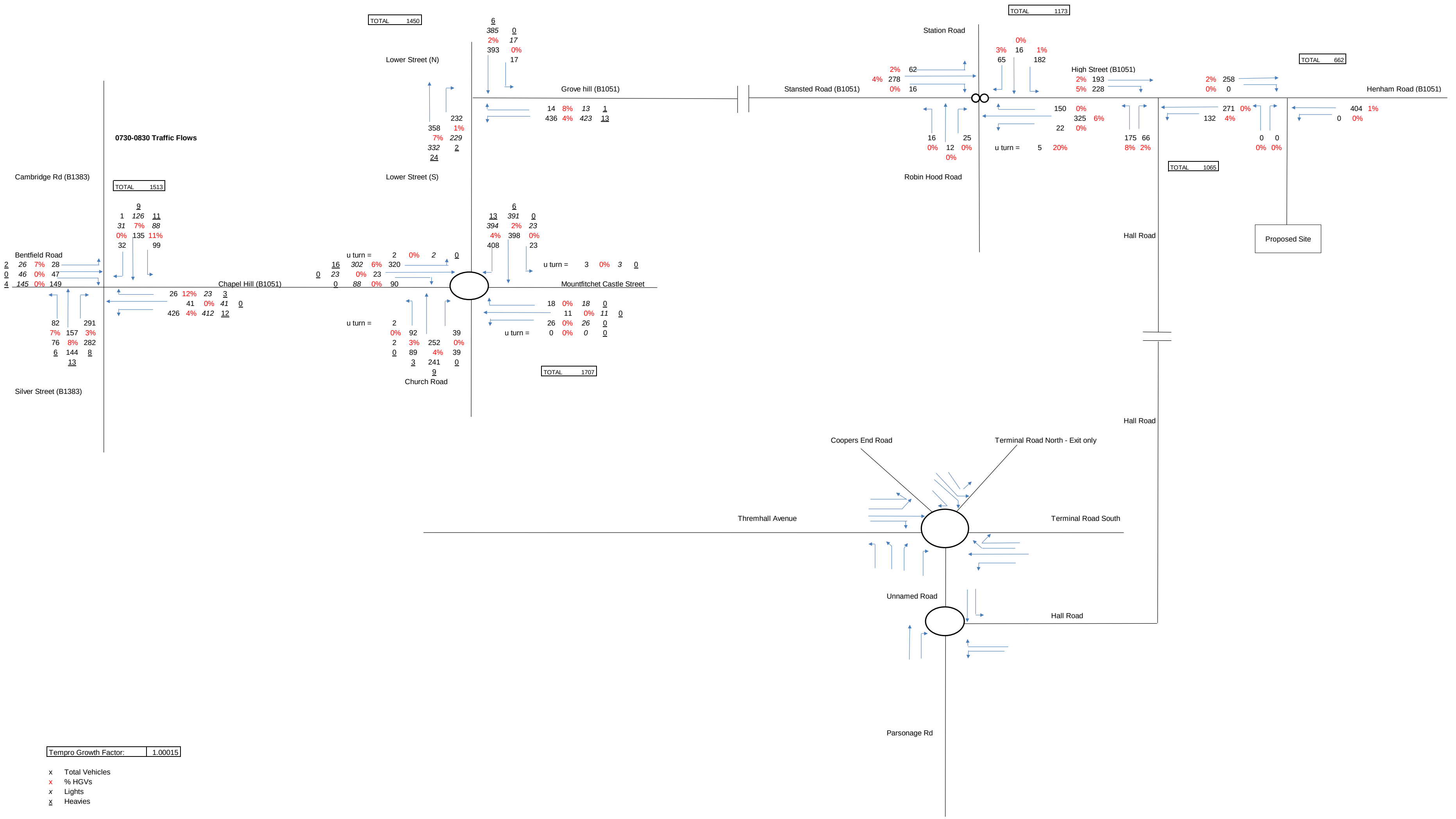
|---|---|---|---|
| **Countryside** | | **Land South of Henham Road, Elsenham** | |
| Date | Job No | | Drawing No |
| **July 2022** | **2008170** | | |

**2027 Background Flows (using 2022 survey flows + Tempro Growth) - PM Peak**




| Tempro Growth Factor: | 1.00015 |
|---|---|

x Total Vehicles
x % HGVs
*x* Lights
x Heavies

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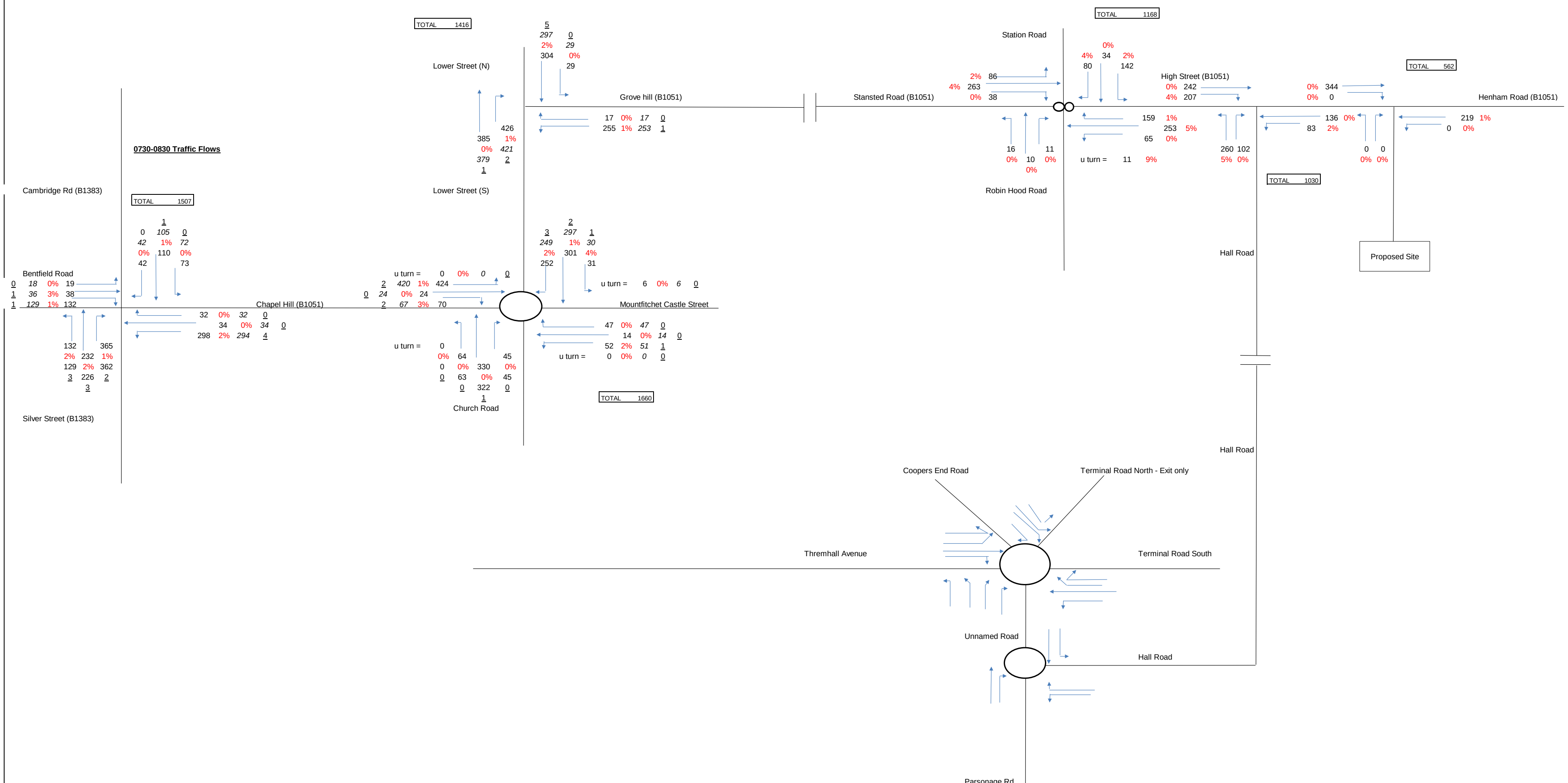
| | | |
|---|---|---|
| Client: **Countryside** | | Project: **Land South of Henham Road, Elsenham** |
| Date: **July 2022** | Job No: **2008170** | Drawing No |

**2027 Base Flows (using 2022 survey flows + Tempro + Committed Dev) - AM Peak**




| Tempro Growth Factor: | 1.00015 |
|---|---|

x Total Vehicles
x % HGVs
*x* Lights
x Heavies

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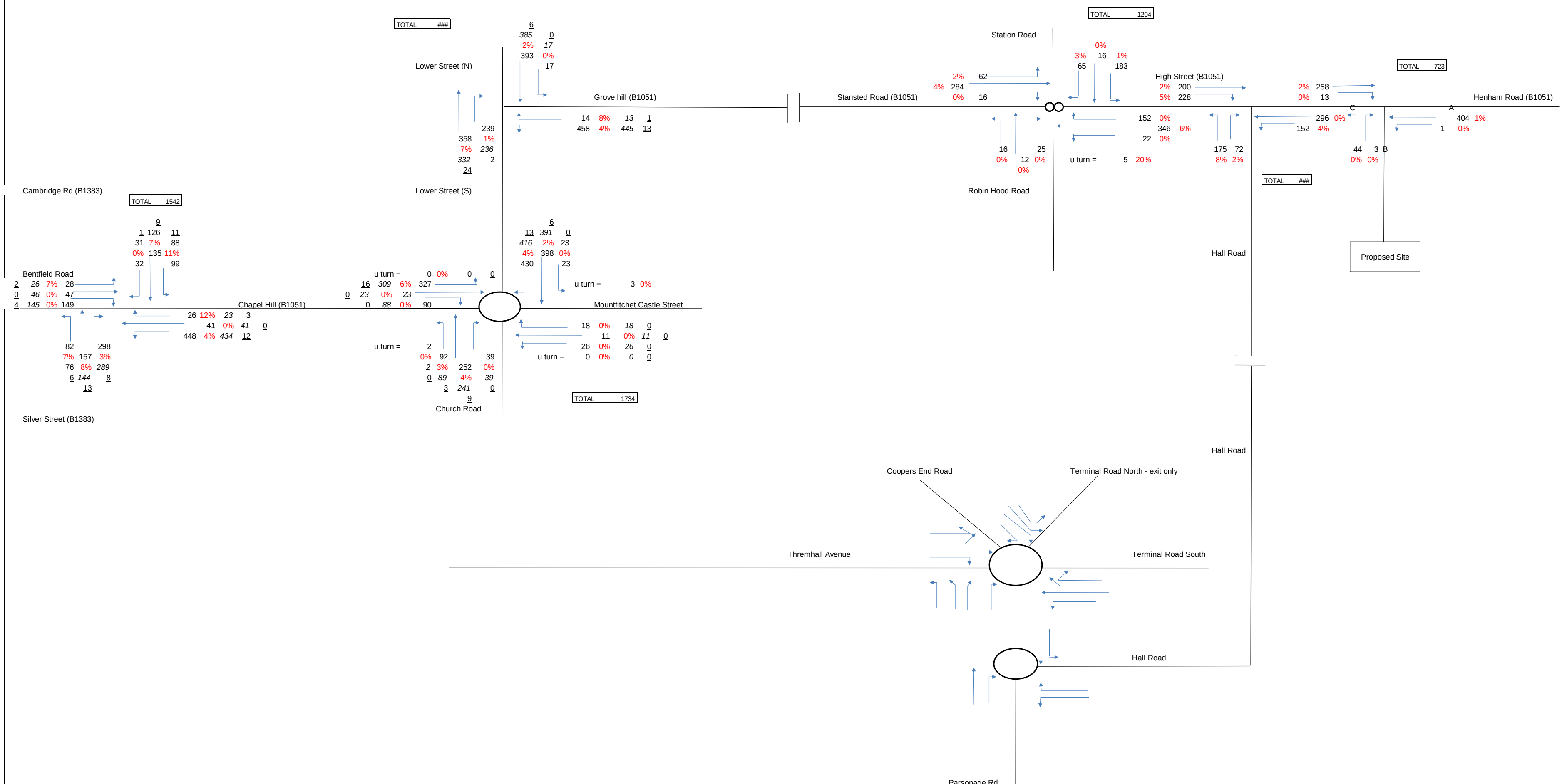
|---|---|---|---|
| | Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| | **2027 Base Flows (using 2022 survey flows + Tempro Growth + Committed Dev) - PM Peak** | | |




x Total Vehicles
x Total Vehicles
x % HGVs
x Lights
x Heavies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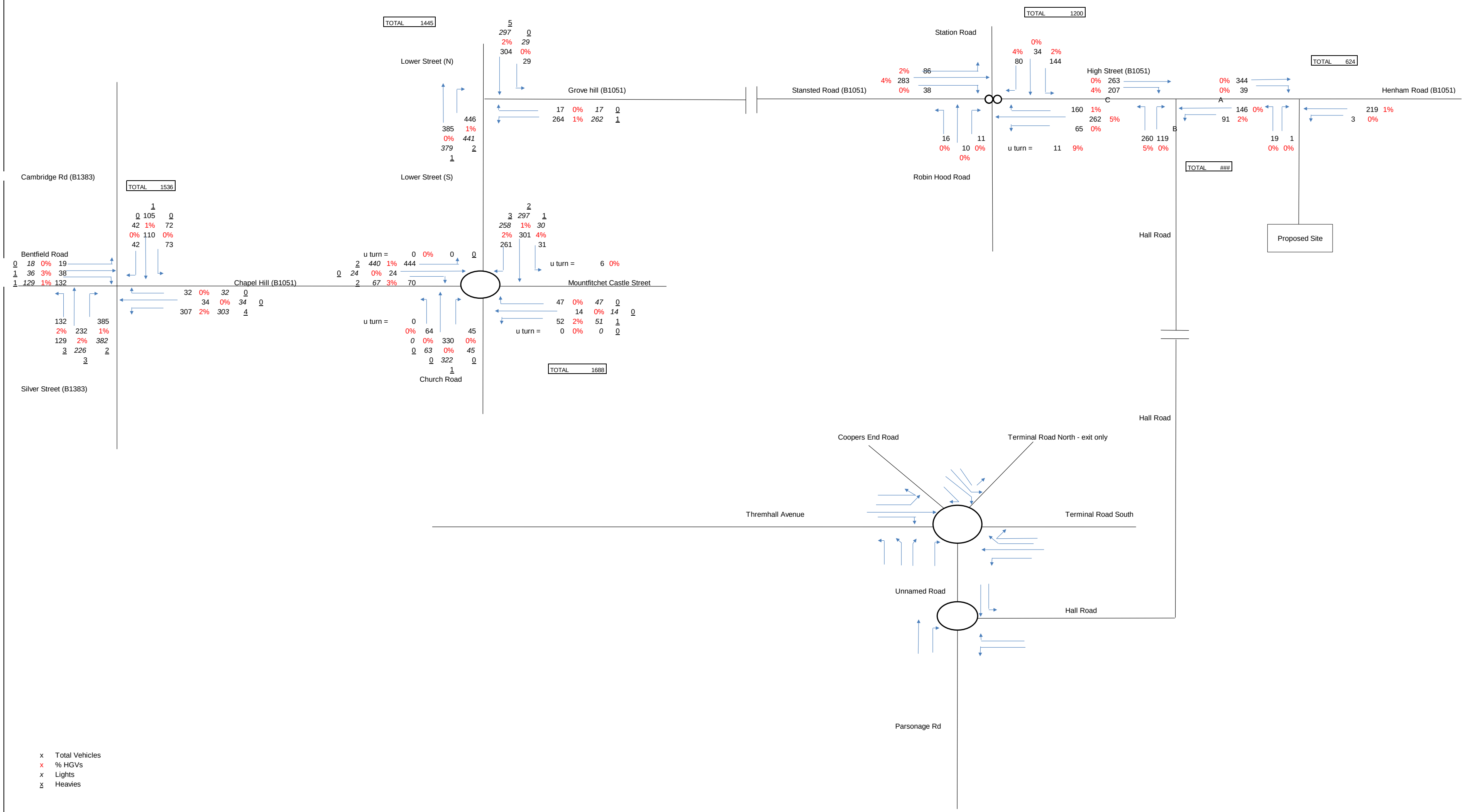
| | | |
|---|---|---|
| Client: **Countryside** | | Project: **Land South of Henham Road, Elsenham** |
| Date: **July 2022** | Job No: **2008170** | Drawing No |
| **2027 Base (using 2022 survey flows + Tempro Growth committed dev) + Development Flows - AM Peak** | | |

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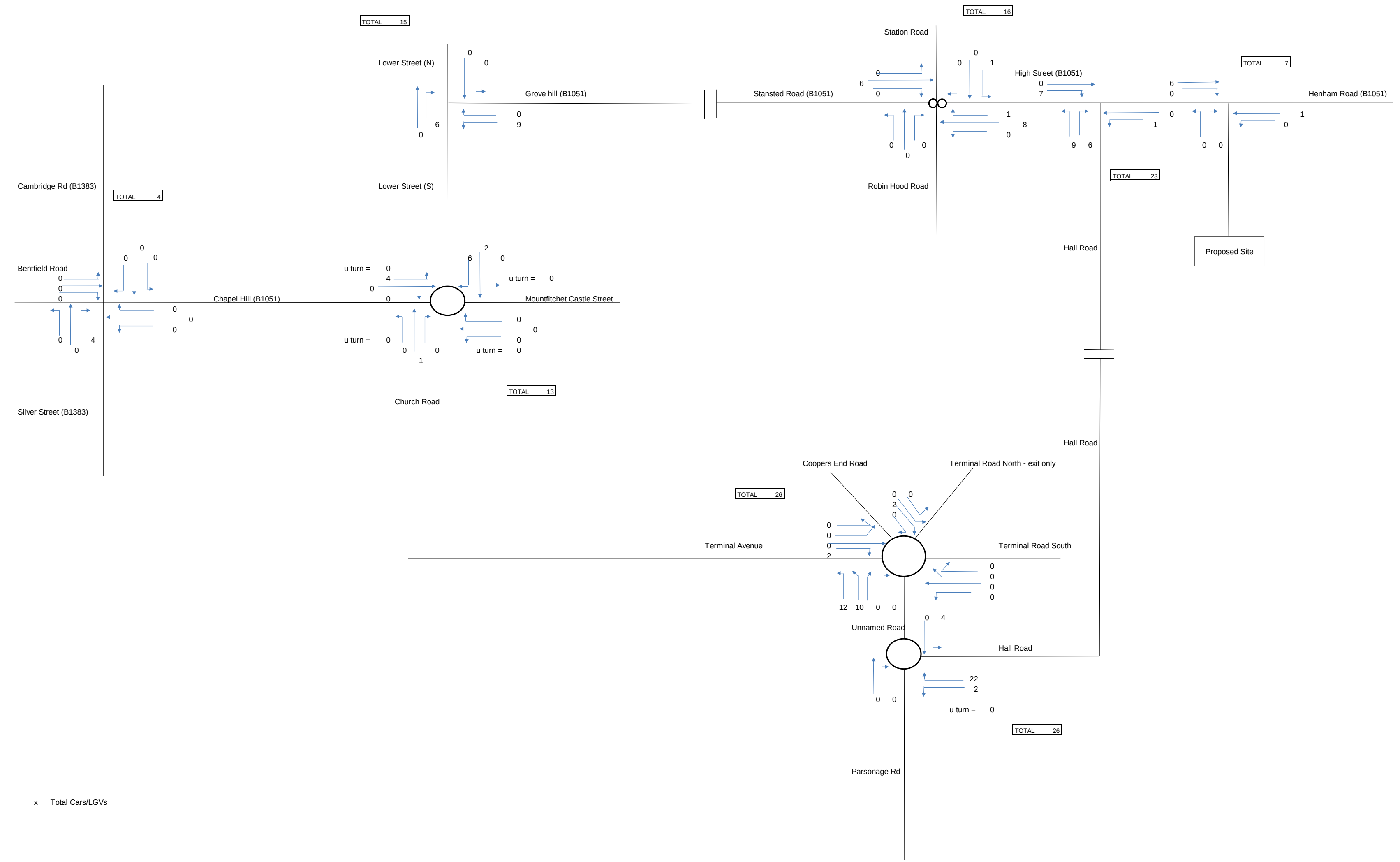
| | | |
|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** |
| Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| **2027 Base (using 2022 survey flows + committed dev) + Development Flows - PM Peak** | | |

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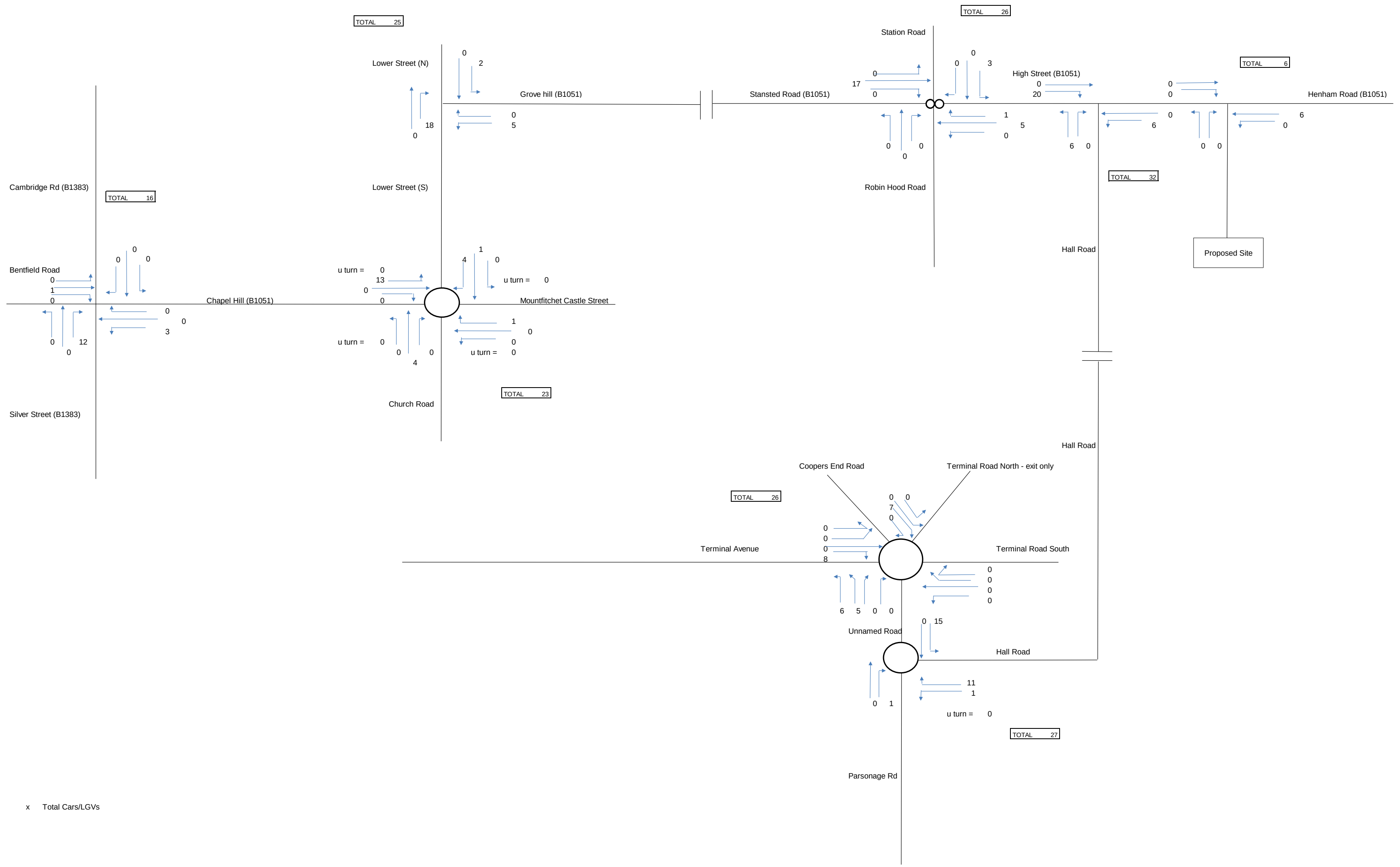
| Client | Project |
|---|---|
| **Countryside** | **Land South of Henham Road, Elsenham** |

| Date | Job No | Drawing No |
|---|---|---|
| **July 2022** | **2008170** | |

**Committed Development Flows (West Hall Road) - AM Peak**

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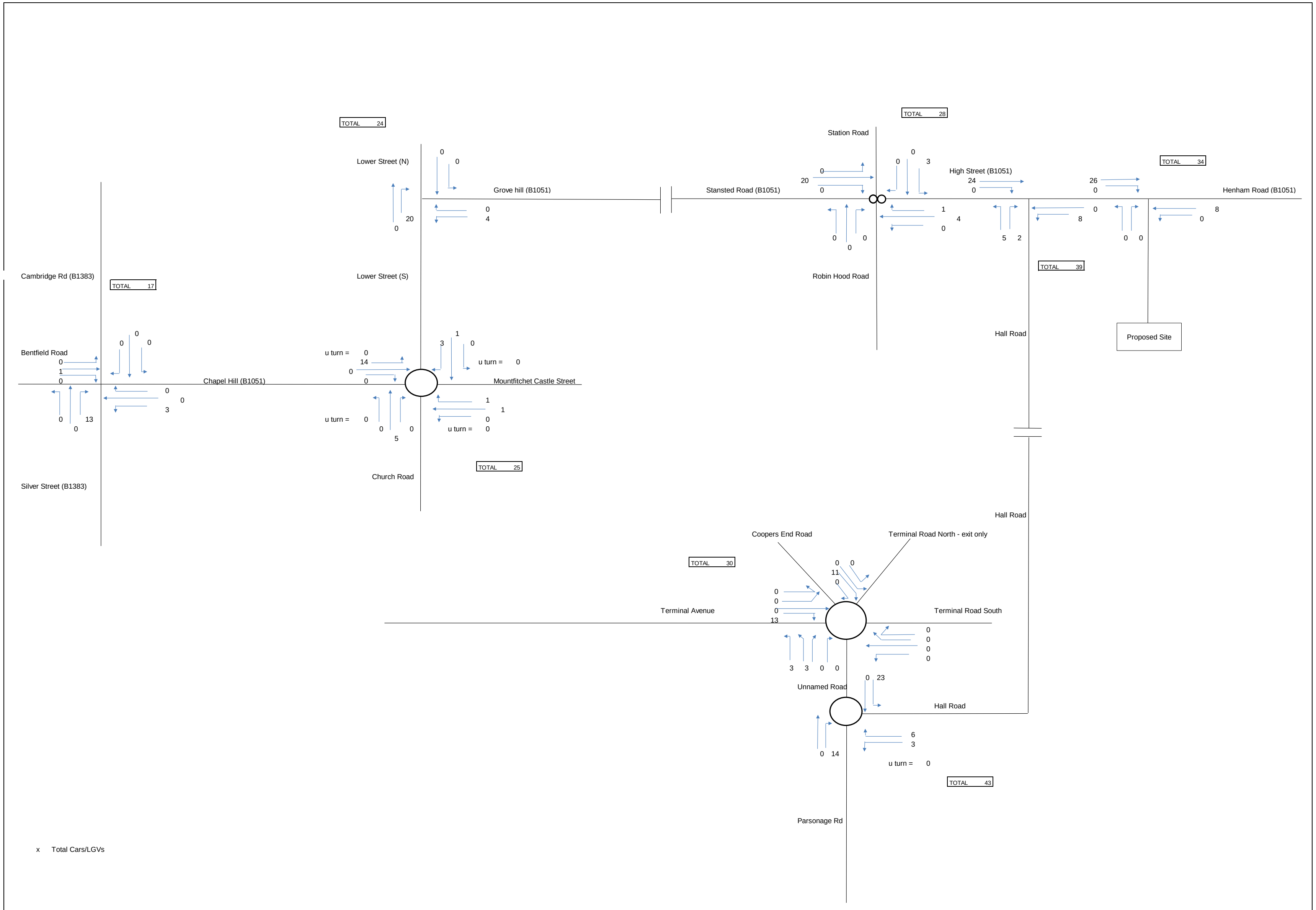
| | | | |
|---|---|---|---|
| Client **Countryside** | | Project **Land South of Henham Road, Elsenham** | |
| Date **July 2022** | Job No **2008170** | | Drawing No |
| **Committed Development Flows (West Hall Road) - PM Peak** | | | |

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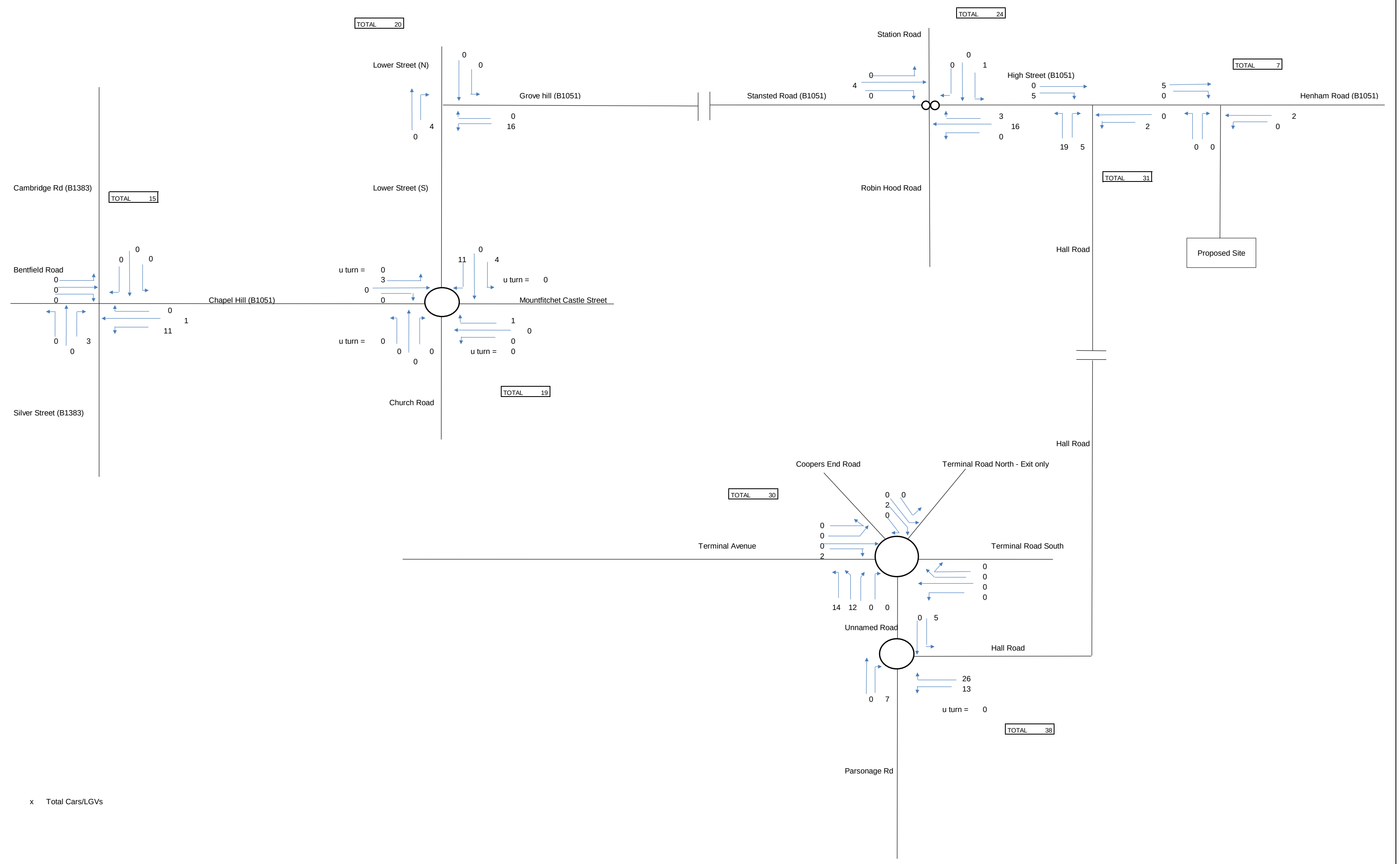
| Client | Project |
|---|---|
| **Countryside** | **Land South of Henham Road, Elsenham** |

| Date | Job No | Drawing No |
|---|---|---|
| **July 2022** | **2008170** | |

**Committed Development Flows (Trisail) - AM Peak**




| | | | |
|---|---|---|---|
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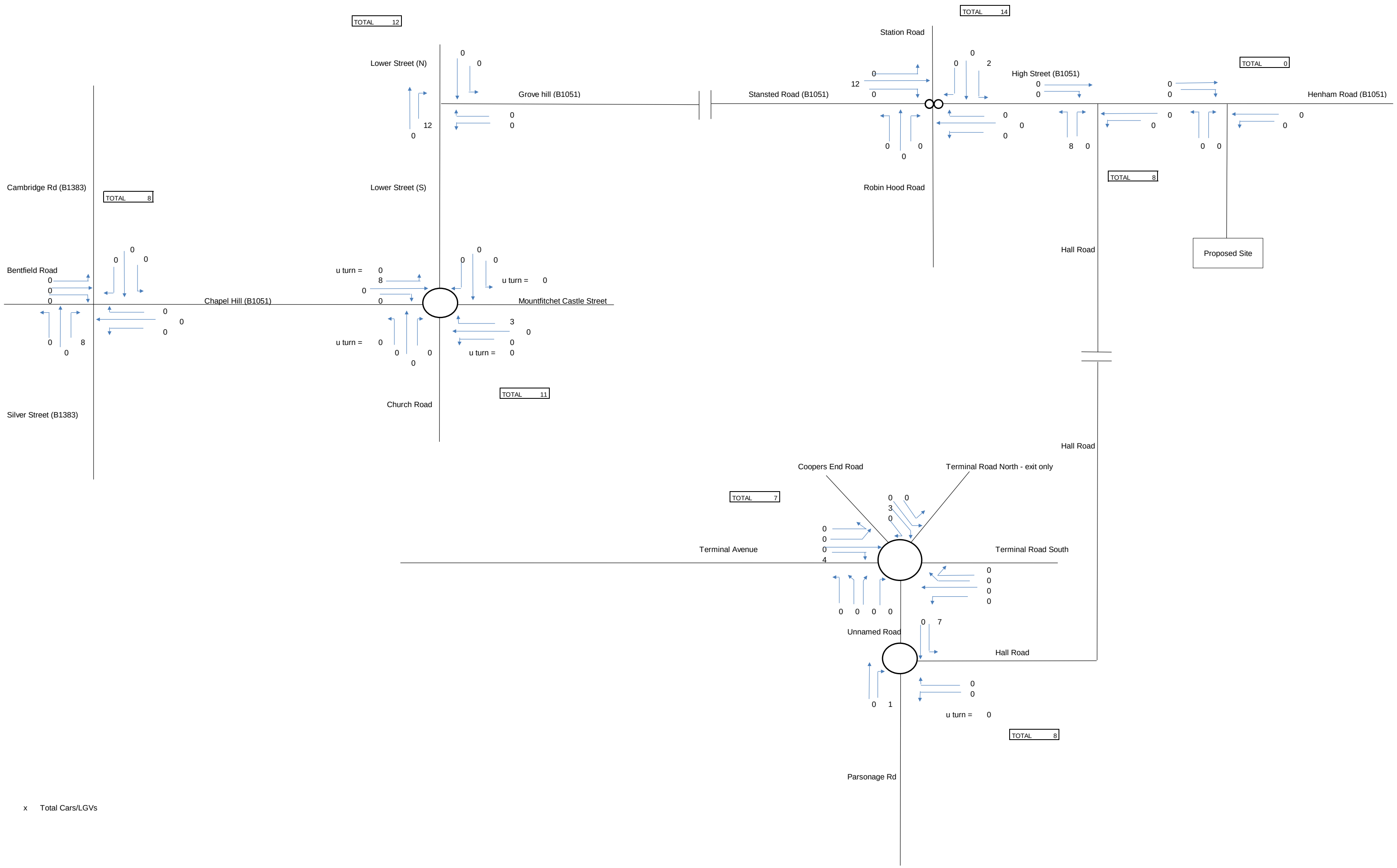
| | Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| | **Committed Development Flows (as used in E Elsenham) - PM Peak** | | |

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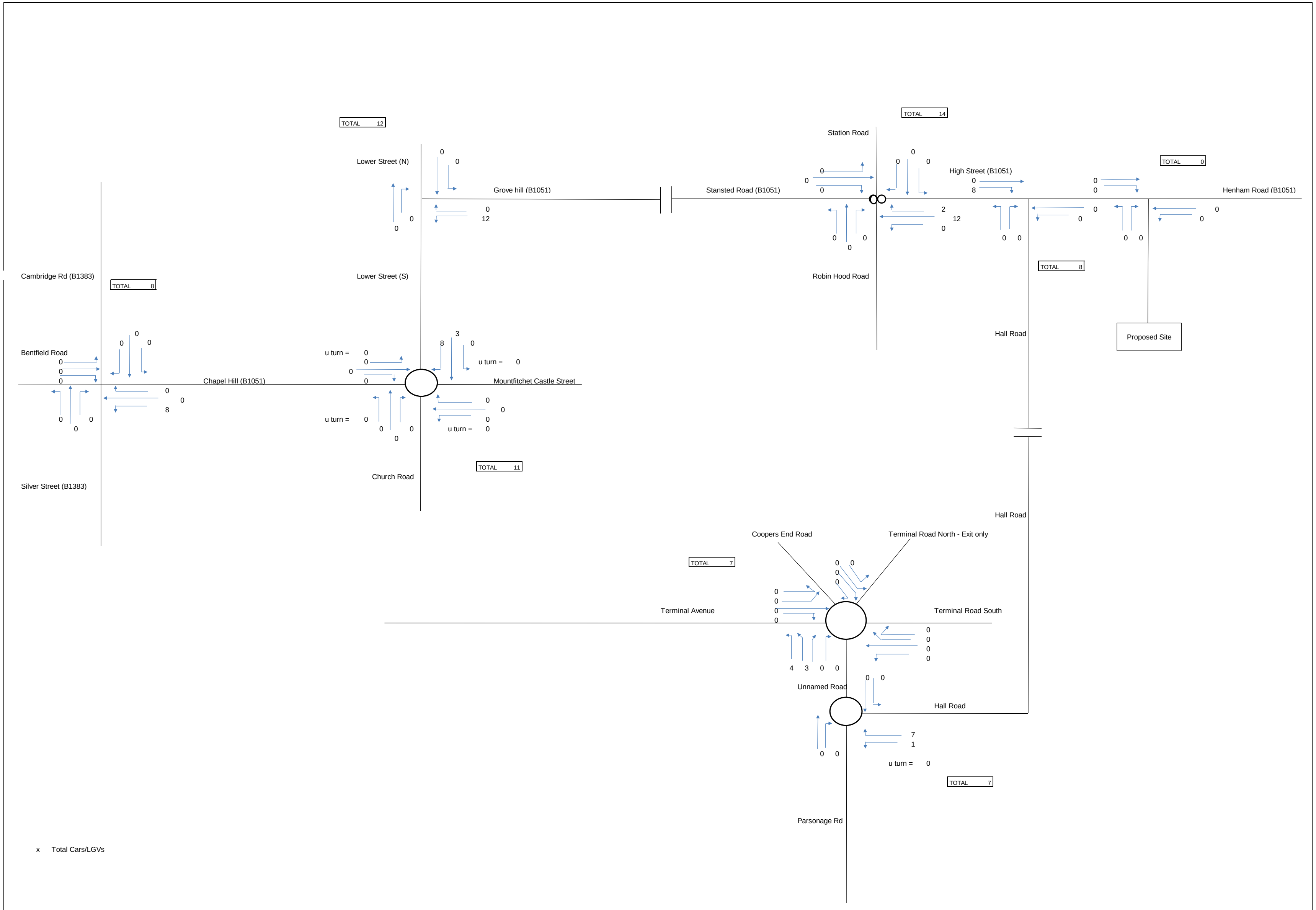
|---|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |

**Committed Development Flows (Elsenham Primary School) - AM Peak**

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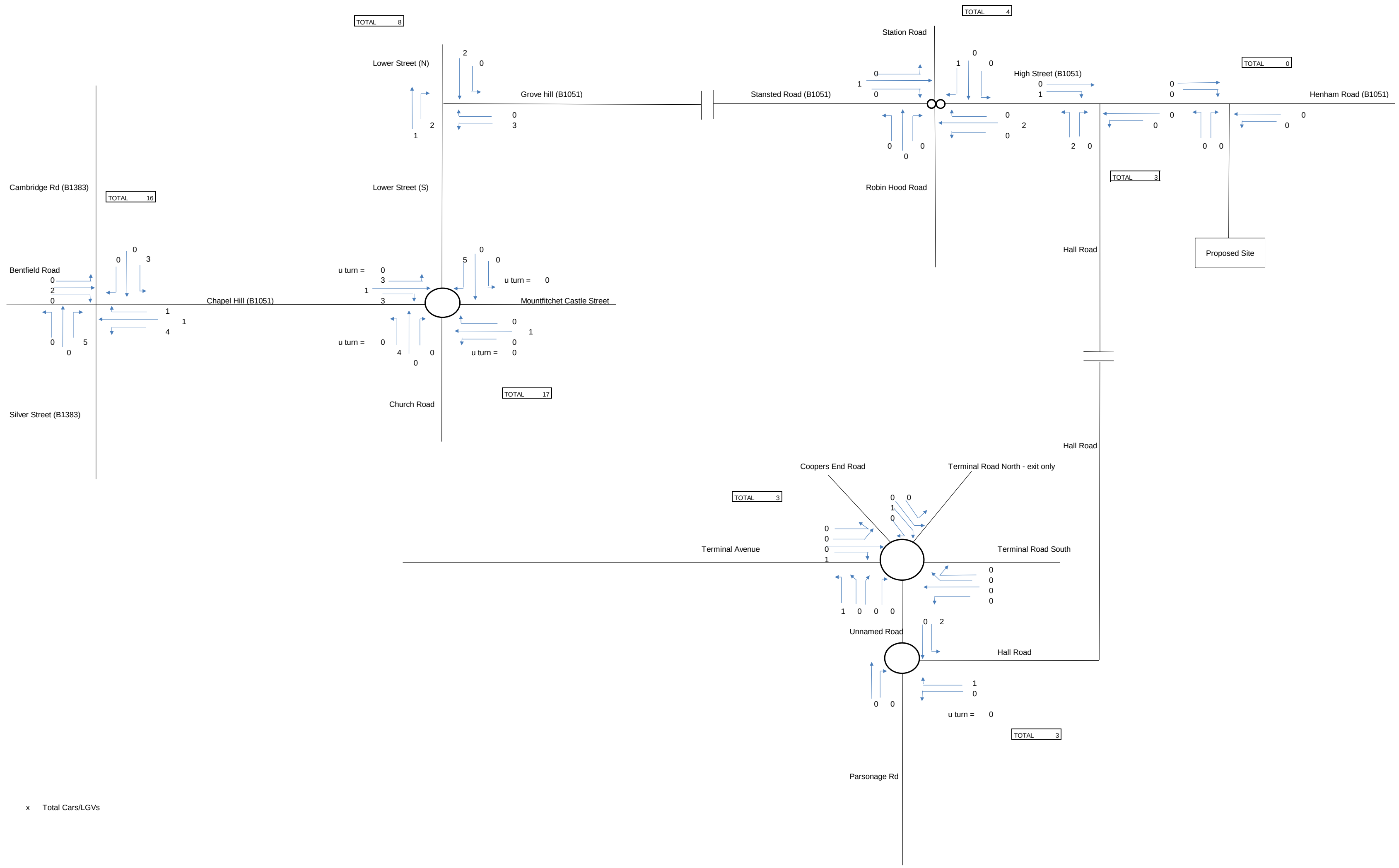
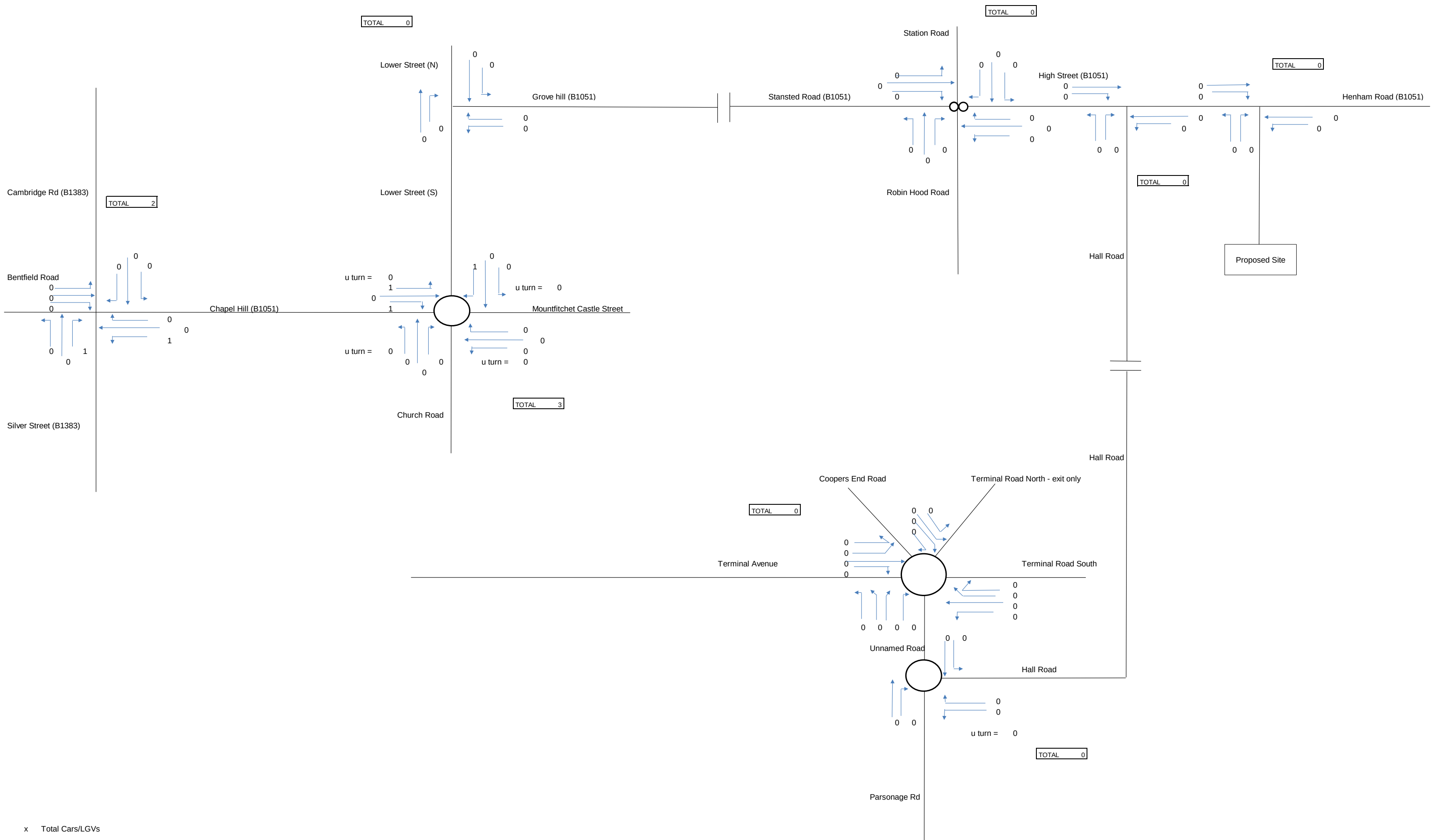
|---|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |
| **Committed Development Flows (Elsenham Primary School) - PM Peak** | | | |



Station Road
High Street (B1051)
Henham Road (B1051)
Lower Street (N)
Grove hill (B1051)
Stansted Road (B1051)
Robin Hood Road
Lower Street (S)
Cambridge Rd (B1383)
Bentfield Road
Chapel Hill (B1051)
Mountfitchet Castle Street
Silver Street (B1383)
Church Road
Hall Road
Proposed Site
Coopers End Road
Terminal Road North - exit only
Terminal Avenue
Terminal Road South
Unnamed Road
Parsonage Rd
TOTAL 8
TOTAL 4
TOTAL 0
TOTAL 3
TOTAL 16
TOTAL 17
TOTAL 3
TOTAL 3
x Total Cars/LGVs

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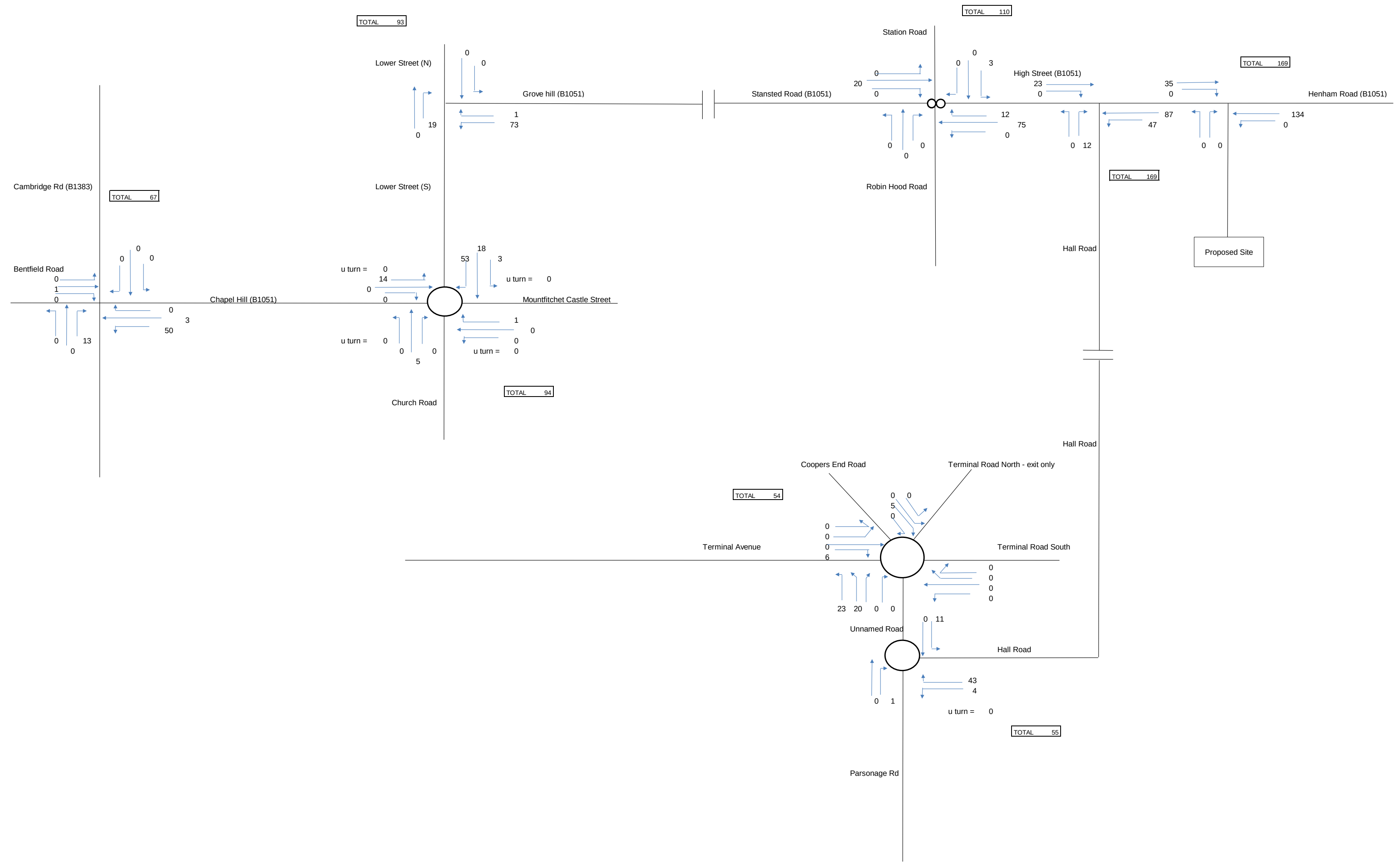
| Client | | Project | |
|---|---|---|---|
| **Countryside** | | **Land South of Henham Road, Elsenham** | |
| Date | Job No | | Drawing No |
| **July 2022** | **2008170** | | |

**Committed Development Flows (Magna Carter School) - PM Peak**

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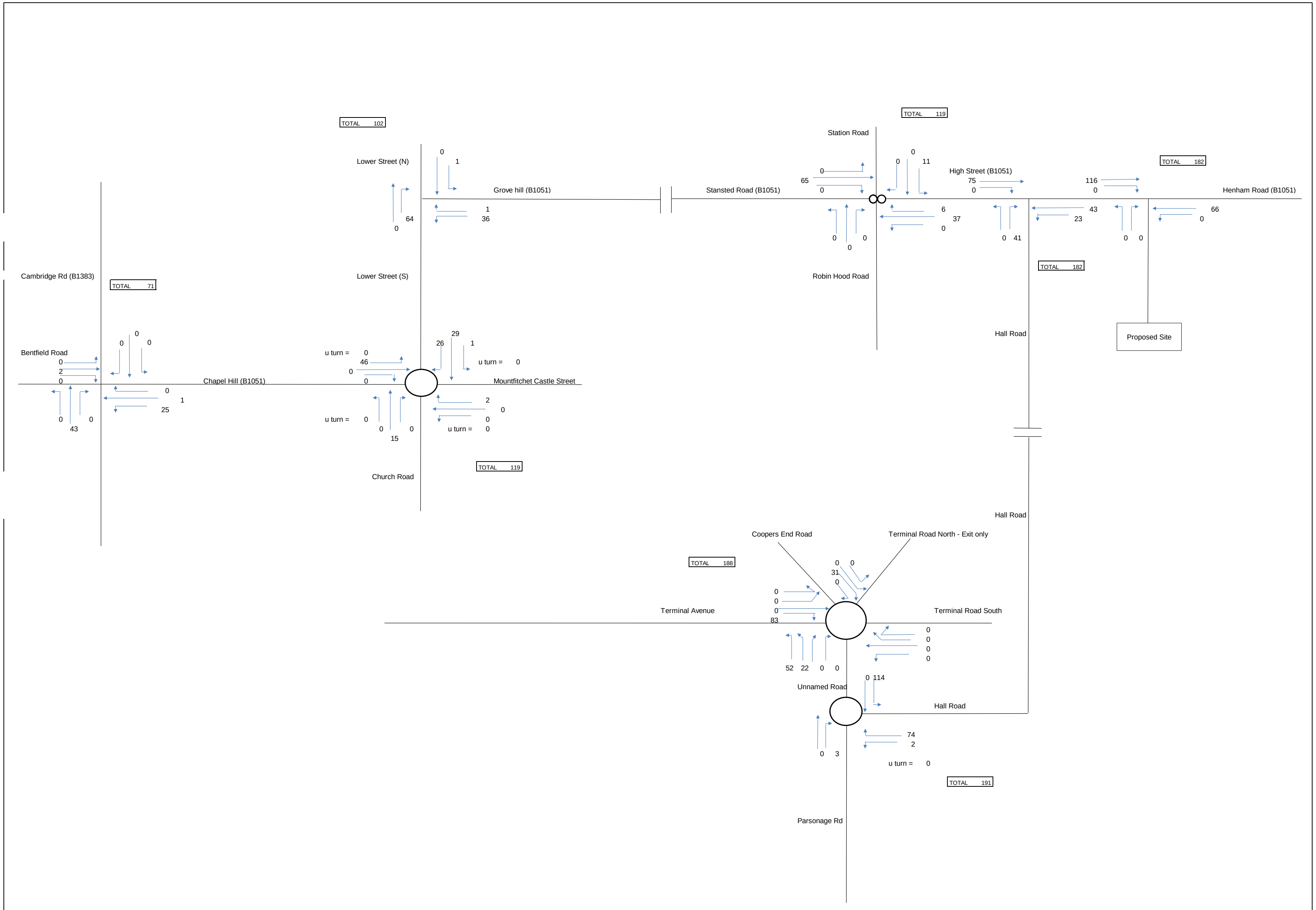
| Client | Project | |
|---|---|---|
| **Countryside** | **Land South of Henham Road, Elsenham** | |
| Date: **July 2022** | Job No: **2008170** | Drawing No |

**Committed Development Flows (E Elsenham - 350 dwellings) - AM Peak**





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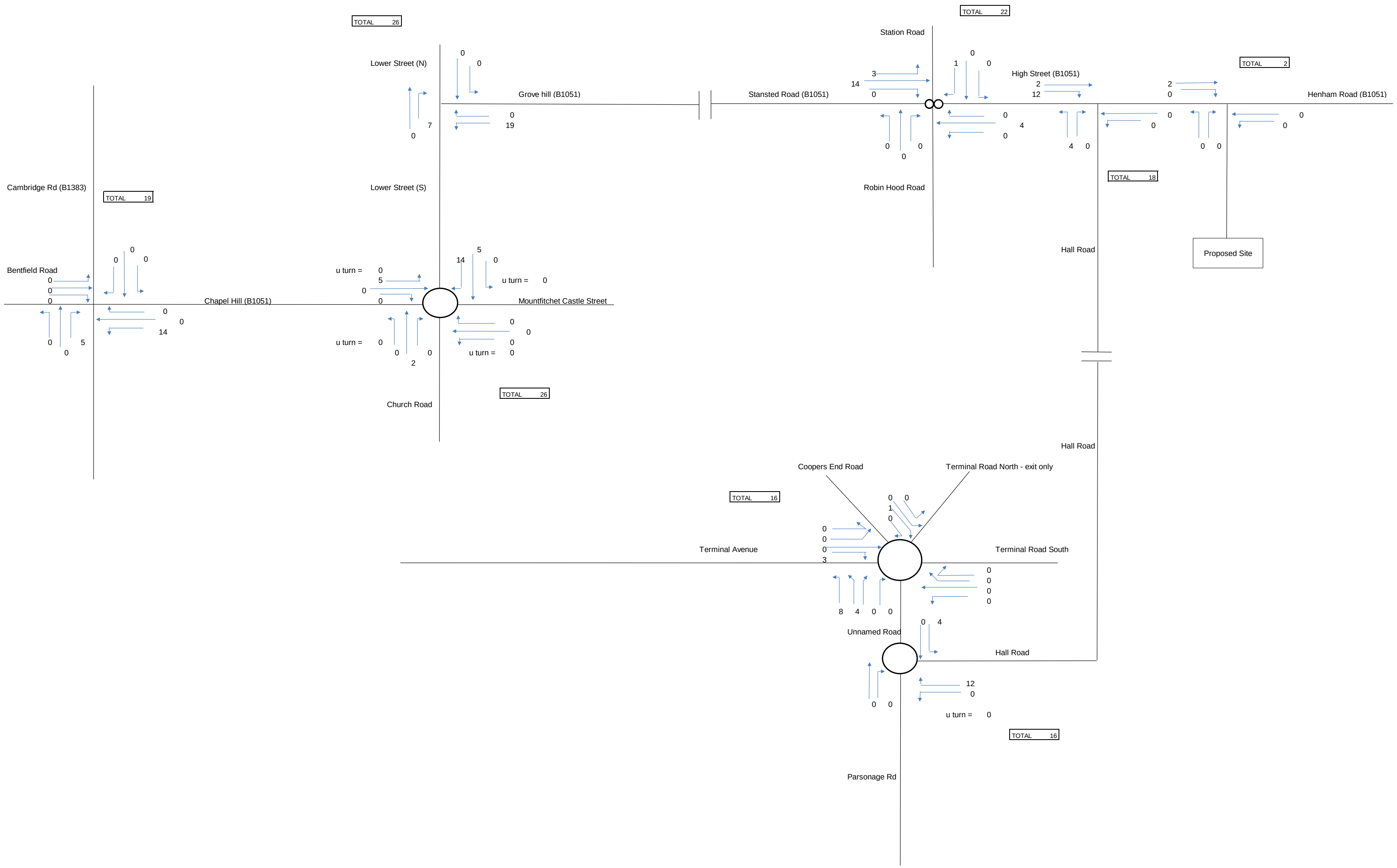
| | | | |
|---|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |

**Committed Development Flows (E Elsenham - 350 dwellings) - PM Peak**

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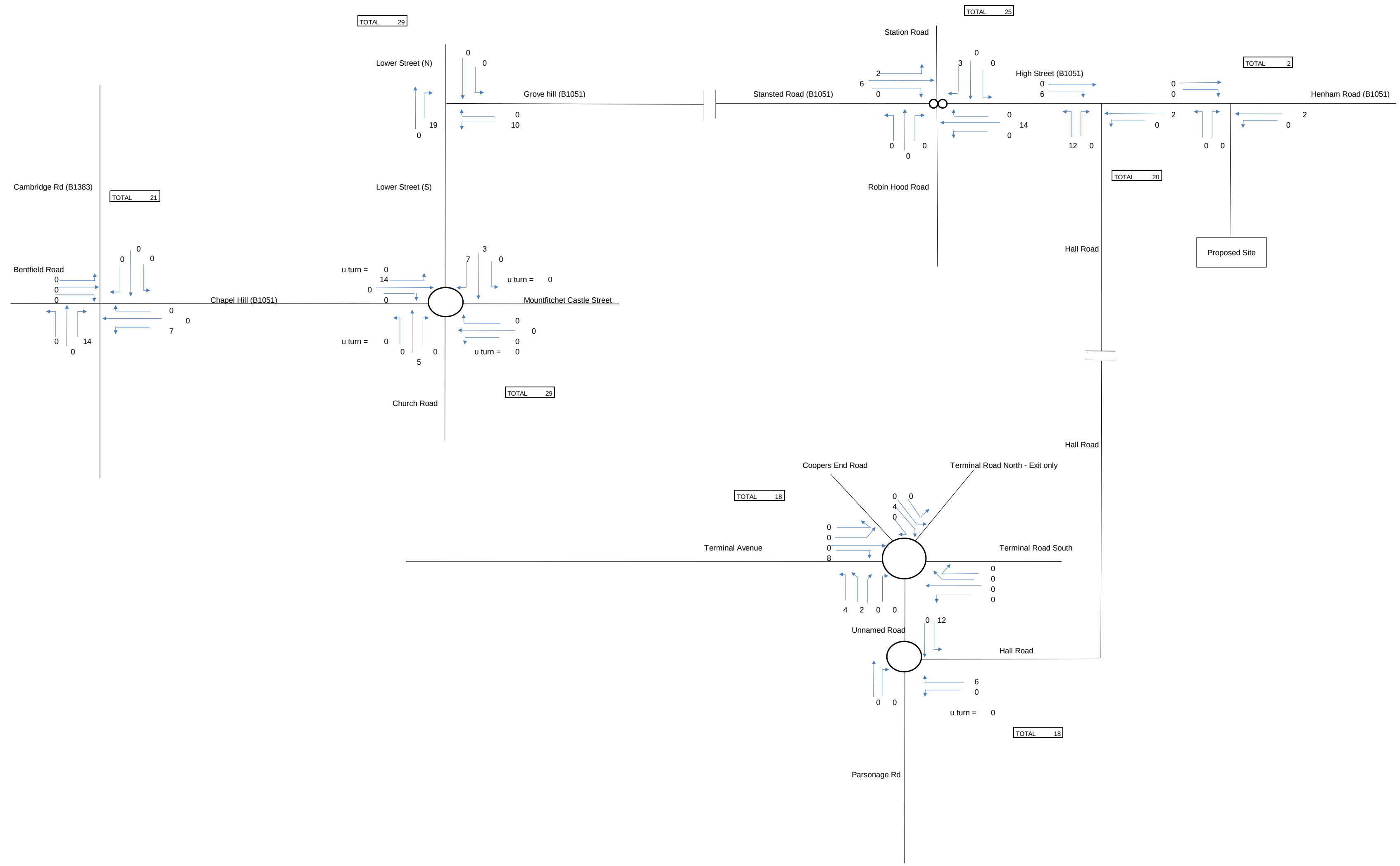
| Client | Project |
|---|---|
| **Countryside** | **Land South of Henham Road, Elsenham** |

| Date | Job No | Drawing No |
|---|---|---|
| **July 2022** | **2008170** | |

**Committed Development Flows (Isabel Drive - 99 dwellings) - AM Peak**

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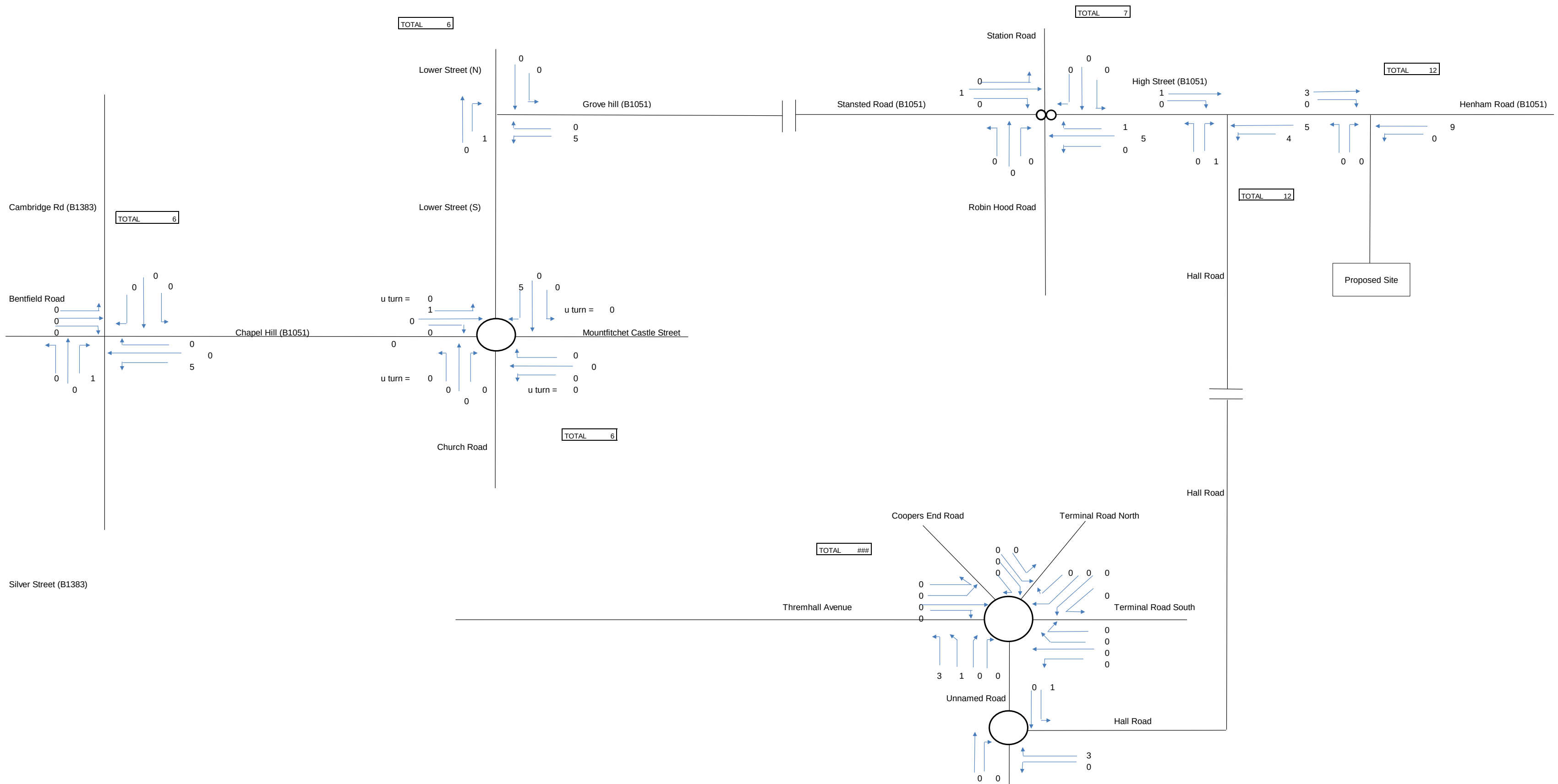
| | | |
|---|---|---|
| Client: **Countryside** | | Project: **Land South of Henham Road, Elsenham** |
| Date: **July 2022** | Job No: **2008170** | Drawing No |

**Committed Development Flows (Isabel Drive - 99 dwellings) - PM Peak**




| | |
|---|---|
| **S Vernon Traffic Generation:** | |
| (using Mill Road South) | |
| Arrivals | 3 |
| Departures | 10 |

| | |
|---|---|
| B1051 via Stansted M | 49% |
| Hall Road/Thremhall Avenue | 30% |
| B1051/Station Road | 0% |
| B1051 Henham Road | 7% |
| Hall Road/Coopers End Road | 13% |
| Hall Road/Parsonage Road | 1% |

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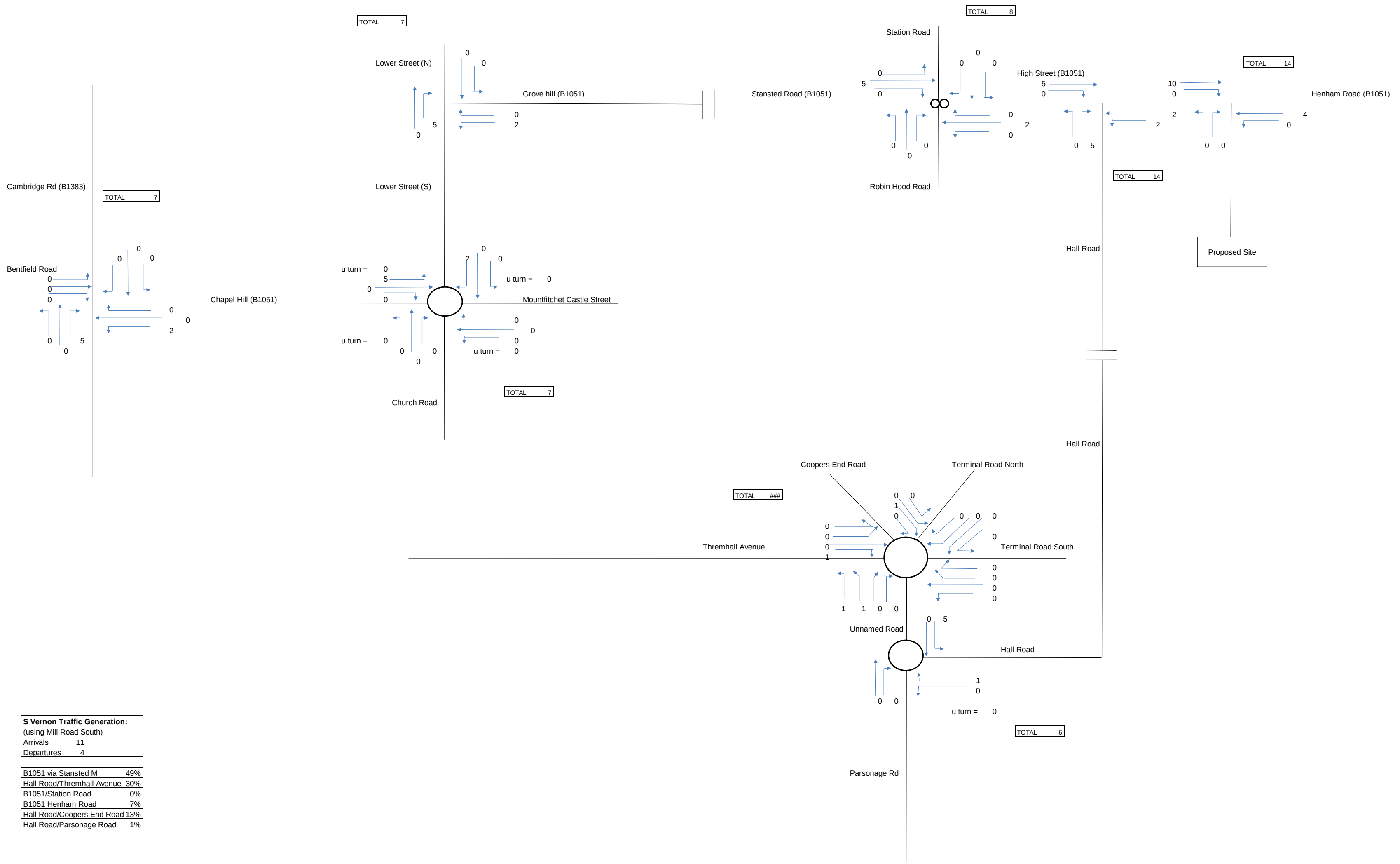
| | | |
|---|---|---|
| Client: **Countryside** | | Project: **Land South of Henham Road, Elsenham** |
| Date: **July 2022** | Job No: **2008170** | Drawing No |

**Committed Development Flows (Vernon Close - 45 dwellings) - AM Peak**




| S Vernon Traffic Generation: | |
|---|---|
| (using Mill Road South) | |
| Arrivals | 11 |
| Departures | 4 |

| | |
|---|---|
| B1051 via Stansted M | 49% |
| Hall Road/Thremhall Avenue | 30% |
| B1051/Station Road | 0% |
| B1051 Henham Road | 7% |
| Hall Road/Coopers End Road | 13% |
| Hall Road/Parsonage Road | 1% |

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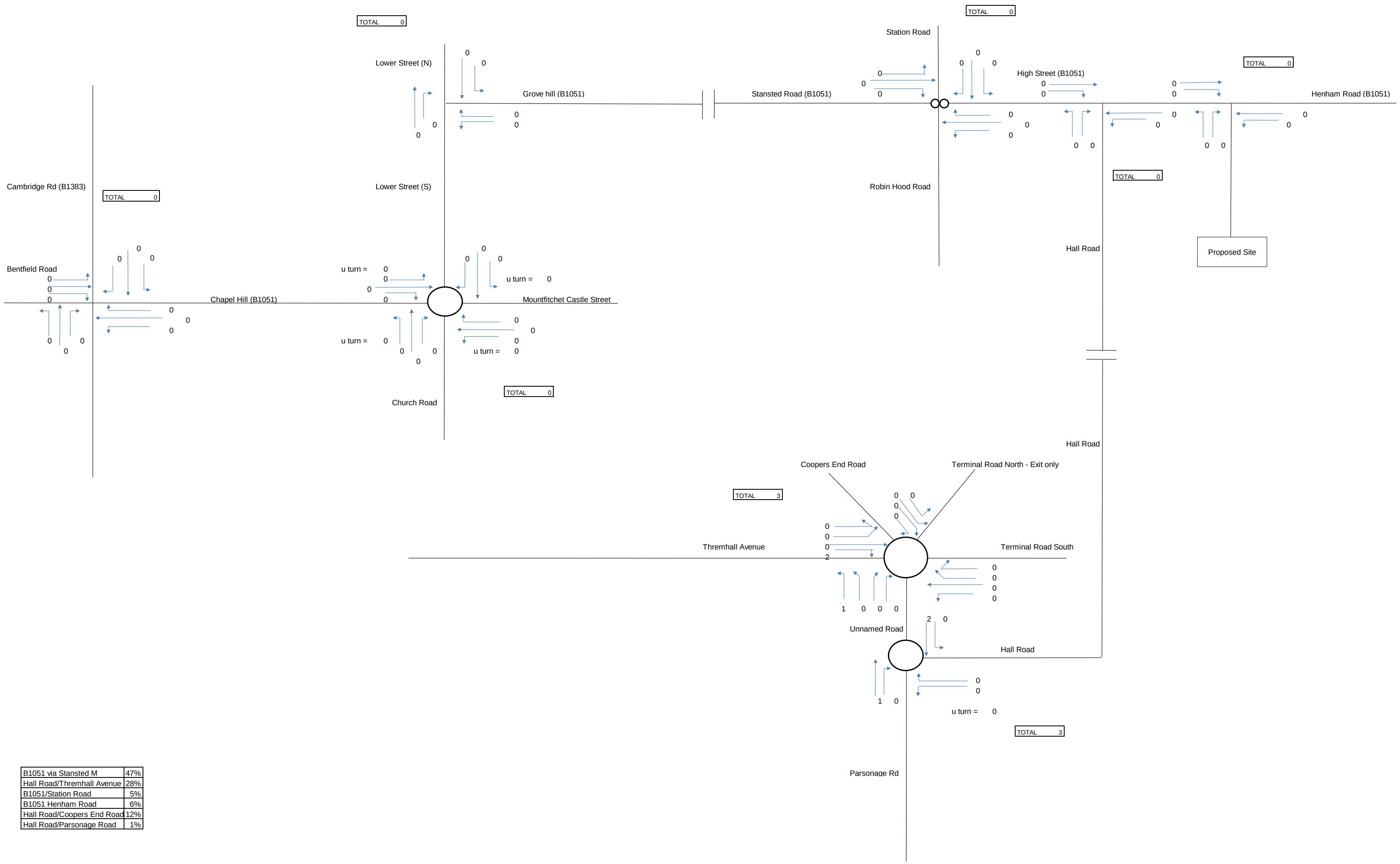
| Client | Project |
|---|---|
| Countryside | Land South of Henham Road, Elsenham |

| Date | Job No | Drawing No |
|---|---|---|
| July 2022 | 2008170 | |

**Committed Development Flows (Vernon Close - 45 dwellings) - PM Peak**




| | |
|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
| B1051/Station Road | 5% |
| B1051 Henham Road | 6% |
| Hall Road/Coopers End Road | 12% |
| Hall Road/Parsonage Road | 1% |

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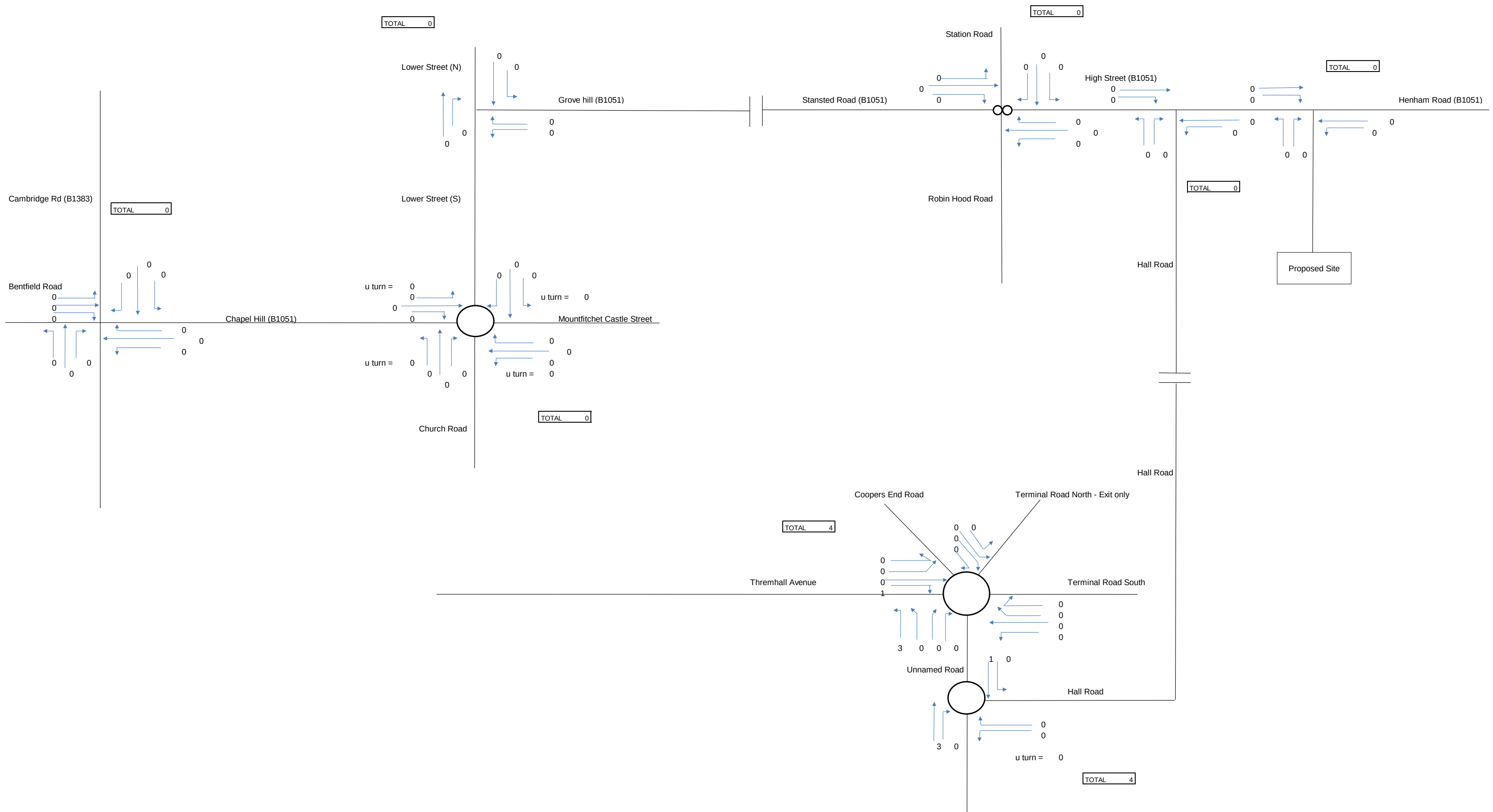
| Client | | Project | |
|---|---|---|---|
| **Countryside** | | **Land South of Henham Road, Elsenham** | |
| Date | Job No | | Drawing No |
| **July 2022** | **2008170** | | |

**Committed Development Flows (E of Parsonage Road - 66 Bed Care Home) - AM Peak**




| | |
|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
| B1051/Station Road | 5% |
| B1051 Henham Road | 6% |
| Hall Road/Coopers End Road | 12% |
| Hall Road/Parsonage Road | 1% |

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Client: **Countryside**

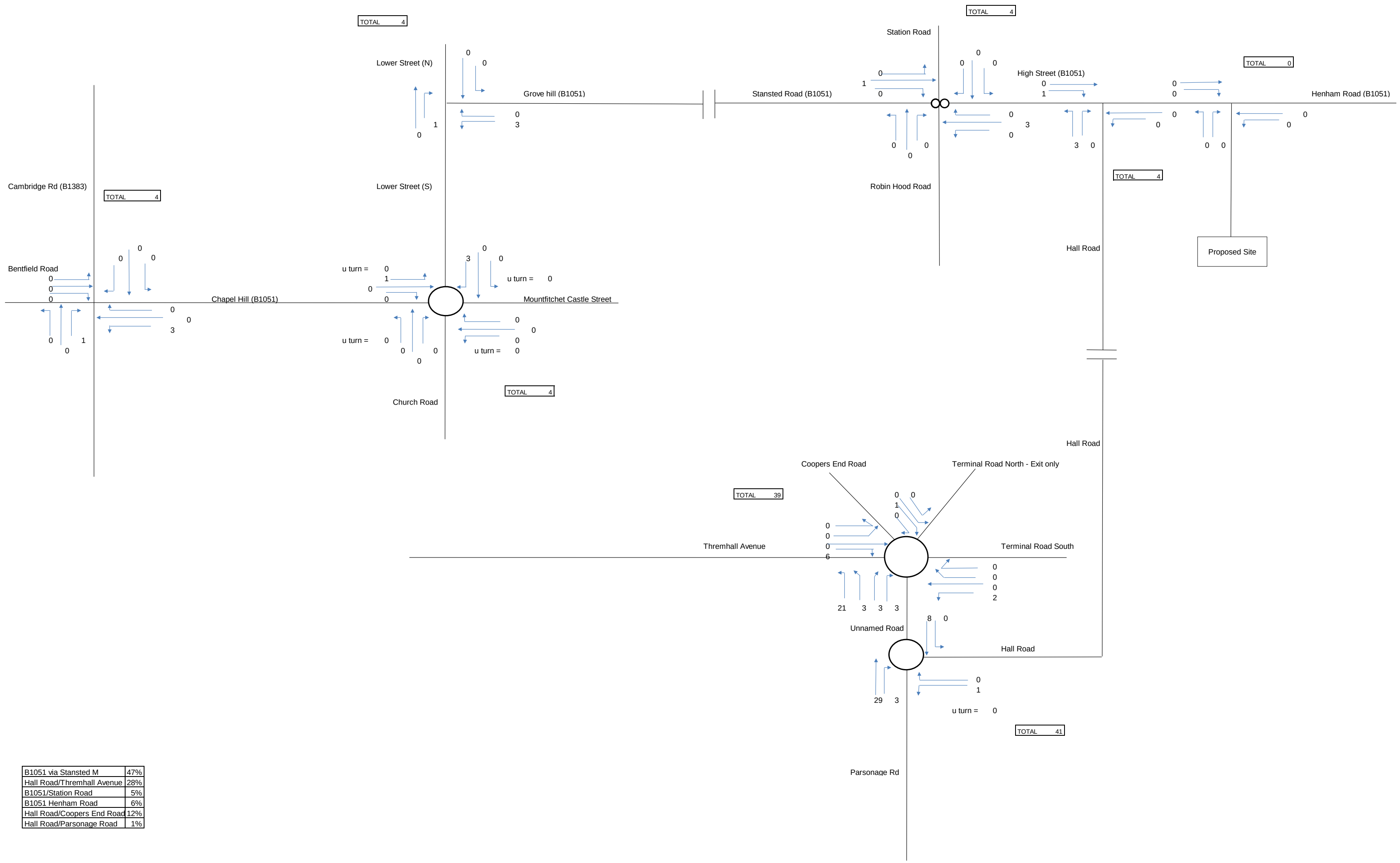
Project: **Land South of Henham Road, Elsenham**

Date: **July 2022**

Job No: **2008170**

Drawing No

**Committed Development Flows (E of Parsonage Road - 66 Bed Care Home) - PM Peak**




| | |
|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
| B1051/Station Road | 5% |
| B1051 Henham Road | 6% |
| Hall Road/Coopers End Road | 12% |
| Hall Road/Parsonage Road | 1% |

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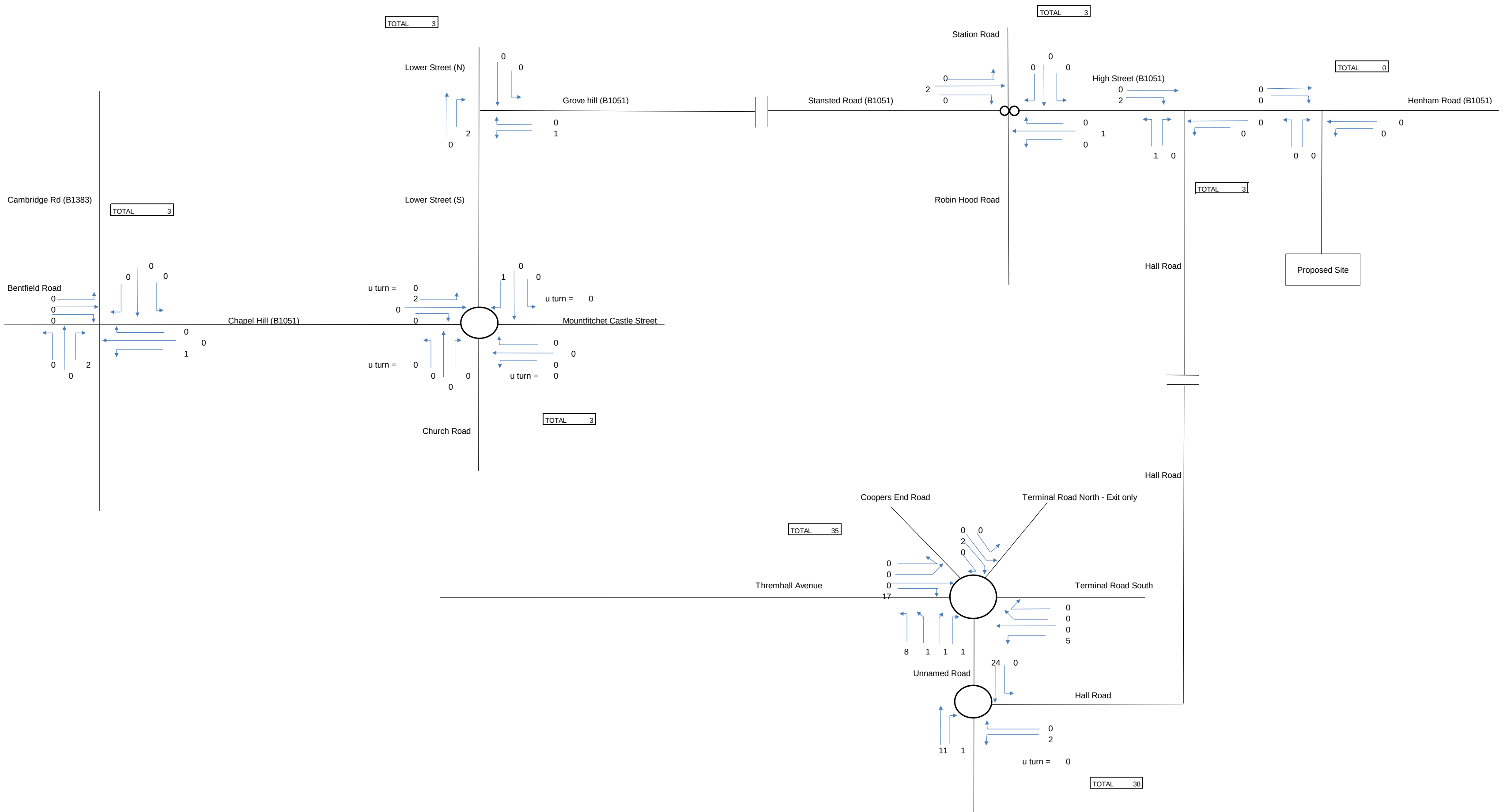
Client: **Countryside**
Project: **Land South of Henham Road, Elsenham**
Date: **July 2022**
Job No: **2008170**
Drawing No

**Committed Development Flows (W of Parsonage Road - 119 dwellings) - AM Peak**




| | |
|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
| B1051/Station Road | 5% |
| B1051 Henham Road | 6% |
| Hall Road/Coopers End Road | 12% |
| Hall Road/Parsonage Road | 1% |

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Client **Countryside**

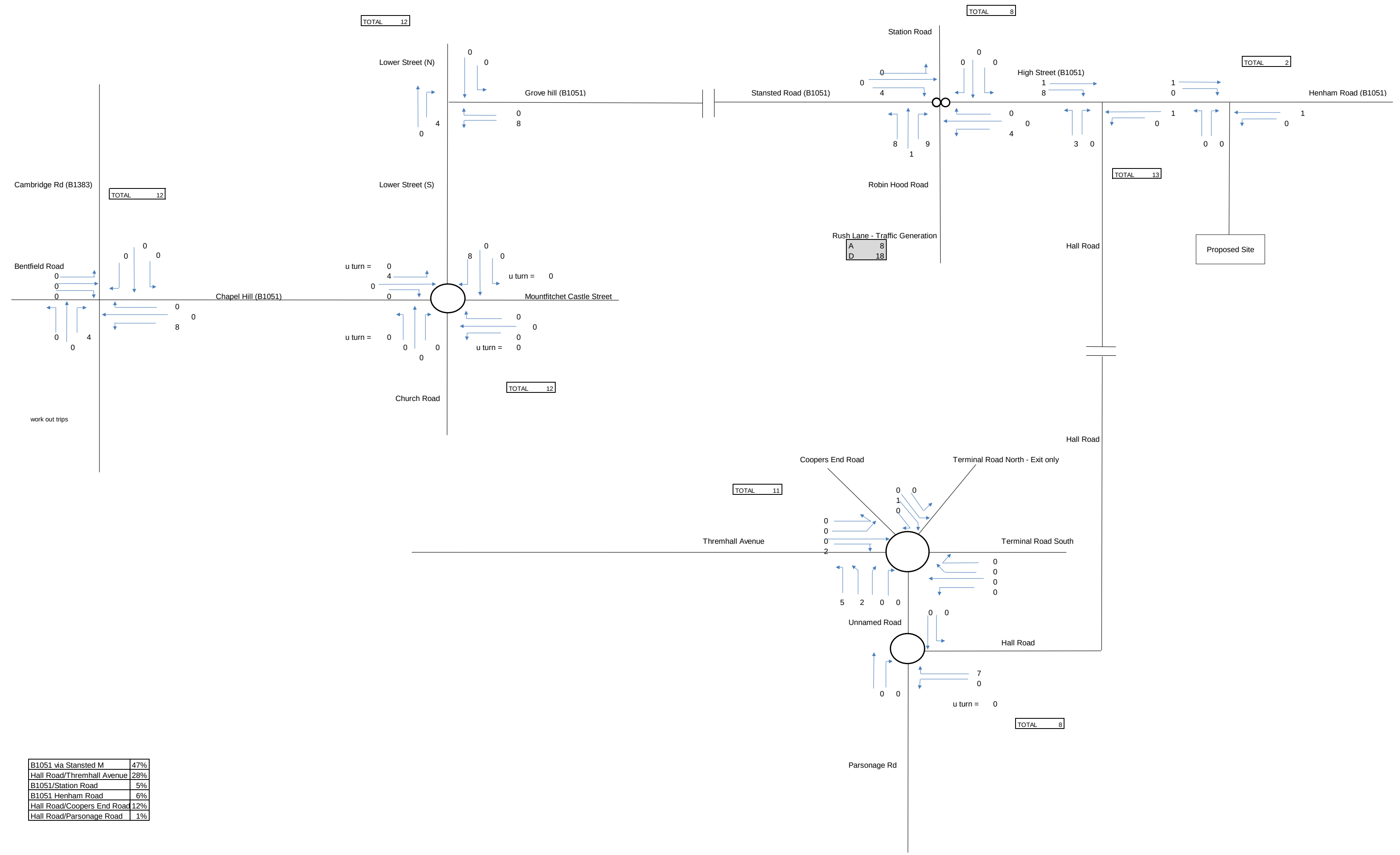
Project **Land South of Henham Road, Elsenham**

Date **July 2022**

Job No **2008170**

Drawing No

**Committed Development Flows (W of Parsonage Road - 119 dwellings) - PM Peak**




| | |
|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
| B1051/Station Road | 5% |
| B1051 Henham Road | 6% |
| Hall Road/Coopers End Road | 12% |
| Hall Road/Parsonage Road | 1% |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London EC3M 5JE


Client
**Countryside**

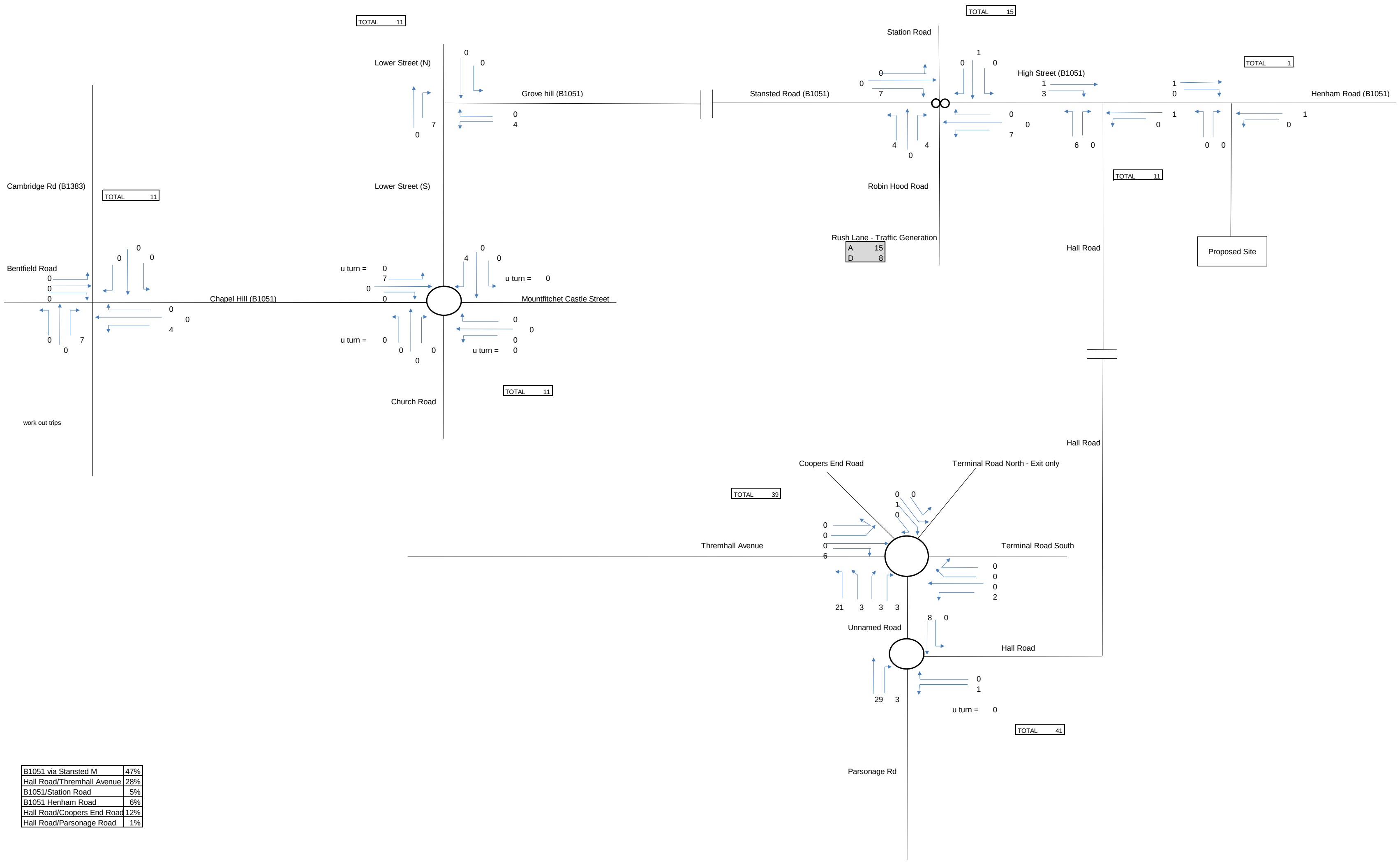
Project
**Land South of Henham Road, Elsenham**

Date
**July 2022**

Job No
**2008170**

Drawing No

**Committed Development Flows (Land at Rush Lane - 44 dwellings) - AM Peak**




| | |
|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
| B1051/Station Road | 5% |
| B1051 Henham Road | 6% |
| Hall Road/Coopers End Road | 12% |
| Hall Road/Parsonage Road | 1% |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Client: **Countryside**

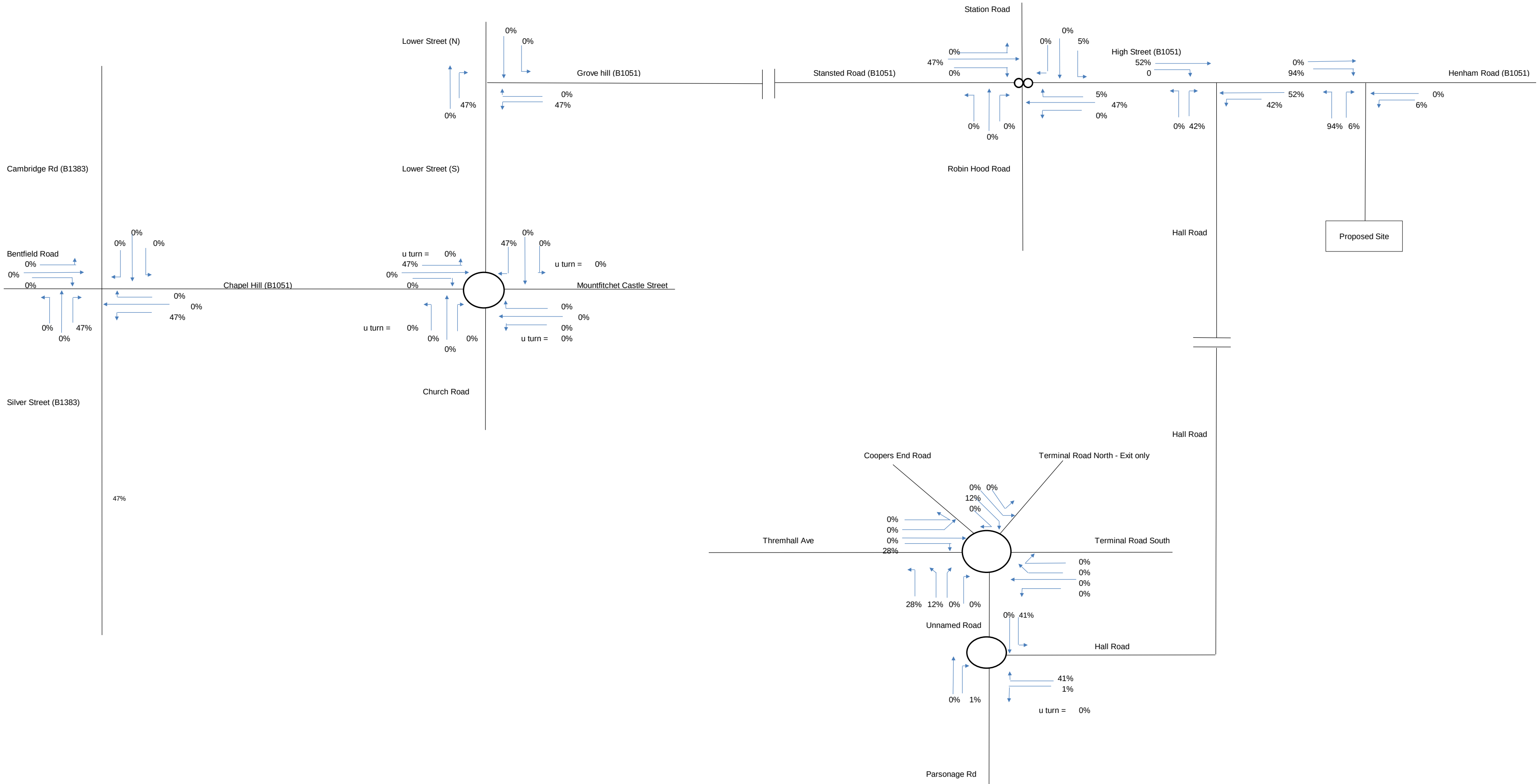
Project: **Land South of Henham Road, Elsenham**

Date: **July 2022**

Job No: **2008170**

Drawing No

**Committed Development Flows (Land at Rush Lane - 44 dwellings) - PM Peak**




| | | |
|---|---|---|
| 1 | B1051 via Stansted M | 47% |
| 2 | Hall Road/Thremhall Avenue | 28% |
| 3 | B1051/Station Road | 5% |
| 4 | B1051 Henham Road | 6% |
| 5 | Hall Road/Coopers End Road | 12% |
| 6 | Hall Road/Parsonage Road | 1% |

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Client
**Countryside**

Project
**Land South of Henham Road, Elsenham**

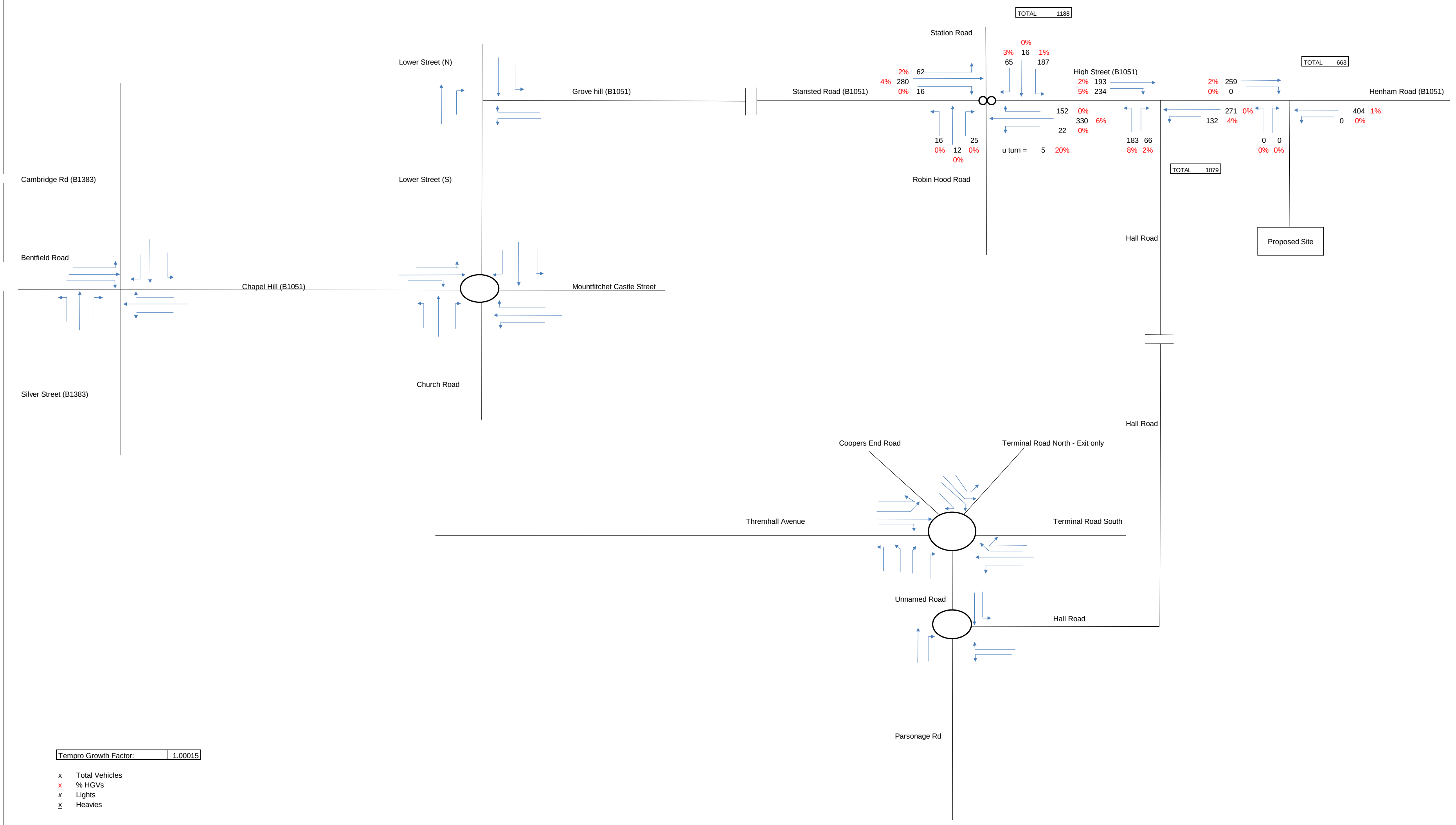
Date
**July 2022**

Job No
**2008170**

Drawing No

**Traffic Distribution**

**Appendix H**

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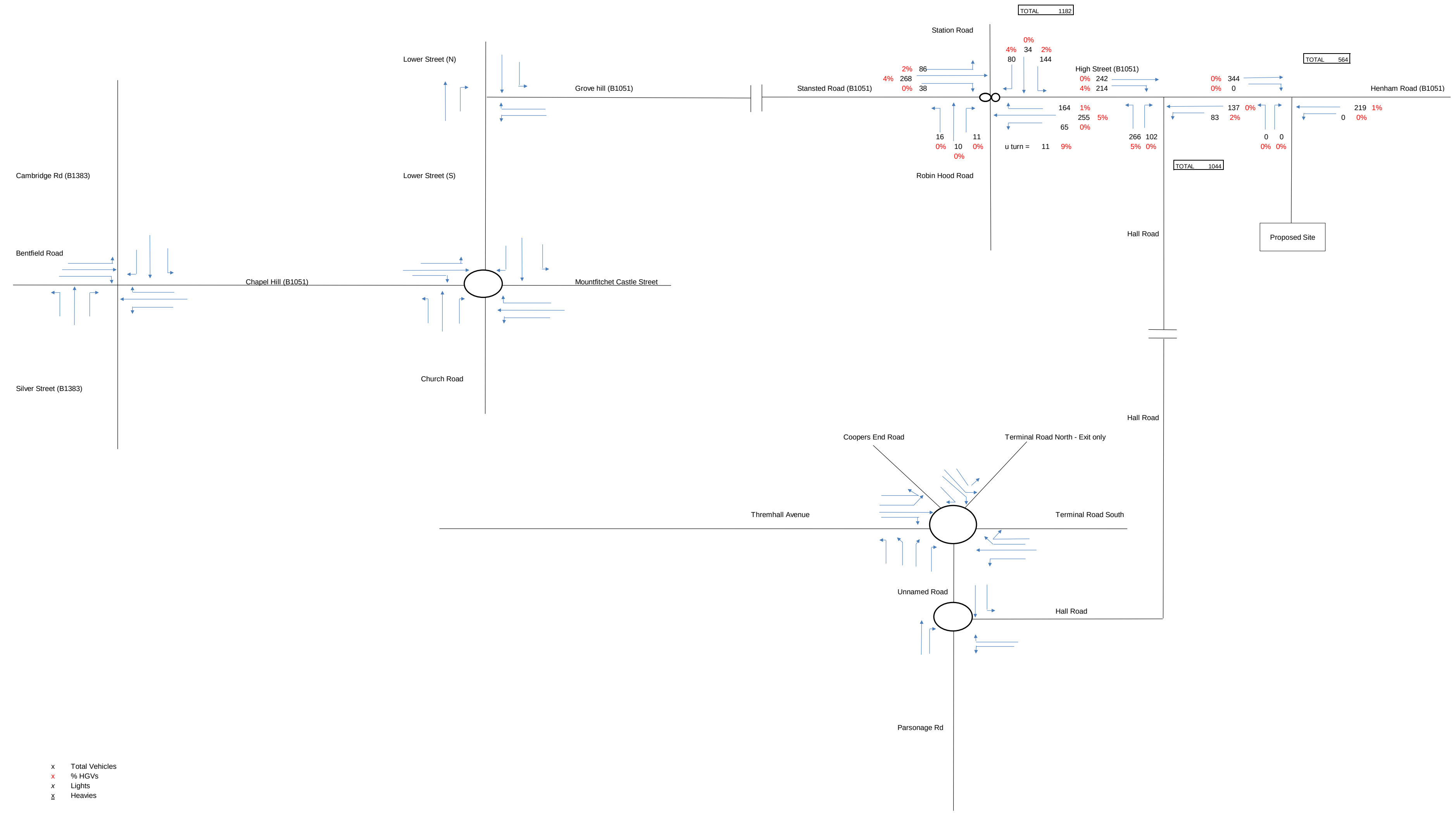
| | | |
|---|---|---|
| Client **Countryside** | | Project **Land South of Henham Road, Elsenham** |
| Date **July 2022** | Job No **2008170** | Drawing No |

**2027 Base Sensitivity Flows (using 2022 survey flows + Tempro Growth + Committed Dev + Sensitivity Dev) - AM Peak**

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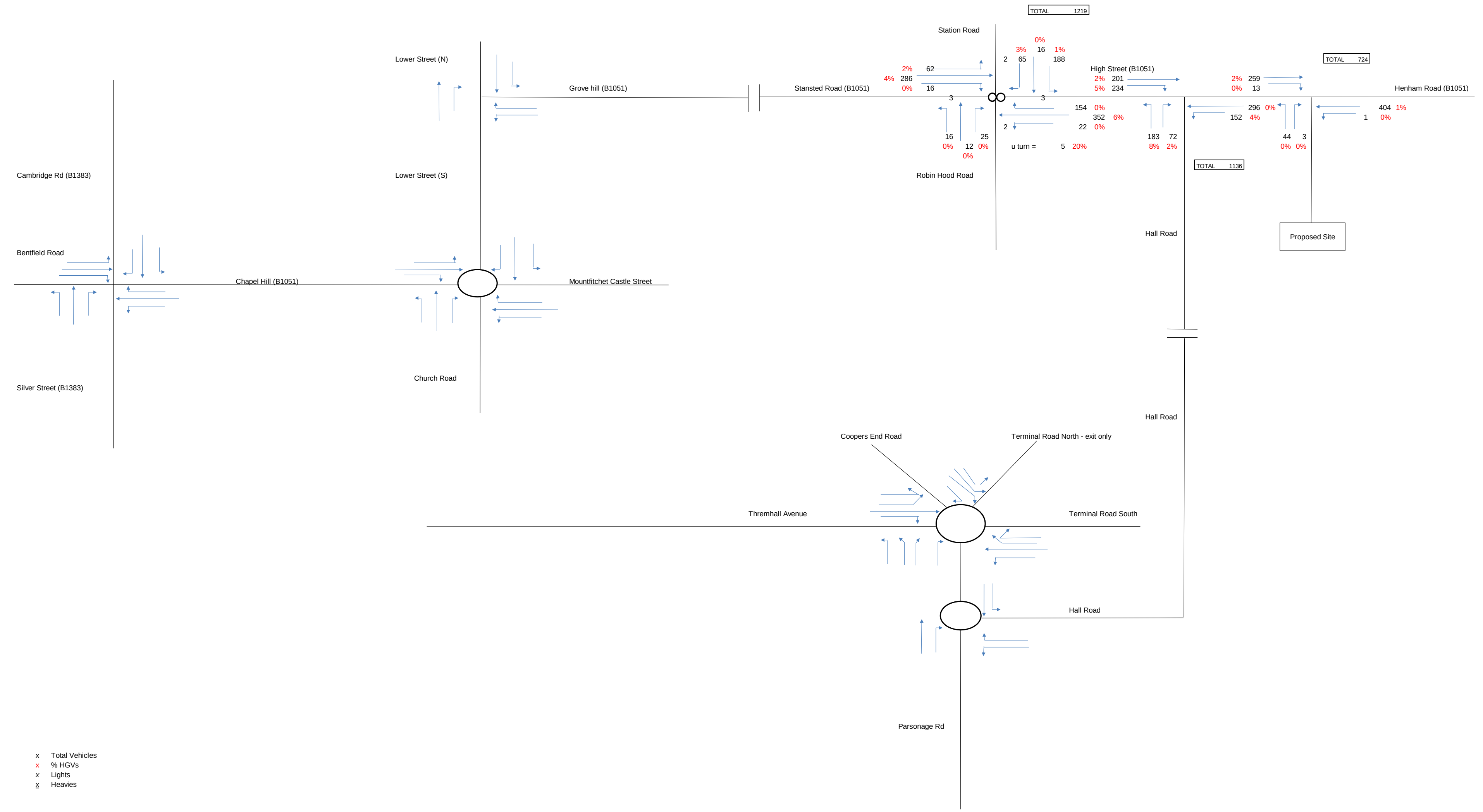
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |
| **2027 Base Sensitivity Flows (using 2022 survey flows + Tempro Growth + Committed Dev + Sensitivity Dev) - PM Peak** | | | |

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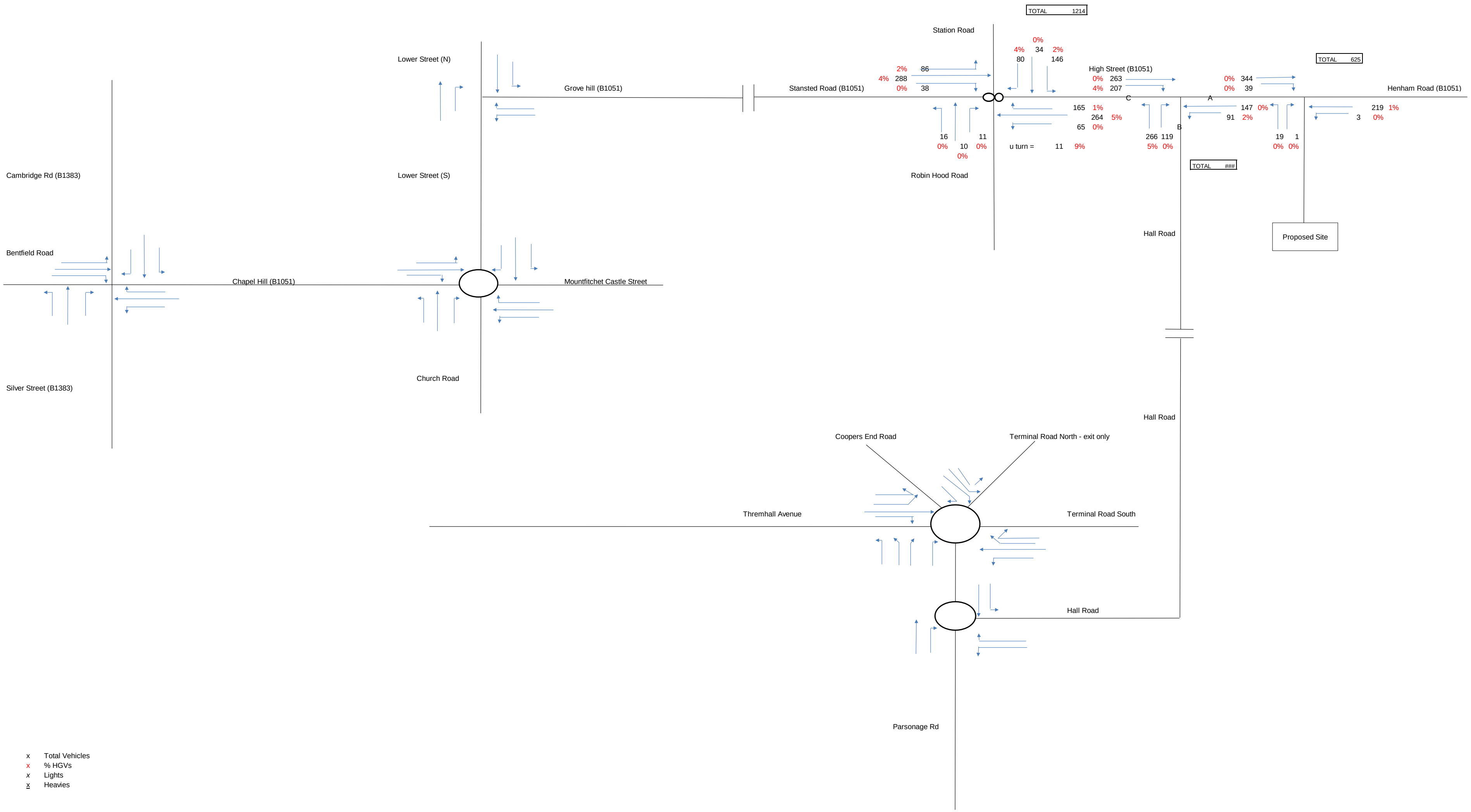
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |
| **2027 Base Sensitivity (using 2022 survey flows + Tempro Growth + Committed Dev + Sensitivity Dev) + Development Flows - AM Peak** | | | |




x Total Vehicles
x % HGVs
*x* Lights
x Heavies

| | | | |
|---|---|---|---|
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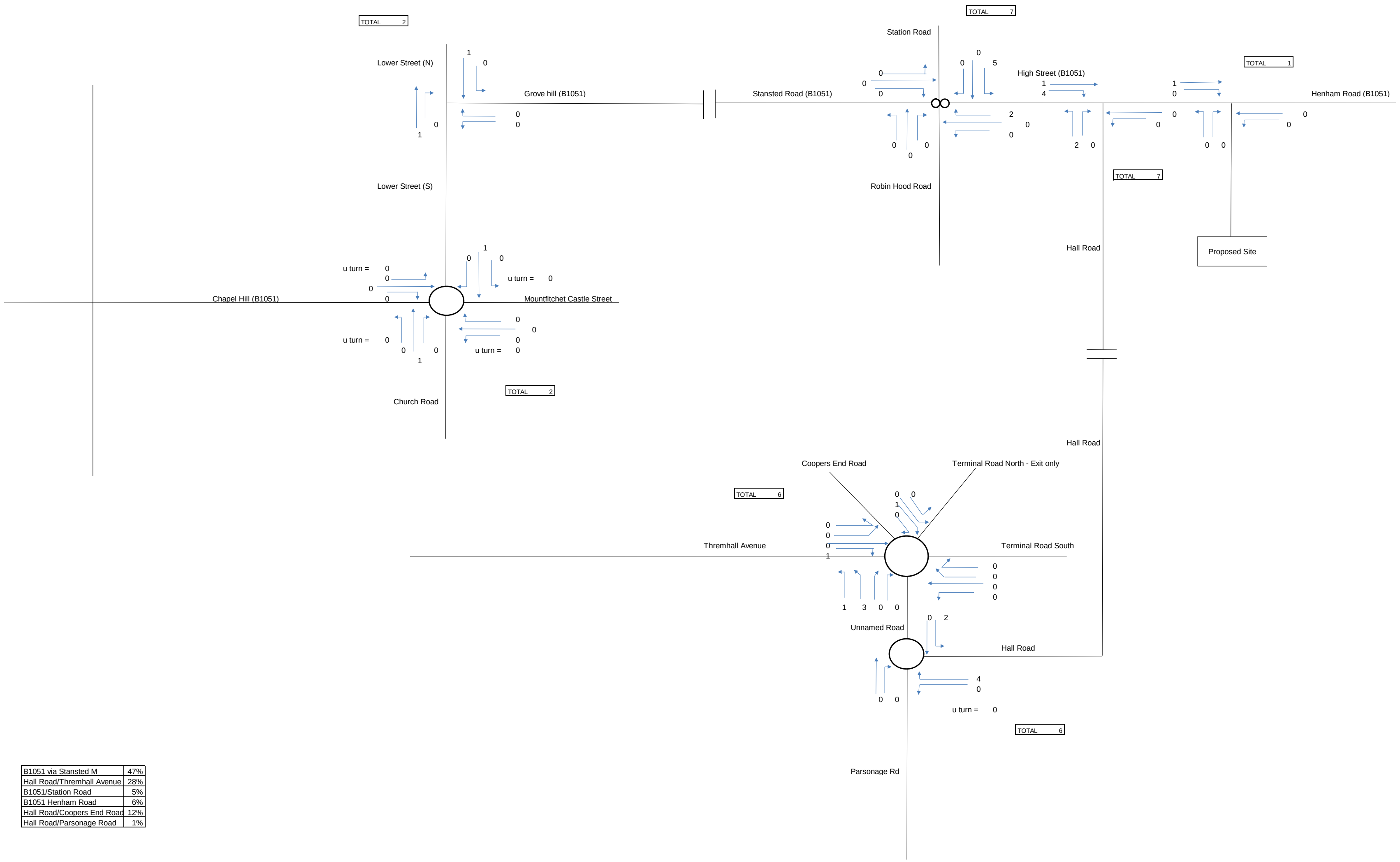
| | Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| | **2027 Base Sensitivity (using 2022 survey flows + Tempro Growth + Committed Dev + Sensitivity Dev) + Development Flows - PM Peak** | | |




| | |
|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
| B1051/Station Road | 5% |
| B1051 Henham Road | 6% |
| Hall Road/Coopers End Road | 12% |
| Hall Road/Parsonage Road | 1% |

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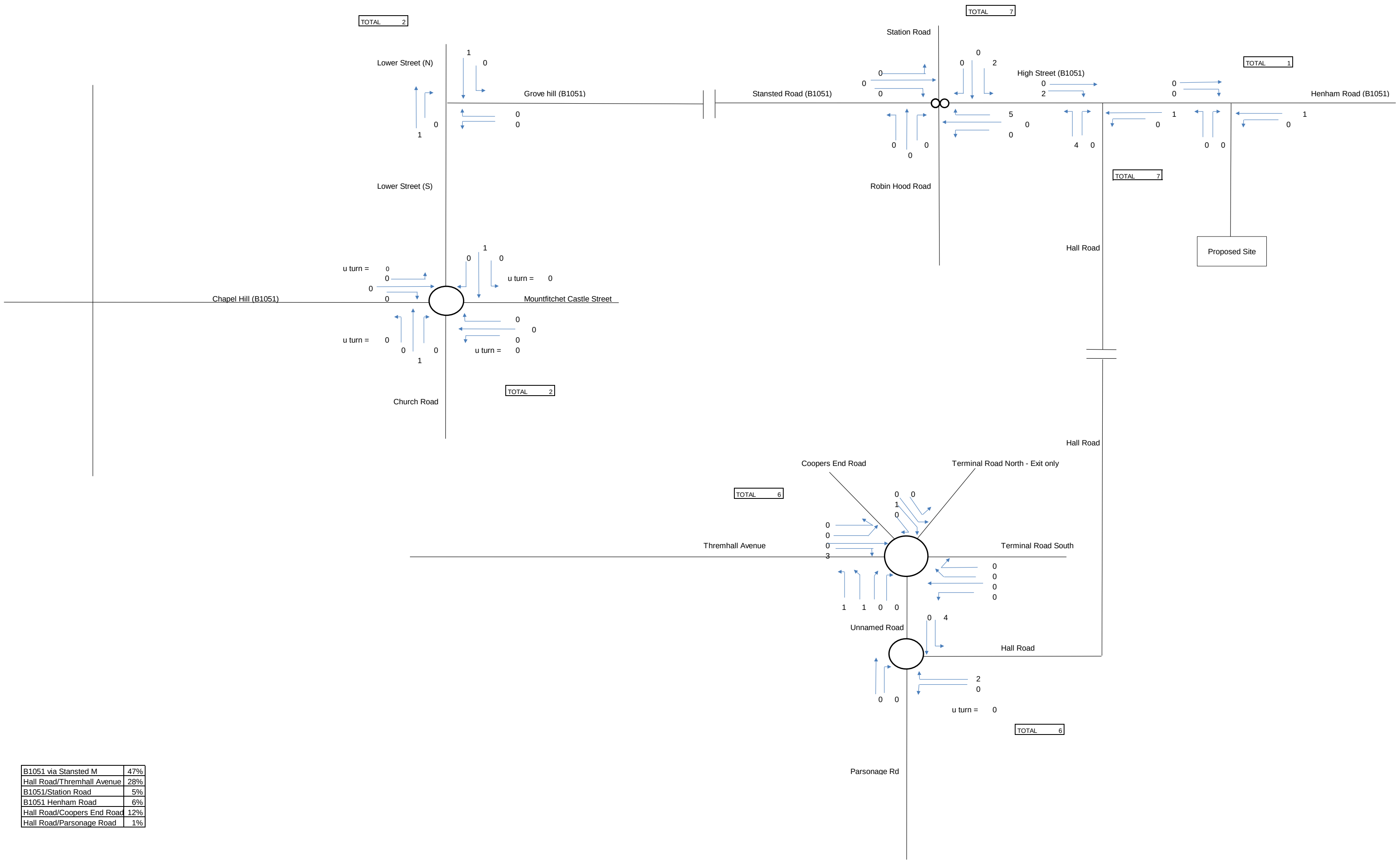
|---|---|---|
| Client: Countryside | | Project: Land South of Henham Road, Elsenham |
| Date: July 2022 | Job No: 2008170 | Drawing No |

**Sensitivity Test (S of Bedwell Road - 50 dwellings) - AM Peak**

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|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
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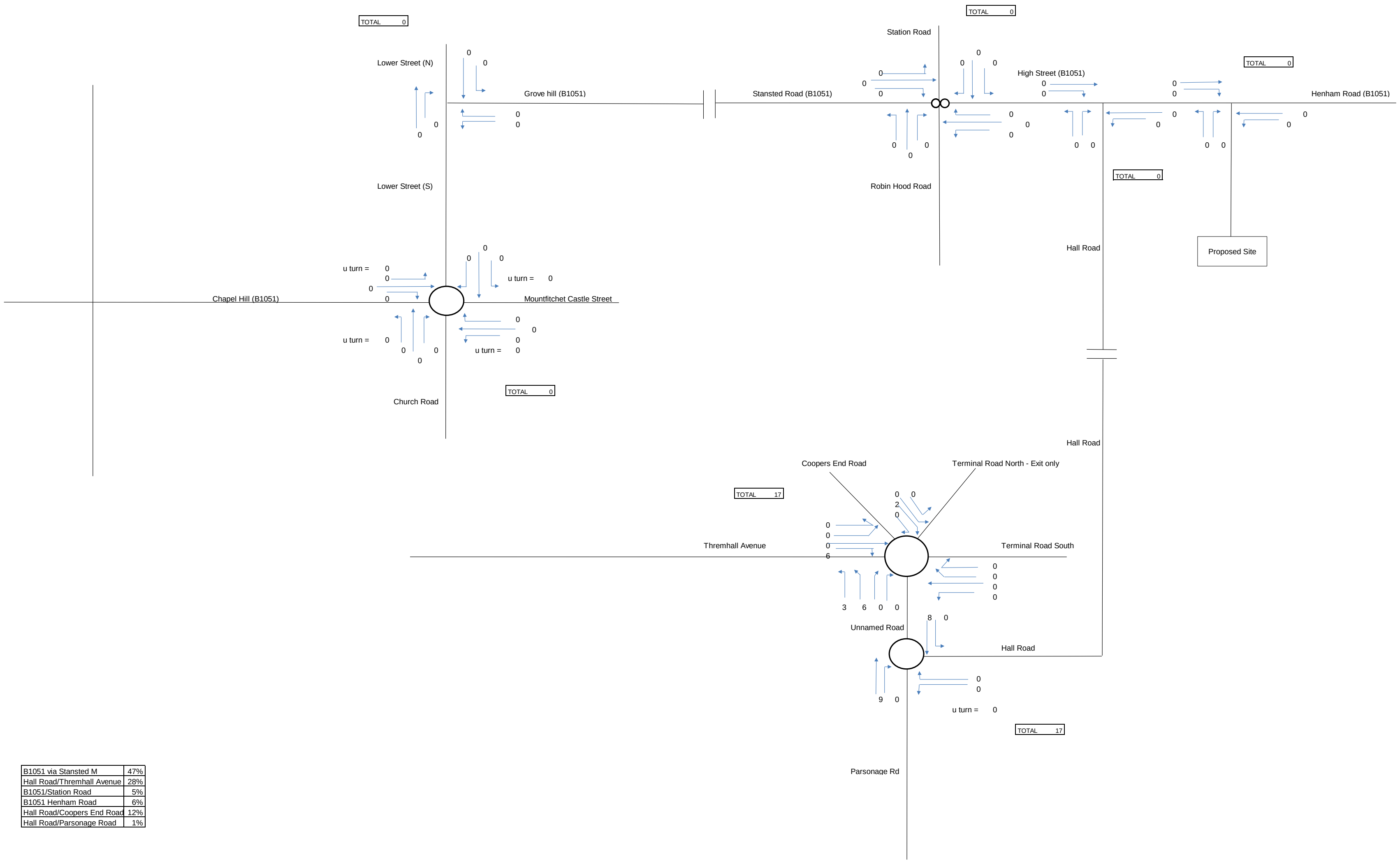
|---|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |

**Sensitivity Test (S of Bedwell Road - 50 dwellings) - PM Peak**

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| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
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| Hall Road/Coopers End Road | 12% |
| Hall Road/Parsonage Road | 1% |

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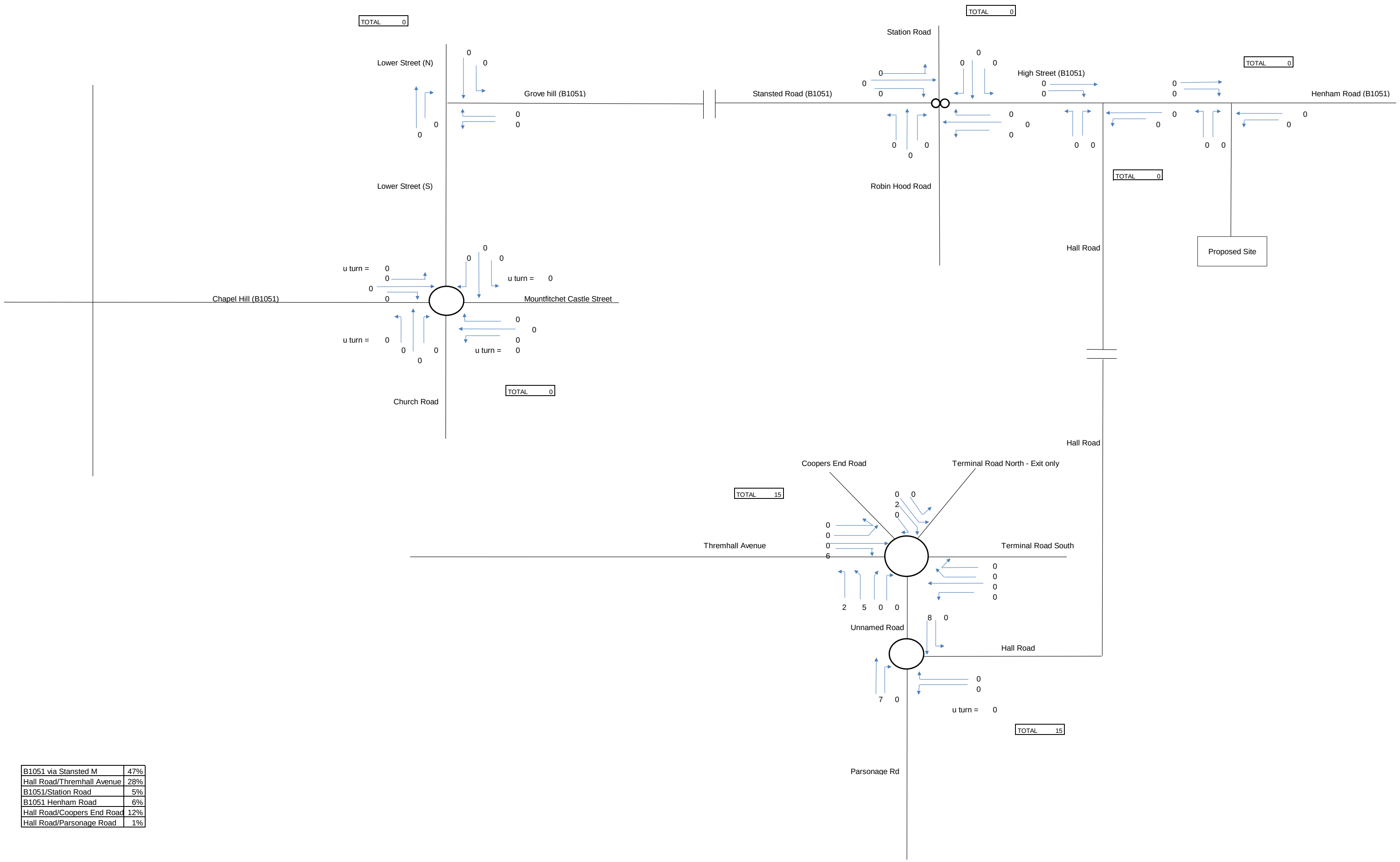
|---|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |

**Sensitivity Test (Warish Farm - 3568sqm employment + 192 dwellings) - AM Peak**

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| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
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| B1051 Henham Road | 6% |
| Hall Road/Coopers End Road | 12% |
| Hall Road/Parsonage Road | 1% |


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Client
**Countryside**

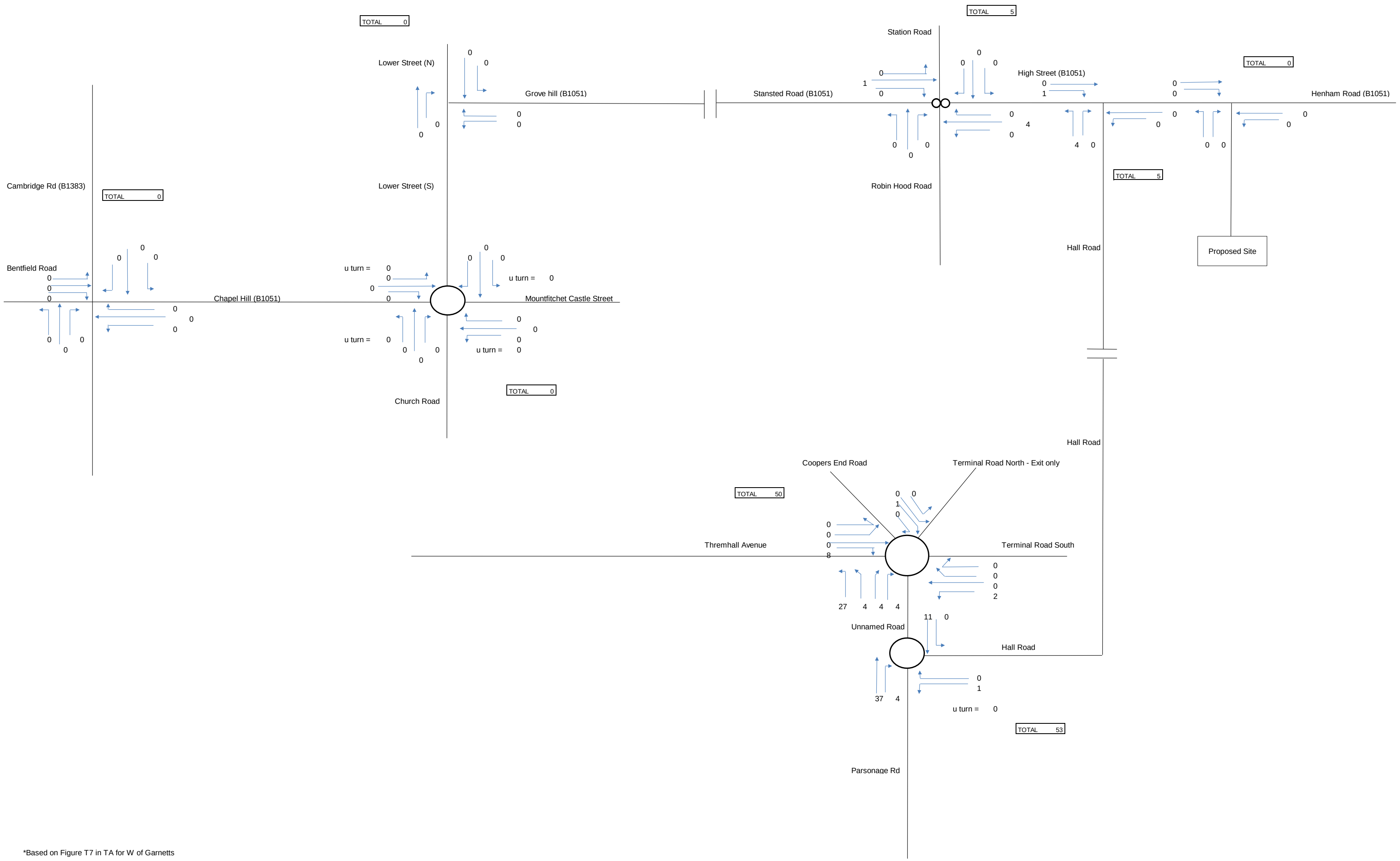
Project
**Land South of Henham Road, Elsenham**

Date
**July 2022**

Job No
**2008170**

Drawing No

**Sensitivity Test (Warish Farm - 3568sqm employment + 192 dwellings) - PM Peak**




*Based on Figure T7 in TA for W of Garnetts

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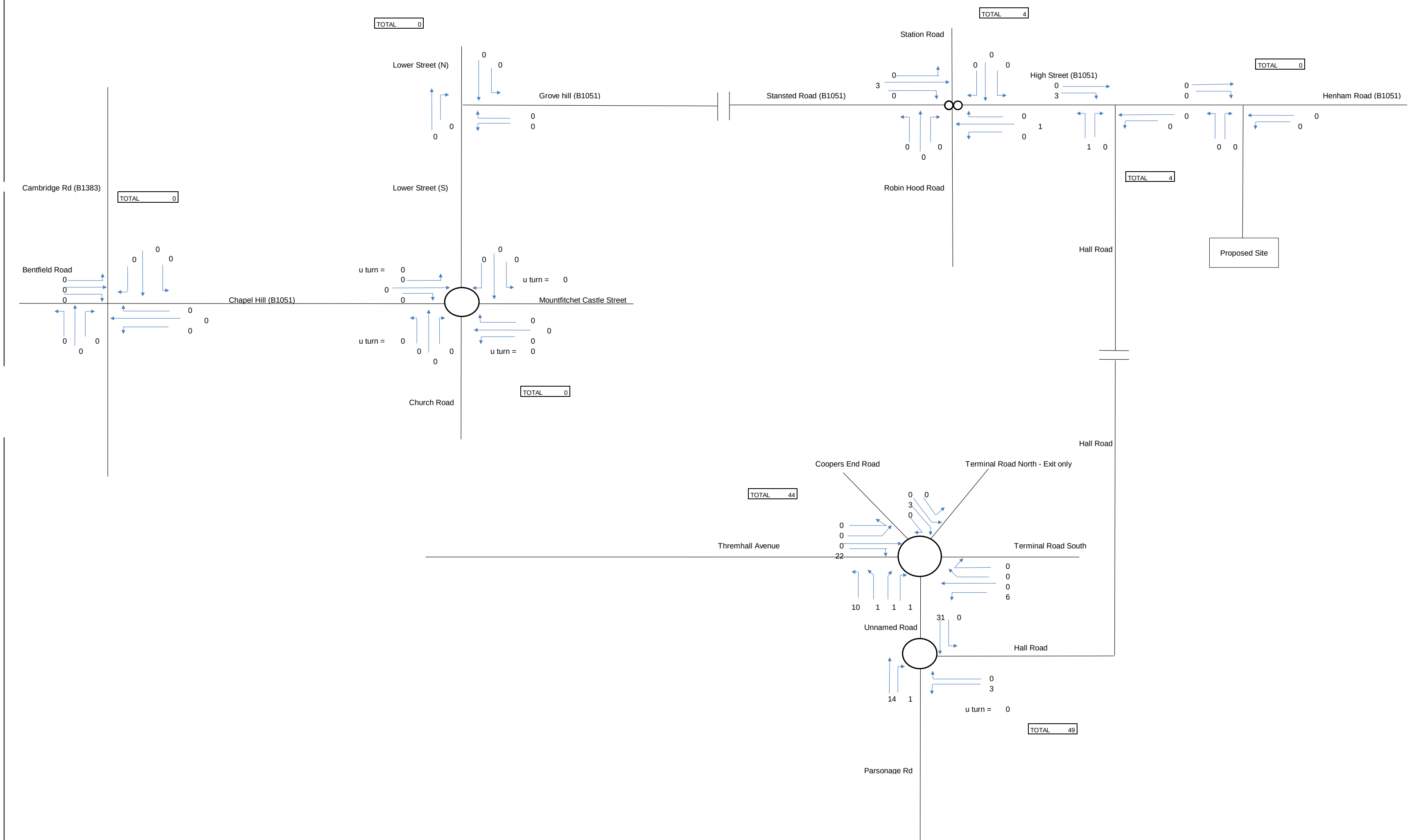
|---|---|---|---|
| Client: **Countryside** | | Project: **Land South of Henham Road, Elsenham** | |
| Date: **July 2022** | Job No: **2008170** | | Drawing No |
| **Sensitivity Test (Land West of Garnetts - 155 dwellings) - AM Peak** | | | |




*Based on Figure T7 in TA for W of Garnetts

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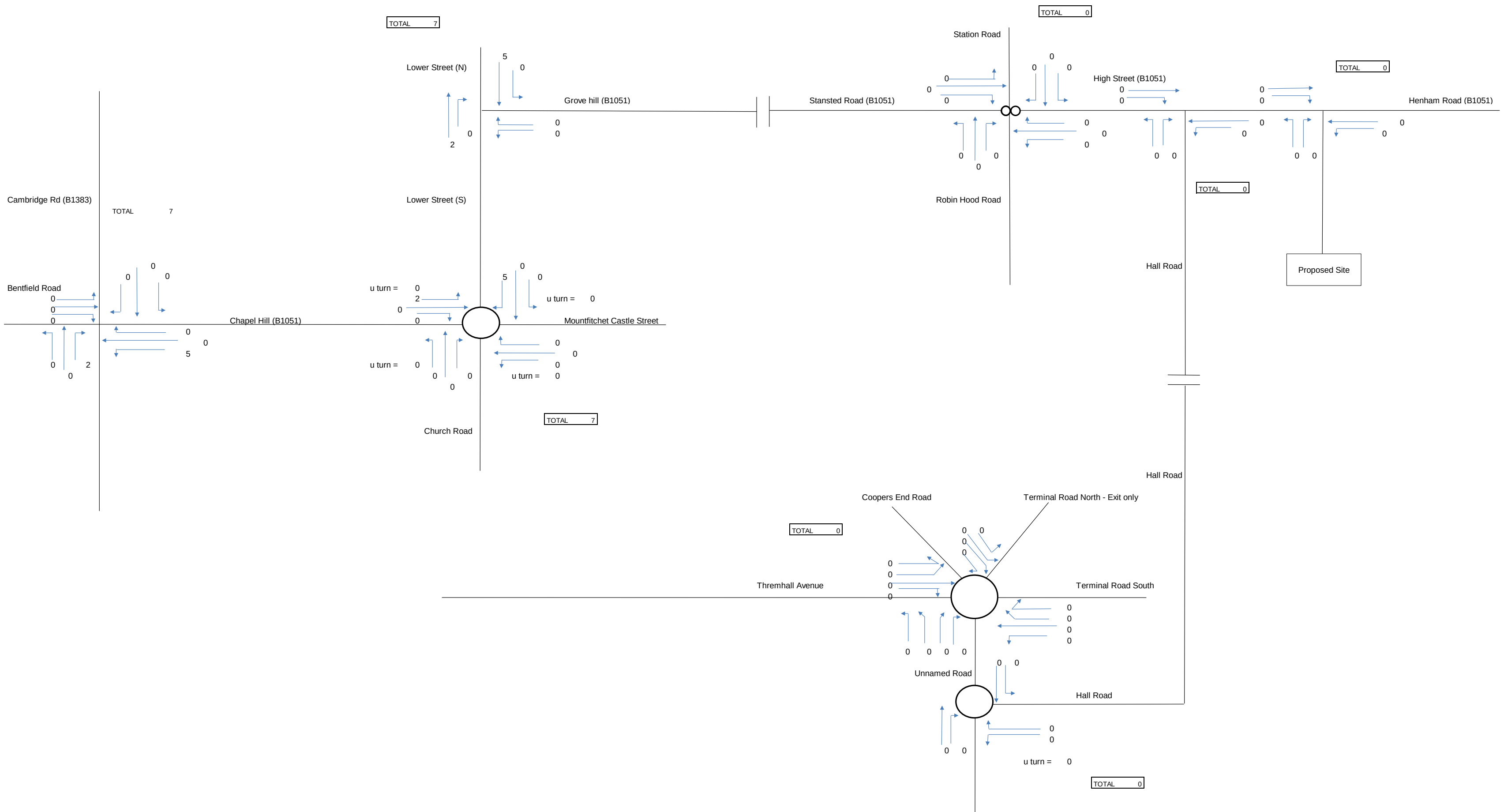
| Client | Project |
|---|---|
| **Countryside** | **Land South of Henham Road, Elsenham** |

| Date | Job No | Drawing No |
|---|---|---|
| **July 2022** | **2008170** | |

**Sensitivity Test (Land West of Garnetts - 155 dwellings) - PM Peak**

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|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
| B1051/Station Road | 5% |
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| Hall Road/Parsonage Road | 1% |

*Based on Figure T7 in TA for W of Garnetts


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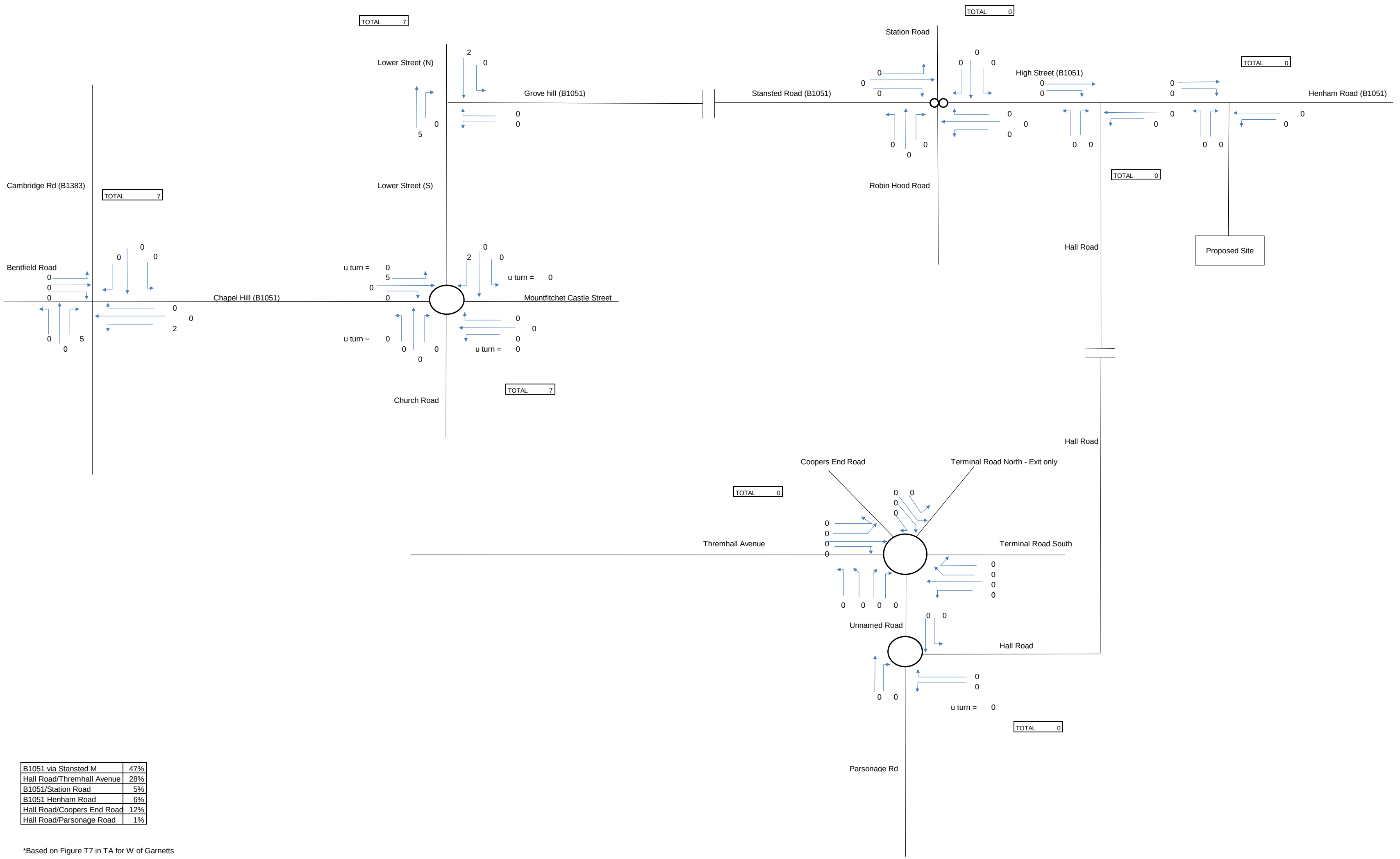
| | | | |
|---|---|---|---|
| Client: Countryside | | Project: Land South of Henham Road, Elsenham | |
| Date: July 2022 | Job No: 2008170 | | Drawing No |
| Sensitivity Test (East of High Lane - 30 dwellings) - AM Peak | | | |

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|---|---|
| B1051 via Stansted M | 47% |
| Hall Road/Thremhall Avenue | 28% |
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*Based on Figure T7 in TA for W of Garnetts

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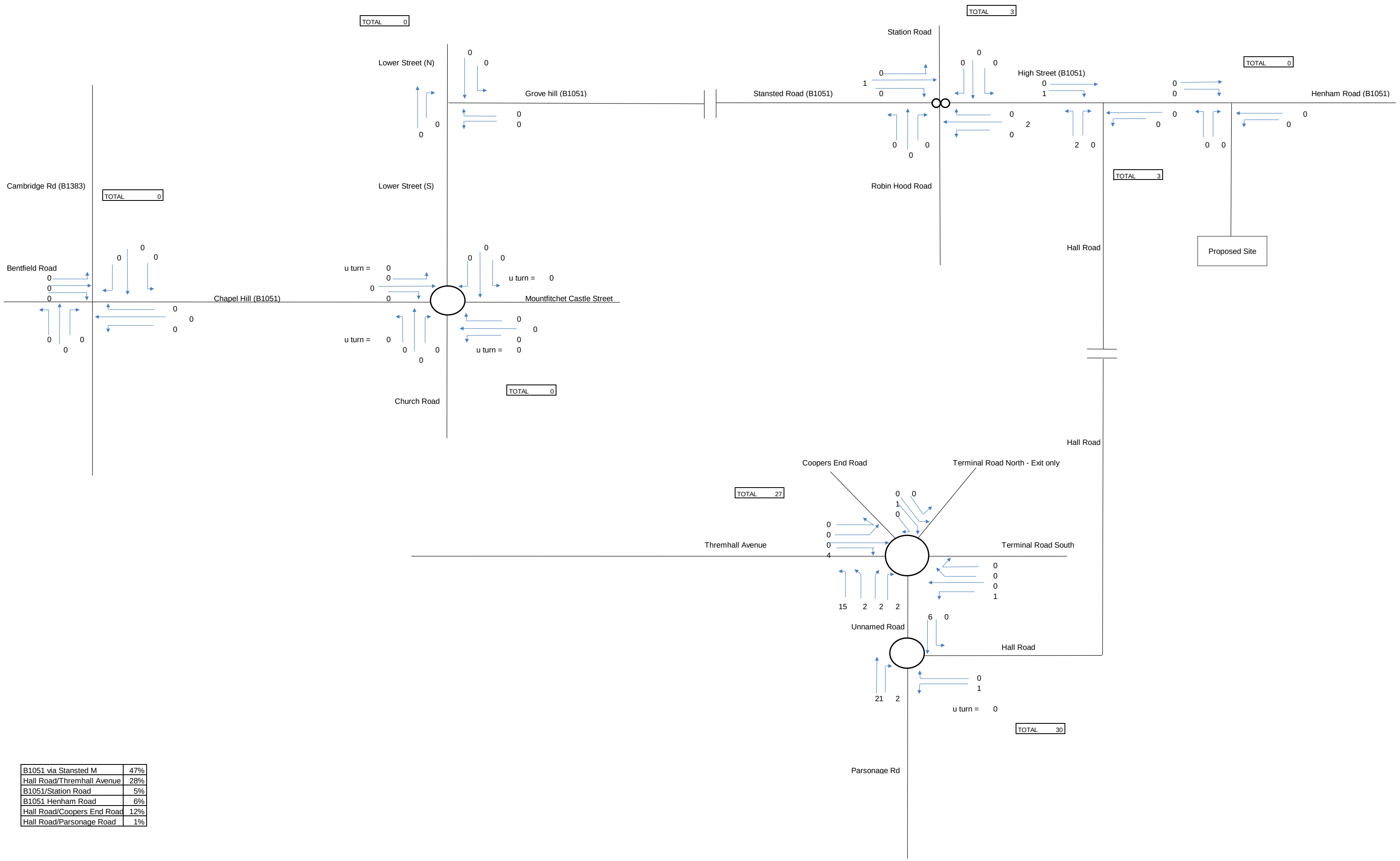
|---|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |
| **Sensitivity Test (East of High Lane - 30 dwellings) - PM Peak** | | | |

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| B1051 via Stansted M | 47% |
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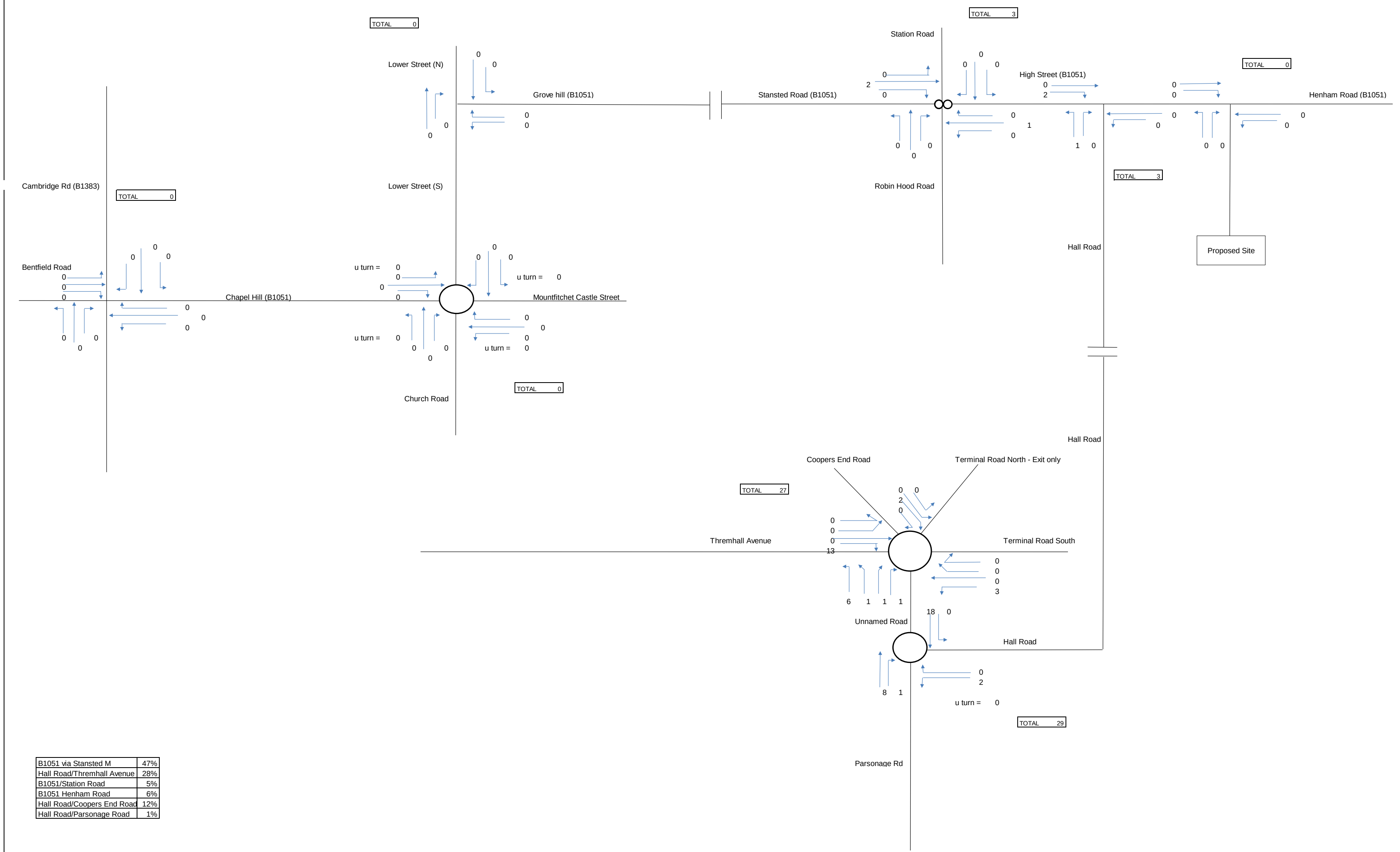
|---|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |
| **Sensitivity Test (East of Parsonage Road - 88 dwellings) - AM Peak** | | | |

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| B1051 via Stansted M | 47% |
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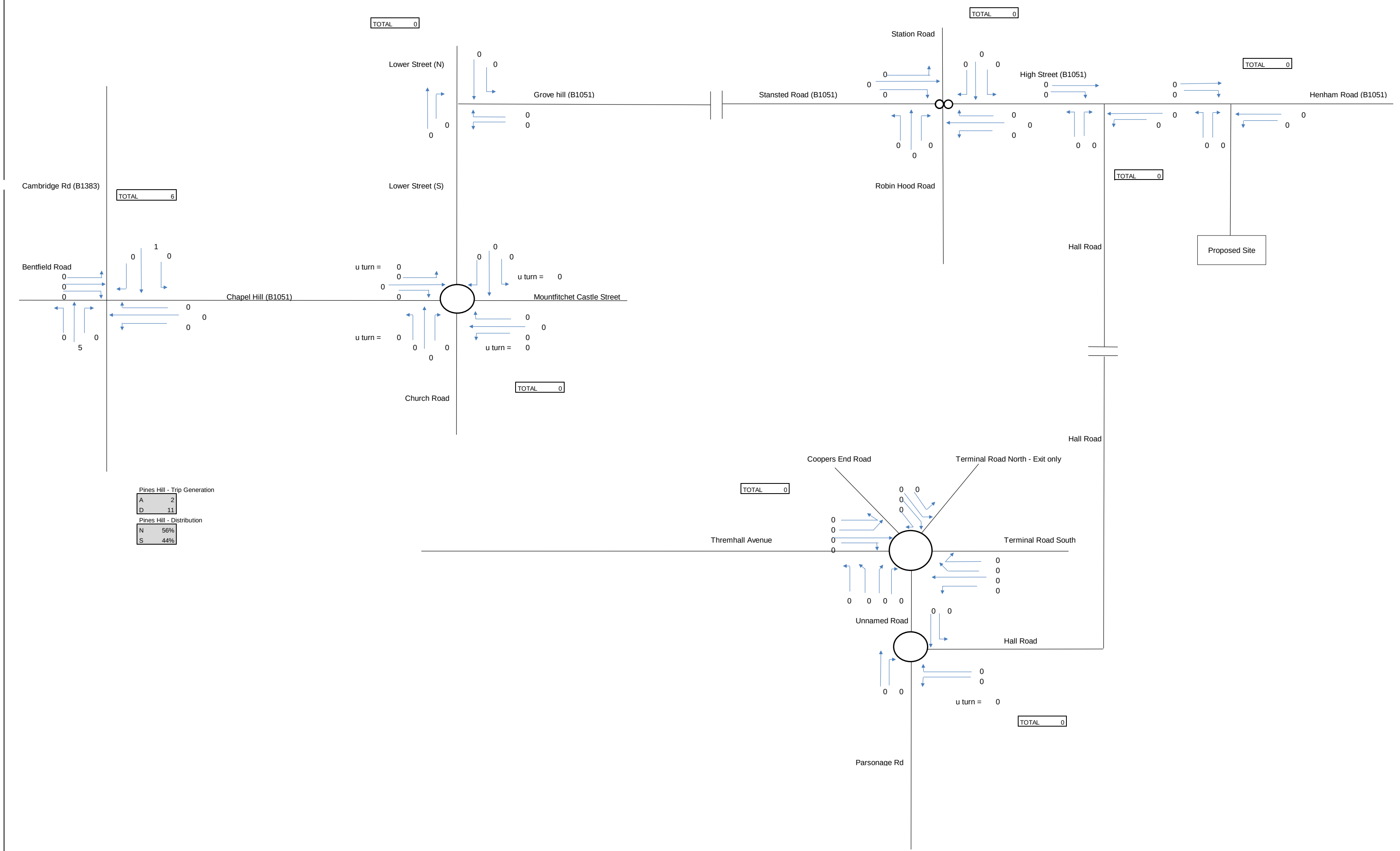
Project: **Land South of Henham Road, Elsenham**
Date: **July 2022**
Job No: **2008170**
Drawing No

**Sensitivity Test (East of Parsonage Road - 88 dwellings) - PM Peak**

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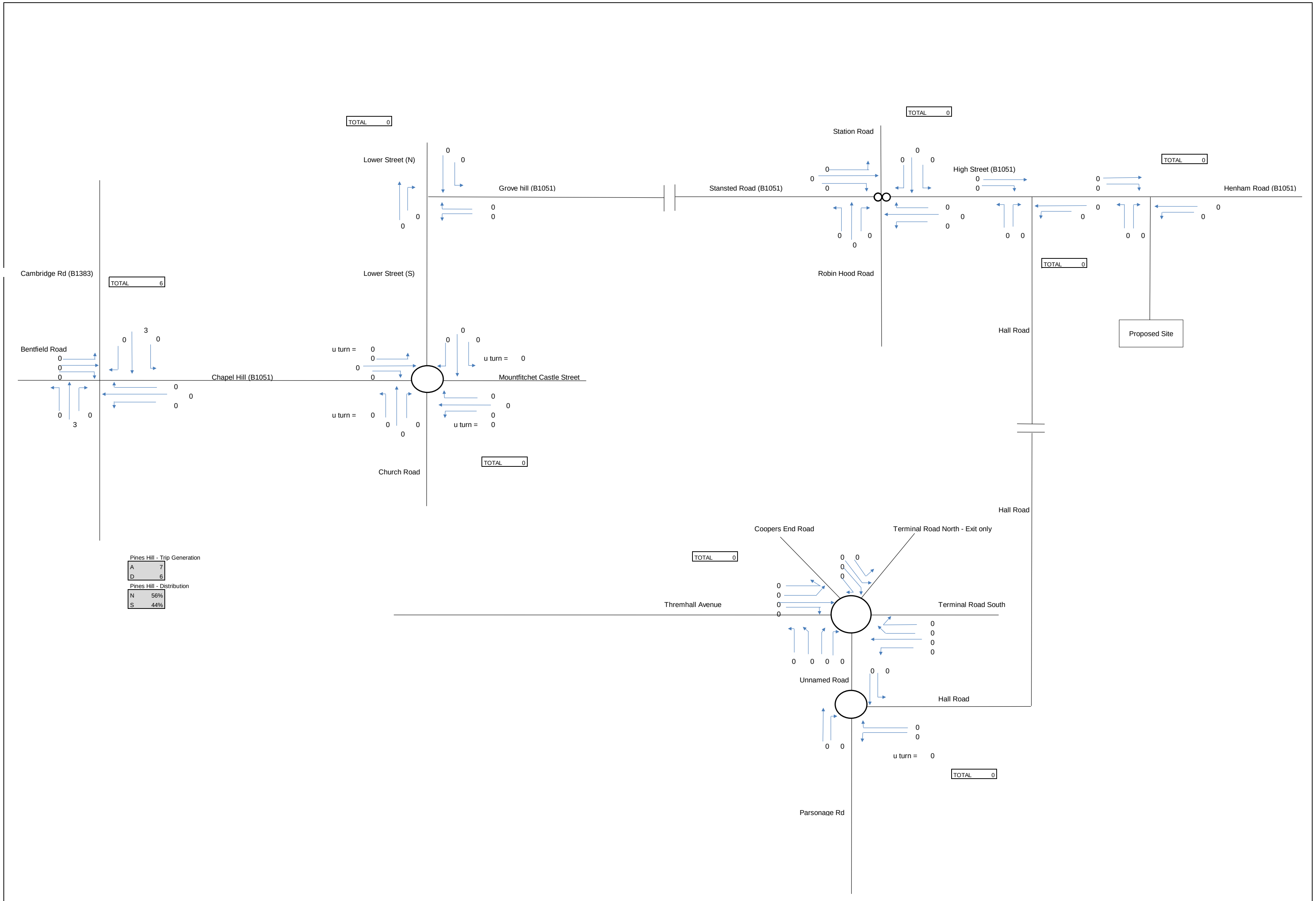
|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** |
| Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |

**Sensitivity Test (Land at Pines Hill - 31 dwellings) - AM Peak**

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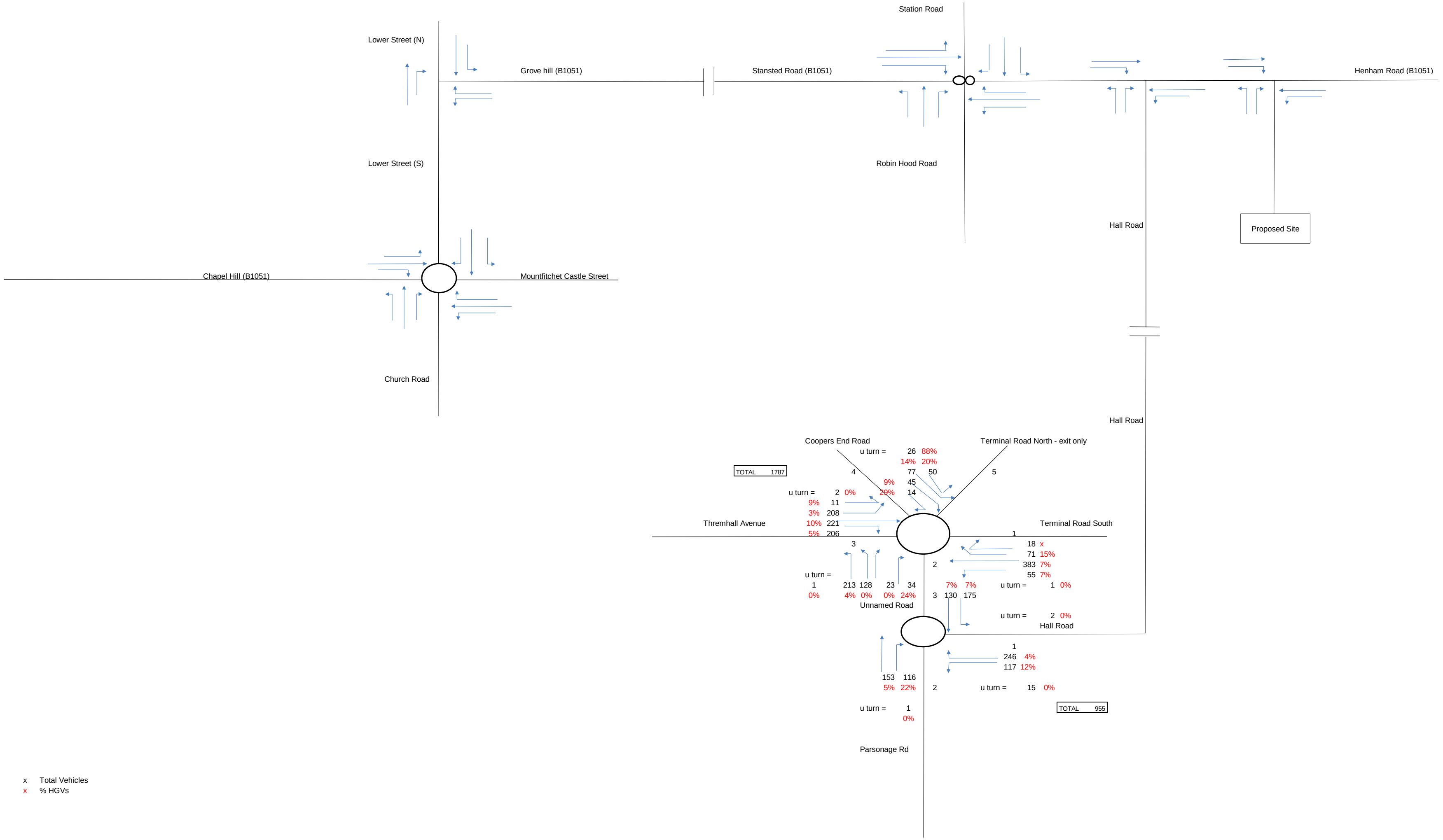
| ARDENT CONSULTING ENGINEERS<br>Third Floor, The Hallmark Building<br>52-56 Leadenhall Street<br>London EC3M 5JE | Client<br>**Countryside** | Project<br>**Land South of Henham Road, Elsenham** |
| | Date<br>**July 2022** / Job No<br>**2008170** | Drawing No |
| | **Sensitivity Test (Land at Pines Hill - 31 dwellings) - PM Peak** | |

# Appendix I

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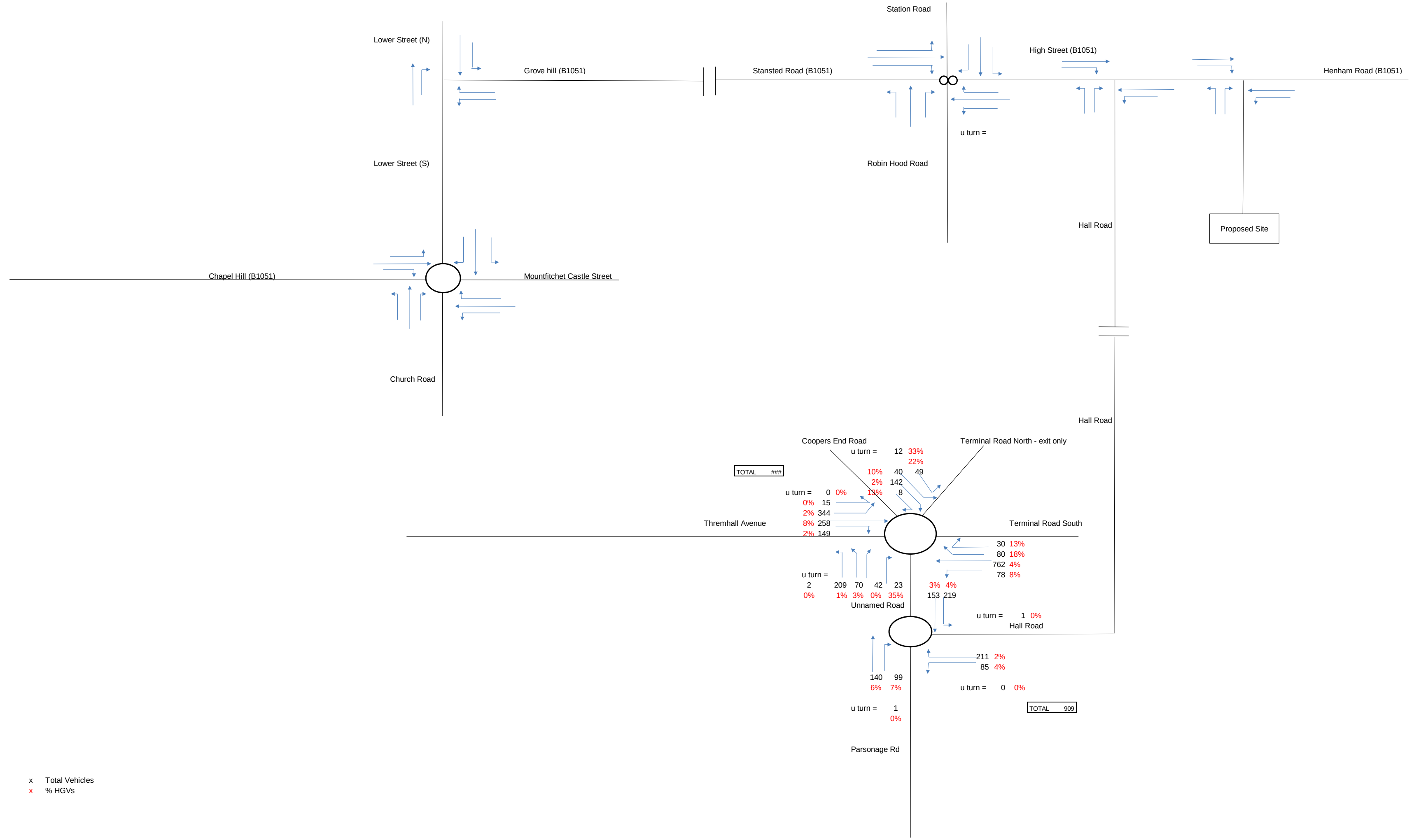
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** | |
| Date<br>**July 2022** | Job No<br>**2008170** | Drawing No | |
| **2018 Surveyed Flows - AM Peak** | | | |

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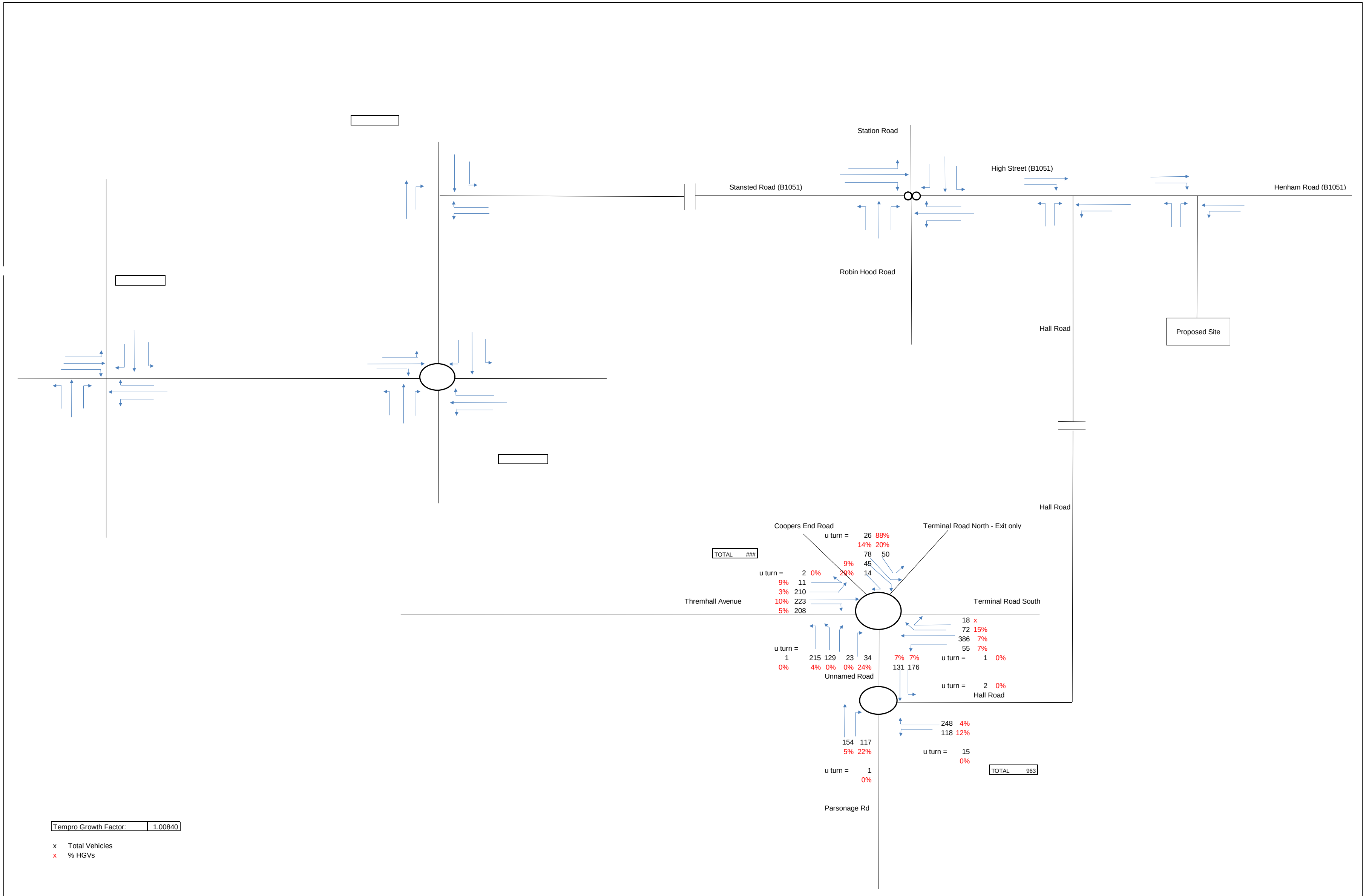
| **Countryside** | | **Land South of Henham Road, Elsenham** | |
| Date | Job No | | Drawing No |
| **July 2022** | **2008170** | | |

**2018 Surveyed Flows - PM Peak**

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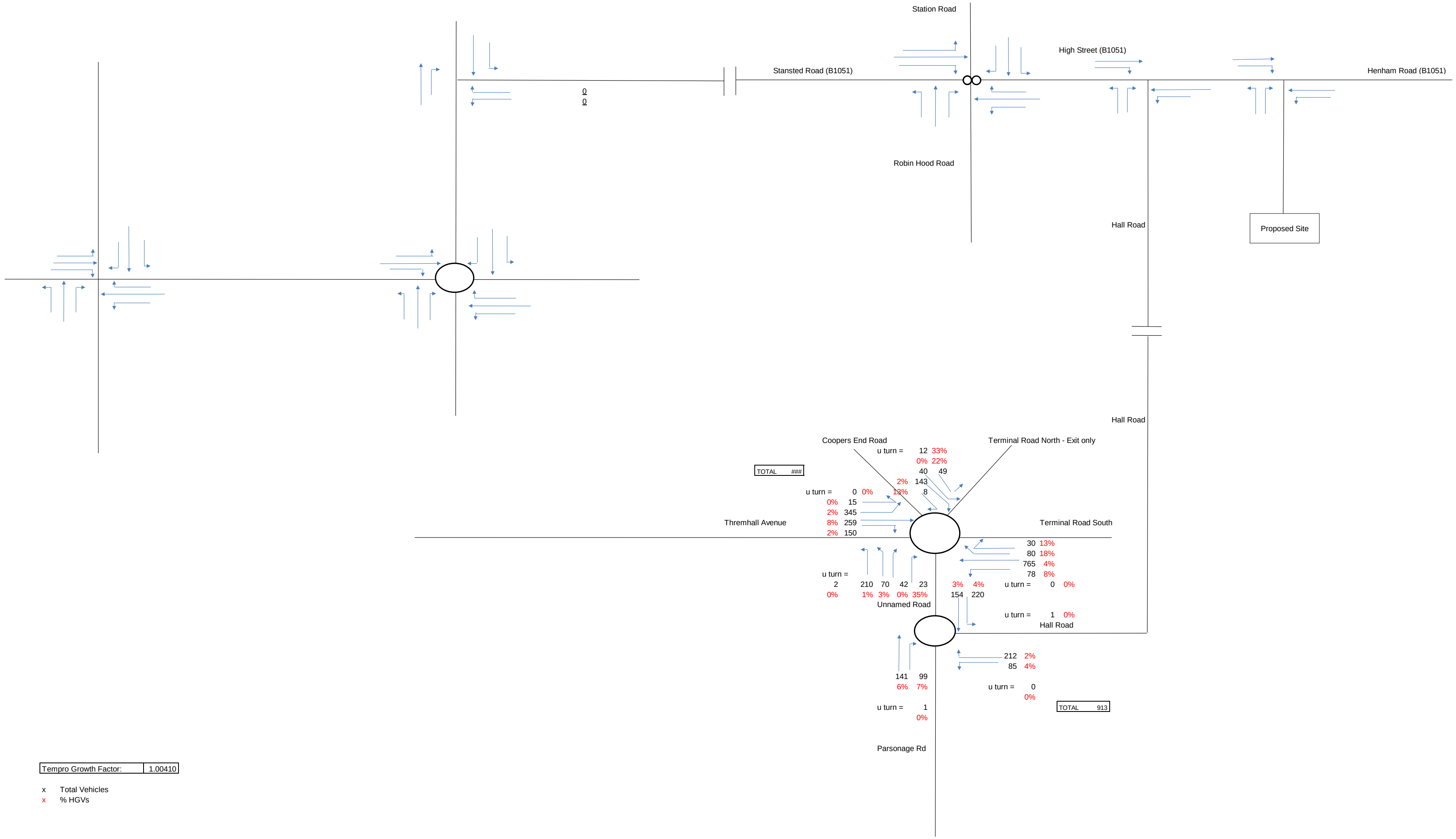
| Client: **Countryside** | | Project: **Land South of Henham Road, Elsenham** | |
| Date: **July 2022** | Job No: **2008170** | Drawing No | |
| **2027 Alternative Background Flows (using 2018 survey flows + Tempro Growth) - AM Peak** | | | |





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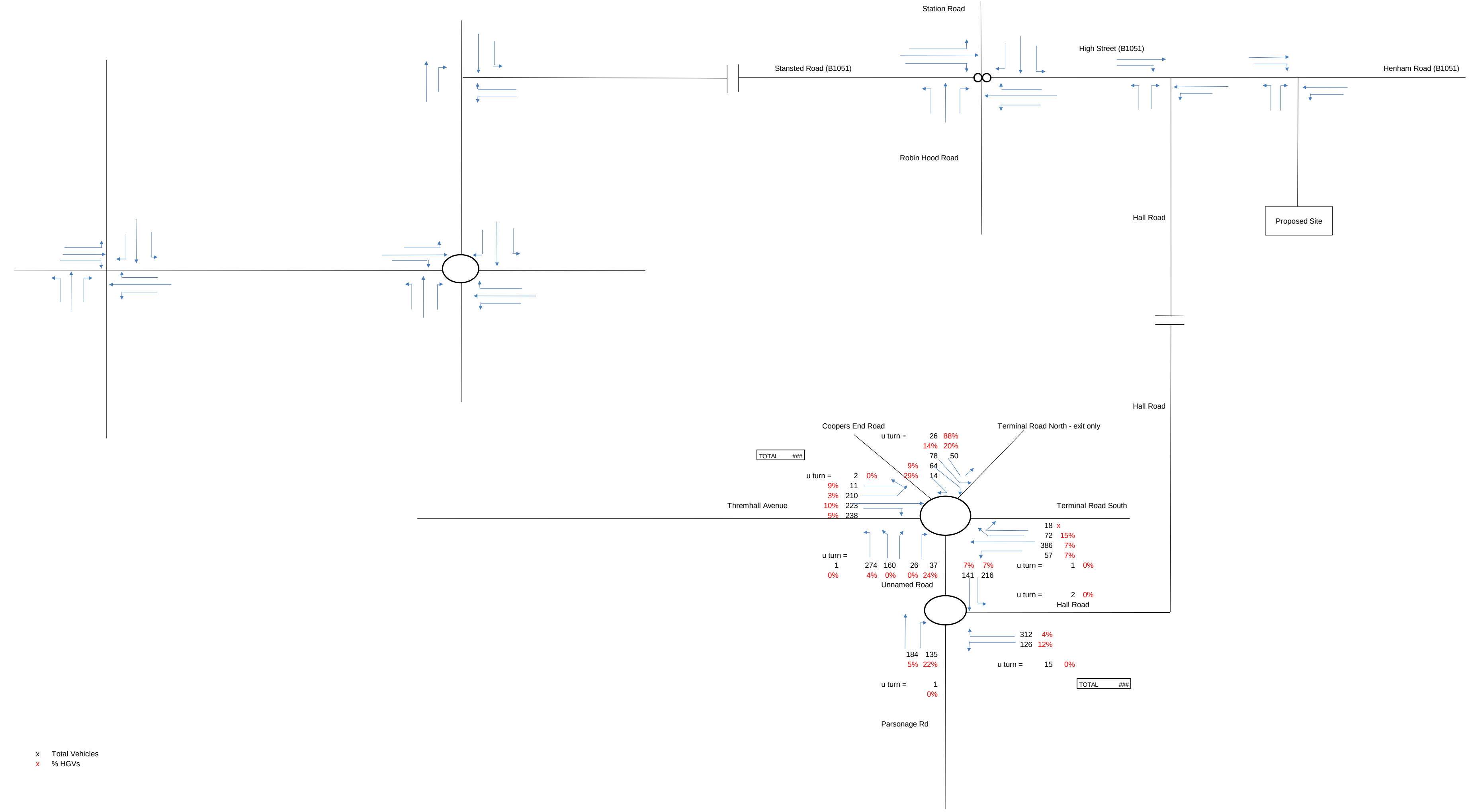
|---|---|---|
| Client **Countryside** | | Project **Land South of Henham Road, Elsenham** |
| Date **July 2022** | Job No **2008170** | Drawing No |

**2027 Alternative Background Flows (using 2018 survey flows + Tempro Growth) - PM Peak**

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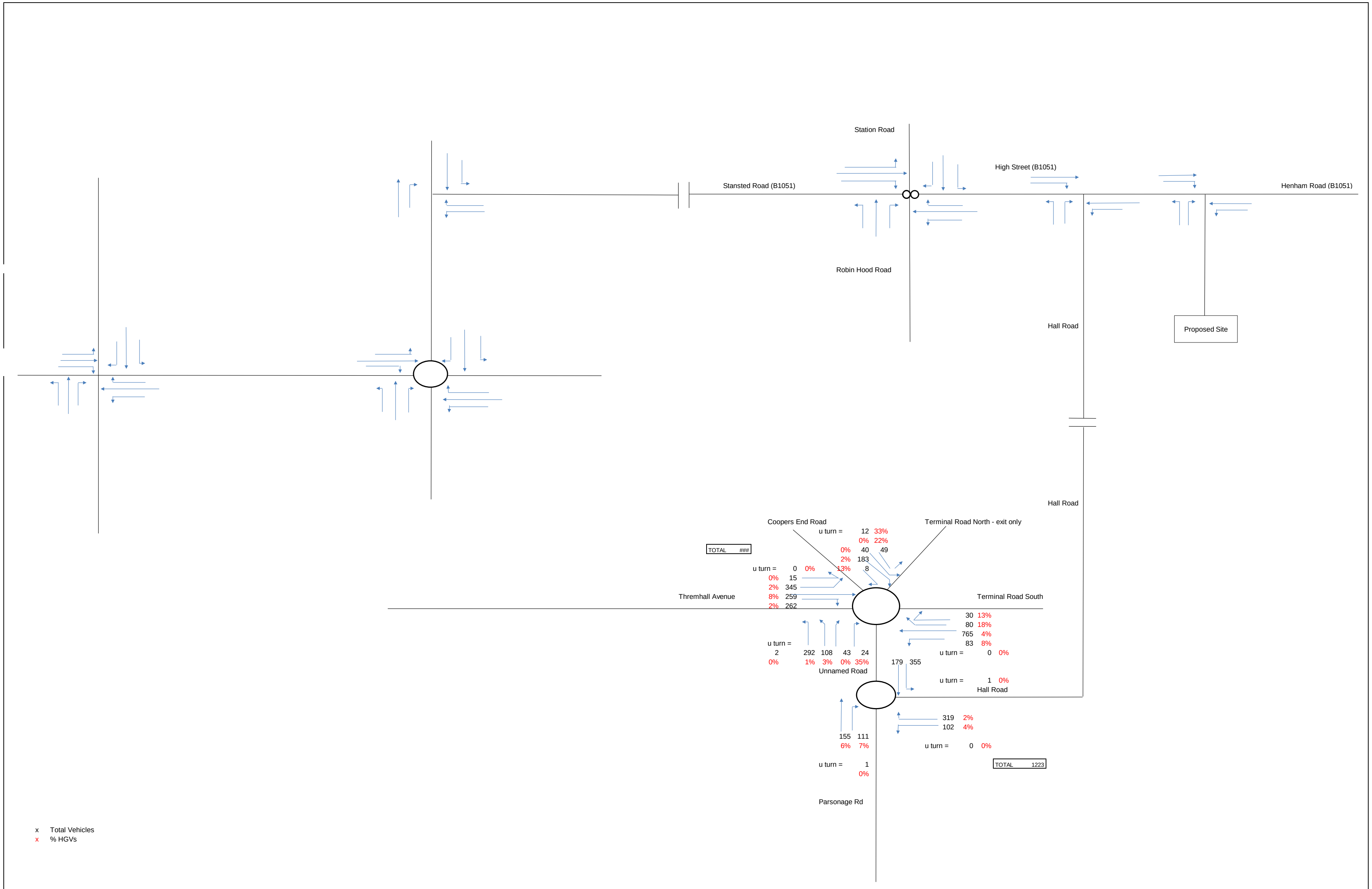
| Client | Project |
|---|---|
| **Countryside** | **Land South of Henham Road, Elsenham** |

| Date | Job No | Drawing No |
|---|---|---|
| **July 2022** | **2008170** | |

**2027 Alternative Base (using 2018 BG Flows + Committed Dev) - AM Peak**

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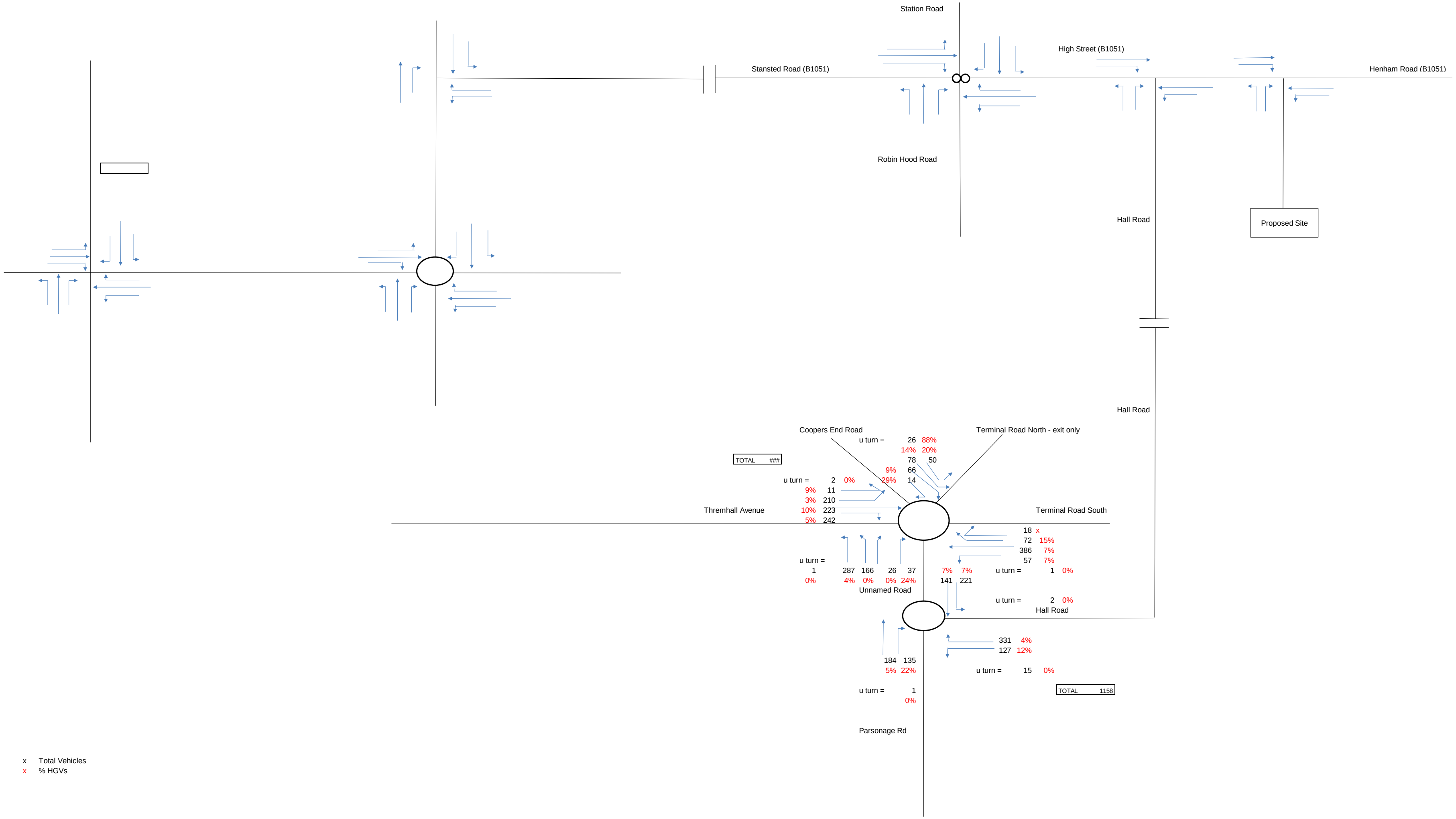
| Client | Project |
|---|---|
| Countryside | Land South of Henham Road, Elsenham |

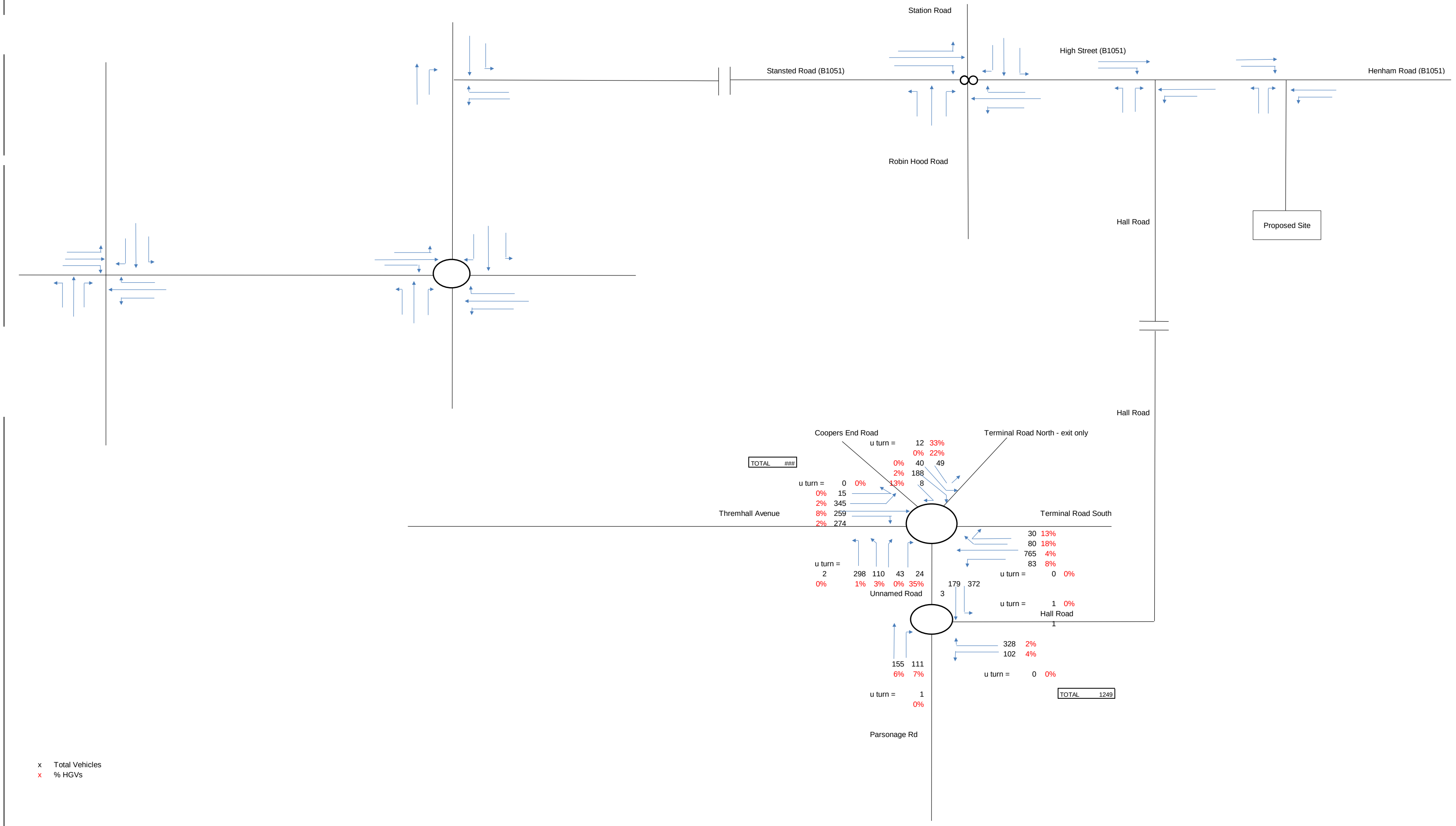
| Date | Job No | Drawing No |
|---|---|---|
| July 2022 | 2008170 | |

**2027 Alternative Base (using 2018 BG Flows + Committed Dev) - PM Peak**




x Total Vehicles
x % HGVs

| | | | |
|---|---|---|---|
| ARDENT CONSULTING ENGINEERS<br>Third Floor, The Hallmark Building<br>52-56 Leadenhall Street<br>London EC3M 5JE | Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** |
| | Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| | **2027 Alternative Base (using 2018 survey flows + Tempro Growth + Committed Dev) + Development Flows - AM Peak** | | |

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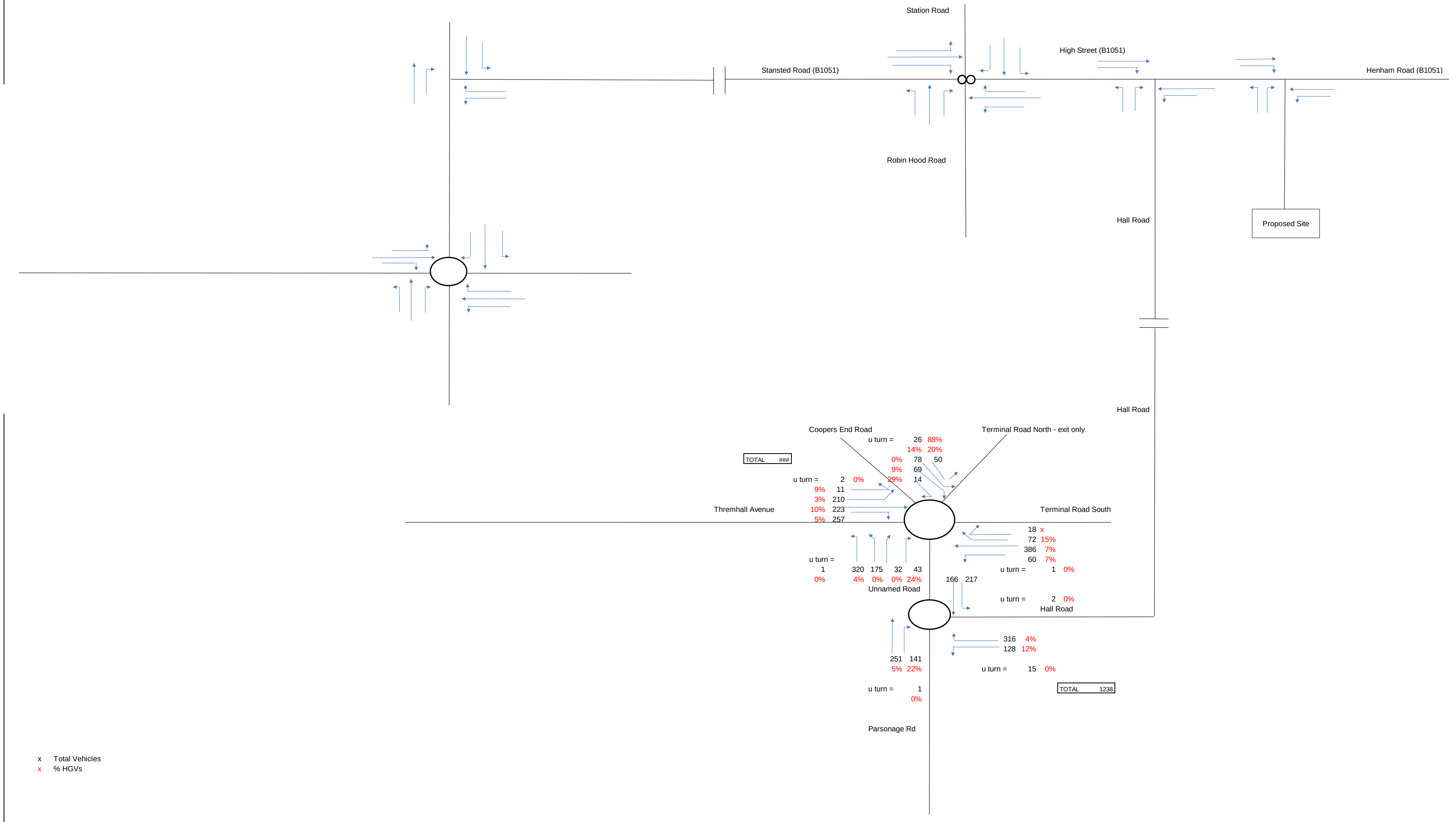
| | Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| | **2027 Alternative Base (using 2018 survey flows + Tempro Growth + Committed Dev) + Development Flows - PM Peak** | | |

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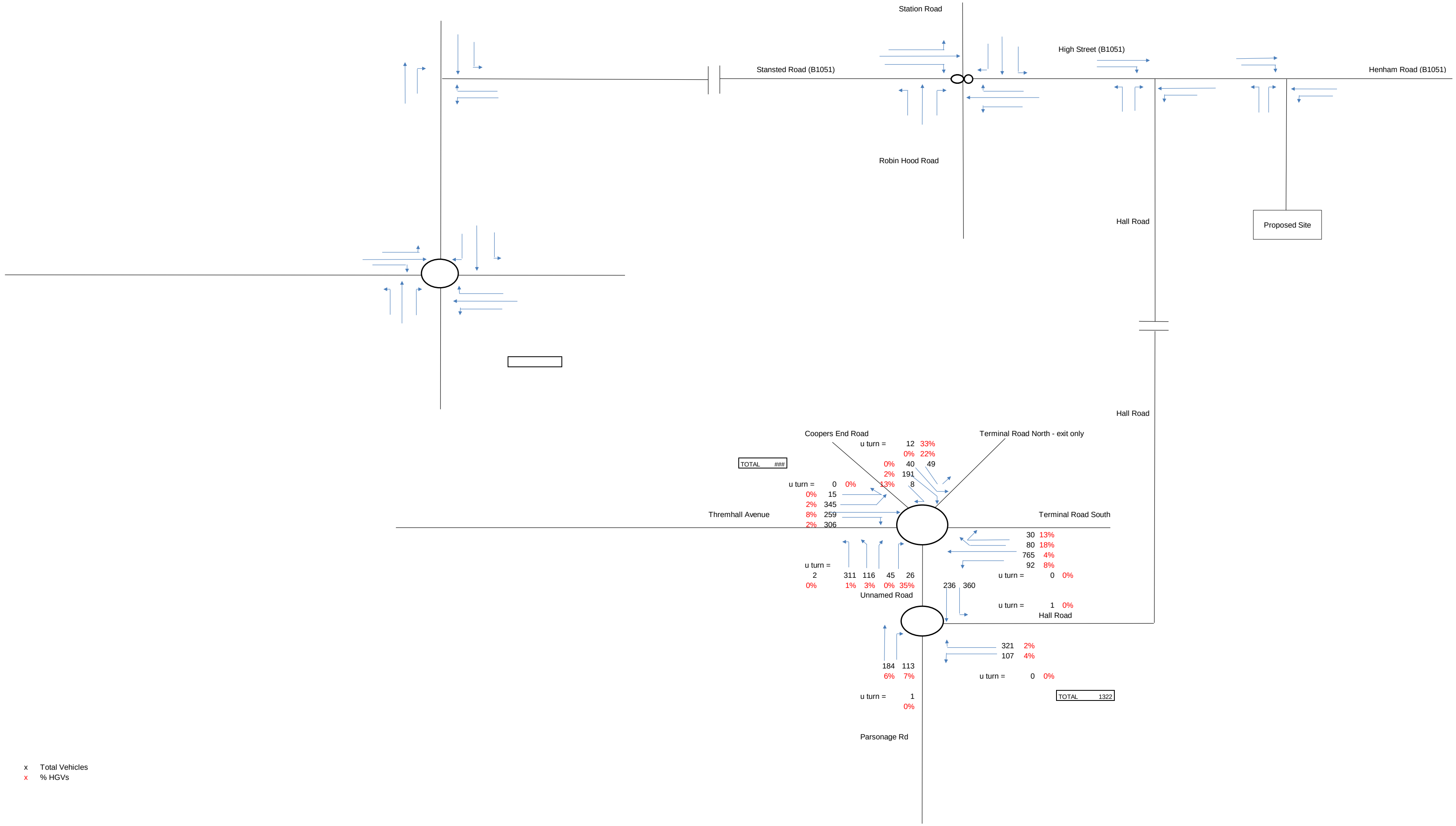
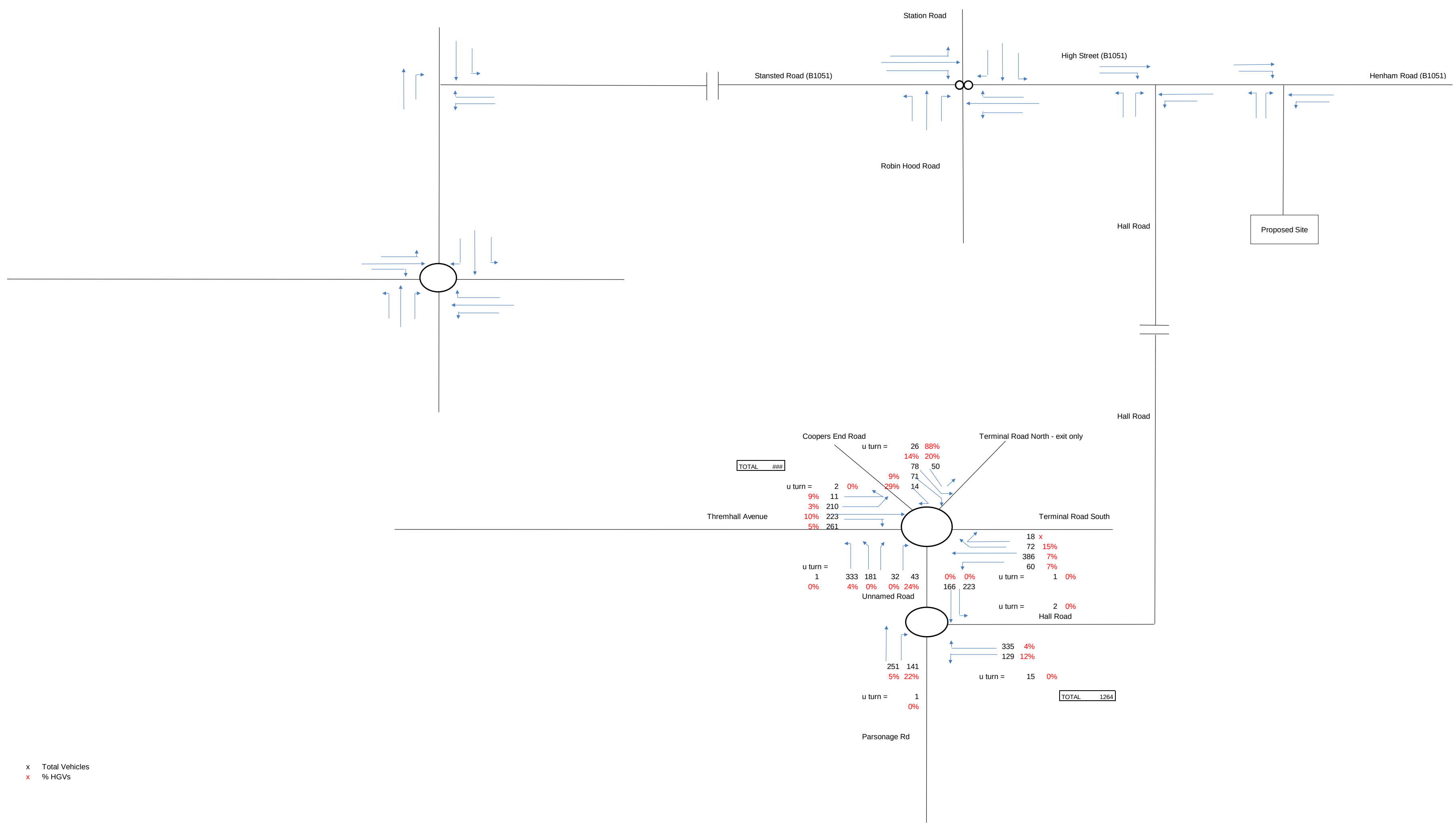
| Date<br>**July 2022** | Job No<br>**2008170** | | Drawing No |
| **2027 Alternative Base (using 2018 flows + Tempro Growth + Committed Dev) Sensitivity Flows - AM Peak** | | | |




x Total Vehicles
x % HGVs

| | | | |
|---|---|---|---|
| ARDENT CONSULTING ENGINEERS<br>Third Floor, The Hallmark Building<br>52-56 Leadenhall Street<br>London EC3M 5JE | Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** |
| | Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| | **2027 Alternative Base (using 2018 flows + Tempro Growth + Committed Dev) Sensitivity Flows - PM Peak** | | |

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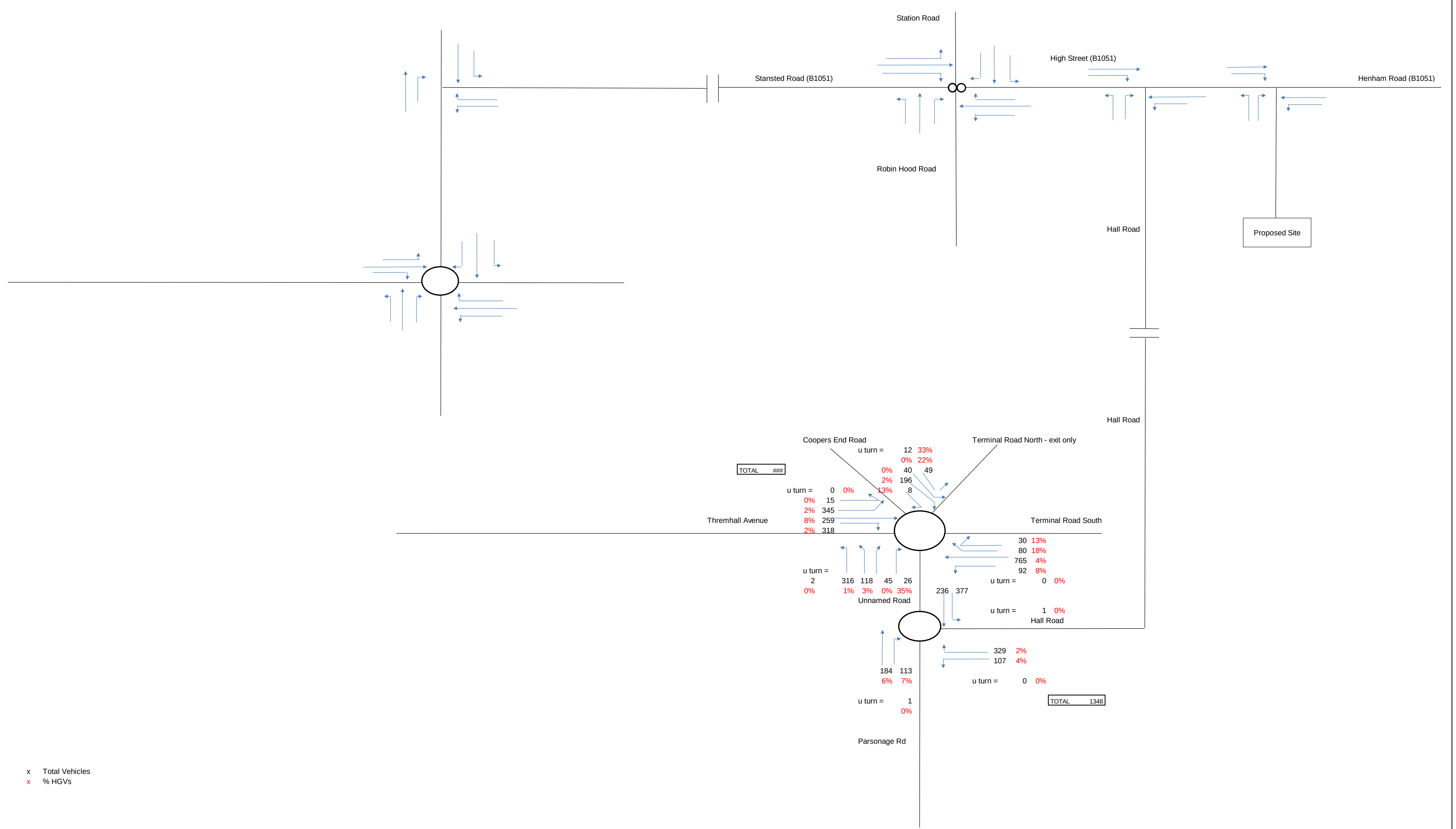
|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** |
| Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |

**2027 Alt Base Sensitivity + Development Flows - AM Peak**

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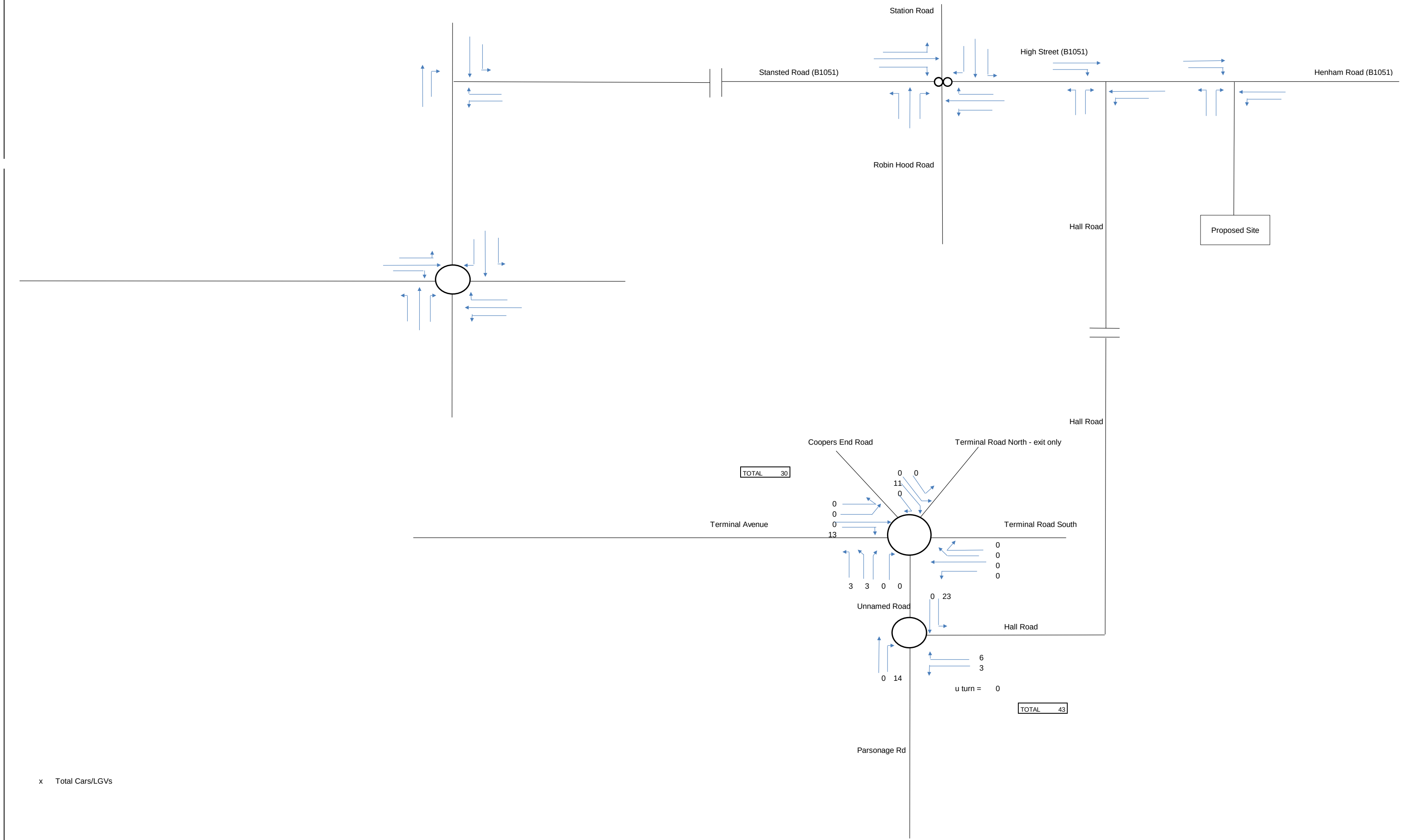
| Date: **July 2022** | Job No: **2008170** | | Drawing No |
| **2027 Alt Base Sensitivity + Development Flows - PM Peak** | | | |

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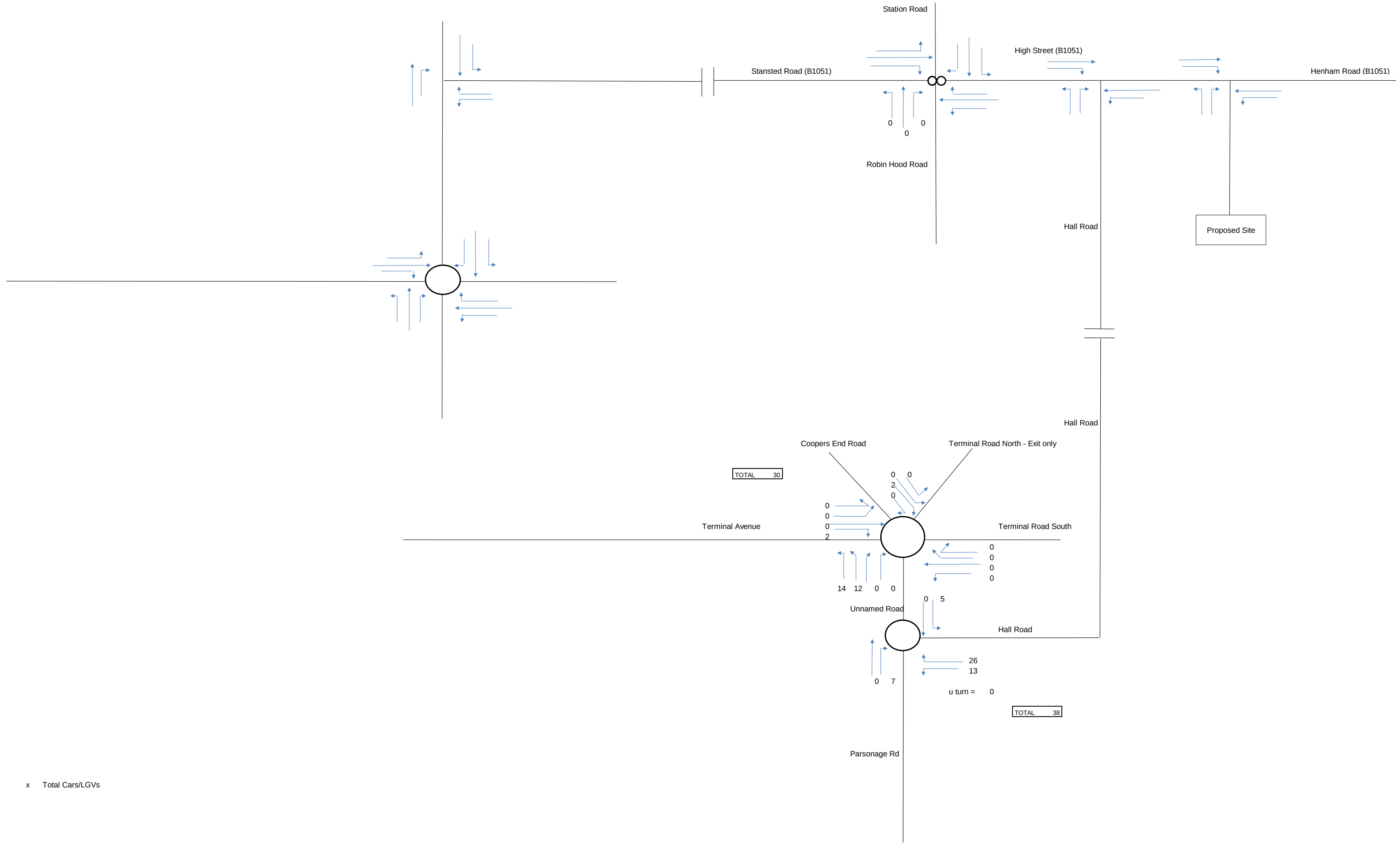
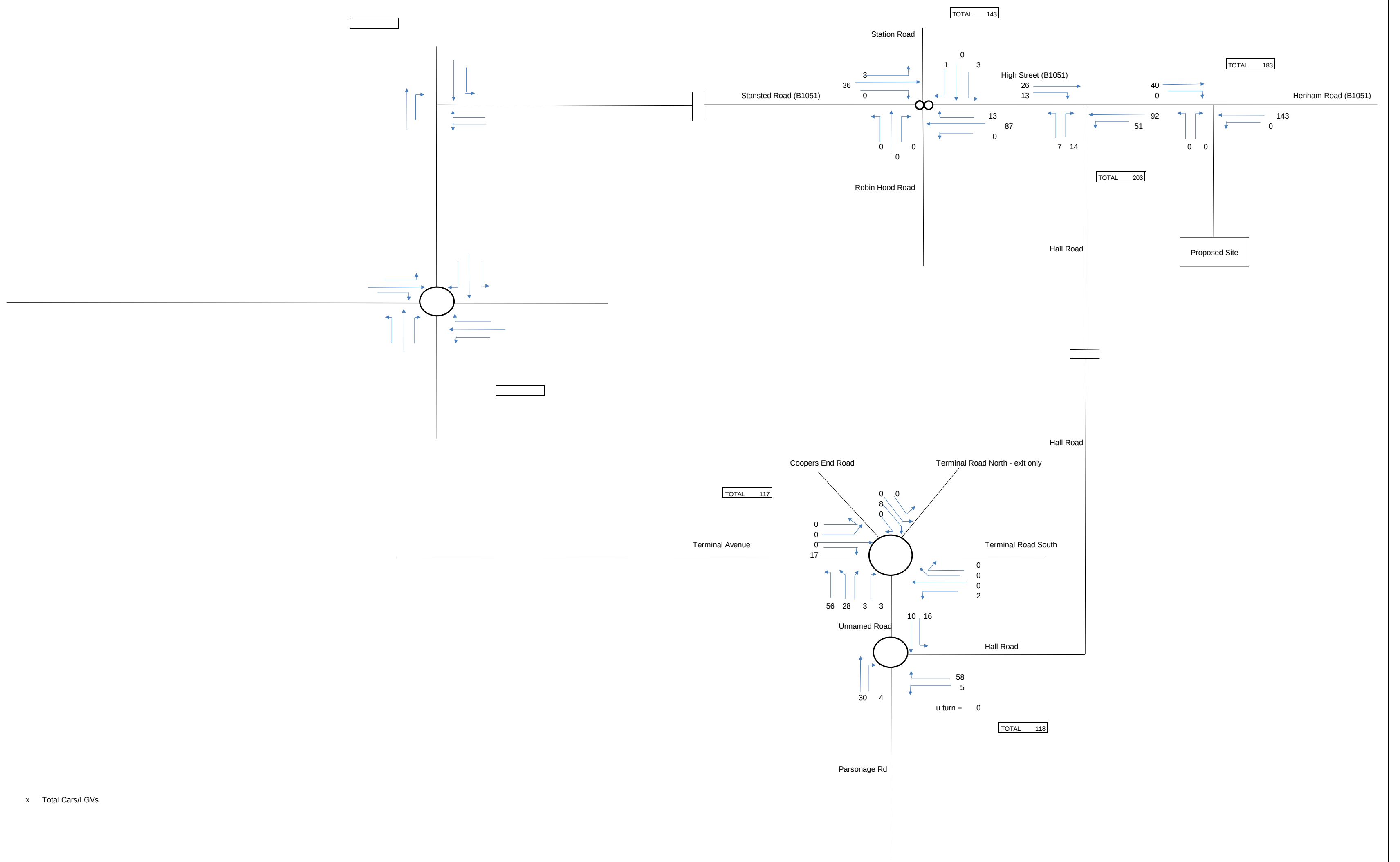
| | Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| | **Committed Development Flows (as used in E Elsenham) - AM Peak** | | |




x Total Cars/LGVs

| | | | |
|---|---|---|---|
| **ARDENT** CONSULTING ENGINEERS<br>Third Floor, The Hallmark Building<br>52-56 Leadenhall Street<br>London EC3M 5JE | Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** |
| | Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |
| | **Committed Development Flows (as used in E Elsenham) - PM Peak** | | |

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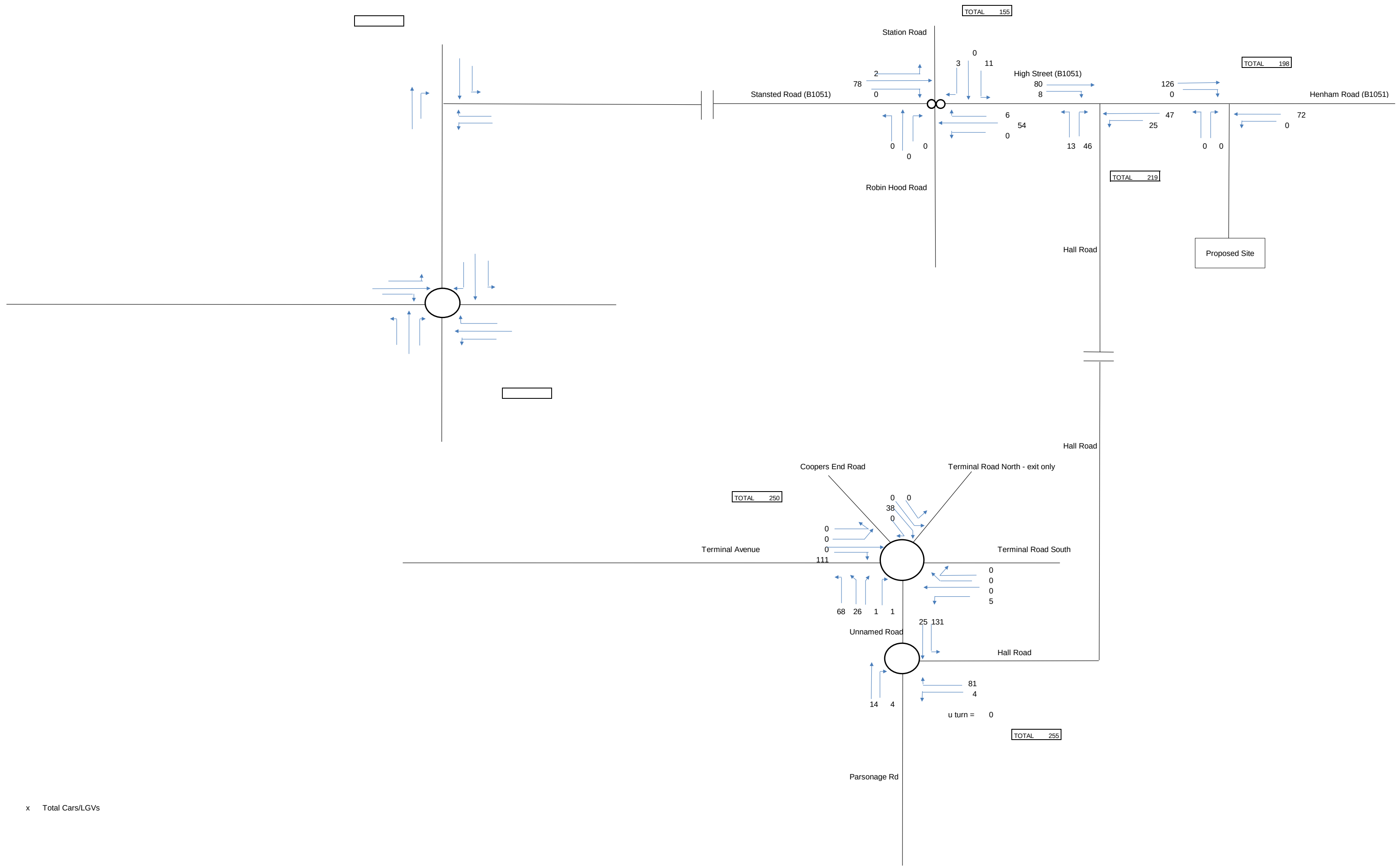
|---|---|---|
| Client<br>**Countryside** | | Project<br>**Land South of Henham Road, Elsenham** |
| Date<br>**July 2022** | Job No<br>**2008170** | Drawing No |

**Total Additional Committed Development Flows - AM Peak**




x Total Cars/LGVs

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| | | | |
|---|---|---|---|
| Client | Countryside | Project | Land South of Henham Road, Elsenham |
| Date | July 2022 | Job No | 2008170 |
| Drawing No | | | |

**Total Additional Committed Development Flows - PM Peak**

# Appendix J

# Junctions 10

## ARCADY 10 - Roundabout Module

Version: 10.0.2.1574


For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk [redacted]



**Filename:** Coopers End Parsonage Linked Roundabouts (Existing).j10
**Path:** Y:\ARDENT PROJECTS\2008170 - Land South of Henham Road, Elsenham\Transport\ARCADY
**Report generation date:** 29/07/2022 12:25:44

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## Summary of junction performance

| | AM | | PM | |
|---|---|---|---|---|
| | Q (PCU) | RFC | Q (PCU) | RFC |
| | Alternate Scenario (Base Case) | | | |
| Junction 1 - Arm 1 | 0.3 | 0.24 | 0.9 | 0.45 |
| Junction 1 - Arm 2 | 4.0 | 0.81 | 9.0 | 0.93 |
| Junction 1 - Arm 3 | 0.9 | 0.45 | 1.4 | 0.57 |
| Junction 1 - Arm 4 | 0.3 | 0.20 | 0.4 | 0.27 |
| Junction 2 - Arm 1 | 1.6 | 0.61 | 1.4 | 0.59 |
| Junction 2 - Arm 2 | 0.7 | 0.40 | 0.5 | 0.33 |
| Junction 2 - Arm 3 | 2.0 | 0.66 | 9.1 | 0.93 |
| | Alternate Scenario (Development Case) | | | |
| Junction 1 - Arm 1 | 0.3 | 0.24 | 0.9 | 0.45 |
| Junction 1 - Arm 2 | 4.8 | 0.84 | 10.4 | 0.95 |
| Junction 1 - Arm 3 | 0.9 | 0.45 | 1.4 | 0.58 |
| Junction 1 - Arm 4 | 0.3 | 0.20 | 0.4 | 0.28 |
| Junction 2 - Arm 1 | 1.8 | 0.64 | 1.5 | 0.60 |
| Junction 2 - Arm 2 | 0.7 | 0.40 | 0.5 | 0.33 |
| Junction 2 - Arm 3 | 2.1 | 0.67 | 11.9 | 0.96 |
| | Alternate Sensitivity Scenario (Base Case) | | | |
| Junction 1 - Arm 1 | 0.4 | 0.25 | 0.9 | 0.46 |
| Junction 1 - Arm 2 | 8.9 | 0.92 | 15.3 | 0.99 |
| Junction 1 - Arm 3 | 0.9 | 0.46 | 1.5 | 0.60 |
| Junction 1 - Arm 4 | 0.3 | 0.20 | 0.4 | 0.28 |
| Junction 2 - Arm 1 | 1.8 | 0.63 | 1.7 | 0.62 |
| Junction 2 - Arm 2 | 1.0 | 0.49 | 0.6 | 0.37 |
| Junction 2 - Arm 3 | 2.4 | 0.71 | 25.2 | 1.04 |
| | Alternate Sensitivity Scenario (Development Case) | | | |
| Junction 1 - Arm 1 | 0.4 | 0.25 | 0.9 | 0.46 |
| Junction 1 - Arm 2 | 11.6 | 0.95 | 17.6 | 1.01 |
| Junction 1 - Arm 3 | 0.9 | 0.47 | 1.6 | 0.61 |
| Junction 1 - Arm 4 | 0.3 | 0.21 | 0.4 | 0.29 |
| Junction 2 - Arm 1 | 2.0 | 0.66 | 1.7 | 0.63 |
| Junction 2 - Arm 2 | 1.1 | 0.50 | 0.6 | 0.37 |
| Junction 2 - Arm 3 | 2.5 | 0.72 | 32.5 | 1.07 |

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

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

## File summary

### File Description

| | |
|---|---|
| Title | |
| Location | |
| Site number | |
| Date | 17/03/2022 |
| Version | |
| Status | (new file) |
| Identifier | |
| Client | |
| Jobnumber | |
| Enumerator | ARDENTCE\jsymington |
| Description | |

## Units

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

## Analysis Options

| Mini-roundabout model | Vehicle length (m) | Calculate Q Percentiles | Calculate detailed queueing delay | Show lane queues in feet / metres | Show all PICADY stream intercepts | Calculate residual capacity | RFC Threshold | Av. Delay threshold (s) | Q threshold (PCU) | Use iterations with HCM roundabouts | Max number of iterations for roundabouts |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JUNCTIONS 9 | 5.75 | | | | | | 0.85 | 36.00 | 20.00 | | 500 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | Alternate Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D2 | Alternate Scenario (Base Case) | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D3 | Alternate Scenario (Development Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D4 | Alternate Scenario (Development Case) | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D5 | Alternate Sensitivity Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D6 | Alternate Sensitivity Scenario (Base Case) | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D7 | Alternate Sensitivity Scenario (Development Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D8 | Alternate Sensitivity Scenario (Development Case) | 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 |

# Alternate Scenario (Base Case), AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 2 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 1 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |
| Warning | Linked Roundabout | Junction 2 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 2 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Coopers End Roundabout | Standard Roundabout | | 1, 2, 3, 4, 5 | 9.54 | A |
| 2 | Parsonage Road | Mini-roundabout | | 1, 2, 3 | 12.81 | B |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 10.74 | B |

## Arms

### Arms

| Junction | Arm | Name | Description | No give-way line |
|---|---|---|---|---|
| 1 | 1 | Terminal Road South | | |
| | 2 | Link | | |
| | 3 | Thremhall Avenue | | |
| | 4 | Coopers End Road | | |
| | 5 | Terminal Road North | | |
| 2 | 1 | Parsonage Road North | | |
| | 2 | Parsonage Road South | | |
| | 3 | Link | | |

### Roundabout Geometry

| Junction | Arm | V (m) | E (m) | l' (m) | R (m) | D (m) | PHI (deg) | Entry only | Exit only |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 7.35 | 10.06 | 11.2 | 50.1 | 90.4 | 43.3 | | |
| | 2 | 3.02 | 6.03 | 2.5 | 7.9 | 90.4 | 77.0 | | |
| | 3 | 4.36 | 7.10 | 19.8 | 154.3 | 90.4 | 48.0 | | |
| | 4 | 3.70 | 6.93 | 18.9 | 30.0 | 90.4 | 50.5 | | |
| | 5 | | | | | | | | ✓ |

### Mini Roundabout Geometry

| Junction | 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 |
|---|---|---|---|---|---|---|---|---|---|
| 2 | 1 | 2.69 | 2.69 | 4.28 | 4.7 | 19.92 | 17.88 | 0.0 | |
| | 2 | 2.48 | 2.48 | 3.91 | 7.8 | 19.93 | 18.95 | 0.0 | |
| | 3 | 3.35 | 3.04 | 4.08 | 1.7 | 14.79 | 9.21 | 0.0 | |

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

| Junction | Arm | Final slope | Final intercept (PCU/hr) |
|---|---|---|---|
| 1 | 1 | 0.586 | 2645 |
| | 2 | 0.283 | 840 |
| | 3 | 0.474 | 1859 |
| | 4 | 0.438 | 1657 |
| | 5 | | |
| 2 | 1 | 0.712 | 931 |
| | 2 | 0.784 | 1175 |
| | 3 | 0.606 | 702 |

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

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | Alternate Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

## Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 3 | 1 | 2 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

## Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | | ONE HOUR | ✓ | 534 | 100.000 |
| | 2 | ✓ | | | | |
| | 3 | | ONE HOUR | ✓ | 684 | 100.000 |
| | 4 | | ONE HOUR | ✓ | 232 | 100.000 |
| | 5 | | | | | |
| 2 | 1 | | ONE HOUR | ✓ | 453 | 100.000 |
| | 2 | | ONE HOUR | ✓ | 320 | 100.000 |
| | 3 | ✓ | | | | |

# Origin-Destination Data

### Demand (PCU/hr)

### Junction 1

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 1 | 57 | 386 | 72 | 18 |
| | 2 | 37 | 1 | 274 | 160 | 26 |
| | 3 | 223 | 238 | 2 | 11 | 210 |
| | 4 | 78 | 64 | 14 | 26 | 50 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 15 | 126 | 312 |
| | 2 | 135 | 1 | 184 |
| | 3 | 216 | 141 | 2 |

# Vehicle Mix

**Junction 1**

**HV %s**

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 7 | 7 | 15 | 22 |
| | 2 | 0 | 0 | 4 | 0 | 0 |
| | 3 | 10 | 5 | 0 | 9 | 3 |
| | 4 | 14 | 9 | 29 | 88 | 20 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 12 | 4 |
| | 2 | 22 | 0 | 5 |
| | 3 | 7 | 7 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (PCU) | Max LOS | Av. Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.24 | 2.13 | 0.3 | A | 490 | 735 |
| | 2 | 0.81 | 27.46 | 4.0 | D | 457 | 685 |
| | 3 | 0.45 | 4.11 | 0.9 | A | 628 | 941 |
| | 4 | 0.20 | 4.16 | 0.3 | A | 213 | 319 |
| | 5 | | | | | | |
| 2 | 1 | 0.61 | 11.93 | 1.6 | B | 416 | 624 |
| | 2 | 0.40 | 7.45 | 0.7 | A | 294 | 440 |
| | 3 | 0.66 | 18.69 | 2.0 | C | 330 | 495 |

## Main Results for each time segment

### 07:45 - 08:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 402 | 101 | 259 | 2494 | 0.161 | 401 | 254 | 0.0 | 0.2 | 1.865 | A |
| | 2 | 372 | 93 | 390 | 730 | 0.510 | 368 | 270 | 0.0 | 1.0 | 10.051 | B |
| | 3 | 515 | 129 | 253 | 1739 | 0.296 | 513 | 504 | 0.0 | 0.4 | 3.110 | A |
| | 4 | 175 | 44 | 566 | 1409 | 0.124 | 174 | 200 | 0.0 | 0.2 | 3.492 | A |
| | 5 | | | 513 | | | | 228 | | | | |
| 2 | 1 | 341 | 85 | 107 | 855 | 0.399 | 338 | 273 | 0.0 | 0.7 | 7.344 | A |
| | 2 | 241 | 60 | 246 | 982 | 0.245 | 239 | 200 | 0.0 | 0.4 | 5.396 | A |
| | 3 | 270 | 68 | 113 | 634 | 0.426 | 267 | 372 | 0.0 | 0.8 | 10.411 | B |

### 08:00 - 08:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 480 | 120 | 310 | 2464 | 0.195 | 480 | 304 | 0.2 | 0.3 | 1.968 | A |
| | 2 | 447 | 112 | 466 | 708 | 0.631 | 444 | 323 | 1.0 | 1.7 | 13.780 | B |
| | 3 | 615 | 154 | 305 | 1714 | 0.359 | 614 | 606 | 0.4 | 0.6 | 3.467 | A |
| | 4 | 209 | 52 | 679 | 1360 | 0.153 | 208 | 241 | 0.2 | 0.2 | 3.747 | A |
| | 5 | | | 614 | | | | 273 | | | | |
| 2 | 1 | 407 | 102 | 129 | 839 | 0.485 | 406 | 328 | 0.7 | 1.0 | 8.784 | A |
| | 2 | 288 | 72 | 295 | 944 | 0.305 | 287 | 240 | 0.4 | 0.5 | 6.112 | A |
| | 3 | 323 | 81 | 135 | 620 | 0.521 | 322 | 447 | 0.8 | 1.1 | 12.845 | B |

### 08:15 - 08:30

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 588 | 147 | 379 | 2423 | 0.243 | 588 | 372 | 0.3 | 0.3 | 2.127 | A |
| | 2 | 546 | 137 | 571 | 679 | 0.805 | 538 | 396 | 1.7 | 3.7 | 24.780 | C |
| | 3 | 753 | 188 | 371 | 1683 | 0.447 | 752 | 738 | 0.6 | 0.9 | 4.094 | A |
| | 4 | 255 | 64 | 830 | 1294 | 0.197 | 255 | 293 | 0.2 | 0.3 | 4.155 | A |
| | 5 | | | 751 | | | | 334 | | | | |
| 2 | 1 | 499 | 125 | 157 | 819 | 0.609 | 496 | 401 | 1.0 | 1.6 | 11.728 | B |
| | 2 | 352 | 88 | 360 | 892 | 0.395 | 351 | 293 | 0.5 | 0.7 | 7.411 | A |
| | 3 | 396 | 99 | 166 | 602 | 0.658 | 393 | 546 | 1.1 | 1.9 | 18.110 | C |

### 08:30 - 08:45

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 588 | 147 | 380 | 2423 | 0.243 | 588 | 373 | 0.3 | 0.3 | 2.127 | A |
| | 2 | 548 | 137 | 571 | 679 | 0.808 | 547 | 396 | 3.7 | 4.0 | 27.457 | D |
| | 3 | 753 | 188 | 375 | 1681 | 0.448 | 753 | 744 | 0.9 | 0.9 | 4.111 | A |
| | 4 | 255 | 64 | 832 | 1293 | 0.198 | 255 | 296 | 0.3 | 0.3 | 4.160 | A |
| | 5 | | | 753 | | | | 335 | | | | |
| 2 | 1 | 499 | 125 | 159 | 818 | 0.610 | 499 | 403 | 1.6 | 1.6 | 11.935 | B |
| | 2 | 352 | 88 | 362 | 891 | 0.395 | 352 | 295 | 0.7 | 0.7 | 7.453 | A |
| | 3 | 396 | 99 | 166 | 602 | 0.659 | 396 | 548 | 1.9 | 2.0 | 18.686 | C |

## 08:45 - 09:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 480 | 120 | 311 | 2463 | 0.195 | 480 | 306 | 0.3 | 0.3 | 1.969 | A |
| | 2 | 450 | 112 | 467 | 708 | 0.635 | 458 | 324 | 4.0 | 1.9 | 15.190 | C |
| | 3 | 615 | 154 | 311 | 1711 | 0.359 | 616 | 614 | 0.9 | 0.6 | 3.489 | A |
| | 4 | 209 | 52 | 682 | 1359 | 0.154 | 209 | 245 | 0.3 | 0.2 | 3.757 | A |
| | 5 | | | 617 | | | | 274 | | | | |
| 2 | 1 | 407 | 102 | 131 | 838 | 0.486 | 410 | 332 | 1.6 | 1.0 | 8.964 | A |
| | 2 | 288 | 72 | 298 | 942 | 0.305 | 289 | 243 | 0.7 | 0.5 | 6.156 | A |
| | 3 | 324 | 81 | 136 | 620 | 0.523 | 327 | 450 | 2.0 | 1.2 | 13.308 | B |

## 09:00 - 09:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 402 | 101 | 260 | 2493 | 0.161 | 402 | 256 | 0.3 | 0.2 | 1.869 | A |
| | 2 | 376 | 94 | 391 | 730 | 0.515 | 379 | 271 | 1.9 | 1.1 | 10.578 | B |
| | 3 | 515 | 129 | 259 | 1736 | 0.297 | 516 | 511 | 0.6 | 0.4 | 3.126 | A |
| | 4 | 175 | 44 | 570 | 1408 | 0.124 | 175 | 204 | 0.2 | 0.2 | 3.504 | A |
| | 5 | | | 516 | | | | 229 | | | | |
| 2 | 1 | 341 | 85 | 109 | 853 | 0.400 | 342 | 277 | 1.0 | 0.7 | 7.486 | A |
| | 2 | 241 | 60 | 249 | 980 | 0.246 | 241 | 203 | 0.5 | 0.4 | 5.441 | A |
| | 3 | 271 | 68 | 114 | 633 | 0.428 | 273 | 376 | 1.2 | 0.8 | 10.731 | B |

# Alternate Scenario (Base Case), PM

## Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 2 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 1 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |
| Warning | Linked Roundabout | Junction 2 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 2 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |

# Junction Network

## Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Coopers End Roundabout | Standard Roundabout | | 1, 2, 3, 4, 5 | 15.41 | C |
| 2 | Parsonage Road | Mini-roundabout | | 1, 2, 3 | 31.52 | D |

## Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 20.54 | C |

# 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 | Alternate Scenario (Base Case) | 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 |

## Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 3 | 1 | 2 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

## Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | | ONE HOUR | ✓ | 958 | 100.000 |
| | 2 | ✓ | | | | |
| | 3 | | ONE HOUR | ✓ | 881 | 100.000 |
| | 4 | | ONE HOUR | ✓ | 292 | 100.000 |
| | 5 | | | | | |
| 2 | 1 | | ONE HOUR | ✓ | 421 | 100.000 |
| | 2 | | ONE HOUR | ✓ | 267 | 100.000 |
| | 3 | ✓ | | | | |

# Origin-Destination Data

**Junction 1**

### Demand (PCU/hr)

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 83 | 765 | 80 | 30 |
| | 2 | 24 | 2 | 292 | 108 | 43 |
| | 3 | 259 | 262 | 0 | 15 | 345 |
| | 4 | 40 | 183 | 8 | 12 | 49 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 102 | 319 |
| | 2 | 111 | 1 | 155 |
| | 3 | 355 | 179 | 1 |

# Vehicle Mix

**Junction 1**

### HV %s

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 8 | 4 | 18 | 13 |
| | 2 | 0 | 0 | 1 | 3 | 0 |
| | 3 | 8 | 2 | 0 | 0 | 2 |
| | 4 | 0 | 2 | 13 | 33 | 22 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 4 | 2 |
| | 2 | 7 | 0 | 6 |
| | 3 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (PCU) | Max LOS | Av. Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.45 | 2.95 | 0.9 | A | 879 | 1319 |
| | 2 | 0.93 | 66.49 | 9.0 | F | 435 | 653 |
| | 3 | 0.57 | 5.09 | 1.4 | A | 808 | 1213 |
| | 4 | 0.27 | 4.38 | 0.4 | A | 268 | 402 |
| | 5 | | | | | | |
| 2 | 1 | 0.59 | 11.22 | 1.4 | B | 386 | 579 |
| | 2 | 0.33 | 6.33 | 0.5 | A | 245 | 368 |
| | 3 | 0.93 | 60.36 | 9.1 | F | 486 | 729 |

## Main Results for each time segment

### 16:45 - 17:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 721 | 180 | 350 | 2440 | 0.296 | 719 | 242 | 0.0 | 0.4 | 2.209 | A |
| | 2 | 355 | 89 | 672 | 650 | 0.546 | 350 | 398 | 0.0 | 1.2 | 11.987 | B |
| | 3 | 663 | 166 | 224 | 1753 | 0.378 | 661 | 799 | 0.0 | 0.6 | 3.411 | A |
| | 4 | 220 | 55 | 724 | 1340 | 0.164 | 219 | 161 | 0.0 | 0.2 | 3.399 | A |
| | 5 | | | 592 | | | | 350 | | | | |
| 2 | 1 | 317 | 79 | 132 | 837 | 0.379 | 314 | 343 | 0.0 | 0.6 | 7.032 | A |
| | 2 | 201 | 50 | 239 | 988 | 0.204 | 200 | 208 | 0.0 | 0.3 | 4.857 | A |
| | 3 | 398 | 99 | 84 | 652 | 0.610 | 392 | 355 | 0.0 | 1.5 | 13.556 | B |

### 17:00 - 17:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 861 | 215 | 419 | 2399 | 0.359 | 861 | 290 | 0.4 | 0.6 | 2.472 | A |
| | 2 | 426 | 107 | 804 | 613 | 0.695 | 422 | 476 | 1.2 | 2.2 | 18.735 | C |
| | 3 | 792 | 198 | 269 | 1731 | 0.457 | 791 | 957 | 0.6 | 0.9 | 3.964 | A |
| | 4 | 263 | 66 | 867 | 1278 | 0.205 | 262 | 193 | 0.2 | 0.3 | 3.754 | A |
| | 5 | | | 709 | | | | 419 | | | | |
| 2 | 1 | 378 | 95 | 159 | 818 | 0.463 | 377 | 412 | 0.6 | 0.9 | 8.363 | A |
| | 2 | 240 | 60 | 287 | 950 | 0.253 | 240 | 250 | 0.3 | 0.4 | 5.389 | A |
| | 3 | 476 | 119 | 101 | 641 | 0.742 | 471 | 426 | 1.5 | 2.7 | 20.601 | C |

### 17:15 - 17:30

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1055 | 264 | 513 | 2344 | 0.450 | 1054 | 354 | 0.6 | 0.9 | 2.944 | A |
| | 2 | 521 | 130 | 984 | 562 | 0.927 | 500 | 583 | 2.2 | 7.3 | 48.284 | E |
| | 3 | 970 | 242 | 323 | 1706 | 0.569 | 968 | 1162 | 0.9 | 1.3 | 5.046 | A |
| | 4 | 321 | 80 | 1058 | 1194 | 0.269 | 321 | 233 | 0.3 | 0.4 | 4.367 | A |
| | 5 | | | 867 | | | | 512 | | | | |
| 2 | 1 | 464 | 116 | 190 | 795 | 0.583 | 461 | 495 | 0.9 | 1.4 | 10.973 | B |
| | 2 | 294 | 73 | 351 | 900 | 0.327 | 293 | 301 | 0.4 | 0.5 | 6.306 | A |
| | 3 | 583 | 146 | 123 | 628 | 0.928 | 563 | 521 | 2.7 | 7.6 | 45.393 | E |

### 17:30 - 17:45

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1055 | 264 | 514 | 2344 | 0.450 | 1055 | 356 | 0.9 | 0.9 | 2.949 | A |
| | 2 | 523 | 131 | 985 | 561 | 0.931 | 516 | 584 | 7.3 | 9.0 | 66.487 | F |
| | 3 | 970 | 242 | 329 | 1703 | 0.570 | 970 | 1172 | 1.3 | 1.4 | 5.092 | A |
| | 4 | 321 | 80 | 1062 | 1192 | 0.270 | 321 | 237 | 0.4 | 0.4 | 4.380 | A |
| | 5 | | | 870 | | | | 514 | | | | |
| 2 | 1 | 464 | 116 | 195 | 792 | 0.585 | 463 | 505 | 1.4 | 1.4 | 11.216 | B |
| | 2 | 294 | 73 | 352 | 899 | 0.327 | 294 | 307 | 0.5 | 0.5 | 6.331 | A |
| | 3 | 584 | 146 | 123 | 628 | 0.930 | 577 | 523 | 7.6 | 9.1 | 60.359 | F |

### 17:45 - 18:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 861 | 215 | 421 | 2399 | 0.359 | 862 | 293 | 0.9 | 0.6 | 2.477 | A |
| | 2 | 429 | 107 | 806 | 612 | 0.701 | 455 | 478 | 9.0 | 2.5 | 26.261 | D |
| | 3 | 792 | 198 | 281 | 1725 | 0.459 | 794 | 979 | 1.4 | 0.9 | 4.014 | A |
| | 4 | 263 | 66 | 874 | 1274 | 0.206 | 263 | 201 | 0.4 | 0.3 | 3.770 | A |
| | 5 | | | 714 | | | | 424 | | | | |
| 2 | 1 | 378 | 95 | 170 | 810 | 0.467 | 381 | 433 | 1.4 | 0.9 | 8.623 | A |
| | 2 | 240 | 60 | 289 | 948 | 0.253 | 241 | 261 | 0.5 | 0.4 | 5.417 | A |
| | 3 | 478 | 119 | 101 | 641 | 0.745 | 501 | 429 | 9.1 | 3.2 | 29.042 | D |

### 18:00 - 18:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 721 | 180 | 352 | 2439 | 0.296 | 722 | 244 | 0.6 | 0.4 | 2.217 | A |
| | 2 | 359 | 90 | 674 | 649 | 0.552 | 364 | 400 | 2.5 | 1.3 | 12.976 | B |
| | 3 | 663 | 166 | 229 | 1750 | 0.379 | 664 | 809 | 0.9 | 0.6 | 3.439 | A |
| | 4 | 220 | 55 | 729 | 1338 | 0.164 | 220 | 164 | 0.3 | 0.2 | 3.413 | A |
| | 5 | | | 596 | | | | 353 | | | | |
| 2 | 1 | 317 | 79 | 137 | 833 | 0.380 | 318 | 353 | 0.9 | 0.6 | 7.176 | A |
| | 2 | 201 | 50 | 242 | 985 | 0.204 | 201 | 214 | 0.4 | 0.3 | 4.888 | A |
| | 3 | 400 | 100 | 84 | 651 | 0.614 | 406 | 359 | 3.2 | 1.6 | 15.016 | C |

# Alternate Scenario (Development Case), AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 2 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 1 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |
| Warning | Linked Roundabout | Junction 2 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 2 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Coopers End Roundabout | Standard Roundabout | | 1, 2, 3, 4, 5 | 10.92 | B |
| 2 | Parsonage Road | Mini-roundabout | | 1, 2, 3 | 13.44 | B |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 11.85 | B |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | Alternate Scenario (Development Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 3 | 1 | 2 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | | ONE HOUR | ✓ | 534 | 100.000 |
| | 2 | ✓ | | | | |
| | 3 | | ONE HOUR | ✓ | 688 | 100.000 |
| | 4 | | ONE HOUR | ✓ | 234 | 100.000 |
| | 5 | | | | | |
| 2 | 1 | | ONE HOUR | ✓ | 473 | 100.000 |
| | 2 | | ONE HOUR | ✓ | 320 | 100.000 |
| | 3 | ✓ | | | | |

# Origin-Destination Data

**Junction 1**

**Demand (PCU/hr)**

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 1 | 57 | 386 | 72 | 18 |
| | 2 | 37 | 1 | 287 | 166 | 26 |
| | 3 | 223 | 242 | 2 | 11 | 210 |
| | 4 | 78 | 66 | 14 | 26 | 50 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 15 | 127 | 331 |
| | 2 | 135 | 1 | 184 |
| | 3 | 221 | 141 | 2 |

# Vehicle Mix

**Junction 1**

**HV %s**

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 7 | 7 | 15 | 22 |
| | 2 | 0 | 0 | 4 | 0 | 0 |
| | 3 | 10 | 5 | 0 | 9 | 3 |
| | 4 | 14 | 9 | 29 | 88 | 20 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 12 | 4 |
| | 2 | 22 | 0 | 5 |
| | 3 | 7 | 7 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (PCU) | Max LOS | Av. Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.24 | 2.13 | 0.3 | A | 490 | 735 |
| | 2 | 0.84 | 32.08 | 4.8 | D | 474 | 711 |
| | 3 | 0.45 | 4.14 | 0.9 | A | 631 | 947 |
| | 4 | 0.20 | 4.17 | 0.3 | A | 215 | 322 |
| | 5 | | | | | | |
| 2 | 1 | 0.64 | 12.82 | 1.8 | B | 434 | 651 |
| | 2 | 0.40 | 7.69 | 0.7 | A | 294 | 440 |
| | 3 | 0.67 | 19.28 | 2.1 | C | 336 | 504 |

## Main Results for each time segment

### 07:45 - 08:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 402 | 101 | 263 | 2491 | 0.161 | 401 | 254 | 0.0 | 0.2 | 1.868 | A |
| | 2 | 386 | 97 | 390 | 730 | 0.529 | 382 | 275 | 0.0 | 1.1 | 10.437 | B |
| | 3 | 518 | 129 | 258 | 1737 | 0.298 | 516 | 514 | 0.0 | 0.4 | 3.122 | A |
| | 4 | 176 | 44 | 569 | 1408 | 0.125 | 175 | 204 | 0.0 | 0.2 | 3.497 | A |
| | 5 | | | 517 | | | | 228 | | | | |
| 2 | 1 | 356 | 89 | 107 | 855 | 0.417 | 353 | 277 | 0.0 | 0.7 | 7.558 | A |
| | 2 | 241 | 60 | 260 | 971 | 0.248 | 239 | 201 | 0.0 | 0.4 | 5.475 | A |
| | 3 | 275 | 69 | 113 | 634 | 0.433 | 271 | 386 | 0.0 | 0.8 | 10.542 | B |

### 08:00 - 08:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 480 | 120 | 315 | 2460 | 0.195 | 480 | 304 | 0.2 | 0.3 | 1.971 | A |
| | 2 | 464 | 116 | 466 | 708 | 0.654 | 461 | 329 | 1.1 | 1.9 | 14.674 | B |
| | 3 | 618 | 155 | 310 | 1712 | 0.361 | 618 | 617 | 0.4 | 0.6 | 3.486 | A |
| | 4 | 210 | 53 | 682 | 1359 | 0.155 | 210 | 246 | 0.2 | 0.2 | 3.755 | A |
| | 5 | | | 619 | | | | 273 | | | | |
| 2 | 1 | 425 | 106 | 129 | 839 | 0.507 | 424 | 333 | 0.7 | 1.1 | 9.156 | A |
| | 2 | 288 | 72 | 312 | 930 | 0.309 | 287 | 241 | 0.4 | 0.5 | 6.236 | A |
| | 3 | 329 | 82 | 135 | 620 | 0.530 | 327 | 464 | 0.8 | 1.2 | 13.072 | B |

### 08:15 - 08:30

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 588 | 147 | 386 | 2419 | 0.243 | 588 | 372 | 0.3 | 0.3 | 2.131 | A |
| | 2 | 567 | 142 | 571 | 679 | 0.835 | 557 | 402 | 1.9 | 4.4 | 28.017 | D |
| | 3 | 758 | 189 | 376 | 1680 | 0.451 | 756 | 751 | 0.6 | 0.9 | 4.125 | A |
| | 4 | 258 | 64 | 834 | 1292 | 0.199 | 257 | 299 | 0.2 | 0.3 | 4.167 | A |
| | 5 | | | 758 | | | | 334 | | | | |
| 2 | 1 | 521 | 130 | 158 | 819 | 0.636 | 518 | 407 | 1.1 | 1.8 | 12.549 | B |
| | 2 | 352 | 88 | 381 | 876 | 0.402 | 351 | 295 | 0.5 | 0.7 | 7.637 | A |
| | 3 | 402 | 101 | 166 | 602 | 0.669 | 399 | 567 | 1.2 | 2.0 | 18.656 | C |

### 08:30 - 08:45

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 588 | 147 | 386 | 2419 | 0.243 | 588 | 373 | 0.3 | 0.3 | 2.132 | A |
| | 2 | 569 | 142 | 571 | 679 | 0.839 | 567 | 403 | 4.4 | 4.8 | 32.077 | D |
| | 3 | 758 | 189 | 381 | 1678 | 0.451 | 757 | 758 | 0.9 | 0.9 | 4.144 | A |
| | 4 | 258 | 64 | 837 | 1291 | 0.200 | 258 | 302 | 0.3 | 0.3 | 4.173 | A |
| | 5 | | | 760 | | | | 335 | | | | |
| 2 | 1 | 521 | 130 | 159 | 818 | 0.637 | 521 | 410 | 1.8 | 1.8 | 12.816 | B |
| | 2 | 352 | 88 | 383 | 875 | 0.403 | 352 | 297 | 0.7 | 0.7 | 7.688 | A |
| | 3 | 403 | 101 | 166 | 602 | 0.670 | 403 | 569 | 2.0 | 2.1 | 19.281 | C |

### 08:45 - 09:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 480 | 120 | 316 | 2460 | 0.195 | 480 | 306 | 0.3 | 0.3 | 1.973 | A |
| | 2 | 467 | 117 | 467 | 708 | 0.660 | 478 | 330 | 4.8 | 2.1 | 16.673 | C |
| | 3 | 618 | 155 | 318 | 1708 | 0.362 | 620 | 627 | 0.9 | 0.6 | 3.507 | A |
| | 4 | 210 | 53 | 686 | 1357 | 0.155 | 211 | 252 | 0.3 | 0.2 | 3.762 | A |
| | 5 | | | 622 | | | | 274 | | | | |
| 2 | 1 | 425 | 106 | 132 | 837 | 0.508 | 428 | 337 | 1.8 | 1.1 | 9.378 | A |
| | 2 | 288 | 72 | 315 | 928 | 0.310 | 289 | 245 | 0.7 | 0.5 | 6.288 | A |
| | 3 | 330 | 82 | 136 | 620 | 0.532 | 333 | 467 | 2.1 | 1.3 | 13.579 | B |

### 09:00 - 09:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 402 | 101 | 265 | 2490 | 0.161 | 402 | 256 | 0.3 | 0.2 | 1.872 | A |
| | 2 | 391 | 98 | 391 | 730 | 0.535 | 394 | 276 | 2.1 | 1.2 | 11.071 | B |
| | 3 | 518 | 129 | 263 | 1734 | 0.299 | 519 | 522 | 0.6 | 0.5 | 3.142 | A |
| | 4 | 176 | 44 | 573 | 1406 | 0.125 | 176 | 209 | 0.2 | 0.2 | 3.509 | A |
| | 5 | | | 520 | | | | 229 | | | | |
| 2 | 1 | 356 | 89 | 110 | 853 | 0.417 | 357 | 282 | 1.1 | 0.8 | 7.716 | A |
| | 2 | 241 | 60 | 263 | 969 | 0.249 | 241 | 204 | 0.5 | 0.4 | 5.526 | A |
| | 3 | 276 | 69 | 114 | 633 | 0.436 | 277 | 391 | 1.3 | 0.8 | 10.871 | B |

# Alternate Scenario (Development Case), PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 2 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 1 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |
| Warning | Linked Roundabout | Junction 2 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 2 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Coopers End Roundabout | Standard Roundabout | | 1, 2, 3, 4, 5 | 17.09 | C |
| 2 | Parsonage Road | Mini-roundabout | | 1, 2, 3 | 38.44 | E |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 23.94 | C |

## 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 | Alternate Scenario (Development Case) | 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 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 3 | 1 | 2 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | | ONE HOUR | ✓ | 958 | 100.000 |
| | 2 | ✓ | | | | |
| | 3 | | ONE HOUR | ✓ | 893 | 100.000 |
| | 4 | | ONE HOUR | ✓ | 297 | 100.000 |
| | 5 | | | | | |
| 2 | 1 | | ONE HOUR | ✓ | 430 | 100.000 |
| | 2 | | ONE HOUR | ✓ | 267 | 100.000 |
| | 3 | ✓ | | | | |

# Origin-Destination Data

**Junction 1**

### Demand (PCU/hr)

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 83 | 765 | 80 | 30 |
| | 2 | 24 | 2 | 298 | 110 | 43 |
| | 3 | 259 | 274 | 0 | 15 | 345 |
| | 4 | 40 | 188 | 8 | 12 | 49 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 102 | 328 |
| | 2 | 111 | 1 | 155 |
| | 3 | 372 | 179 | 1 |

# Vehicle Mix

**Junction 1**

### HV %s

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 8 | 4 | 18 | 13 |
| | 2 | 0 | 0 | 1 | 3 | 0 |
| | 3 | 8 | 2 | 0 | 0 | 2 |
| | 4 | 0 | 2 | 13 | 33 | 22 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 4 | 2 |
| | 2 | 7 | 0 | 6 |
| | 3 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (PCU) | Max LOS | Av. Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.45 | 2.97 | 0.9 | A | 879 | 1319 |
| | 2 | 0.95 | 74.81 | 10.4 | F | 444 | 666 |
| | 3 | 0.58 | 5.19 | 1.4 | A | 819 | 1229 |
| | 4 | 0.28 | 4.43 | 0.4 | A | 273 | 409 |
| | 5 | | | | | | |
| 2 | 1 | 0.60 | 11.53 | 1.5 | B | 395 | 592 |
| | 2 | 0.33 | 6.41 | 0.5 | A | 245 | 368 |
| | 3 | 0.96 | 75.25 | 11.9 | F | 502 | 753 |

## Main Results for each time segment

### 16:45 - 17:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 721 | 180 | 363 | 2432 | 0.297 | 719 | 242 | 0.0 | 0.4 | 2.218 | A |
| | 2 | 362 | 90 | 672 | 650 | 0.557 | 357 | 410 | 0.0 | 1.2 | 12.244 | B |
| | 3 | 672 | 168 | 226 | 1752 | 0.384 | 670 | 803 | 0.0 | 0.6 | 3.438 | A |
| | 4 | 224 | 56 | 733 | 1336 | 0.167 | 223 | 163 | 0.0 | 0.2 | 3.420 | A |
| | 5 | | | 605 | | | | 350 | | | | |
| 2 | 1 | 324 | 81 | 132 | 837 | 0.387 | 321 | 355 | 0.0 | 0.6 | 7.120 | A |
| | 2 | 201 | 50 | 246 | 982 | 0.205 | 200 | 208 | 0.0 | 0.3 | 4.888 | A |
| | 3 | 410 | 103 | 84 | 652 | 0.630 | 404 | 362 | 0.0 | 1.6 | 14.187 | B |

### 17:00 - 17:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 861 | 215 | 435 | 2390 | 0.360 | 861 | 290 | 0.4 | 0.6 | 2.484 | A |
| | 2 | 434 | 109 | 804 | 613 | 0.708 | 430 | 491 | 1.2 | 2.3 | 19.479 | C |
| | 3 | 803 | 201 | 271 | 1730 | 0.464 | 802 | 963 | 0.6 | 0.9 | 4.014 | A |
| | 4 | 267 | 67 | 877 | 1273 | 0.210 | 267 | 195 | 0.2 | 0.3 | 3.787 | A |
| | 5 | | | 725 | | | | 419 | | | | |
| 2 | 1 | 387 | 97 | 159 | 818 | 0.473 | 386 | 427 | 0.6 | 0.9 | 8.514 | A |
| | 2 | 240 | 60 | 295 | 944 | 0.254 | 240 | 250 | 0.3 | 0.4 | 5.437 | A |
| | 3 | 491 | 123 | 101 | 641 | 0.766 | 486 | 434 | 1.6 | 3.0 | 22.359 | C |

### 17:15 - 17:30

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1055 | 264 | 532 | 2333 | 0.452 | 1054 | 354 | 0.6 | 0.9 | 2.969 | A |
| | 2 | 531 | 133 | 984 | 562 | 0.945 | 507 | 601 | 2.3 | 8.2 | 52.298 | F |
| | 3 | 983 | 246 | 324 | 1705 | 0.577 | 981 | 1167 | 0.9 | 1.4 | 5.140 | A |
| | 4 | 327 | 82 | 1071 | 1188 | 0.275 | 327 | 235 | 0.3 | 0.4 | 4.421 | A |
| | 5 | | | 886 | | | | 512 | | | | |
| 2 | 1 | 473 | 118 | 189 | 797 | 0.594 | 471 | 510 | 0.9 | 1.5 | 11.256 | B |
| | 2 | 294 | 73 | 360 | 892 | 0.329 | 293 | 300 | 0.4 | 0.5 | 6.387 | A |
| | 3 | 601 | 150 | 123 | 628 | 0.958 | 576 | 531 | 3.0 | 9.3 | 52.706 | F |

### 17:30 - 17:45

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1055 | 264 | 533 | 2333 | 0.452 | 1055 | 356 | 0.9 | 0.9 | 2.975 | A |
| | 2 | 533 | 133 | 985 | 561 | 0.949 | 524 | 602 | 8.2 | 10.4 | 74.808 | F |
| | 3 | 983 | 246 | 331 | 1702 | 0.578 | 983 | 1178 | 1.4 | 1.4 | 5.190 | A |
| | 4 | 327 | 82 | 1075 | 1186 | 0.276 | 327 | 239 | 0.4 | 0.4 | 4.434 | A |
| | 5 | | | 888 | | | | 514 | | | | |
| 2 | 1 | 473 | 118 | 194 | 793 | 0.597 | 473 | 521 | 1.5 | 1.5 | 11.530 | B |
| | 2 | 294 | 73 | 362 | 891 | 0.330 | 294 | 305 | 0.5 | 0.5 | 6.413 | A |
| | 3 | 602 | 151 | 123 | 628 | 0.960 | 592 | 533 | 9.3 | 11.9 | 75.251 | F |

## 17:45 - 18:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 861 | 215 | 436 | 2390 | 0.360 | 862 | 293 | 0.9 | 0.6 | 2.493 | A |
| | 2 | 437 | 109 | 806 | 612 | 0.714 | 468 | 493 | 10.4 | 2.7 | 29.500 | D |
| | 3 | 803 | 201 | 285 | 1723 | 0.466 | 805 | 988 | 1.4 | 0.9 | 4.069 | A |
| | 4 | 267 | 67 | 886 | 1269 | 0.210 | 267 | 204 | 0.4 | 0.3 | 3.807 | A |
| | 5 | | | 729 | | | | 424 | | | | |
| 2 | 1 | 387 | 97 | 172 | 808 | 0.478 | 389 | 454 | 1.5 | 1.0 | 8.833 | A |
| | 2 | 240 | 60 | 297 | 942 | 0.255 | 241 | 264 | 0.5 | 0.4 | 5.469 | A |
| | 3 | 493 | 123 | 101 | 641 | 0.769 | 526 | 437 | 11.9 | 3.7 | 36.921 | E |

## 18:00 - 18:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 721 | 180 | 365 | 2431 | 0.297 | 722 | 244 | 0.6 | 0.4 | 2.225 | A |
| | 2 | 366 | 91 | 674 | 649 | 0.563 | 371 | 412 | 2.7 | 1.3 | 13.352 | B |
| | 3 | 672 | 168 | 231 | 1749 | 0.384 | 673 | 814 | 0.9 | 0.7 | 3.470 | A |
| | 4 | 224 | 56 | 738 | 1334 | 0.168 | 224 | 166 | 0.3 | 0.2 | 3.435 | A |
| | 5 | | | 609 | | | | 353 | | | | |
| 2 | 1 | 324 | 81 | 138 | 833 | 0.389 | 325 | 367 | 1.0 | 0.7 | 7.278 | A |
| | 2 | 201 | 50 | 249 | 980 | 0.205 | 201 | 214 | 0.4 | 0.3 | 4.922 | A |
| | 3 | 412 | 103 | 84 | 651 | 0.633 | 420 | 366 | 3.7 | 1.8 | 16.057 | C |

# Alternate Sensitivity Scenario (Base Case), AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 2 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 1 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |
| Warning | Linked Roundabout | Junction 2 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 2 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Coopers End Roundabout | Standard Roundabout | | 1, 2, 3, 4, 5 | 17.68 | C |
| 2 | Parsonage Road | Mini-roundabout | | 1, 2, 3 | 14.10 | B |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 16.33 | C |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D5 | Alternate Sensitivity Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 3 | 1 | 2 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | | ONE HOUR | ✓ | 537 | 100.000 |
| | 2 | ✓ | | | | |
| | 3 | | ONE HOUR | ✓ | 703 | 100.000 |
| | 4 | | ONE HOUR | ✓ | 237 | 100.000 |
| | 5 | | | | | |
| 2 | 1 | | ONE HOUR | ✓ | 459 | 100.000 |
| | 2 | | ONE HOUR | ✓ | 393 | 100.000 |
| | 3 | ✓ | | | | |

# Origin-Destination Data

**Junction 1**

### Demand (PCU/hr)

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 1 | 60 | 386 | 72 | 18 |
| | 2 | 43 | 1 | 320 | 175 | 32 |
| | 3 | 223 | 257 | 2 | 11 | 210 |
| | 4 | 78 | 69 | 14 | 26 | 50 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 15 | 128 | 316 |
| | 2 | 141 | 1 | 251 |
| | 3 | 217 | 166 | 2 |

# Vehicle Mix

**Junction 1**

### HV %s

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 7 | 7 | 15 | 0 |
| | 2 | 0 | 0 | 4 | 0 | 0 |
| | 3 | 10 | 5 | 0 | 9 | 3 |
| | 4 | 14 | 9 | 29 | 88 | 20 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 12 | 4 |
| | 2 | 22 | 0 | 5 |
| | 3 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (PCU) | Max LOS | Av. Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.25 | 2.14 | 0.4 | A | 493 | 739 |
| | 2 | 0.92 | 54.58 | 8.9 | F | 522 | 782 |
| | 3 | 0.46 | 4.26 | 0.9 | A | 645 | 968 |
| | 4 | 0.20 | 4.23 | 0.3 | A | 217 | 326 |
| | 5 | | | | | | |
| 2 | 1 | 0.63 | 13.01 | 1.8 | B | 421 | 632 |
| | 2 | 0.49 | 8.74 | 1.0 | A | 361 | 541 |
| | 3 | 0.71 | 20.84 | 2.4 | C | 355 | 532 |

## Main Results for each time segment

### 07:45 - 08:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 404 | 101 | 277 | 2483 | 0.163 | 403 | 258 | 0.0 | 0.2 | 1.864 | A |
| | 2 | 425 | 106 | 390 | 730 | 0.582 | 420 | 290 | 0.0 | 1.4 | 11.659 | B |
| | 3 | 529 | 132 | 272 | 1730 | 0.306 | 527 | 537 | 0.0 | 0.5 | 3.169 | A |
| | 4 | 178 | 45 | 589 | 1399 | 0.128 | 178 | 210 | 0.0 | 0.2 | 3.524 | A |
| | 5 | | | 535 | | | | 232 | | | | |
| 2 | 1 | 346 | 86 | 126 | 841 | 0.411 | 343 | 278 | 0.0 | 0.7 | 7.606 | A |
| | 2 | 296 | 74 | 249 | 980 | 0.302 | 294 | 220 | 0.0 | 0.5 | 5.785 | A |
| | 3 | 290 | 73 | 117 | 631 | 0.460 | 287 | 425 | 0.0 | 0.8 | 10.364 | B |

### 08:00 - 08:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 483 | 121 | 331 | 2451 | 0.197 | 483 | 309 | 0.2 | 0.3 | 1.970 | A |
| | 2 | 510 | 128 | 466 | 708 | 0.720 | 506 | 348 | 1.4 | 2.5 | 17.783 | C |
| | 3 | 632 | 158 | 327 | 1703 | 0.371 | 631 | 645 | 0.5 | 0.6 | 3.556 | A |
| | 4 | 213 | 53 | 706 | 1348 | 0.158 | 213 | 253 | 0.2 | 0.2 | 3.793 | A |
| | 5 | | | 641 | | | | 278 | | | | |
| 2 | 1 | 413 | 103 | 152 | 823 | 0.501 | 411 | 335 | 0.7 | 1.0 | 9.237 | A |
| | 2 | 353 | 88 | 298 | 941 | 0.375 | 353 | 265 | 0.5 | 0.7 | 6.753 | A |
| | 3 | 348 | 87 | 141 | 617 | 0.563 | 346 | 510 | 0.8 | 1.3 | 13.195 | B |

### 08:15 - 08:30

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 591 | 148 | 406 | 2407 | 0.246 | 591 | 378 | 0.3 | 0.3 | 2.135 | A |
| | 2 | 624 | 156 | 571 | 679 | 0.919 | 604 | 426 | 2.5 | 7.4 | 41.188 | E |
| | 3 | 774 | 194 | 394 | 1672 | 0.463 | 773 | 781 | 0.6 | 0.9 | 4.238 | A |
| | 4 | 261 | 65 | 862 | 1280 | 0.204 | 261 | 305 | 0.2 | 0.3 | 4.226 | A |
| | 5 | | | 783 | | | | 340 | | | | |
| 2 | 1 | 505 | 126 | 185 | 799 | 0.632 | 503 | 409 | 1.0 | 1.8 | 12.724 | B |
| | 2 | 433 | 108 | 365 | 889 | 0.487 | 431 | 323 | 0.7 | 1.0 | 8.660 | A |
| | 3 | 426 | 106 | 172 | 598 | 0.712 | 421 | 624 | 1.3 | 2.3 | 19.905 | C |

### 08:30 - 08:45

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 591 | 148 | 406 | 2407 | 0.246 | 591 | 379 | 0.3 | 0.4 | 2.135 | A |
| | 2 | 626 | 157 | 571 | 679 | 0.923 | 620 | 426 | 7.4 | 8.9 | 54.577 | F |
| | 3 | 774 | 194 | 402 | 1668 | 0.464 | 774 | 790 | 0.9 | 0.9 | 4.264 | A |
| | 4 | 261 | 65 | 865 | 1278 | 0.204 | 261 | 310 | 0.3 | 0.3 | 4.233 | A |
| | 5 | | | 785 | | | | 341 | | | | |
| 2 | 1 | 505 | 126 | 187 | 798 | 0.633 | 505 | 412 | 1.8 | 1.8 | 13.010 | B |
| | 2 | 433 | 108 | 367 | 888 | 0.488 | 433 | 326 | 1.0 | 1.0 | 8.744 | A |
| | 3 | 426 | 107 | 173 | 598 | 0.713 | 426 | 626 | 2.3 | 2.4 | 20.836 | C |

### 08:45 - 09:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 483 | 121 | 332 | 2450 | 0.197 | 483 | 312 | 0.4 | 0.3 | 1.973 | A |
| | 2 | 514 | 129 | 467 | 708 | 0.726 | 538 | 348 | 8.9 | 2.9 | 24.102 | C |
| | 3 | 632 | 158 | 342 | 1697 | 0.372 | 633 | 663 | 0.9 | 0.6 | 3.589 | A |
| | 4 | 213 | 53 | 712 | 1346 | 0.158 | 213 | 263 | 0.3 | 0.2 | 3.804 | A |
| | 5 | | | 645 | | | | 280 | | | | |
| 2 | 1 | 413 | 103 | 155 | 821 | 0.503 | 415 | 340 | 1.8 | 1.1 | 9.472 | A |
| | 2 | 353 | 88 | 301 | 939 | 0.376 | 355 | 269 | 1.0 | 0.7 | 6.832 | A |
| | 3 | 348 | 87 | 142 | 616 | 0.565 | 353 | 514 | 2.4 | 1.3 | 13.856 | B |

### 09:00 - 09:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 404 | 101 | 278 | 2482 | 0.163 | 405 | 260 | 0.3 | 0.2 | 1.866 | A |
| | 2 | 430 | 107 | 391 | 730 | 0.589 | 435 | 292 | 2.9 | 1.5 | 12.735 | B |
| | 3 | 529 | 132 | 280 | 1726 | 0.307 | 530 | 547 | 0.6 | 0.5 | 3.189 | A |
| | 4 | 178 | 45 | 594 | 1397 | 0.128 | 179 | 216 | 0.2 | 0.2 | 3.534 | A |
| | 5 | | | 539 | | | | 234 | | | | |
| 2 | 1 | 346 | 86 | 129 | 839 | 0.412 | 347 | 283 | 1.1 | 0.8 | 7.767 | A |
| | 2 | 296 | 74 | 252 | 978 | 0.303 | 297 | 224 | 0.7 | 0.5 | 5.847 | A |
| | 3 | 292 | 73 | 119 | 631 | 0.463 | 294 | 430 | 1.3 | 0.9 | 10.743 | B |

# Alternate Sensitivity Scenario (Base Case), PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 2 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 1 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |
| Warning | Linked Roundabout | Junction 2 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 2 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Coopers End Roundabout | Standard Roundabout | | 1, 2, 3, 4, 5 | 22.40 | C |
| 2 | Parsonage Road | Mini-roundabout | | 1, 2, 3 | 66.85 | F |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 36.98 | E |

## 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 | Alternate Sensitivity Scenario (Base Case) | 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 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 3 | 1 | 2 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | | ONE HOUR | ✓ | 967 | 100.000 |
| | 2 | ✓ | | | | |
| | 3 | | ONE HOUR | ✓ | 925 | 100.000 |
| | 4 | | ONE HOUR | ✓ | 300 | 100.000 |
| | 5 | | | | | |
| 2 | 1 | | ONE HOUR | ✓ | 428 | 100.000 |
| | 2 | | ONE HOUR | ✓ | 298 | 100.000 |
| | 3 | ✓ | | | | |

# Origin-Destination Data

**Junction 1**

**Demand (PCU/hr)**

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 92 | 765 | 80 | 30 |
| | 2 | 26 | 2 | 311 | 116 | 45 |
| | 3 | 259 | 306 | 0 | 15 | 345 |
| | 4 | 40 | 191 | 8 | 12 | 49 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 107 | 321 |
| | 2 | 113 | 1 | 184 |
| | 3 | 360 | 236 | 1 |

# Vehicle Mix

**Junction 1**

**HV %s**

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 8 | 4 | 18 | 0 |
| | 2 | 0 | 0 | 1 | 3 | 0 |
| | 3 | 8 | 2 | 0 | 0 | 2 |
| | 4 | 0 | 2 | 13 | 33 | 22 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 4 | 2 |
| | 2 | 7 | 0 | 6 |
| | 3 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (PCU) | Max LOS | Av. Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.46 | 3.04 | 0.9 | A | 887 | 1331 |
| | 2 | 0.99 | 100.98 | 15.3 | F | 464 | 696 |
| | 3 | 0.60 | 5.48 | 1.5 | A | 849 | 1273 |
| | 4 | 0.28 | 4.54 | 0.4 | A | 275 | 413 |
| | 5 | | | | | | |
| 2 | 1 | 0.62 | 12.92 | 1.7 | B | 393 | 589 |
| | 2 | 0.37 | 6.73 | 0.6 | A | 273 | 410 |
| | 3 | 1.04 | 136.26 | 25.2 | F | 542 | 813 |

## Main Results for each time segment

### 16:45 - 17:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 728 | 182 | 389 | 2417 | 0.301 | 726 | 244 | 0.0 | 0.5 | 2.239 | A |
| | 2 | 378 | 95 | 672 | 650 | 0.582 | 373 | 443 | 0.0 | 1.4 | 12.909 | B |
| | 3 | 696 | 174 | 232 | 1749 | 0.398 | 694 | 812 | 0.0 | 0.7 | 3.526 | A |
| | 4 | 226 | 56 | 759 | 1325 | 0.170 | 225 | 167 | 0.0 | 0.2 | 3.458 | A |
| | 5 | | | 633 | | | | 352 | | | | |
| 2 | 1 | 322 | 81 | 174 | 808 | 0.399 | 320 | 347 | 0.0 | 0.7 | 7.521 | A |
| | 2 | 224 | 56 | 240 | 987 | 0.227 | 223 | 253 | 0.0 | 0.3 | 5.007 | A |
| | 3 | 443 | 111 | 85 | 651 | 0.681 | 435 | 378 | 0.0 | 2.0 | 16.167 | C |

### 17:00 - 17:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 869 | 217 | 466 | 2372 | 0.366 | 869 | 292 | 0.5 | 0.6 | 2.519 | A |
| | 2 | 454 | 113 | 804 | 613 | 0.740 | 449 | 531 | 1.4 | 2.7 | 21.530 | C |
| | 3 | 832 | 208 | 279 | 1726 | 0.482 | 830 | 973 | 0.7 | 1.0 | 4.156 | A |
| | 4 | 270 | 67 | 909 | 1259 | 0.214 | 269 | 200 | 0.2 | 0.3 | 3.848 | A |
| | 5 | | | 758 | | | | 421 | | | | |
| 2 | 1 | 385 | 96 | 208 | 783 | 0.492 | 384 | 416 | 0.7 | 1.0 | 9.212 | A |
| | 2 | 268 | 67 | 289 | 949 | 0.282 | 267 | 303 | 0.3 | 0.4 | 5.616 | A |
| | 3 | 531 | 133 | 102 | 640 | 0.829 | 522 | 454 | 2.0 | 4.1 | 28.552 | D |

### 17:15 - 17:30

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1065 | 266 | 570 | 2311 | 0.461 | 1064 | 356 | 0.6 | 0.9 | 3.035 | A |
| | 2 | 555 | 139 | 984 | 562 | 0.987 | 522 | 649 | 2.7 | 10.9 | 63.697 | F |
| | 3 | 1018 | 255 | 331 | 1702 | 0.599 | 1016 | 1175 | 1.0 | 1.5 | 5.420 | A |
| | 4 | 330 | 83 | 1109 | 1172 | 0.282 | 330 | 239 | 0.3 | 0.4 | 4.522 | A |
| | 5 | | | 926 | | | | 513 | | | | |
| 2 | 1 | 471 | 118 | 239 | 761 | 0.620 | 469 | 486 | 1.0 | 1.6 | 12.524 | B |
| | 2 | 328 | 82 | 353 | 899 | 0.365 | 327 | 356 | 0.4 | 0.6 | 6.695 | A |
| | 3 | 649 | 162 | 125 | 626 | 1.037 | 600 | 555 | 4.1 | 16.4 | 78.785 | F |

### 17:30 - 17:45

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 1065 | 266 | 571 | 2310 | 0.461 | 1065 | 357 | 0.9 | 0.9 | 3.041 | A |
| | 2 | 557 | 139 | 985 | 561 | 0.992 | 539 | 651 | 10.9 | 15.3 | 100.982 | F |
| | 3 | 1018 | 255 | 338 | 1698 | 0.600 | 1018 | 1187 | 1.5 | 1.5 | 5.483 | A |
| | 4 | 330 | 83 | 1114 | 1170 | 0.282 | 330 | 243 | 0.4 | 0.4 | 4.538 | A |
| | 5 | | | 929 | | | | 515 | | | | |
| 2 | 1 | 471 | 118 | 245 | 756 | 0.623 | 471 | 496 | 1.6 | 1.7 | 12.916 | B |
| | 2 | 328 | 82 | 354 | 897 | 0.366 | 328 | 362 | 0.6 | 0.6 | 6.727 | A |
| | 3 | 651 | 163 | 126 | 626 | 1.039 | 615 | 557 | 16.4 | 25.2 | 136.255 | F |

### 17:45 - 18:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 869 | 217 | 468 | 2371 | 0.367 | 870 | 296 | 0.9 | 0.6 | 2.527 | A |
| | 2 | 457 | 114 | 806 | 612 | 0.747 | 505 | 533 | 15.3 | 3.3 | 43.437 | E |
| | 3 | 832 | 208 | 301 | 1716 | 0.485 | 834 | 1010 | 1.5 | 1.0 | 4.235 | A |
| | 4 | 270 | 67 | 921 | 1254 | 0.215 | 270 | 213 | 0.4 | 0.3 | 3.875 | A |
| | 5 | | | 764 | | | | 428 | | | | |
| 2 | 1 | 385 | 96 | 242 | 759 | 0.507 | 387 | 467 | 1.7 | 1.1 | 9.980 | A |
| | 2 | 268 | 67 | 291 | 947 | 0.283 | 269 | 337 | 0.6 | 0.4 | 5.655 | A |
| | 3 | 533 | 133 | 103 | 640 | 0.832 | 606 | 457 | 25.2 | 6.8 | 97.756 | F |

### 18:00 - 18:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 728 | 182 | 391 | 2416 | 0.301 | 729 | 246 | 0.6 | 0.5 | 2.246 | A |
| | 2 | 382 | 96 | 674 | 649 | 0.589 | 390 | 446 | 3.3 | 1.5 | 14.416 | B |
| | 3 | 696 | 174 | 239 | 1745 | 0.399 | 698 | 825 | 1.0 | 0.7 | 3.561 | A |
| | 4 | 226 | 56 | 766 | 1322 | 0.171 | 226 | 171 | 0.3 | 0.2 | 3.476 | A |
| | 5 | | | 637 | | | | 355 | | | | |
| 2 | 1 | 322 | 81 | 185 | 800 | 0.403 | 324 | 365 | 1.1 | 0.7 | 7.778 | A |
| | 2 | 224 | 56 | 244 | 984 | 0.228 | 225 | 265 | 0.4 | 0.3 | 5.045 | A |
| | 3 | 446 | 111 | 86 | 650 | 0.685 | 464 | 382 | 6.8 | 2.3 | 20.876 | C |

# Alternate Sensitivity Scenario (Development Case), AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 2 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 1 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |
| Warning | Linked Roundabout | Junction 2 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 2 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Coopers End Roundabout | Standard Roundabout | | 1, 2, 3, 4, 5 | 21.93 | C |
| 2 | Parsonage Road | Mini-roundabout | | 1, 2, 3 | 14.86 | B |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 19.25 | C |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D7 | Alternate Sensitivity Scenario (Development Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 3 | 1 | 2 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | | ONE HOUR | ✓ | 537 | 100.000 |
| | 2 | ✓ | | | | |
| | 3 | | ONE HOUR | ✓ | 707 | 100.000 |
| | 4 | | ONE HOUR | ✓ | 239 | 100.000 |
| | 5 | | | | | |
| 2 | 1 | | ONE HOUR | ✓ | 479 | 100.000 |
| | 2 | | ONE HOUR | ✓ | 393 | 100.000 |
| | 3 | ✓ | | | | |

# Origin-Destination Data

**Junction 1**

**Demand (PCU/hr)**

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 1 | 60 | 386 | 72 | 18 |
| | 2 | 43 | 1 | 333 | 181 | 32 |
| | 3 | 223 | 261 | 2 | 11 | 210 |
| | 4 | 78 | 71 | 14 | 26 | 50 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

**Demand (PCU/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 15 | 129 | 335 |
| | 2 | 141 | 1 | 251 |
| | 3 | 223 | 166 | 2 |

# Vehicle Mix

**Junction 1**

**HV %s**

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 7 | 7 | 15 | 0 |
| | 2 | 0 | 0 | 4 | 0 | 0 |
| | 3 | 10 | 5 | 0 | 9 | 3 |
| | 4 | 14 | 9 | 29 | 88 | 20 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 12 | 4 |
| | 2 | 22 | 0 | 5 |
| | 3 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (PCU) | Max LOS | Av. Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.25 | 2.14 | 0.4 | A | 493 | 739 |
| | 2 | 0.95 | 68.43 | 11.6 | F | 539 | 808 |
| | 3 | 0.47 | 4.30 | 0.9 | A | 649 | 973 |
| | 4 | 0.21 | 4.25 | 0.3 | A | 219 | 329 |
| | 5 | | | | | | |
| 2 | 1 | 0.66 | 14.05 | 2.0 | B | 440 | 659 |
| | 2 | 0.50 | 9.07 | 1.1 | A | 361 | 541 |
| | 3 | 0.72 | 21.64 | 2.5 | C | 360 | 541 |

## Main Results for each time segment

### 07:45 - 08:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 404 | 101 | 281 | 2480 | 0.163 | 403 | 258 | 0.0 | 0.2 | 1.867 | A |
| | 2 | 439 | 110 | 390 | 730 | 0.602 | 433 | 295 | 0.0 | 1.5 | 12.179 | B |
| | 3 | 532 | 133 | 277 | 1728 | 0.308 | 530 | 547 | 0.0 | 0.5 | 3.186 | A |
| | 4 | 180 | 45 | 592 | 1398 | 0.129 | 179 | 215 | 0.0 | 0.2 | 3.530 | A |
| | 5 | | | 539 | | | | 232 | | | | |
| 2 | 1 | 361 | 90 | 126 | 841 | 0.429 | 357 | 283 | 0.0 | 0.8 | 7.829 | A |
| | 2 | 296 | 74 | 263 | 969 | 0.305 | 294 | 221 | 0.0 | 0.5 | 5.877 | A |
| | 3 | 295 | 74 | 117 | 631 | 0.467 | 291 | 439 | 0.0 | 0.9 | 10.494 | B |

### 08:00 - 08:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 483 | 121 | 337 | 2448 | 0.197 | 483 | 309 | 0.2 | 0.3 | 1.973 | A |
| | 2 | 527 | 132 | 466 | 708 | 0.744 | 522 | 353 | 1.5 | 2.8 | 19.231 | C |
| | 3 | 636 | 159 | 333 | 1701 | 0.374 | 635 | 656 | 0.5 | 0.6 | 3.576 | A |
| | 4 | 215 | 54 | 709 | 1347 | 0.160 | 215 | 258 | 0.2 | 0.2 | 3.801 | A |
| | 5 | | | 646 | | | | 278 | | | | |
| 2 | 1 | 431 | 108 | 152 | 823 | 0.523 | 429 | 340 | 0.8 | 1.1 | 9.644 | A |
| | 2 | 353 | 88 | 315 | 928 | 0.381 | 353 | 266 | 0.5 | 0.7 | 6.909 | A |
| | 3 | 353 | 88 | 141 | 617 | 0.572 | 351 | 527 | 0.9 | 1.3 | 13.453 | B |

### 08:15 - 08:30

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 591 | 148 | 412 | 2404 | 0.246 | 591 | 377 | 0.3 | 0.4 | 2.139 | A |
| | 2 | 644 | 161 | 571 | 679 | 0.949 | 619 | 432 | 2.8 | 9.1 | 47.957 | E |
| | 3 | 778 | 195 | 398 | 1670 | 0.466 | 777 | 792 | 0.6 | 0.9 | 4.267 | A |
| | 4 | 263 | 66 | 866 | 1278 | 0.206 | 263 | 310 | 0.2 | 0.3 | 4.238 | A |
| | 5 | | | 789 | | | | 339 | | | | |
| 2 | 1 | 527 | 132 | 185 | 800 | 0.660 | 524 | 415 | 1.1 | 2.0 | 13.672 | B |
| | 2 | 433 | 108 | 385 | 873 | 0.496 | 431 | 324 | 0.7 | 1.1 | 8.971 | A |
| | 3 | 432 | 108 | 172 | 598 | 0.723 | 428 | 644 | 1.3 | 2.4 | 20.585 | C |

### 08:30 - 08:45

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 591 | 148 | 413 | 2403 | 0.246 | 591 | 379 | 0.4 | 0.4 | 2.140 | A |
| | 2 | 647 | 162 | 571 | 679 | 0.954 | 637 | 433 | 9.1 | 11.6 | 68.432 | F |
| | 3 | 778 | 195 | 406 | 1666 | 0.467 | 778 | 802 | 0.9 | 0.9 | 4.296 | A |
| | 4 | 263 | 66 | 869 | 1277 | 0.206 | 263 | 315 | 0.3 | 0.3 | 4.246 | A |
| | 5 | | | 792 | | | | 341 | | | | |
| 2 | 1 | 527 | 132 | 187 | 798 | 0.661 | 527 | 418 | 2.0 | 2.0 | 14.047 | B |
| | 2 | 433 | 108 | 387 | 871 | 0.497 | 433 | 327 | 1.1 | 1.1 | 9.069 | A |
| | 3 | 433 | 108 | 173 | 598 | 0.724 | 432 | 647 | 2.4 | 2.5 | 21.644 | C |

### 08:45 - 09:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 483 | 121 | 338 | 2447 | 0.197 | 483 | 313 | 0.4 | 0.3 | 1.976 | A |
| | 2 | 532 | 133 | 467 | 708 | 0.751 | 565 | 354 | 11.6 | 3.4 | 30.077 | D |
| | 3 | 636 | 159 | 351 | 1692 | 0.376 | 637 | 680 | 0.9 | 0.6 | 3.619 | A |
| | 4 | 215 | 54 | 717 | 1343 | 0.160 | 215 | 271 | 0.3 | 0.2 | 3.814 | A |
| | 5 | | | 651 | | | | 281 | | | | |
| 2 | 1 | 431 | 108 | 155 | 821 | 0.525 | 434 | 345 | 2.0 | 1.2 | 9.934 | A |
| | 2 | 353 | 88 | 319 | 925 | 0.382 | 355 | 270 | 1.1 | 0.7 | 6.996 | A |
| | 3 | 354 | 88 | 142 | 616 | 0.574 | 358 | 532 | 2.5 | 1.4 | 14.184 | B |

### 09:00 - 09:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 404 | 101 | 283 | 2480 | 0.163 | 405 | 261 | 0.3 | 0.2 | 1.871 | A |
| | 2 | 444 | 111 | 391 | 730 | 0.609 | 451 | 296 | 3.4 | 1.6 | 13.524 | B |
| | 3 | 532 | 133 | 285 | 1724 | 0.309 | 533 | 557 | 0.6 | 0.5 | 3.204 | A |
| | 4 | 180 | 45 | 597 | 1396 | 0.129 | 180 | 221 | 0.2 | 0.2 | 3.540 | A |
| | 5 | | | 543 | | | | 234 | | | | |
| 2 | 1 | 361 | 90 | 129 | 839 | 0.430 | 362 | 288 | 1.2 | 0.8 | 8.014 | A |
| | 2 | 296 | 74 | 266 | 966 | 0.306 | 297 | 225 | 0.7 | 0.5 | 5.947 | A |
| | 3 | 296 | 74 | 119 | 630 | 0.470 | 298 | 444 | 1.4 | 0.9 | 10.897 | B |

# Alternate Sensitivity Scenario (Development Case), PM

## Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 2 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 1 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |
| Warning | Linked Roundabout | Junction 2 - Arm 3 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked roundabouts | Junction 2 | U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results. |

# Junction Network

## Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Coopers End Roundabout | Standard Roundabout | | 1, 2, 3, 4, 5 | 24.75 | C |
| 2 | Parsonage Road | Mini-roundabout | | 1, 2, 3 | 81.44 | F |

## Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 43.47 | E |

# 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 | Alternate Sensitivity Scenario (Development Case) | 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 |

## Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (PCU/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 3 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 3 | 1 | 2 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

## Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (PCU/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | | ONE HOUR | ✓ | 967 | 100.000 |
| | 2 | ✓ | | | | |
| | 3 | | ONE HOUR | ✓ | 937 | 100.000 |
| | 4 | | ONE HOUR | ✓ | 305 | 100.000 |
| | 5 | | | | | |
| 2 | 1 | | ONE HOUR | ✓ | 436 | 100.000 |
| | 2 | | ONE HOUR | ✓ | 298 | 100.000 |
| | 3 | ✓ | | | | |

# Origin-Destination Data

**Junction 1**

### Demand (PCU/hr)

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 92 | 765 | 80 | 30 |
| | 2 | 26 | 2 | 316 | 118 | 45 |
| | 3 | 259 | 318 | 0 | 15 | 345 |
| | 4 | 40 | 196 | 8 | 12 | 49 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

### Demand (PCU/hr)

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 107 | 329 |
| | 2 | 113 | 1 | 184 |
| | 3 | 377 | 236 | 1 |

# Vehicle Mix

**Junction 1**

### HV %s

| | | To | | | | |
|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 |
| From | 1 | 0 | 8 | 4 | 18 | 0 |
| | 2 | 0 | 0 | 1 | 3 | 0 |
| | 3 | 8 | 2 | 0 | 0 | 2 |
| | 4 | 0 | 2 | 13 | 33 | 22 |
| | 5 | 0 | 0 | 0 | 0 | 0 |

**Junction 2**

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 4 | 2 |
| | 2 | 7 | 0 | 6 |
| | 3 | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (PCU) | Max LOS | Av. Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.46 | 3.07 | 0.9 | A | 887 | 1331 |
| | 2 | 1.01 | 112.53 | 17.6 | F | 471 | 707 |
| | 3 | 0.61 | 5.59 | 1.6 | A | 860 | 1290 |
| | 4 | 0.29 | 4.60 | 0.4 | A | 280 | 420 |
| | 5 | | | | | | |
| 2 | 1 | 0.63 | 13.15 | 1.7 | B | 400 | 600 |
| | 2 | 0.37 | 6.81 | 0.6 | A | 273 | 410 |
| | 3 | 1.07 | 167.04 | 32.5 | F | 558 | 836 |

## Main Results for each time segment

### 16:45 - 17:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 728 | 182 | 402 | 2410 | 0.302 | 726 | 244 | 0.0 | 0.5 | 2.249 | A |
| | 2 | 384 | 96 | 672 | 650 | 0.591 | 378 | 456 | 0.0 | 1.4 | 13.171 | B |
| 1 | 3 | 705 | 176 | 234 | 1748 | 0.404 | 703 | 816 | 0.0 | 0.7 | 3.559 | A |
| | 4 | 230 | 57 | 768 | 1321 | 0.174 | 229 | 168 | 0.0 | 0.2 | 3.482 | A |
| | 5 | | | 646 | | | | 352 | | | | |
| | 1 | 328 | 82 | 173 | 808 | 0.406 | 325 | 359 | 0.0 | 0.7 | 7.609 | A |
| 2 | 2 | 224 | 56 | 246 | 982 | 0.229 | 223 | 253 | 0.0 | 0.3 | 5.038 | A |
| | 3 | 456 | 114 | 85 | 651 | 0.701 | 447 | 384 | 0.0 | 2.2 | 17.044 | C |

### 17:00 - 17:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 869 | 217 | 481 | 2363 | 0.368 | 869 | 292 | 0.5 | 0.6 | 2.534 | A |
| | 2 | 461 | 115 | 804 | 613 | 0.752 | 455 | 546 | 1.4 | 2.8 | 22.376 | C |
| 1 | 3 | 842 | 211 | 281 | 1725 | 0.488 | 841 | 978 | 0.7 | 1.0 | 4.211 | A |
| | 4 | 274 | 69 | 920 | 1254 | 0.219 | 274 | 202 | 0.2 | 0.3 | 3.882 | A |
| | 5 | | | 773 | | | | 421 | | | | |
| | 1 | 392 | 98 | 208 | 783 | 0.500 | 391 | 430 | 0.7 | 1.0 | 9.368 | A |
| 2 | 2 | 268 | 67 | 296 | 943 | 0.284 | 267 | 303 | 0.3 | 0.4 | 5.663 | A |
| | 3 | 546 | 136 | 102 | 640 | 0.853 | 536 | 461 | 2.2 | 4.7 | 31.636 | D |

### 17:15 - 17:30

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1065 | 266 | 589 | 2300 | 0.463 | 1064 | 355 | 0.6 | 0.9 | 3.062 | A |
| | 2 | 563 | 141 | 984 | 562 | 1.003 | 526 | 668 | 2.8 | 12.1 | 68.434 | F |
| 1 | 3 | 1032 | 258 | 332 | 1701 | 0.606 | 1029 | 1178 | 1.0 | 1.6 | 5.528 | A |
| | 4 | 336 | 84 | 1122 | 1166 | 0.288 | 335 | 240 | 0.3 | 0.4 | 4.579 | A |
| | 5 | | | 944 | | | | 513 | | | | |
| | 1 | 480 | 120 | 235 | 764 | 0.629 | 477 | 497 | 1.0 | 1.7 | 12.770 | B |
| 2 | 2 | 328 | 82 | 361 | 892 | 0.368 | 327 | 351 | 0.4 | 0.6 | 6.773 | A |
| | 3 | 668 | 167 | 125 | 626 | 1.066 | 607 | 563 | 4.7 | 20.1 | 91.164 | F |

### 17:30 - 17:45

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 1065 | 266 | 590 | 2299 | 0.463 | 1065 | 357 | 0.9 | 0.9 | 3.068 | A |
| | 2 | 566 | 141 | 985 | 561 | 1.008 | 544 | 669 | 12.1 | 17.6 | 112.525 | F |
| 1 | 3 | 1032 | 258 | 339 | 1698 | 0.608 | 1032 | 1190 | 1.6 | 1.6 | 5.594 | A |
| | 4 | 336 | 84 | 1126 | 1164 | 0.289 | 336 | 244 | 0.4 | 0.4 | 4.596 | A |
| | 5 | | | 947 | | | | 515 | | | | |
| | 1 | 480 | 120 | 240 | 760 | 0.632 | 480 | 505 | 1.7 | 1.7 | 13.149 | B |
| 2 | 2 | 328 | 82 | 363 | 890 | 0.369 | 328 | 357 | 0.6 | 0.6 | 6.810 | A |
| | 3 | 669 | 167 | 126 | 626 | 1.069 | 620 | 566 | 20.1 | 32.5 | 167.040 | F |

### 17:45 - 18:00

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 869 | 217 | 483 | 2362 | 0.368 | 870 | 296 | 0.9 | 0.6 | 2.542 | A |
| | 2 | 464 | 116 | 806 | 612 | 0.759 | 520 | 548 | 17.6 | 3.6 | 52.065 | F |
| | 3 | 842 | 211 | 306 | 1714 | 0.492 | 845 | 1020 | 1.6 | 1.0 | 4.302 | A |
| | 4 | 274 | 69 | 933 | 1249 | 0.220 | 275 | 217 | 0.4 | 0.3 | 3.912 | A |
| | 5 | | | 779 | | | | 428 | | | | |
| 2 | 1 | 392 | 98 | 241 | 760 | 0.516 | 394 | 483 | 1.7 | 1.1 | 10.163 | B |
| | 2 | 268 | 67 | 299 | 941 | 0.285 | 269 | 336 | 0.6 | 0.4 | 5.701 | A |
| | 3 | 548 | 137 | 103 | 640 | 0.856 | 621 | 464 | 32.5 | 14.3 | 141.417 | F |

### 18:00 - 18:15

| Junction | Arm | Total Demand (PCU/hr) | Junction Arrivals (PCU) | Circulating flow (PCU/hr) | Capacity (PCU/hr) | RFC | Throughput (PCU/hr) | Throughput (exit) (PCU/hr) | Start queue (PCU) | End queue (PCU) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 728 | 182 | 404 | 2408 | 0.302 | 729 | 246 | 0.6 | 0.5 | 2.256 | A |
| | 2 | 388 | 97 | 674 | 649 | 0.598 | 397 | 458 | 3.6 | 1.6 | 14.873 | B |
| | 3 | 705 | 176 | 241 | 1744 | 0.404 | 707 | 830 | 1.0 | 0.7 | 3.596 | A |
| | 4 | 230 | 57 | 775 | 1318 | 0.174 | 230 | 173 | 0.3 | 0.2 | 3.502 | A |
| | 5 | | | 650 | | | | 355 | | | | |
| 2 | 1 | 328 | 82 | 196 | 792 | 0.415 | 330 | 395 | 1.1 | 0.7 | 8.013 | A |
| | 2 | 224 | 56 | 250 | 979 | 0.229 | 225 | 276 | 0.4 | 0.3 | 5.079 | A |
| | 3 | 458 | 115 | 86 | 650 | 0.705 | 505 | 388 | 14.3 | 2.6 | 31.316 | D |

# Junctions 10

## PICADY 10 - Priority Intersection Module

Version: 10.0.2.1574


For sales and distribution information, program advice and maintenance, contact TRL Software:
+44 (0)1344 379777 software@trl.co.uk [redacted]

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:** Henham Road. High Street. Hall Road (Existing).j10
**Path:** Y:\ARDENT PROJECTS\2008170 - Land South of Henham Road, Elsenham\Transport\PICADY
**Report generation date:** 28/07/2022 14:45:24

---



### Summary of junction performance

| | AM | | PM | |
|---|---|---|---|---|
| | Q (Veh) | RFC | Q (Veh) | RFC |
| | 2022 Surveyed Flows | | | |
| Stream B-C | 0.4 | 0.28 | 0.6 | 0.39 |
| Stream B-A | 0.1 | 0.13 | 0.2 | 0.13 |
| Stream C-AB | 0.9 | 0.42 | 0.6 | 0.33 |
| | Sensitivity Scenario (Base Case) | | | |
| Stream B-C | 0.6 | 0.39 | 1.1 | 0.52 |
| Stream B-A | 0.3 | 0.23 | 0.4 | 0.31 |
| Stream C-AB | 1.6 | 0.56 | 1.2 | 0.48 |
| | Sensitivity Scenario (Development Case) | | | |
| Stream B-C | 0.7 | 0.40 | 1.1 | 0.54 |
| Stream B-A | 0.3 | 0.26 | 0.6 | 0.36 |
| Stream C-AB | 1.7 | 0.58 | 1.2 | 0.47 |

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

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

# File summary

## File Description

| | |
|---|---|
| **Title** | |
| **Location** | |
| **Site number** | |
| **Date** | 27/06/2022 |
| **Version** | |
| **Status** | (new file) |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | ARDENTCE\jsymington |
| **Description** | |

# Units

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

# Analysis Options

| Vehicle length (m) | Calculate Q Percentiles | Calculate detailed queueing delay | Show lane queues in feet / metres | Show all PICADY stream intercepts | Calculate residual capacity | RFC Threshold | Av. Delay threshold (s) | Q threshold (PCU) | Use iterations with HCM roundabouts | Max number of iterations for roundabouts |
|---|---|---|---|---|---|---|---|---|---|---|
| 5.75 | | | | | | 0.85 | 36.00 | 20.00 | | 500 |

# Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2022 Surveyed Flows | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D2 | 2022 Surveyed Flows | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D3 | Sensitivity Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D4 | Sensitivity Scenario (Base Case) | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D5 | Sensitivity Scenario (Development Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D6 | Sensitivity Scenario (Development Case) | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

# Analysis Set Details

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

# 2022 Surveyed Flows, AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 1 | Henham Road. High Street. Hall Road (Existing Layout) | T-Junction | Two-way | Two-way | Two-way | | 5.33 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 5.33 | A |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | Henham Road (B1051) | | Major |
| B | Hall Road | | Minor |
| C | High Street (B1051) | | Major |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right-turn storage | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|---|---|---|---|---|---|---|
| C | 5.42 | | | 165.0 | ✓ | 0.00 |

*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 (Left) (m) | Lane Width (Right) (m) | Visibility to left (m) | Visibility to right (m) |
|---|---|---|---|---|---|
| B | Two lanes | 3.71 | 3.82 | 43 | 29 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|
| B-A | 547 | 0.100 | 0.253 | 0.159 | 0.362 |
| B-C | 688 | 0.110 | 0.278 | - | - |
| C-B | 670 | 0.266 | 0.266 | - | - |

*The slopes and intercepts shown above include custom intercept adjustments only.*

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

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

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2022 Surveyed Flows | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 251 | 100.000 |
| B | | ONE HOUR | ✓ | 185 | 100.000 |
| C | | ONE HOUR | ✓ | 340 | 100.000 |

# Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 72 | 179 |
| | B | 44 | 0 | 141 |
| | C | 141 | 199 | 0 |

# Vehicle Mix

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 4 | 0 |
| | B | 2 | 0 | 8 |
| | C | 2 | 5 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.28 | 8.92 | 0.4 | A | 129 | 194 |
| B-A | 0.13 | 11.13 | 0.1 | B | 40 | 61 |
| C-AB | 0.42 | 9.32 | 0.9 | A | 229 | 343 |
| C-A | | | | | 83 | 125 |
| A-B | | | | | 66 | 99 |
| A-C | | | | | 164 | 246 |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 106 | 27 | 585 | 0.181 | 105 | 0.0 | 0.2 | 7.490 | A |
| B-A | 33 | 8 | 425 | 0.078 | 33 | 0.0 | 0.1 | 9.179 | A |
| C-AB | 179 | 45 | 660 | 0.271 | 177 | 0.0 | 0.4 | 7.433 | A |
| C-A | 77 | 19 | | | 77 | | | | |
| A-B | 54 | 14 | | | 54 | | | | |
| A-C | 135 | 34 | | | 135 | | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 127 | 32 | 574 | 0.221 | 127 | 0.2 | 0.3 | 8.037 | A |
| B-A | 40 | 10 | 402 | 0.098 | 39 | 0.1 | 0.1 | 9.916 | A |
| C-AB | 221 | 55 | 665 | 0.333 | 221 | 0.4 | 0.6 | 8.105 | A |
| C-A | 84 | 21 | | | 84 | | | | |
| A-B | 65 | 16 | | | 65 | | | | |
| A-C | 161 | 40 | | | 161 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 155 | 39 | 559 | 0.278 | 155 | 0.3 | 0.4 | 8.899 | A |
| B-A | 48 | 12 | 372 | 0.130 | 48 | 0.1 | 0.1 | 11.107 | B |
| C-AB | 285 | 71 | 673 | 0.424 | 284 | 0.6 | 0.9 | 9.277 | A |
| C-A | 89 | 22 | | | 89 | | | | |
| A-B | 79 | 20 | | | 79 | | | | |
| A-C | 197 | 49 | | | 197 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 155 | 39 | 559 | 0.278 | 155 | 0.4 | 0.4 | 8.919 | A |
| B-A | 48 | 12 | 372 | 0.130 | 48 | 0.1 | 0.1 | 11.130 | B |
| C-AB | 286 | 71 | 673 | 0.425 | 286 | 0.9 | 0.9 | 9.324 | A |
| C-A | 89 | 22 | | | 89 | | | | |
| A-B | 79 | 20 | | | 79 | | | | |
| A-C | 197 | 49 | | | 197 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 127 | 32 | 574 | 0.221 | 127 | 0.4 | 0.3 | 8.061 | A |
| B-A | 40 | 10 | 402 | 0.098 | 40 | 0.1 | 0.1 | 9.946 | A |
| C-AB | 222 | 55 | 666 | 0.333 | 223 | 0.9 | 0.6 | 8.156 | A |
| C-A | 84 | 21 | | | 84 | | | | |
| A-B | 65 | 16 | | | 65 | | | | |
| A-C | 161 | 40 | | | 161 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 106 | 27 | 585 | 0.182 | 106 | 0.3 | 0.2 | 7.530 | A |
| B-A | 33 | 8 | 424 | 0.078 | 33 | 0.1 | 0.1 | 9.218 | A |
| C-AB | 179 | 45 | 660 | 0.271 | 180 | 0.6 | 0.4 | 7.499 | A |
| C-A | 77 | 19 | | | 77 | | | | |
| A-B | 54 | 14 | | | 54 | | | | |
| A-C | 135 | 34 | | | 135 | | | | |

# 2022 Surveyed Flows, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 1 | Henham Road. High Street. Hall Road (Existing Layout) | T-Junction | Two-way | Two-way | Two-way | | 5.80 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 5.80 | A |

## 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 | 2022 Surveyed Flows | 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 | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 138 | 100.000 |
| B | | ONE HOUR | ✓ | 267 | 100.000 |
| C | | ONE HOUR | ✓ | 324 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 50 | 88 |
| | B | 51 | 0 | 216 |
| | C | 161 | 163 | 0 |

## Vehicle Mix

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 0 |
| | B | 0 | 0 | 5 |
| | C | 0 | 4 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.39 | 9.86 | 0.6 | A | 198 | 297 |
| B-A | 0.13 | 9.88 | 0.2 | A | 47 | 70 |
| C-AB | 0.33 | 7.45 | 0.6 | A | 191 | 286 |
| C-A | | | | | 107 | 160 |
| A-B | | | | | 46 | 69 |
| A-C | | | | | 81 | 121 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 163 | 41 | 621 | 0.262 | 161 | 0.0 | 0.4 | 7.815 | A |
| B-A | 38 | 10 | 461 | 0.083 | 38 | 0.0 | 0.1 | 8.504 | A |
| C-AB | 149 | 37 | 697 | 0.213 | 147 | 0.0 | 0.3 | 6.544 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 38 | 9 | | | 38 | | | | |
| A-C | 66 | 17 | | | 66 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 194 | 49 | 613 | 0.317 | 194 | 0.4 | 0.5 | 8.575 | A |
| B-A | 46 | 11 | 444 | 0.103 | 46 | 0.1 | 0.1 | 9.040 | A |
| C-AB | 185 | 46 | 708 | 0.261 | 184 | 0.3 | 0.4 | 6.884 | A |
| C-A | 107 | 27 | | | 107 | | | | |
| A-B | 45 | 11 | | | 45 | | | | |
| A-C | 79 | 20 | | | 79 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 238 | 59 | 603 | 0.395 | 237 | 0.5 | 0.6 | 9.825 | A |
| B-A | 56 | 14 | 421 | 0.134 | 56 | 0.1 | 0.2 | 9.869 | A |
| C-AB | 238 | 60 | 723 | 0.330 | 238 | 0.4 | 0.6 | 7.430 | A |
| C-A | 118 | 30 | | | 118 | | | | |
| A-B | 55 | 14 | | | 55 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 238 | 59 | 603 | 0.395 | 238 | 0.6 | 0.6 | 9.864 | A |
| B-A | 56 | 14 | 420 | 0.134 | 56 | 0.2 | 0.2 | 9.882 | A |
| C-AB | 238 | 60 | 723 | 0.330 | 238 | 0.6 | 0.6 | 7.446 | A |
| C-A | 118 | 30 | | | 118 | | | | |
| A-B | 55 | 14 | | | 55 | | | | |
| A-C | 97 | 24 | | | 97 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 194 | 49 | 613 | 0.317 | 195 | 0.6 | 0.5 | 8.624 | A |
| B-A | 46 | 11 | 444 | 0.103 | 46 | 0.2 | 0.1 | 9.058 | A |
| C-AB | 185 | 46 | 708 | 0.261 | 185 | 0.6 | 0.4 | 6.900 | A |
| C-A | 107 | 27 | | | 107 | | | | |
| A-B | 45 | 11 | | | 45 | | | | |
| A-C | 79 | 20 | | | 79 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 163 | 41 | 620 | 0.262 | 163 | 0.5 | 0.4 | 7.879 | A |
| B-A | 38 | 10 | 460 | 0.083 | 38 | 0.1 | 0.1 | 8.534 | A |
| C-AB | 149 | 37 | 697 | 0.214 | 149 | 0.4 | 0.3 | 6.579 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 38 | 9 | | | 38 | | | | |
| A-C | 66 | 17 | | | 66 | | | | |

# Sensitivity Scenario (Base Case), AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 1 | Henham Road. High Street. Hall Road (Existing Layout) | T-Junction | Two-way | Two-way | Two-way | | 6.64 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 6.64 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | Sensitivity Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 403 | 100.000 |
| B | | ONE HOUR | ✓ | 249 | 100.000 |
| C | | ONE HOUR | ✓ | 427 | 100.000 |

## Origin-Destination Data

#### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 132 | 271 |
| | B | 66 | 0 | 183 |
| | C | 193 | 234 | 0 |

## Vehicle Mix

#### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 4 | 0 |
| | B | 2 | 0 | 8 |
| | C | 2 | 5 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.39 | 11.56 | 0.6 | B | 168 | 252 |
| B-A | 0.23 | 14.81 | 0.3 | B | 61 | 91 |
| C-AB | 0.56 | 12.24 | 1.6 | B | 297 | 445 |
| C-A | | | | | 95 | 143 |
| A-B | | | | | 121 | 182 |
| A-C | | | | | 249 | 373 |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 138 | 34 | 556 | 0.248 | 136 | 0.0 | 0.3 | 8.564 | A |
| B-A | 50 | 12 | 387 | 0.128 | 49 | 0.0 | 0.1 | 10.643 | B |
| C-AB | 226 | 56 | 659 | 0.343 | 224 | 0.0 | 0.6 | 8.237 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 99 | 25 | | | 99 | | | | |
| A-C | 204 | 51 | | | 204 | | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 165 | 41 | 538 | 0.306 | 164 | 0.3 | 0.4 | 9.611 | A |
| B-A | 59 | 15 | 357 | 0.166 | 59 | 0.1 | 0.2 | 12.079 | B |
| C-AB | 285 | 71 | 665 | 0.429 | 284 | 0.6 | 0.9 | 9.465 | A |
| C-A | 98 | 25 | | | 98 | | | | |
| A-B | 119 | 30 | | | 119 | | | | |
| A-C | 244 | 61 | | | 244 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 201 | 50 | 513 | 0.393 | 201 | 0.4 | 0.6 | 11.490 | B |
| B-A | 73 | 18 | 316 | 0.230 | 72 | 0.2 | 0.3 | 14.721 | B |
| C-AB | 378 | 94 | 674 | 0.561 | 375 | 0.9 | 1.5 | 12.058 | B |
| C-A | 92 | 23 | | | 92 | | | | |
| A-B | 145 | 36 | | | 145 | | | | |
| A-C | 298 | 75 | | | 298 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 201 | 50 | 513 | 0.393 | 201 | 0.6 | 0.6 | 11.556 | B |
| B-A | 73 | 18 | 316 | 0.230 | 73 | 0.3 | 0.3 | 14.809 | B |
| C-AB | 379 | 95 | 675 | 0.561 | 378 | 1.5 | 1.6 | 12.242 | B |
| C-A | 92 | 23 | | | 92 | | | | |
| A-B | 145 | 36 | | | 145 | | | | |
| A-C | 298 | 75 | | | 298 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 165 | 41 | 538 | 0.306 | 165 | 0.6 | 0.4 | 9.684 | A |
| B-A | 59 | 15 | 356 | 0.167 | 60 | 0.3 | 0.2 | 12.171 | B |
| C-AB | 286 | 72 | 666 | 0.430 | 289 | 1.6 | 0.9 | 9.623 | A |
| C-A | 98 | 24 | | | 98 | | | | |
| A-B | 119 | 30 | | | 119 | | | | |
| A-C | 244 | 61 | | | 244 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 138 | 34 | 555 | 0.248 | 138 | 0.4 | 0.3 | 8.644 | A |
| B-A | 50 | 12 | 386 | 0.129 | 50 | 0.2 | 0.1 | 10.732 | B |
| C-AB | 227 | 57 | 660 | 0.344 | 228 | 0.9 | 0.6 | 8.369 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 99 | 25 | | | 99 | | | | |
| A-C | 204 | 51 | | | 204 | | | | |

# Sensitivity Scenario (Base Case), PM

## Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

# Junction Network

## Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 1 | Henham Road. High Street. Hall Road (Existing Layout) | T-Junction | Two-way | Two-way | Two-way | | 7.60 | A |

## Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 7.60 | A |

# 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 | Sensitivity Scenario (Base Case) | 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 | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 220 | 100.000 |
| B | | ONE HOUR | ✓ | 368 | 100.000 |
| C | | ONE HOUR | ✓ | 456 | 100.000 |

# Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 83 | 137 |
| | B | 102 | 0 | 266 |
| | C | 242 | 214 | 0 |

# Vehicle Mix

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 0 |
| | B | 0 | 0 | 5 |
| | C | 0 | 4 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.52 | 13.54 | 1.1 | B | 244 | 366 |
| B-A | 0.31 | 14.13 | 0.4 | B | 94 | 140 |
| C-AB | 0.48 | 9.07 | 1.2 | A | 284 | 427 |
| C-A | | | | | 134 | 201 |
| A-B | | | | | 76 | 114 |
| A-C | | | | | 126 | 189 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 200 | 50 | 593 | 0.338 | 198 | 0.0 | 0.5 | 9.069 | A |
| B-A | 77 | 19 | 425 | 0.181 | 76 | 0.0 | 0.2 | 10.289 | B |
| C-AB | 215 | 54 | 722 | 0.298 | 213 | 0.0 | 0.5 | 7.055 | A |
| C-A | 128 | 32 | | | 128 | | | | |
| A-B | 62 | 16 | | | 62 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 239 | 60 | 579 | 0.413 | 238 | 0.5 | 0.7 | 10.538 | B |
| B-A | 92 | 23 | 401 | 0.229 | 91 | 0.2 | 0.3 | 11.632 | B |
| C-AB | 273 | 68 | 739 | 0.370 | 273 | 0.5 | 0.7 | 7.729 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 75 | 19 | | | 75 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 293 | 73 | 559 | 0.524 | 291 | 0.7 | 1.1 | 13.382 | B |
| B-A | 112 | 28 | 368 | 0.306 | 112 | 0.3 | 0.4 | 14.044 | B |
| C-AB | 364 | 91 | 762 | 0.477 | 362 | 0.7 | 1.2 | 9.010 | A |
| C-A | 139 | 35 | | | 139 | | | | |
| A-B | 91 | 23 | | | 91 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 293 | 73 | 559 | 0.524 | 293 | 1.1 | 1.1 | 13.540 | B |
| B-A | 112 | 28 | 367 | 0.306 | 112 | 0.4 | 0.4 | 14.129 | B |
| C-AB | 364 | 91 | 763 | 0.477 | 364 | 1.2 | 1.2 | 9.071 | A |
| C-A | 138 | 34 | | | 138 | | | | |
| A-B | 91 | 23 | | | 91 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 239 | 60 | 579 | 0.413 | 241 | 1.1 | 0.7 | 10.690 | B |
| B-A | 92 | 23 | 400 | 0.229 | 92 | 0.4 | 0.3 | 11.725 | B |
| C-AB | 274 | 69 | 740 | 0.370 | 276 | 1.2 | 0.8 | 7.789 | A |
| C-A | 136 | 34 | | | 136 | | | | |
| A-B | 75 | 19 | | | 75 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 200 | 50 | 593 | 0.338 | 201 | 0.7 | 0.5 | 9.210 | A |
| B-A | 77 | 19 | 424 | 0.181 | 77 | 0.3 | 0.2 | 10.388 | B |
| C-AB | 216 | 54 | 723 | 0.299 | 217 | 0.8 | 0.5 | 7.130 | A |
| C-A | 127 | 32 | | | 127 | | | | |
| A-B | 62 | 16 | | | 62 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

# Sensitivity Scenario (Development Case), AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 1 | Henham Road. High Street. Hall Road (Existing Layout) | T-Junction | Two-way | Two-way | Two-way | | 6.77 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 6.77 | A |

## Traffic Demand

### Demand Set Details

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

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 448 | 100.000 |
| B | | ONE HOUR | ✓ | 255 | 100.000 |
| C | | ONE HOUR | ✓ | 435 | 100.000 |

## Origin-Destination Data

#### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 152 | 296 |
| | B | 72 | 0 | 183 |
| | C | 201 | 234 | 0 |

## Vehicle Mix

#### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 4 | 0 |
| | B | 2 | 0 | 8 |
| | C | 2 | 5 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.40 | 12.06 | 0.7 | B | 168 | 252 |
| B-A | 0.26 | 15.94 | 0.3 | C | 66 | 99 |
| C-AB | 0.58 | 12.85 | 1.7 | B | 303 | 454 |
| C-A | | | | | 97 | 145 |
| A-B | | | | | 139 | 209 |
| A-C | | | | | 272 | 407 |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 138 | 34 | 547 | 0.252 | 136 | 0.0 | 0.3 | 8.735 | A |
| B-A | 54 | 14 | 380 | 0.143 | 54 | 0.0 | 0.2 | 11.019 | B |
| C-AB | 229 | 57 | 655 | 0.350 | 227 | 0.0 | 0.6 | 8.368 | A |
| C-A | 98 | 25 | | | 98 | | | | |
| A-B | 114 | 29 | | | 114 | | | | |
| A-C | 223 | 56 | | | 223 | | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 165 | 41 | 528 | 0.312 | 164 | 0.3 | 0.4 | 9.877 | A |
| B-A | 65 | 16 | 348 | 0.186 | 64 | 0.2 | 0.2 | 12.672 | B |
| C-AB | 290 | 73 | 661 | 0.440 | 289 | 0.6 | 0.9 | 9.701 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 137 | 34 | | | 137 | | | | |
| A-C | 266 | 67 | | | 266 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 201 | 50 | 500 | 0.403 | 201 | 0.4 | 0.7 | 11.979 | B |
| B-A | 79 | 20 | 306 | 0.259 | 79 | 0.2 | 0.3 | 15.819 | C |
| C-AB | 387 | 97 | 669 | 0.578 | 384 | 0.9 | 1.7 | 12.627 | B |
| C-A | 92 | 23 | | | 92 | | | | |
| A-B | 167 | 42 | | | 167 | | | | |
| A-C | 326 | 81 | | | 326 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 201 | 50 | 500 | 0.403 | 201 | 0.7 | 0.7 | 12.058 | B |
| B-A | 79 | 20 | 305 | 0.260 | 79 | 0.3 | 0.3 | 15.939 | C |
| C-AB | 388 | 97 | 670 | 0.579 | 387 | 1.7 | 1.7 | 12.854 | B |
| C-A | 91 | 23 | | | 91 | | | | |
| A-B | 167 | 42 | | | 167 | | | | |
| A-C | 326 | 81 | | | 326 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 165 | 41 | 528 | 0.312 | 165 | 0.7 | 0.5 | 9.960 | A |
| B-A | 65 | 16 | 347 | 0.186 | 65 | 0.3 | 0.2 | 12.788 | B |
| C-AB | 291 | 73 | 662 | 0.440 | 294 | 1.7 | 1.0 | 9.889 | A |
| C-A | 100 | 25 | | | 100 | | | | |
| A-B | 137 | 34 | | | 137 | | | | |
| A-C | 266 | 67 | | | 266 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 138 | 34 | 547 | 0.252 | 138 | 0.5 | 0.3 | 8.822 | A |
| B-A | 54 | 14 | 378 | 0.143 | 54 | 0.2 | 0.2 | 11.122 | B |
| C-AB | 230 | 57 | 656 | 0.351 | 231 | 1.0 | 0.7 | 8.513 | A |
| C-A | 98 | 24 | | | 98 | | | | |
| A-B | 114 | 29 | | | 114 | | | | |
| A-C | 223 | 56 | | | 223 | | | | |

# Sensitivity Scenario (Development Case), PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 1 | Henham Road. High Street. Hall Road (Existing Layout) | T-Junction | Two-way | Two-way | Two-way | | 7.73 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 7.73 | A |

## 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 | Sensitivity Scenario (Development Case) | 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 | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 238 | 100.000 |
| B | | ONE HOUR | ✓ | 385 | 100.000 |
| C | | ONE HOUR | ✓ | 470 | 100.000 |

## Origin-Destination Data

#### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 91 | 147 |
| | B | 119 | 0 | 266 |
| | C | 263 | 207 | 0 |

## Vehicle Mix

#### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 0 |
| | B | 0 | 0 | 5 |
| | C | 0 | 4 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.54 | 14.18 | 1.1 | B | 244 | 366 |
| B-A | 0.36 | 15.54 | 0.6 | C | 109 | 164 |
| C-AB | 0.47 | 8.87 | 1.2 | A | 284 | 427 |
| C-A | | | | | 147 | 220 |
| A-B | | | | | 84 | 125 |
| A-C | | | | | 135 | 202 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 200 | 50 | 586 | 0.342 | 198 | 0.0 | 0.5 | 9.242 | A |
| B-A | 90 | 22 | 422 | 0.212 | 89 | 0.0 | 0.3 | 10.732 | B |
| C-AB | 214 | 53 | 730 | 0.293 | 212 | 0.0 | 0.5 | 6.955 | A |
| C-A | 140 | 35 | | | 140 | | | | |
| A-B | 69 | 17 | | | 69 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 239 | 60 | 570 | 0.420 | 238 | 0.5 | 0.7 | 10.829 | B |
| B-A | 107 | 27 | 397 | 0.270 | 107 | 0.3 | 0.4 | 12.380 | B |
| C-AB | 273 | 68 | 748 | 0.365 | 272 | 0.5 | 0.7 | 7.576 | A |
| C-A | 150 | 37 | | | 150 | | | | |
| A-B | 82 | 20 | | | 82 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 293 | 73 | 547 | 0.536 | 291 | 0.7 | 1.1 | 13.993 | B |
| B-A | 131 | 33 | 363 | 0.361 | 130 | 0.4 | 0.6 | 15.413 | C |
| C-AB | 366 | 91 | 774 | 0.473 | 364 | 0.7 | 1.2 | 8.809 | A |
| C-A | 152 | 38 | | | 152 | | | | |
| A-B | 100 | 25 | | | 100 | | | | |
| A-C | 162 | 40 | | | 162 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 293 | 73 | 546 | 0.536 | 293 | 1.1 | 1.1 | 14.183 | B |
| B-A | 131 | 33 | 363 | 0.361 | 131 | 0.6 | 0.6 | 15.539 | C |
| C-AB | 366 | 92 | 774 | 0.473 | 366 | 1.2 | 1.2 | 8.866 | A |
| C-A | 151 | 38 | | | 151 | | | | |
| A-B | 100 | 25 | | | 100 | | | | |
| A-C | 162 | 40 | | | 162 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 239 | 60 | 569 | 0.420 | 241 | 1.1 | 0.7 | 11.005 | B |
| B-A | 107 | 27 | 396 | 0.270 | 108 | 0.6 | 0.4 | 12.510 | B |
| C-AB | 274 | 68 | 749 | 0.365 | 275 | 1.2 | 0.8 | 7.634 | A |
| C-A | 149 | 37 | | | 149 | | | | |
| A-B | 82 | 20 | | | 82 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 200 | 50 | 585 | 0.342 | 201 | 0.7 | 0.5 | 9.393 | A |
| B-A | 90 | 22 | 421 | 0.213 | 90 | 0.4 | 0.3 | 10.890 | B |
| C-AB | 215 | 54 | 731 | 0.294 | 216 | 0.8 | 0.5 | 7.003 | A |
| C-A | 139 | 35 | | | 139 | | | | |
| A-B | 69 | 17 | | | 69 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

# Junctions 10

## PICADY 10 - Priority Intersection Module



**Filename:** Henham Road. High Street. Hall Road (Improved).j10
**Path:** Y:\ARDENT PROJECTS\2008170 - Land South of Henham Road, Elsenham\Transport\PICADY
**Report generation date:** 28/07/2022 14:50:46



## Summary of junction performance

| | AM | | PM | |
|---|---|---|---|---|
| | Q (Veh) | RFC | Q (Veh) | RFC |
| | Sensitivity Scenario (Base Case) | | | |
| Stream B-C | 0.6 | 0.39 | 1.1 | 0.54 |
| Stream B-A | 0.4 | 0.27 | 0.6 | 0.39 |
| Stream C-AB | 1.5 | 0.56 | 1.1 | 0.47 |
| | Sensitivity Scenario (Development Case) | | | |
| Stream B-C | 0.7 | 0.40 | 1.3 | 0.57 |
| Stream B-A | 0.4 | 0.30 | 0.8 | 0.46 |
| Stream C-AB | 1.7 | 0.57 | 1.2 | 0.47 |

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

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

## File summary

### File Description

| | |
|---|---|
| Title | |
| Location | |
| Site number | |
| Date | 27/06/2022 |
| Version | |
| Status | (new file) |
| Identifier | |
| Client | |
| Jobnumber | |
| Enumerator | ARDENTCE\jsymington |
| Description | |

## Units

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

## Analysis Options

| Vehicle length (m) | Calculate Q Percentiles | Calculate detailed queueing delay | Show lane queues in feet / metres | Show all PICADY stream intercepts | Calculate residual capacity | RFC Threshold | Av. Delay threshold (s) | Q threshold (PCU) | Use iterations with HCM roundabouts | Max number of iterations for roundabouts |
|---|---|---|---|---|---|---|---|---|---|---|
| 5.75 | | | | | | 0.85 | 36.00 | 20.00 | | 500 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | Sensitivity Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D2 | Sensitivity Scenario (Base Case) | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D3 | Sensitivity Scenario (Development Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D4 | Sensitivity Scenario (Development Case) | 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 |

# Sensitivity Scenario (Base Case), AM

## Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Minor arm visibility to right | Arm B - Minor arm geometry | Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section. |
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

# Junction Network

## Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 2 | Henham Road. High Street. Hall Road (With Improvements) | T-Junction | Two-way | Two-way | Two-way | | 6.70 | A |

## Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 6.70 | A |

# Arms

## Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | Henham Road (B1051) | | Major |
| B | Hall Road | | Minor |
| C | High Street (B1051) | | Major |

## Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right-turn storage | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|---|---|---|---|---|---|---|
| C | 5.47 | | | 175.3 | ✓ | 0.00 |

*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 | 5.27 | 4.22 | 3.61 | 3.61 | ✓ | 1.00 | 27 | 12 |

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

| Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|
| B-A | 500 | 0.092 | 0.232 | 0.146 | 0.331 |
| B-C | 724 | 0.115 | 0.292 | - | - |
| C-B | 675 | 0.268 | 0.268 | - | - |

*The slopes and intercepts shown above include custom intercept adjustments only.*

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

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

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | Sensitivity Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 403 | 100.000 |
| B | | ONE HOUR | ✓ | 249 | 100.000 |
| C | | ONE HOUR | ✓ | 427 | 100.000 |

# Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 132 | 271 |
| | B | 66 | 0 | 183 |
| | C | 193 | 234 | 0 |

# Vehicle Mix

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 4 | 0 |
| | B | 2 | 0 | 8 |
| | C | 2 | 5 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.39 | 11.23 | 0.6 | B | 168 | 252 |
| B-A | 0.27 | 18.06 | 0.4 | C | 61 | 91 |
| C-AB | 0.56 | 12.02 | 1.5 | B | 296 | 444 |
| C-A | | | | | 96 | 144 |
| A-B | | | | | 121 | 182 |
| A-C | | | | | 249 | 373 |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 138 | 34 | 580 | 0.238 | 137 | 0.0 | 0.3 | 8.095 | A |
| B-A | 50 | 12 | 349 | 0.142 | 49 | 0.0 | 0.2 | 11.988 | B |
| C-AB | 226 | 56 | 664 | 0.340 | 223 | 0.0 | 0.6 | 8.141 | A |
| C-A | 96 | 24 | | | 96 | | | | |
| A-B | 99 | 25 | | | 99 | | | | |
| A-C | 204 | 51 | | | 204 | | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 165 | 41 | 558 | 0.295 | 164 | 0.3 | 0.4 | 9.132 | A |
| B-A | 59 | 15 | 318 | 0.187 | 59 | 0.2 | 0.2 | 13.904 | B |
| C-AB | 285 | 71 | 670 | 0.425 | 284 | 0.6 | 0.9 | 9.336 | A |
| C-A | 99 | 25 | | | 99 | | | | |
| A-B | 119 | 30 | | | 119 | | | | |
| A-C | 244 | 61 | | | 244 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 201 | 50 | 523 | 0.386 | 201 | 0.4 | 0.6 | 11.155 | B |
| B-A | 73 | 18 | 273 | 0.266 | 72 | 0.2 | 0.4 | 17.898 | C |
| C-AB | 377 | 94 | 678 | 0.555 | 374 | 0.9 | 1.5 | 11.845 | B |
| C-A | 94 | 23 | | | 94 | | | | |
| A-B | 145 | 36 | | | 145 | | | | |
| A-C | 298 | 75 | | | 298 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 201 | 50 | 522 | 0.386 | 201 | 0.6 | 0.6 | 11.235 | B |
| B-A | 73 | 18 | 272 | 0.267 | 73 | 0.4 | 0.4 | 18.060 | C |
| C-AB | 377 | 94 | 679 | 0.556 | 377 | 1.5 | 1.5 | 12.016 | B |
| C-A | 93 | 23 | | | 93 | | | | |
| A-B | 145 | 36 | | | 145 | | | | |
| A-C | 298 | 75 | | | 298 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 165 | 41 | 557 | 0.295 | 165 | 0.6 | 0.4 | 9.208 | A |
| B-A | 59 | 15 | 317 | 0.187 | 60 | 0.4 | 0.2 | 14.048 | B |
| C-AB | 286 | 71 | 671 | 0.426 | 288 | 1.5 | 0.9 | 9.486 | A |
| C-A | 98 | 25 | | | 98 | | | | |
| A-B | 119 | 30 | | | 119 | | | | |
| A-C | 244 | 61 | | | 244 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 138 | 34 | 579 | 0.238 | 138 | 0.4 | 0.3 | 8.173 | A |
| B-A | 50 | 12 | 348 | 0.143 | 50 | 0.2 | 0.2 | 12.106 | B |
| C-AB | 226 | 57 | 664 | 0.341 | 228 | 0.9 | 0.6 | 8.268 | A |
| C-A | 95 | 24 | | | 95 | | | | |
| A-B | 99 | 25 | | | 99 | | | | |
| A-C | 204 | 51 | | | 204 | | | | |

# Sensitivity Scenario (Base Case), PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Minor arm visibility to right | Arm B - Minor arm geometry | Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section. |
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 2 | Henham Road. High Street. Hall Road (With Improvements) | T-Junction | Two-way | Two-way | Two-way | | 8.30 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 8.30 | A |

## 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 | Sensitivity Scenario (Base Case) | 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 | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 220 | 100.000 |
| B | | ONE HOUR | ✓ | 368 | 100.000 |
| C | | ONE HOUR | ✓ | 456 | 100.000 |

## Origin-Destination Data

#### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 83 | 137 |
| | B | 102 | 0 | 266 |
| | C | 242 | 214 | 0 |

## Vehicle Mix

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 0 |
| | B | 0 | 0 | 5 |
| | C | 0 | 4 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.54 | 14.23 | 1.1 | B | 244 | 366 |
| B-A | 0.39 | 20.09 | 0.6 | C | 94 | 140 |
| C-AB | 0.47 | 8.94 | 1.1 | A | 284 | 425 |
| C-A | | | | | 135 | 202 |
| A-B | | | | | 76 | 114 |
| A-C | | | | | 126 | 189 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 200 | 50 | 612 | 0.327 | 198 | 0.0 | 0.5 | 8.672 | A |
| B-A | 77 | 19 | 377 | 0.204 | 76 | 0.0 | 0.3 | 11.925 | B |
| C-AB | 215 | 54 | 727 | 0.296 | 213 | 0.0 | 0.5 | 6.981 | A |
| C-A | 128 | 32 | | | 128 | | | | |
| A-B | 62 | 16 | | | 62 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 239 | 60 | 588 | 0.406 | 238 | 0.5 | 0.7 | 10.263 | B |
| B-A | 92 | 23 | 344 | 0.266 | 91 | 0.3 | 0.4 | 14.214 | B |
| C-AB | 273 | 68 | 744 | 0.367 | 272 | 0.5 | 0.7 | 7.642 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 75 | 19 | | | 75 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 293 | 73 | 547 | 0.535 | 291 | 0.7 | 1.1 | 13.968 | B |
| B-A | 112 | 28 | 293 | 0.384 | 111 | 0.4 | 0.6 | 19.735 | C |
| C-AB | 362 | 91 | 767 | 0.473 | 361 | 0.7 | 1.1 | 8.885 | A |
| C-A | 140 | 35 | | | 140 | | | | |
| A-B | 91 | 23 | | | 91 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 293 | 73 | 546 | 0.537 | 293 | 1.1 | 1.1 | 14.232 | B |
| B-A | 112 | 28 | 291 | 0.386 | 112 | 0.6 | 0.6 | 20.094 | C |
| C-AB | 363 | 91 | 767 | 0.473 | 363 | 1.1 | 1.1 | 8.942 | A |
| C-A | 139 | 35 | | | 139 | | | | |
| A-B | 91 | 23 | | | 91 | | | | |
| A-C | 151 | 38 | | | 151 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 239 | 60 | 587 | 0.408 | 241 | 1.1 | 0.7 | 10.460 | B |
| B-A | 92 | 23 | 343 | 0.268 | 93 | 0.6 | 0.4 | 14.457 | B |
| C-AB | 273 | 68 | 745 | 0.367 | 275 | 1.1 | 0.7 | 7.697 | A |
| C-A | 137 | 34 | | | 137 | | | | |
| A-B | 75 | 19 | | | 75 | | | | |
| A-C | 123 | 31 | | | 123 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 200 | 50 | 610 | 0.328 | 201 | 0.7 | 0.5 | 8.816 | A |
| B-A | 77 | 19 | 375 | 0.205 | 77 | 0.4 | 0.3 | 12.095 | B |
| C-AB | 216 | 54 | 728 | 0.296 | 217 | 0.7 | 0.5 | 7.054 | A |
| C-A | 128 | 32 | | | 128 | | | | |
| A-B | 62 | 16 | | | 62 | | | | |
| A-C | 103 | 26 | | | 103 | | | | |

# Sensitivity Scenario (Development Case), AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Minor arm visibility to right | Arm B - Minor arm geometry | Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section. |
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 2 | Henham Road. High Street. Hall Road (With Improvements) | T-Junction | Two-way | Two-way | Two-way | | 6.92 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 6.92 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | Sensitivity Scenario (Development Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 448 | 100.000 |
| B | | ONE HOUR | ✓ | 255 | 100.000 |
| C | | ONE HOUR | ✓ | 435 | 100.000 |

## Origin-Destination Data

#### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 152 | 296 |
| | B | 72 | 0 | 183 |
| | C | 201 | 234 | 0 |

## Vehicle Mix

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 4 | 0 |
| | B | 2 | 0 | 8 |
| | C | 2 | 5 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.40 | 11.99 | 0.7 | B | 168 | 252 |
| B-A | 0.30 | 19.70 | 0.4 | C | 66 | 99 |
| C-AB | 0.57 | 12.61 | 1.7 | B | 302 | 453 |
| C-A | | | | | 97 | 146 |
| A-B | | | | | 139 | 209 |
| A-C | | | | | 272 | 407 |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 138 | 34 | 568 | 0.242 | 137 | 0.0 | 0.3 | 8.316 | A |
| B-A | 54 | 14 | 343 | 0.158 | 53 | 0.0 | 0.2 | 12.387 | B |
| C-AB | 229 | 57 | 660 | 0.346 | 226 | 0.0 | 0.6 | 8.270 | A |
| C-A | 99 | 25 | | | 99 | | | | |
| A-B | 114 | 29 | | | 114 | | | | |
| A-C | 223 | 56 | | | 223 | | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 165 | 41 | 543 | 0.303 | 164 | 0.3 | 0.4 | 9.479 | A |
| B-A | 65 | 16 | 311 | 0.208 | 64 | 0.2 | 0.3 | 14.608 | B |
| C-AB | 290 | 72 | 665 | 0.435 | 288 | 0.6 | 0.9 | 9.568 | A |
| C-A | 101 | 25 | | | 101 | | | | |
| A-B | 137 | 34 | | | 137 | | | | |
| A-C | 266 | 67 | | | 266 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 201 | 50 | 503 | 0.401 | 201 | 0.4 | 0.7 | 11.880 | B |
| B-A | 79 | 20 | 263 | 0.302 | 79 | 0.3 | 0.4 | 19.472 | C |
| C-AB | 385 | 96 | 673 | 0.573 | 383 | 0.9 | 1.6 | 12.396 | B |
| C-A | 94 | 23 | | | 94 | | | | |
| A-B | 167 | 42 | | | 167 | | | | |
| A-C | 326 | 81 | | | 326 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 201 | 50 | 502 | 0.402 | 201 | 0.7 | 0.7 | 11.987 | B |
| B-A | 79 | 20 | 262 | 0.303 | 79 | 0.4 | 0.4 | 19.702 | C |
| C-AB | 386 | 97 | 674 | 0.573 | 386 | 1.6 | 1.7 | 12.607 | B |
| C-A | 93 | 23 | | | 93 | | | | |
| A-B | 167 | 42 | | | 167 | | | | |
| A-C | 326 | 81 | | | 326 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 165 | 41 | 542 | 0.303 | 165 | 0.7 | 0.4 | 9.573 | A |
| B-A | 65 | 16 | 309 | 0.209 | 65 | 0.4 | 0.3 | 14.793 | B |
| C-AB | 291 | 73 | 666 | 0.436 | 293 | 1.7 | 1.0 | 9.745 | A |
| C-A | 100 | 25 | | | 100 | | | | |
| A-B | 137 | 34 | | | 137 | | | | |
| A-C | 266 | 67 | | | 266 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 138 | 34 | 567 | 0.243 | 138 | 0.4 | 0.3 | 8.402 | A |
| B-A | 54 | 14 | 342 | 0.158 | 55 | 0.3 | 0.2 | 12.530 | B |
| C-AB | 229 | 57 | 661 | 0.347 | 231 | 1.0 | 0.6 | 8.408 | A |
| C-A | 98 | 25 | | | 98 | | | | |
| A-B | 114 | 29 | | | 114 | | | | |
| A-C | 223 | 56 | | | 223 | | | | |

# Sensitivity Scenario (Development Case), PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Minor arm visibility to right | Arm B - Minor arm geometry | Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section. |
| Warning | Major arm width | Arm C - Major arm geometry | For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 2 | Henham Road. High Street. Hall Road (With Improvements) | T-Junction | Two-way | Two-way | Two-way | | 9.08 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 9.08 | A |

## 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 | Sensitivity Scenario (Development Case) | 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 | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 238 | 100.000 |
| B | | ONE HOUR | ✓ | 385 | 100.000 |
| C | | ONE HOUR | ✓ | 470 | 100.000 |

## Origin-Destination Data

#### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 91 | 147 |
| | B | 119 | 0 | 266 |
| | C | 263 | 207 | 0 |

## Vehicle Mix

### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 2 | 0 |
| | B | 0 | 0 | 5 |
| | C | 0 | 4 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-C | 0.57 | 16.32 | 1.3 | C | 244 | 366 |
| B-A | 0.46 | 23.56 | 0.8 | C | 109 | 164 |
| C-AB | 0.47 | 8.74 | 1.2 | A | 284 | 425 |
| C-A | | | | | 148 | 221 |
| A-B | | | | | 84 | 125 |
| A-C | | | | | 135 | 202 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 200 | 50 | 596 | 0.336 | 198 | 0.0 | 0.5 | 9.005 | A |
| B-A | 90 | 22 | 376 | 0.238 | 88 | 0.0 | 0.3 | 12.479 | B |
| C-AB | 213 | 53 | 735 | 0.290 | 211 | 0.0 | 0.5 | 6.863 | A |
| C-A | 141 | 35 | | | 141 | | | | |
| A-B | 69 | 17 | | | 69 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 239 | 60 | 568 | 0.421 | 238 | 0.5 | 0.7 | 10.900 | B |
| B-A | 107 | 27 | 341 | 0.314 | 106 | 0.3 | 0.4 | 15.308 | C |
| C-AB | 272 | 68 | 753 | 0.361 | 271 | 0.5 | 0.7 | 7.491 | A |
| C-A | 150 | 38 | | | 150 | | | | |
| A-B | 82 | 20 | | | 82 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 293 | 73 | 515 | 0.568 | 291 | 0.7 | 1.3 | 15.859 | C |
| B-A | 131 | 33 | 285 | 0.459 | 130 | 0.4 | 0.8 | 22.836 | C |
| C-AB | 364 | 91 | 778 | 0.468 | 363 | 0.7 | 1.1 | 8.690 | A |
| C-A | 153 | 38 | | | 153 | | | | |
| A-B | 100 | 25 | | | 100 | | | | |
| A-C | 162 | 40 | | | 162 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 293 | 73 | 513 | 0.571 | 293 | 1.3 | 1.3 | 16.321 | C |
| B-A | 131 | 33 | 283 | 0.462 | 131 | 0.8 | 0.8 | 23.560 | C |
| C-AB | 365 | 91 | 779 | 0.469 | 365 | 1.1 | 1.2 | 8.743 | A |
| C-A | 152 | 38 | | | 152 | | | | |
| A-B | 100 | 25 | | | 100 | | | | |
| A-C | 162 | 40 | | | 162 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 239 | 60 | 565 | 0.423 | 241 | 1.3 | 0.7 | 11.189 | B |
| B-A | 107 | 27 | 339 | 0.315 | 108 | 0.8 | 0.5 | 15.692 | C |
| C-AB | 273 | 68 | 754 | 0.362 | 274 | 1.2 | 0.7 | 7.545 | A |
| C-A | 150 | 37 | | | 150 | | | | |
| A-B | 82 | 20 | | | 82 | | | | |
| A-C | 132 | 33 | | | 132 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-C | 200 | 50 | 594 | 0.337 | 201 | 0.7 | 0.5 | 9.177 | A |
| B-A | 90 | 22 | 374 | 0.239 | 90 | 0.5 | 0.3 | 12.703 | B |
| C-AB | 214 | 54 | 735 | 0.291 | 215 | 0.7 | 0.5 | 6.930 | A |
| C-A | 140 | 35 | | | 140 | | | | |
| A-B | 69 | 17 | | | 69 | | | | |
| A-C | 111 | 28 | | | 111 | | | | |

# Junctions 10

## ARCADY 10 - Roundabout Module



**Filename:** Robin Hood Double Minis.j10
**Path:** Y:\ARDENT PROJECTS\2008170 - Land South of Henham Road, Elsenham\Transport\ARCADY
**Report generation date:** 28/07/2022 14:59:38



### Summary of junction performance

| | AM | | PM | |
|---|---|---|---|---|
| | Q (Veh) | RFC | Q (Veh) | RFC |
| | 2022 Surveyed Flows | | | |
| Junction 1 - Arm 1 | 0.3 | 0.23 | 0.3 | 0.24 |
| Junction 1 - Arm 2 | 1.4 | 0.59 | 1.1 | 0.53 |
| Junction 1 - Arm 3 | 0.5 | 0.32 | 0.5 | 0.32 |
| Junction 2 - Arm 1 | 0.3 | 0.22 | 0.3 | 0.23 |
| Junction 2 - Arm 2 | 1.0 | 0.50 | 0.8 | 0.46 |
| Junction 2 - Arm 3 | 0.6 | 0.36 | 0.6 | 0.36 |
| | Sensitivity Scenario (Base Case) | | | |
| Junction 1 - Arm 1 | 0.5 | 0.31 | 0.5 | 0.31 |
| Junction 1 - Arm 2 | 2.5 | 0.73 | 2.0 | 0.68 |
| Junction 1 - Arm 3 | 0.8 | 0.43 | 0.7 | 0.42 |
| Junction 2 - Arm 1 | 0.4 | 0.30 | 0.4 | 0.31 |
| Junction 2 - Arm 2 | 1.5 | 0.61 | 1.3 | 0.57 |
| Junction 2 - Arm 3 | 0.9 | 0.49 | 0.9 | 0.48 |
| | Sensitivity Scenario (Development Case) | | | |
| Junction 1 - Arm 1 | 0.5 | 0.33 | 0.5 | 0.32 |
| Junction 1 - Arm 2 | 2.8 | 0.75 | 2.2 | 0.69 |
| Junction 1 - Arm 3 | 0.8 | 0.45 | 0.8 | 0.43 |
| Junction 2 - Arm 1 | 0.5 | 0.32 | 0.5 | 0.31 |
| Junction 2 - Arm 2 | 1.6 | 0.63 | 1.4 | 0.59 |
| Junction 2 - Arm 3 | 1.0 | 0.51 | 0.9 | 0.49 |

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

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

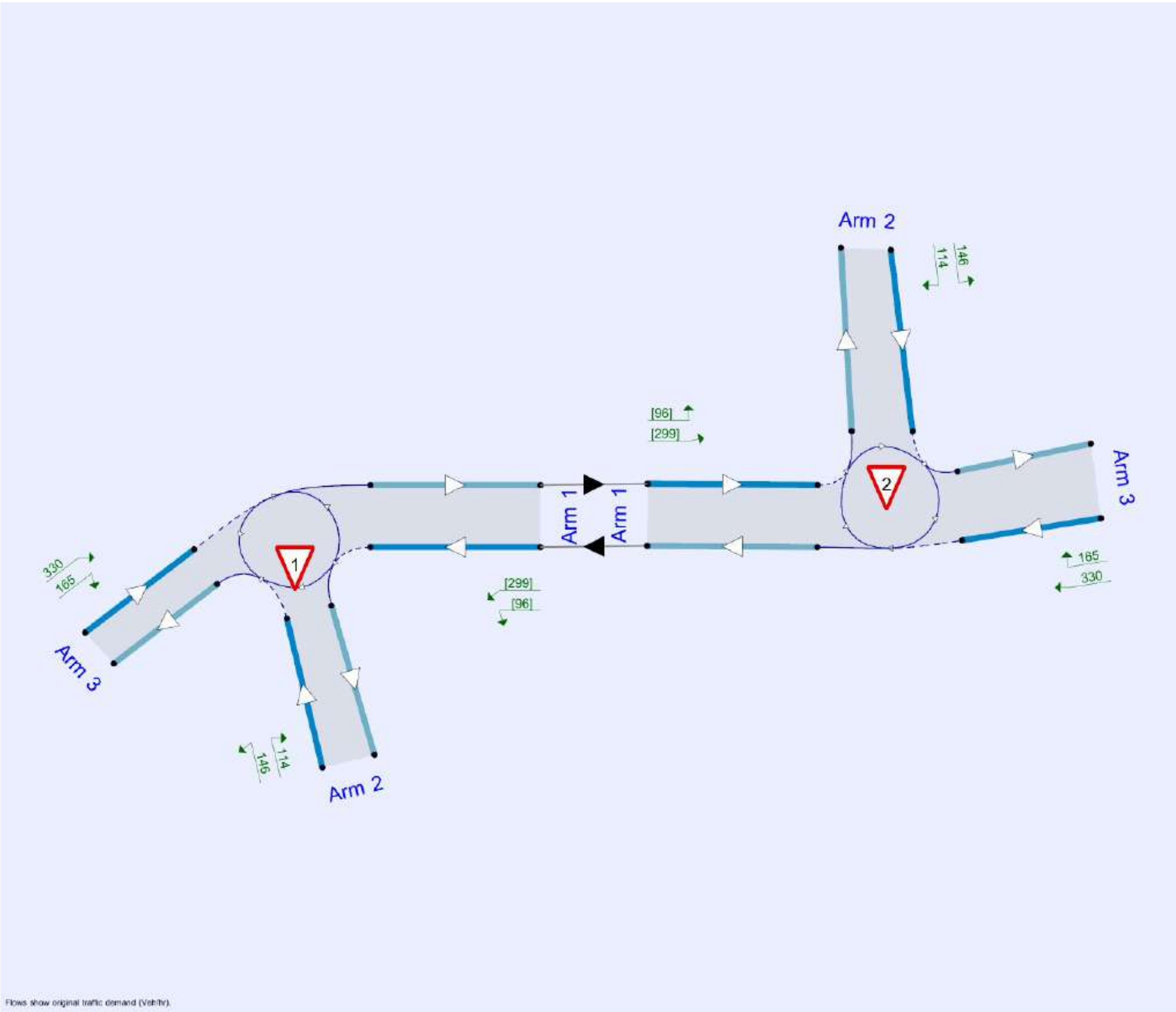
# File summary

## File Description

| | |
|---|---|
| **Title** | |
| **Location** | |
| **Site number** | |
| **Date** | 14/03/2022 |
| **Version** | |
| **Status** | (new file) |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | ARDENTCE\jsymington |
| **Description** | |

# Units

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




*The junction diagram reflects the last run of Junctions.*

## Analysis Options

| Mini-roundabout model | Vehicle length (m) | Calculate Q Percentiles | Calculate detailed queueing delay | Show lane queues in feet / metres | Show all PICADY stream intercepts | Calculate residual capacity | RFC Threshold | Av. Delay threshold (s) | Q threshold (PCU) | Use iterations with HCM roundabouts | Max number of iterations for roundabouts |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JUNCTIONS 9 | 5.75 | | | | | | 0.85 | 36.00 | 20.00 | | 500 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2022 Surveyed Flows | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D2 | 2022 Surveyed Flows | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D3 | Sensitivity Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D4 | Sensitivity Scenario (Base Case) | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |
| D5 | Sensitivity Scenario (Development Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D6 | Sensitivity Scenario (Development Case) | PM | ONE HOUR | 16:45 | 18:15 | 15 | ✓ |

## Analysis Set Details

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

# 2022 Surveyed Flows, AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 2 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | untitled | Mini-roundabout | | 1, 2, 3 | 7.50 | A |
| 2 | untitled | Mini-roundabout | | 1, 2, 3 | 6.41 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 6.95 | A |

## Arms

### Arms

| Junction | Arm | Name | Description |
|---|---|---|---|
| 1 | 1 | Mini Link (West Rnd) | |
| | 2 | Robin Hood Road | |
| | 3 | B1051 Stansted Road | |
| 2 | 1 | Mini Link (East Rnd) | |
| | 2 | Station Road | |
| | 3 | B1051 High Street | |

### Mini Roundabout Geometry

| Junction | 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 | 1 | 10.00 | 10.00 | 10.00 | 0.0 | 5.68 | 2.31 | 0.0 | |
| | 2 | 2.91 | 2.24 | 3.65 | 1.2 | 13.74 | 6.46 | 0.0 | |
| | 3 | 3.20 | 3.20 | 3.63 | 8.0 | 16.63 | 19.00 | 0.0 | |
| 2 | 1 | 10.00 | 10.00 | 10.00 | 0.0 | 12.85 | 2.00 | 0.0 | |
| | 2 | 2.27 | 2.16 | 4.31 | 2.0 | 11.64 | 2.00 | 0.0 | |
| | 3 | 3.26 | 3.26 | 6.51 | 10.2 | 15.75 | 16.27 | 0.0 | |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Junction | Arm | Final slope | Final intercept (PCU/hr) |
|---|---|---|---|
| 1 | 1 | 0.856 | 1704 |
| | 2 | 0.573 | 637 |
| | 3 | 0.796 | 1381 |
| 2 | 1 | 0.856 | 1752 |
| | 2 | 0.577 | 717 |
| | 3 | 0.708 | 1230 |

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

# Traffic Demand

## Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | 2022 Surveyed Flows | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

## Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (Veh/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 1 | 1 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

## Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 252 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 377 | 100.000 |
| 2 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 252 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 377 | 100.000 |

# Origin-Destination Data

### Junction 1

Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 70 | 218 |
| | 2 | 79 | 0 | 173 |
| | 3 | 242 | 135 | 0 |

### Junction 2

Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 70 | 218 |
| | 2 | 79 | 0 | 173 |
| | 3 | 242 | 135 | 0 |

# Vehicle Mix

### Junction 1

HV %s

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 1 |
| | 3 | 3 | 0 | 0 |

**Junction 2**

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | **1** | **2** | **3** |
| **From** | **1** | 0 | 1 | 2 |
| | **2** | 2 | 0 | 1 |
| | **3** | 3 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.23 | 3.02 | 0.3 | A | 297 | 446 |
| | 2 | 0.59 | 18.34 | 1.4 | C | 231 | 347 |
| | 3 | 0.32 | 4.14 | 0.5 | A | 346 | 519 |
| 2 | 1 | 0.22 | 2.90 | 0.3 | A | 297 | 446 |
| | 2 | 0.50 | 13.16 | 1.0 | B | 231 | 347 |
| | 3 | 0.36 | 4.93 | 0.6 | A | 346 | 519 |

## Main Results for each time segment

### 07:45 - 08:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 243 | 61 | 101 | 1590 | 0.153 | 242 | 240 | 0.0 | 0.2 | 2.670 | A |
| | 2 | 190 | 47 | 183 | 523 | 0.362 | 187 | 160 | 0.0 | 0.6 | 10.649 | B |
| | 3 | 284 | 71 | 59 | 1308 | 0.217 | 283 | 312 | 0.0 | 0.3 | 3.509 | A |
| 2 | 1 | 243 | 61 | 101 | 1636 | 0.148 | 242 | 240 | 0.0 | 0.2 | 2.580 | A |
| | 2 | 190 | 47 | 183 | 601 | 0.315 | 188 | 160 | 0.0 | 0.5 | 8.670 | A |
| | 3 | 284 | 71 | 59 | 1165 | 0.244 | 283 | 312 | 0.0 | 0.3 | 4.072 | A |

### 08:00 - 08:15

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 291 | 73 | 121 | 1573 | 0.185 | 291 | 288 | 0.2 | 0.2 | 2.808 | A |
| | 2 | 227 | 57 | 220 | 502 | 0.451 | 226 | 192 | 0.6 | 0.8 | 12.969 | B |
| | 3 | 339 | 85 | 71 | 1298 | 0.261 | 339 | 375 | 0.3 | 0.4 | 3.751 | A |
| 2 | 1 | 291 | 73 | 121 | 1620 | 0.180 | 291 | 288 | 0.2 | 0.2 | 2.708 | A |
| | 2 | 227 | 57 | 220 | 580 | 0.391 | 226 | 192 | 0.5 | 0.6 | 10.147 | B |
| | 3 | 339 | 85 | 71 | 1157 | 0.293 | 339 | 375 | 0.3 | 0.4 | 4.397 | A |

### 08:15 - 08:30

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 356 | 89 | 148 | 1550 | 0.230 | 356 | 352 | 0.2 | 0.3 | 3.015 | A |
| | 2 | 277 | 69 | 269 | 474 | 0.586 | 275 | 235 | 0.8 | 1.4 | 17.935 | C |
| | 3 | 415 | 104 | 86 | 1286 | 0.323 | 415 | 458 | 0.4 | 0.5 | 4.130 | A |
| 2 | 1 | 356 | 89 | 148 | 1597 | 0.223 | 356 | 353 | 0.2 | 0.3 | 2.900 | A |
| | 2 | 277 | 69 | 269 | 551 | 0.503 | 276 | 235 | 0.6 | 1.0 | 13.004 | B |
| | 3 | 415 | 104 | 87 | 1146 | 0.362 | 414 | 459 | 0.4 | 0.6 | 4.919 | A |

### 08:30 - 08:45

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 357 | 89 | 149 | 1550 | 0.230 | 357 | 353 | 0.3 | 0.3 | 3.017 | A |
| | 2 | 277 | 69 | 270 | 473 | 0.586 | 277 | 235 | 1.4 | 1.4 | 18.343 | C |
| | 3 | 415 | 104 | 87 | 1285 | 0.323 | 415 | 461 | 0.5 | 0.5 | 4.135 | A |
| 2 | 1 | 357 | 89 | 149 | 1597 | 0.224 | 357 | 353 | 0.3 | 0.3 | 2.903 | A |
| | 2 | 277 | 69 | 270 | 551 | 0.504 | 277 | 235 | 1.0 | 1.0 | 13.156 | B |
| | 3 | 415 | 104 | 87 | 1145 | 0.362 | 415 | 461 | 0.6 | 0.6 | 4.928 | A |

### 08:45 - 09:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 292 | 73 | 122 | 1572 | 0.186 | 292 | 290 | 0.3 | 0.2 | 2.814 | A |
| | 2 | 227 | 57 | 221 | 501 | 0.452 | 229 | 193 | 1.4 | 0.8 | 13.308 | B |
| | 3 | 339 | 85 | 72 | 1298 | 0.261 | 339 | 378 | 0.5 | 0.4 | 3.760 | A |
| 2 | 1 | 292 | 73 | 122 | 1619 | 0.181 | 293 | 289 | 0.3 | 0.2 | 2.715 | A |
| | 2 | 227 | 57 | 222 | 579 | 0.391 | 228 | 193 | 1.0 | 0.7 | 10.291 | B |
| | 3 | 339 | 85 | 71 | 1156 | 0.293 | 340 | 378 | 0.6 | 0.4 | 4.409 | A |

### 09:00 - 09:15

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 245 | 61 | 102 | 1589 | 0.154 | 245 | 242 | 0.2 | 0.2 | 2.679 | A |
| | 2 | 190 | 47 | 185 | 522 | 0.363 | 191 | 161 | 0.8 | 0.6 | 10.896 | B |
| | 3 | 284 | 71 | 60 | 1307 | 0.217 | 284 | 316 | 0.4 | 0.3 | 3.522 | A |
| 2 | 1 | 245 | 61 | 102 | 1636 | 0.149 | 245 | 242 | 0.2 | 0.2 | 2.587 | A |
| | 2 | 190 | 47 | 185 | 600 | 0.316 | 190 | 161 | 0.7 | 0.5 | 8.805 | A |
| | 3 | 284 | 71 | 60 | 1165 | 0.244 | 284 | 316 | 0.4 | 0.3 | 4.090 | A |

# 2022 Surveyed Flows, PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 2 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | untitled | Mini-roundabout | | 1, 2, 3 | 6.73 | A |
| 2 | untitled | Mini-roundabout | | 1, 2, 3 | 6.00 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 6.37 | A |

## 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 | 2022 Surveyed Flows | 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 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (Veh/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 1 | 1 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 237 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 371 | 100.000 |
| 2 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 237 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 371 | 100.000 |

## Origin-Destination Data

### Junction 1

**Demand (Veh/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 94 | 171 |
| | 2 | 110 | 0 | 127 |
| | 3 | 224 | 147 | 0 |

### Junction 2

**Demand (Veh/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 94 | 171 |
| | 2 | 110 | 0 | 127 |
| | 3 | 224 | 147 | 0 |

# Vehicle Mix

### Junction 1

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 2 |
| | 3 | 2 | 1 | 0 |

### Junction 2

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 2 |
| | 3 | 2 | 1 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.24 | 3.08 | 0.3 | A | 307 | 461 |
| | 2 | 0.53 | 15.81 | 1.1 | C | 217 | 326 |
| | 3 | 0.32 | 4.22 | 0.5 | A | 340 | 511 |
| 2 | 1 | 0.23 | 2.96 | 0.3 | A | 307 | 461 |
| | 2 | 0.46 | 11.81 | 0.8 | B | 217 | 326 |
| | 3 | 0.36 | 5.02 | 0.6 | A | 340 | 511 |

## Main Results for each time segment

### 16:45 - 17:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 251 | 63 | 110 | 1583 | 0.158 | 250 | 250 | 0.0 | 0.2 | 2.700 | A |
| | 2 | 178 | 45 | 161 | 532 | 0.335 | 176 | 199 | 0.0 | 0.5 | 10.062 | B |
| | 3 | 279 | 70 | 82 | 1294 | 0.216 | 278 | 256 | 0.0 | 0.3 | 3.543 | A |
| 2 | 1 | 251 | 63 | 110 | 1630 | 0.154 | 250 | 250 | 0.0 | 0.2 | 2.607 | A |
| | 2 | 178 | 45 | 161 | 610 | 0.293 | 177 | 199 | 0.0 | 0.4 | 8.284 | A |
| | 3 | 279 | 70 | 82 | 1153 | 0.242 | 278 | 256 | 0.0 | 0.3 | 4.111 | A |

### 17:00 - 17:15

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 301 | 75 | 132 | 1564 | 0.192 | 301 | 300 | 0.2 | 0.2 | 2.848 | A |
| | 2 | 213 | 53 | 194 | 514 | 0.415 | 212 | 239 | 0.5 | 0.7 | 11.912 | B |
| | 3 | 334 | 83 | 99 | 1280 | 0.261 | 333 | 308 | 0.3 | 0.4 | 3.801 | A |
| 2 | 1 | 301 | 75 | 132 | 1611 | 0.187 | 301 | 300 | 0.2 | 0.2 | 2.746 | A |
| | 2 | 213 | 53 | 194 | 591 | 0.360 | 212 | 239 | 0.4 | 0.6 | 9.493 | A |
| | 3 | 334 | 83 | 99 | 1141 | 0.292 | 333 | 308 | 0.3 | 0.4 | 4.455 | A |

### 17:15 - 17:30

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 368 | 92 | 162 | 1539 | 0.239 | 368 | 367 | 0.2 | 0.3 | 3.073 | A |
| | 2 | 261 | 65 | 237 | 489 | 0.534 | 259 | 292 | 0.7 | 1.1 | 15.568 | C |
| | 3 | 408 | 102 | 120 | 1263 | 0.323 | 408 | 376 | 0.4 | 0.5 | 4.208 | A |
| 2 | 1 | 368 | 92 | 162 | 1586 | 0.232 | 368 | 367 | 0.2 | 0.3 | 2.954 | A |
| | 2 | 261 | 65 | 237 | 566 | 0.461 | 260 | 292 | 0.6 | 0.8 | 11.708 | B |
| | 3 | 408 | 102 | 121 | 1125 | 0.363 | 408 | 376 | 0.4 | 0.6 | 5.015 | A |

### 17:30 - 17:45

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 369 | 92 | 162 | 1539 | 0.240 | 369 | 368 | 0.3 | 0.3 | 3.076 | A |
| | 2 | 261 | 65 | 238 | 488 | 0.534 | 261 | 293 | 1.1 | 1.1 | 15.807 | C |
| | 3 | 408 | 102 | 121 | 1262 | 0.324 | 408 | 378 | 0.5 | 0.5 | 4.216 | A |
| 2 | 1 | 369 | 92 | 162 | 1586 | 0.233 | 369 | 368 | 0.3 | 0.3 | 2.957 | A |
| | 2 | 261 | 65 | 238 | 566 | 0.461 | 261 | 293 | 0.8 | 0.8 | 11.810 | B |
| | 3 | 408 | 102 | 121 | 1125 | 0.363 | 408 | 378 | 0.6 | 0.6 | 5.025 | A |

### 17:45 - 18:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 302 | 76 | 132 | 1564 | 0.193 | 302 | 301 | 0.3 | 0.2 | 2.853 | A |
| | 2 | 213 | 53 | 195 | 513 | 0.415 | 215 | 240 | 1.1 | 0.7 | 12.133 | B |
| | 3 | 334 | 83 | 100 | 1279 | 0.261 | 334 | 310 | 0.5 | 0.4 | 3.811 | A |
| 2 | 1 | 302 | 76 | 132 | 1611 | 0.188 | 303 | 301 | 0.3 | 0.2 | 2.753 | A |
| | 2 | 213 | 53 | 195 | 590 | 0.361 | 214 | 240 | 0.8 | 0.6 | 9.599 | A |
| | 3 | 334 | 83 | 99 | 1140 | 0.293 | 334 | 310 | 0.6 | 0.4 | 4.470 | A |

**18:00 - 18:15**

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 253 | 63 | 111 | 1582 | 0.160 | 253 | 252 | 0.2 | 0.2 | 2.710 | A |
| | 2 | 178 | 45 | 163 | 531 | 0.336 | 179 | 201 | 0.7 | 0.5 | 10.252 | B |
| | 3 | 279 | 70 | 83 | 1293 | 0.216 | 280 | 259 | 0.4 | 0.3 | 3.557 | A |
| 2 | 1 | 253 | 63 | 111 | 1629 | 0.155 | 253 | 252 | 0.2 | 0.2 | 2.617 | A |
| | 2 | 178 | 45 | 163 | 609 | 0.293 | 179 | 201 | 0.6 | 0.4 | 8.390 | A |
| | 3 | 279 | 70 | 83 | 1152 | 0.243 | 280 | 259 | 0.4 | 0.3 | 4.131 | A |

# Sensitivity Scenario (Base Case), AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 2 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | untitled | Mini-roundabout | | 1, 2, 3 | 10.36 | B |
| 2 | untitled | Mini-roundabout | | 1, 2, 3 | 7.96 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 9.16 | A |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D3 | Sensitivity Scenario (Base Case) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (Veh/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 1 | 1 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 268 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 504 | 100.000 |
| 2 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 268 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 504 | 100.000 |

## Origin-Destination Data

**Junction 1**

**Demand (Veh/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 74 | 304 |
| | 2 | 81 | 0 | 187 |
| | 3 | 352 | 152 | 0 |

**Junction 2**

**Demand (Veh/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 74 | 304 |
| | 2 | 81 | 0 | 187 |
| | 3 | 352 | 152 | 0 |

# Vehicle Mix

**Junction 1**

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 1 |
| | 3 | 3 | 0 | 0 |

**Junction 2**

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 1 |
| | 3 | 3 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.31 | 3.42 | 0.5 | A | 401 | 601 |
| | 2 | 0.73 | 31.96 | 2.5 | D | 246 | 369 |
| | 3 | 0.43 | 4.95 | 0.8 | A | 462 | 694 |
| 2 | 1 | 0.30 | 3.28 | 0.4 | A | 401 | 601 |
| | 2 | 0.61 | 19.09 | 1.5 | C | 246 | 369 |
| | 3 | 0.49 | 6.14 | 0.9 | A | 463 | 694 |

## Main Results for each time segment

### 07:45 - 08:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 327 | 82 | 114 | 1578 | 0.207 | 326 | 324 | 0.0 | 0.3 | 2.872 | A |
| | 2 | 202 | 50 | 262 | 478 | 0.422 | 199 | 178 | 0.0 | 0.7 | 12.782 | B |
| | 3 | 379 | 95 | 60 | 1305 | 0.291 | 378 | 401 | 0.0 | 0.4 | 3.878 | A |
| 2 | 1 | 327 | 82 | 114 | 1625 | 0.201 | 326 | 324 | 0.0 | 0.3 | 2.771 | A |
| | 2 | 202 | 50 | 262 | 555 | 0.363 | 200 | 178 | 0.0 | 0.6 | 10.053 | B |
| | 3 | 380 | 95 | 60 | 1162 | 0.327 | 378 | 402 | 0.0 | 0.5 | 4.578 | A |

### 08:00 - 08:15

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 392 | 98 | 136 | 1559 | 0.252 | 392 | 388 | 0.3 | 0.3 | 3.084 | A |
| | 2 | 241 | 60 | 315 | 447 | 0.539 | 239 | 213 | 0.7 | 1.1 | 17.171 | C |
| | 3 | 453 | 113 | 72 | 1295 | 0.350 | 453 | 482 | 0.4 | 0.5 | 4.270 | A |
| 2 | 1 | 392 | 98 | 137 | 1606 | 0.244 | 392 | 388 | 0.3 | 0.3 | 2.966 | A |
| | 2 | 241 | 60 | 315 | 525 | 0.459 | 240 | 214 | 0.6 | 0.8 | 12.587 | B |
| | 3 | 454 | 113 | 72 | 1154 | 0.393 | 453 | 483 | 0.5 | 0.6 | 5.132 | A |

### 08:15 - 08:30

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 480 | 120 | 167 | 1533 | 0.313 | 479 | 475 | 0.3 | 0.5 | 3.413 | A |
| | 2 | 295 | 74 | 386 | 407 | 0.725 | 290 | 261 | 1.1 | 2.4 | 29.630 | D |
| | 3 | 555 | 139 | 88 | 1283 | 0.433 | 554 | 588 | 0.5 | 0.8 | 4.934 | A |
| 2 | 1 | 479 | 120 | 168 | 1580 | 0.303 | 479 | 475 | 0.3 | 0.4 | 3.267 | A |
| | 2 | 295 | 74 | 385 | 484 | 0.609 | 292 | 261 | 0.8 | 1.5 | 18.520 | C |
| | 3 | 555 | 139 | 88 | 1143 | 0.486 | 554 | 589 | 0.6 | 0.9 | 6.107 | A |

### 08:30 - 08:45

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 481 | 120 | 167 | 1533 | 0.314 | 481 | 477 | 0.5 | 0.5 | 3.421 | A |
| | 2 | 295 | 74 | 387 | 406 | 0.727 | 295 | 262 | 2.4 | 2.5 | 31.964 | D |
| | 3 | 555 | 139 | 89 | 1282 | 0.433 | 555 | 593 | 0.8 | 0.8 | 4.953 | A |
| 2 | 1 | 481 | 120 | 168 | 1580 | 0.305 | 481 | 477 | 0.4 | 0.4 | 3.276 | A |
| | 2 | 295 | 74 | 387 | 483 | 0.611 | 295 | 262 | 1.5 | 1.5 | 19.092 | C |
| | 3 | 555 | 139 | 89 | 1142 | 0.486 | 555 | 593 | 0.9 | 0.9 | 6.136 | A |

### 08:45 - 09:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 395 | 99 | 137 | 1559 | 0.253 | 395 | 391 | 0.5 | 0.3 | 3.096 | A |
| | 2 | 241 | 60 | 318 | 446 | 0.540 | 246 | 214 | 2.5 | 1.2 | 18.450 | C |
| | 3 | 453 | 113 | 74 | 1293 | 0.350 | 454 | 489 | 0.8 | 0.5 | 4.293 | A |
| 2 | 1 | 395 | 99 | 137 | 1605 | 0.246 | 396 | 391 | 0.4 | 0.3 | 2.979 | A |
| | 2 | 241 | 60 | 318 | 523 | 0.461 | 244 | 215 | 1.5 | 0.9 | 12.998 | B |
| | 3 | 454 | 113 | 74 | 1153 | 0.393 | 455 | 488 | 0.9 | 0.7 | 5.165 | A |

**09:00 - 09:15**

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 330 | 83 | 115 | 1578 | 0.209 | 330 | 327 | 0.3 | 0.3 | 2.888 | A |
| | 2 | 202 | 50 | 266 | 476 | 0.424 | 204 | 179 | 1.2 | 0.8 | 13.312 | B |
| | 3 | 379 | 95 | 62 | 1304 | 0.291 | 380 | 408 | 0.5 | 0.4 | 3.901 | A |
| 2 | 1 | 330 | 83 | 115 | 1624 | 0.203 | 330 | 327 | 0.3 | 0.3 | 2.785 | A |
| | 2 | 202 | 50 | 266 | 553 | 0.365 | 203 | 180 | 0.9 | 0.6 | 10.304 | B |
| | 3 | 380 | 95 | 61 | 1162 | 0.327 | 380 | 407 | 0.7 | 0.5 | 4.613 | A |

# Sensitivity Scenario (Base Case), PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 2 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | untitled | Mini-roundabout | | 1, 2, 3 | 9.06 | A |
| 2 | untitled | Mini-roundabout | | 1, 2, 3 | 7.43 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 8.25 | A |

## 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 | Sensitivity Scenario (Base Case) | 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 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (Veh/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 1 | 1 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 258 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 484 | 100.000 |
| 2 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 258 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 484 | 100.000 |

## Origin-Destination Data

**Demand (Veh/hr)**

**Junction 1**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 96 | 279 |
| | 2 | 114 | 0 | 144 |
| | 3 | 320 | 164 | 0 |

**Demand (Veh/hr)**

**Junction 2**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 96 | 279 |
| | 2 | 114 | 0 | 144 |
| | 3 | 320 | 164 | 0 |

# Vehicle Mix

**HV %s**

**Junction 1**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 2 |
| | 3 | 2 | 1 | 0 |

**HV %s**

**Junction 2**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 2 |
| | 3 | 2 | 1 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.31 | 3.45 | 0.5 | A | 399 | 598 |
| | 2 | 0.68 | 26.13 | 2.0 | D | 237 | 355 |
| | 3 | 0.42 | 4.96 | 0.7 | A | 444 | 666 |
| 2 | 1 | 0.31 | 3.30 | 0.4 | A | 399 | 598 |
| | 2 | 0.57 | 16.84 | 1.3 | C | 237 | 355 |
| | 3 | 0.48 | 6.12 | 0.9 | A | 444 | 666 |

## Main Results for each time segment

### 16:45 - 17:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 325 | 81 | 123 | 1570 | 0.207 | 324 | 325 | 0.0 | 0.3 | 2.886 | A |
| | 2 | 194 | 49 | 241 | 487 | 0.399 | 192 | 206 | 0.0 | 0.6 | 12.105 | B |
| | 3 | 364 | 91 | 85 | 1291 | 0.282 | 363 | 348 | 0.0 | 0.4 | 3.874 | A |
| 2 | 1 | 325 | 81 | 123 | 1617 | 0.201 | 324 | 325 | 0.0 | 0.3 | 2.783 | A |
| | 2 | 194 | 49 | 241 | 564 | 0.345 | 192 | 206 | 0.0 | 0.5 | 9.637 | A |
| | 3 | 364 | 91 | 85 | 1150 | 0.317 | 363 | 349 | 0.0 | 0.5 | 4.563 | A |

### 17:00 - 17:15

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 390 | 98 | 147 | 1550 | 0.252 | 390 | 389 | 0.3 | 0.3 | 3.104 | A |
| | 2 | 232 | 58 | 290 | 459 | 0.506 | 231 | 247 | 0.6 | 1.0 | 15.691 | C |
| | 3 | 435 | 109 | 102 | 1277 | 0.341 | 435 | 419 | 0.4 | 0.5 | 4.271 | A |
| 2 | 1 | 390 | 98 | 147 | 1597 | 0.244 | 390 | 389 | 0.3 | 0.3 | 2.983 | A |
| | 2 | 232 | 58 | 290 | 536 | 0.433 | 231 | 247 | 0.5 | 0.7 | 11.781 | B |
| | 3 | 435 | 109 | 102 | 1138 | 0.382 | 434 | 419 | 0.5 | 0.6 | 5.115 | A |

### 17:15 - 17:30

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 477 | 119 | 180 | 1522 | 0.314 | 477 | 476 | 0.3 | 0.5 | 3.443 | A |
| | 2 | 284 | 71 | 355 | 422 | 0.674 | 280 | 302 | 1.0 | 1.9 | 24.848 | C |
| | 3 | 533 | 133 | 124 | 1259 | 0.423 | 532 | 511 | 0.5 | 0.7 | 4.943 | A |
| 2 | 1 | 477 | 119 | 180 | 1569 | 0.304 | 476 | 476 | 0.3 | 0.4 | 3.293 | A |
| | 2 | 284 | 71 | 354 | 499 | 0.570 | 282 | 302 | 0.7 | 1.3 | 16.458 | C |
| | 3 | 533 | 133 | 125 | 1122 | 0.475 | 532 | 512 | 0.6 | 0.9 | 6.092 | A |

### 17:30 - 17:45

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 479 | 120 | 181 | 1521 | 0.315 | 479 | 478 | 0.5 | 0.5 | 3.452 | A |
| | 2 | 284 | 71 | 356 | 421 | 0.675 | 284 | 303 | 1.9 | 2.0 | 26.131 | D |
| | 3 | 533 | 133 | 125 | 1258 | 0.424 | 533 | 515 | 0.7 | 0.7 | 4.963 | A |
| 2 | 1 | 479 | 120 | 181 | 1568 | 0.305 | 479 | 478 | 0.4 | 0.4 | 3.303 | A |
| | 2 | 284 | 71 | 356 | 497 | 0.571 | 284 | 303 | 1.3 | 1.3 | 16.835 | C |
| | 3 | 533 | 133 | 125 | 1121 | 0.475 | 533 | 515 | 0.9 | 0.9 | 6.120 | A |

### 17:45 - 18:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 393 | 98 | 148 | 1549 | 0.254 | 393 | 392 | 0.5 | 0.3 | 3.116 | A |
| | 2 | 232 | 58 | 293 | 457 | 0.507 | 236 | 248 | 2.0 | 1.1 | 16.504 | C |
| | 3 | 435 | 109 | 104 | 1275 | 0.341 | 436 | 424 | 0.7 | 0.5 | 4.295 | A |
| 2 | 1 | 393 | 98 | 148 | 1596 | 0.246 | 394 | 392 | 0.4 | 0.3 | 2.994 | A |
| | 2 | 232 | 58 | 293 | 534 | 0.434 | 234 | 249 | 1.3 | 0.8 | 12.083 | B |
| | 3 | 435 | 109 | 103 | 1137 | 0.383 | 436 | 424 | 0.9 | 0.6 | 5.146 | A |

**18:00 - 18:15**

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 328 | 82 | 124 | 1570 | 0.209 | 329 | 328 | 0.3 | 0.3 | 2.900 | A |
| | 2 | 194 | 49 | 245 | 485 | 0.401 | 196 | 208 | 1.1 | 0.7 | 12.526 | B |
| | 3 | 364 | 91 | 86 | 1289 | 0.283 | 365 | 354 | 0.5 | 0.4 | 3.896 | A |
| 2 | 1 | 329 | 82 | 124 | 1617 | 0.203 | 329 | 328 | 0.3 | 0.3 | 2.795 | A |
| | 2 | 194 | 49 | 245 | 562 | 0.346 | 195 | 208 | 0.8 | 0.5 | 9.848 | A |
| | 3 | 364 | 91 | 86 | 1149 | 0.317 | 365 | 354 | 0.6 | 0.5 | 4.597 | A |

# Sensitivity Scenario (Development Case), AM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 2 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | untitled | Mini-roundabout | | 1, 2, 3 | 11.14 | B |
| 2 | untitled | Mini-roundabout | | 1, 2, 3 | 8.31 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 9.73 | A |

## Traffic Demand

### Demand Set Details

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

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

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (Veh/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 1 | 1 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 269 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 528 | 100.000 |
| 2 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 269 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 528 | 100.000 |

## Origin-Destination Data

### Junction 1

**Demand (Veh/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 74 | 311 |
| | 2 | 81 | 0 | 188 |
| | 3 | 374 | 154 | 0 |

### Junction 2

**Demand (Veh/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 74 | 311 |
| | 2 | 81 | 0 | 188 |
| | 3 | 374 | 154 | 0 |

## Vehicle Mix

### Junction 1

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 1 |
| | 3 | 3 | 0 | 0 |

### Junction 2

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 1 |
| | 3 | 3 | 0 | 0 |

## Results

### Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.33 | 3.51 | 0.5 | A | 421 | 632 |
| | 2 | 0.75 | 36.10 | 2.8 | E | 247 | 370 |
| | 3 | 0.45 | 5.14 | 0.8 | A | 485 | 727 |
| 2 | 1 | 0.32 | 3.36 | 0.5 | A | 421 | 632 |
| | 2 | 0.63 | 20.55 | 1.6 | C | 247 | 370 |
| | 3 | 0.51 | 6.42 | 1.0 | A | 485 | 727 |

## Main Results for each time segment

### 07:45 - 08:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 344 | 86 | 115 | 1577 | 0.218 | 343 | 340 | 0.0 | 0.3 | 2.914 | A |
| | 2 | 203 | 51 | 277 | 469 | 0.431 | 200 | 181 | 0.0 | 0.7 | 13.201 | B |
| | 3 | 398 | 99 | 60 | 1304 | 0.305 | 396 | 416 | 0.0 | 0.4 | 3.955 | A |
| 2 | 1 | 344 | 86 | 115 | 1624 | 0.212 | 343 | 340 | 0.0 | 0.3 | 2.807 | A |
| | 2 | 203 | 51 | 277 | 547 | 0.370 | 200 | 181 | 0.0 | 0.6 | 10.314 | B |
| | 3 | 398 | 99 | 60 | 1162 | 0.342 | 395 | 417 | 0.0 | 0.5 | 4.684 | A |

### 08:00 - 08:15

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 412 | 103 | 138 | 1558 | 0.265 | 412 | 408 | 0.3 | 0.4 | 3.142 | A |
| | 2 | 242 | 60 | 333 | 437 | 0.553 | 240 | 217 | 0.7 | 1.2 | 18.087 | C |
| | 3 | 475 | 119 | 72 | 1295 | 0.367 | 474 | 501 | 0.4 | 0.6 | 4.385 | A |
| 2 | 1 | 412 | 103 | 138 | 1604 | 0.257 | 412 | 408 | 0.3 | 0.3 | 3.018 | A |
| | 2 | 242 | 60 | 333 | 515 | 0.470 | 241 | 217 | 0.6 | 0.9 | 13.086 | B |
| | 3 | 475 | 119 | 72 | 1153 | 0.412 | 474 | 501 | 0.5 | 0.7 | 5.292 | A |

### 08:15 - 08:30

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 504 | 126 | 169 | 1532 | 0.329 | 504 | 499 | 0.4 | 0.5 | 3.500 | A |
| | 2 | 296 | 74 | 407 | 395 | 0.751 | 290 | 266 | 1.2 | 2.6 | 32.840 | D |
| | 3 | 581 | 145 | 87 | 1283 | 0.453 | 580 | 610 | 0.6 | 0.8 | 5.119 | A |
| 2 | 1 | 503 | 126 | 169 | 1578 | 0.319 | 503 | 499 | 0.3 | 0.5 | 3.345 | A |
| | 2 | 296 | 74 | 406 | 472 | 0.628 | 293 | 266 | 0.9 | 1.6 | 19.828 | C |
| | 3 | 581 | 145 | 88 | 1142 | 0.509 | 580 | 611 | 0.7 | 1.0 | 6.387 | A |

### 08:30 - 08:45

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 506 | 126 | 170 | 1531 | 0.330 | 506 | 501 | 0.5 | 0.5 | 3.509 | A |
| | 2 | 296 | 74 | 409 | 393 | 0.753 | 295 | 267 | 2.6 | 2.8 | 36.102 | E |
| | 3 | 581 | 145 | 89 | 1281 | 0.454 | 581 | 615 | 0.8 | 0.8 | 5.142 | A |
| 2 | 1 | 506 | 126 | 170 | 1578 | 0.320 | 506 | 501 | 0.5 | 0.5 | 3.356 | A |
| | 2 | 296 | 74 | 409 | 471 | 0.629 | 296 | 267 | 1.6 | 1.6 | 20.554 | C |
| | 3 | 581 | 145 | 89 | 1142 | 0.509 | 581 | 615 | 1.0 | 1.0 | 6.424 | A |

### 08:45 - 09:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 415 | 104 | 139 | 1557 | 0.266 | 415 | 412 | 0.5 | 0.4 | 3.156 | A |
| | 2 | 242 | 60 | 336 | 436 | 0.555 | 248 | 219 | 2.8 | 1.3 | 19.749 | C |
| | 3 | 475 | 119 | 75 | 1293 | 0.367 | 476 | 509 | 0.8 | 0.6 | 4.412 | A |
| 2 | 1 | 416 | 104 | 139 | 1604 | 0.259 | 416 | 411 | 0.5 | 0.4 | 3.033 | A |
| | 2 | 242 | 60 | 336 | 513 | 0.472 | 245 | 219 | 1.6 | 0.9 | 13.582 | B |
| | 3 | 475 | 119 | 74 | 1153 | 0.412 | 476 | 507 | 1.0 | 0.7 | 5.330 | A |

### 09:00 - 09:15

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 347 | 87 | 116 | 1576 | 0.220 | 347 | 344 | 0.4 | 0.3 | 2.929 | A |
| | 2 | 203 | 51 | 280 | 467 | 0.433 | 205 | 183 | 1.3 | 0.8 | 13.808 | B |
| | 3 | 398 | 99 | 62 | 1303 | 0.305 | 398 | 423 | 0.6 | 0.4 | 3.980 | A |
| 2 | 1 | 347 | 87 | 116 | 1623 | 0.214 | 347 | 343 | 0.4 | 0.3 | 2.824 | A |
| | 2 | 203 | 51 | 281 | 545 | 0.372 | 204 | 183 | 0.9 | 0.6 | 10.594 | B |
| | 3 | 398 | 99 | 61 | 1161 | 0.342 | 398 | 423 | 0.7 | 0.5 | 4.724 | A |

# Sensitivity Scenario (Development Case), PM

### Data Errors and Warnings

| Severity | Area | Item | Description |
|---|---|---|---|
| Warning | Linked Roundabout | Junction 1 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |
| Warning | Linked Roundabout | Junction 2 - Arm 1 | If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | untitled | Mini-roundabout | | 1, 2, 3 | 9.51 | A |
| 2 | untitled | Mini-roundabout | | 1, 2, 3 | 7.66 | A |

### Junction Network

| Driving side | Lighting | Road surface | In London | Network delay (s) | Network LOS |
|---|---|---|---|---|---|
| Left | Normal/unknown | Normal/unknown | | 8.58 | A |

## 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 | Sensitivity Scenario (Development Case) | 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 |

### Linked Arm Data

| Junction | Arm | Feeding Junction | Feeding Arm | Link Type | Flow source | Uniform flow (Veh/hr) | Flow multiplier (%) | Internal storage space (PCU) |
|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |
| 2 | 1 | 1 | 1 | Simple (vertical queueing) | Normal | 0 | 100.00 | |

### Demand overview (Traffic)

| Junction | Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|---|
| 1 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 260 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 495 | 100.000 |
| 2 | 1 | ✓ | | | | |
| | 2 | | ONE HOUR | ✓ | 260 | 100.000 |
| | 3 | | ONE HOUR | ✓ | 495 | 100.000 |

## Origin-Destination Data

**Junction 1**

**Demand (Veh/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 96 | 299 |
| | 2 | 114 | 0 | 146 |
| | 3 | 330 | 165 | 0 |

**Junction 2**

**Demand (Veh/hr)**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 96 | 299 |
| | 2 | 114 | 0 | 146 |
| | 3 | 330 | 165 | 0 |

# Vehicle Mix

**Junction 1**

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 2 |
| | 3 | 2 | 1 | 0 |

**Junction 2**

**HV %s**

| | | To | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| From | 1 | 0 | 1 | 2 |
| | 2 | 2 | 0 | 2 |
| | 3 | 2 | 1 | 0 |

# Results

## Results Summary for whole modelled period

| Junction | Arm | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.32 | 3.49 | 0.5 | A | 408 | 612 |
| | 2 | 0.69 | 28.24 | 2.2 | D | 239 | 358 |
| | 3 | 0.43 | 5.05 | 0.8 | A | 454 | 681 |
| 2 | 1 | 0.31 | 3.34 | 0.5 | A | 408 | 612 |
| | 2 | 0.59 | 17.70 | 1.4 | C | 239 | 358 |
| | 3 | 0.49 | 6.25 | 0.9 | A | 454 | 681 |

## Main Results for each time segment

### 16:45 - 17:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 333 | 83 | 124 | 1570 | 0.212 | 332 | 332 | 0.0 | 0.3 | 2.905 | A |
| | 2 | 196 | 49 | 251 | 481 | 0.407 | 193 | 204 | 0.0 | 0.7 | 12.395 | B |
| | 3 | 373 | 93 | 85 | 1291 | 0.289 | 371 | 360 | 0.0 | 0.4 | 3.909 | A |
| 2 | 1 | 333 | 83 | 124 | 1617 | 0.206 | 332 | 332 | 0.0 | 0.3 | 2.799 | A |
| | 2 | 196 | 49 | 251 | 558 | 0.351 | 194 | 204 | 0.0 | 0.5 | 9.822 | A |
| | 3 | 373 | 93 | 85 | 1150 | 0.324 | 371 | 360 | 0.0 | 0.5 | 4.610 | A |

### 17:00 - 17:15

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 399 | 100 | 148 | 1549 | 0.258 | 399 | 398 | 0.3 | 0.3 | 3.130 | A |
| | 2 | 234 | 58 | 302 | 452 | 0.517 | 232 | 245 | 0.7 | 1.0 | 16.284 | C |
| | 3 | 445 | 111 | 102 | 1277 | 0.349 | 444 | 432 | 0.4 | 0.5 | 4.322 | A |
| 2 | 1 | 399 | 100 | 148 | 1596 | 0.250 | 399 | 398 | 0.3 | 0.3 | 3.007 | A |
| | 2 | 234 | 58 | 302 | 529 | 0.442 | 233 | 245 | 0.5 | 0.8 | 12.117 | B |
| | 3 | 445 | 111 | 102 | 1138 | 0.391 | 444 | 433 | 0.5 | 0.6 | 5.189 | A |

### 17:15 - 17:30

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 488 | 122 | 181 | 1521 | 0.321 | 488 | 486 | 0.3 | 0.5 | 3.483 | A |
| | 2 | 286 | 72 | 369 | 413 | 0.693 | 282 | 300 | 1.0 | 2.1 | 26.618 | D |
| | 3 | 545 | 136 | 124 | 1259 | 0.433 | 544 | 528 | 0.5 | 0.8 | 5.027 | A |
| 2 | 1 | 488 | 122 | 181 | 1568 | 0.311 | 487 | 487 | 0.3 | 0.4 | 3.330 | A |
| | 2 | 286 | 72 | 369 | 490 | 0.584 | 284 | 300 | 0.8 | 1.3 | 17.255 | C |
| | 3 | 545 | 136 | 125 | 1122 | 0.486 | 544 | 528 | 0.6 | 0.9 | 6.218 | A |

### 17:30 - 17:45

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 490 | 122 | 182 | 1520 | 0.322 | 490 | 489 | 0.5 | 0.5 | 3.492 | A |
| | 2 | 286 | 72 | 371 | 412 | 0.694 | 286 | 301 | 2.1 | 2.2 | 28.238 | D |
| | 3 | 545 | 136 | 125 | 1258 | 0.433 | 545 | 531 | 0.8 | 0.8 | 5.048 | A |
| 2 | 1 | 490 | 122 | 182 | 1567 | 0.313 | 490 | 489 | 0.4 | 0.5 | 3.340 | A |
| | 2 | 286 | 72 | 371 | 489 | 0.585 | 286 | 301 | 1.3 | 1.4 | 17.704 | C |
| | 3 | 545 | 136 | 125 | 1121 | 0.486 | 545 | 531 | 0.9 | 0.9 | 6.249 | A |

### 17:45 - 18:00

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 402 | 100 | 149 | 1548 | 0.260 | 402 | 402 | 0.5 | 0.4 | 3.144 | A |
| | 2 | 234 | 58 | 305 | 450 | 0.519 | 238 | 246 | 2.2 | 1.1 | 17.257 | C |
| | 3 | 445 | 111 | 104 | 1275 | 0.349 | 446 | 438 | 0.8 | 0.5 | 4.348 | A |
| 2 | 1 | 403 | 101 | 149 | 1595 | 0.252 | 403 | 401 | 0.5 | 0.3 | 3.022 | A |
| | 2 | 234 | 58 | 305 | 527 | 0.444 | 236 | 247 | 1.4 | 0.8 | 12.461 | B |
| | 3 | 445 | 111 | 103 | 1137 | 0.392 | 446 | 438 | 0.9 | 0.6 | 5.222 | A |

**18:00 - 18:15**

| Junction | Arm | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Throughput (exit) (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 336 | 84 | 124 | 1569 | 0.214 | 336 | 335 | 0.4 | 0.3 | 2.920 | A |
| | 2 | 196 | 49 | 255 | 479 | 0.409 | 197 | 206 | 1.1 | 0.7 | 12.860 | B |
| | 3 | 373 | 93 | 87 | 1289 | 0.289 | 373 | 365 | 0.5 | 0.4 | 3.932 | A |
| 2 | 1 | 336 | 84 | 124 | 1616 | 0.208 | 336 | 335 | 0.3 | 0.3 | 2.816 | A |
| | 2 | 196 | 49 | 255 | 556 | 0.352 | 197 | 206 | 0.8 | 0.6 | 10.051 | B |
| | 3 | 373 | 93 | 86 | 1149 | 0.324 | 373 | 365 | 0.6 | 0.5 | 4.647 | A |

# Junctions 10

## PICADY 10 - Priority Intersection Module



**Filename:** Site Access.Henham Road.j10
**Path:** Y:\ARDENT PROJECTS\2008170 - Land South of Henham Road, Elsenham\Transport\PICADY
**Report generation date:** 28/07/2022 16:12:31

---

## »Sensitivity Scenario (2027 + Dev), AM
## »Sensitivity Scenario (2027 + Dev), PM

### Summary of junction performance

| | AM | | PM | |
|---|---|---|---|---|
| | Q (Veh) | RFC | Q (Veh) | RFC |
| | Sensitivity Scenario (2027 + Dev) | | | |
| Stream B-AC | 0.1 | 0.10 | 0.0 | 0.04 |
| Stream C-AB | 0.0 | 0.03 | 0.2 | 0.09 |

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

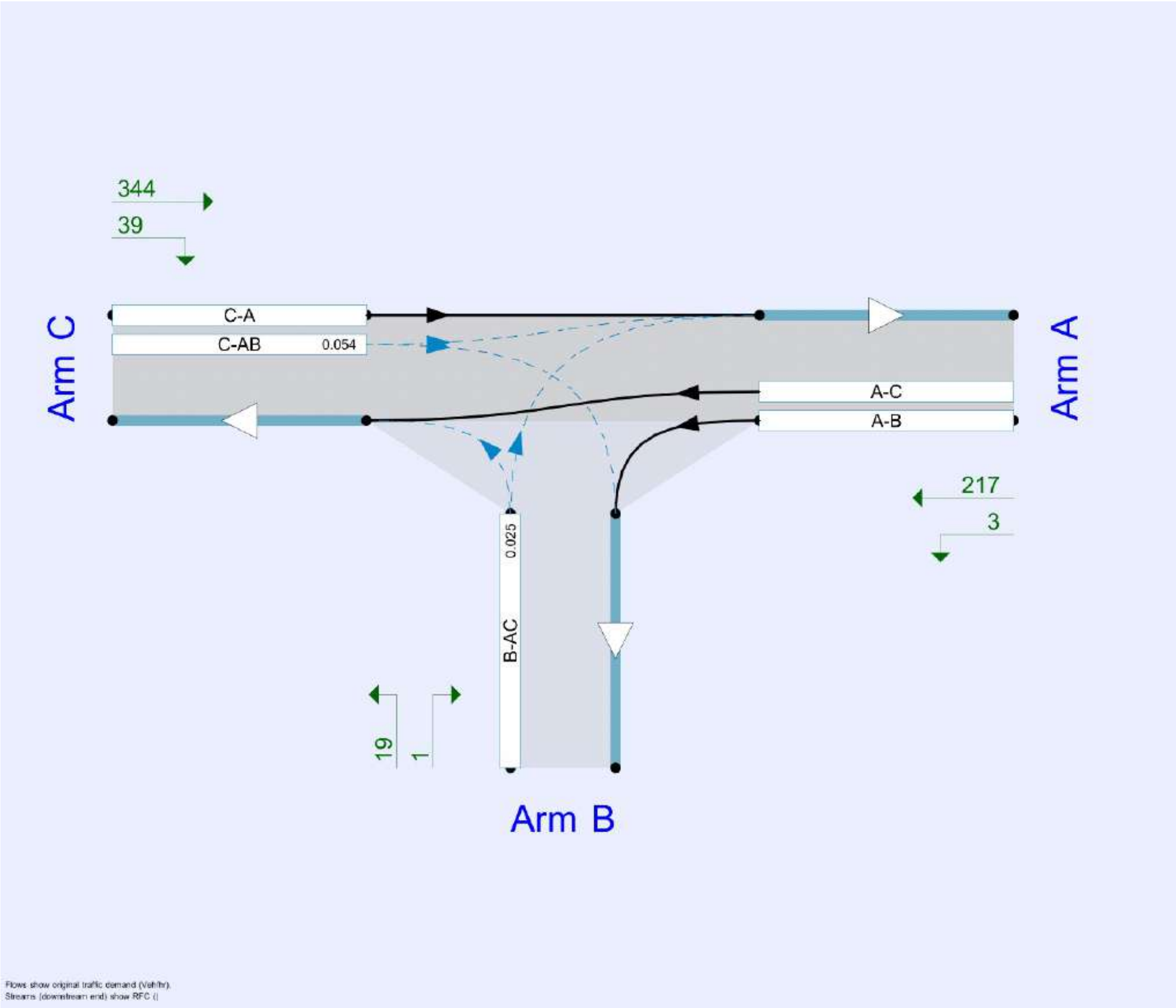
### File summary

#### File Description

| | |
|---|---|
| Title | |
| Location | |
| Site number | |
| Date | 28/03/2022 |
| Version | |
| Status | (new file) |
| Identifier | |
| Client | |
| Jobnumber | |
| Enumerator | ARDENTCE\jsymington |
| Description | |

### Units

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




*The junction diagram reflects the last run of Junctions.*

## Analysis Options

| Vehicle length (m) | Calculate Q Percentiles | Calculate detailed queueing delay | Show lane queues in feet / metres | Show all PICADY stream intercepts | Calculate residual capacity | RFC Threshold | Av. Delay threshold (s) | Q threshold (PCU) | Use iterations with HCM roundabouts | Max number of iterations for roundabouts |
|---|---|---|---|---|---|---|---|---|---|---|
| 5.75 | | | | | | 0.85 | 36.00 | 20.00 | | 500 |

## Demand Set Summary

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| D1 | Sensitivity Scenario (2027 + Dev) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |
| D2 | Sensitivity Scenario (2027 + Dev) | 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 |

# Sensitivity Scenario (2027 + Dev), AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| **1** | untitled | T-Junction | Two-way | Two-way | Two-way | | 0.63 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 0.63 | A |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| **A** | B1051 Henham Road (East) | | Major |
| **B** | Site Access | | Minor |
| **C** | B1051 Henham Road (West) | | Major |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right-turn storage | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|---|---|---|---|---|---|---|
| **C** | 6.67 | | | 171.0 | ✓ | 0.00 |

*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 | 3.20 | 13 | 17 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|
| B-A | 500 | 0.088 | 0.224 | 0.141 | 0.320 |
| B-C | 648 | 0.096 | 0.244 | - | - |
| C-B | 673 | 0.253 | 0.253 | - | - |

*The slopes and intercepts shown above include custom intercept adjustments only.*

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

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|---|---|---|---|---|---|---|---|
| **D1** | Sensitivity Scenario (2027 + Dev) | AM | ONE HOUR | 07:45 | 09:15 | 15 | ✓ |

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

## Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 401 | 100.000 |
| B | | ONE HOUR | ✓ | 47 | 100.000 |
| C | | ONE HOUR | ✓ | 267 | 100.000 |

# Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 1 | 400 |
| | B | 3 | 0 | 44 |
| | C | 254 | 13 | 0 |

# Vehicle Mix

### HV %s

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

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-AC | 0.10 | 7.65 | 0.1 | A | 43 | 65 |
| C-AB | 0.03 | 5.08 | 0.0 | A | 18 | 27 |
| C-A | | | | | 227 | 341 |
| A-B | | | | | 0.92 | 1 |
| A-C | | | | | 367 | 551 |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 35 | 9 | 558 | 0.063 | 35 | 0.0 | 0.1 | 6.878 | A |
| C-AB | 13 | 3 | 722 | 0.018 | 13 | 0.0 | 0.0 | 5.076 | A |
| C-A | 188 | 47 | | | 188 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 301 | 75 | | | 301 | | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 42 | 11 | 543 | 0.078 | 42 | 0.1 | 0.1 | 7.186 | A |
| C-AB | 17 | 4 | 734 | 0.023 | 17 | 0.0 | 0.0 | 5.018 | A |
| C-A | 223 | 56 | | | 223 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 360 | 90 | | | 360 | | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 52 | 13 | 522 | 0.099 | 52 | 0.1 | 0.1 | 7.649 | A |
| C-AB | 23 | 6 | 751 | 0.030 | 23 | 0.0 | 0.0 | 4.941 | A |
| C-A | 271 | 68 | | | 271 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 440 | 110 | | | 440 | | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 52 | 13 | 522 | 0.099 | 52 | 0.1 | 0.1 | 7.652 | A |
| C-AB | 23 | 6 | 751 | 0.030 | 23 | 0.0 | 0.0 | 4.946 | A |
| C-A | 271 | 68 | | | 271 | | | | |
| A-B | 1 | 0.28 | | | 1 | | | | |
| A-C | 440 | 110 | | | 440 | | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 42 | 11 | 543 | 0.078 | 42 | 0.1 | 0.1 | 7.191 | A |
| C-AB | 17 | 4 | 734 | 0.023 | 17 | 0.0 | 0.0 | 5.027 | A |
| C-A | 223 | 56 | | | 223 | | | | |
| A-B | 0.90 | 0.22 | | | 0.90 | | | | |
| A-C | 360 | 90 | | | 360 | | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 35 | 9 | 558 | 0.063 | 35 | 0.1 | 0.1 | 6.885 | A |
| C-AB | 13 | 3 | 722 | 0.018 | 13 | 0.0 | 0.0 | 5.081 | A |
| C-A | 188 | 47 | | | 188 | | | | |
| A-B | 0.75 | 0.19 | | | 0.75 | | | | |
| A-C | 301 | 75 | | | 301 | | | | |

# Sensitivity Scenario (2027 + Dev), PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Arm A Direction | Arm B Direction | Arm C Direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|---|---|
| 1 | untitled | T-Junction | Two-way | Two-way | Two-way | | 0.70 | A |

### Junction Network

| Driving side | Lighting | Network delay (s) | Network LOS |
|---|---|---|---|
| Left | Normal/unknown | 0.70 | A |

## 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 | Sensitivity Scenario (2027 + Dev) | 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 | Av. Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|---|
| A | | ONE HOUR | ✓ | 220 | 100.000 |
| B | | ONE HOUR | ✓ | 20 | 100.000 |
| C | | ONE HOUR | ✓ | 383 | 100.000 |

## Origin-Destination Data

#### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 3 | 217 |
| | B | 1 | 0 | 19 |
| | C | 344 | 39 | 0 |

## Vehicle Mix

#### HV %s

| | | To | | |
|---|---|---|---|---|
| | | A | B | C |
| From | A | 0 | 0 | 1 |
| | B | 0 | 0 | 0 |
| | C | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Q (Veh) | Max LOS | Av. Demand (Veh/hr) | Total Junction Arrivals (Veh) |
|---|---|---|---|---|---|---|
| B-AC | 0.04 | 6.53 | 0.0 | A | 18 | 28 |
| C-AB | 0.09 | 4.77 | 0.2 | A | 59 | 88 |
| C-A | | | | | 293 | 439 |
| A-B | | | | | 3 | 4 |
| A-C | | | | | 199 | 298 |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 15 | 4 | 594 | 0.025 | 15 | 0.0 | 0.0 | 6.219 | A |
| C-AB | 43 | 11 | 799 | 0.054 | 43 | 0.0 | 0.1 | 4.762 | A |
| C-A | 245 | 61 | | | 245 | | | | |
| A-B | 2 | 0.56 | | | 2 | | | | |
| A-C | 163 | 41 | | | 163 | | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 4 | 585 | 0.031 | 18 | 0.0 | 0.0 | 6.347 | A |
| C-AB | 56 | 14 | 825 | 0.068 | 56 | 0.1 | 0.1 | 4.685 | A |
| C-A | 288 | 72 | | | 288 | | | | |
| A-B | 3 | 0.67 | | | 3 | | | | |
| A-C | 195 | 49 | | | 195 | | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 6 | 573 | 0.038 | 22 | 0.0 | 0.0 | 6.535 | A |
| C-AB | 77 | 19 | 861 | 0.089 | 77 | 0.1 | 0.2 | 4.589 | A |
| C-A | 345 | 86 | | | 345 | | | | |
| A-B | 3 | 0.83 | | | 3 | | | | |
| A-C | 239 | 60 | | | 239 | | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 22 | 6 | 573 | 0.038 | 22 | 0.0 | 0.0 | 6.535 | A |
| C-AB | 77 | 19 | 861 | 0.089 | 77 | 0.2 | 0.2 | 4.593 | A |
| C-A | 345 | 86 | | | 345 | | | | |
| A-B | 3 | 0.83 | | | 3 | | | | |
| A-C | 239 | 60 | | | 239 | | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 18 | 4 | 585 | 0.031 | 18 | 0.0 | 0.0 | 6.350 | A |
| C-AB | 56 | 14 | 825 | 0.068 | 57 | 0.2 | 0.1 | 4.688 | A |
| C-A | 288 | 72 | | | 288 | | | | |
| A-B | 3 | 0.67 | | | 3 | | | | |
| A-C | 195 | 49 | | | 195 | | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Junction Arrivals (Veh) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | Start queue (Veh) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|---|
| B-AC | 15 | 4 | 594 | 0.025 | 15 | 0.0 | 0.0 | 6.219 | A |
| C-AB | 44 | 11 | 799 | 0.055 | 44 | 0.1 | 0.1 | 4.768 | A |
| C-A | 245 | 61 | | | 245 | | | | |
| A-B | 2 | 0.56 | | | 2 | | | | |
| A-C | 163 | 41 | | | 163 | | | | |

**Appendix K**

# Modelling Impact Assessment Report

MG0193 – Elsenham, Stansted

Carl Moreno

20 July 2022

ARDENT

# DOCUMENT CONTROL ISSUE SHEET

## Project & document details

| | |
|---|---|
| Project name | Elsenham, Stansted |
| Project number | MG0193 |
| Document title | Modelling Impact Assessment Report |
| Document reference | \05_Technical\04_Reports & Notes\02_Future Year Testing |

## Document history

| Issue | Status | Reason for issue | Issued to |
|---|---|---|---|
| A | 1st Issue | For comment | Ardent |
| | | | |
| | | | |

## Issue control

| Issue | Date | Author | Contributors | Approved | Date |
|---|---|---|---|---|---|
| A | 20/07/2022 | Carl Moreno | | Dan Bent | 20/07/2022 |
| | | | | | |
| | | | | | |

# CONTENTS

## APPENDICES

# 1 INTRODUCTION

## 1.1 Project Background

1.1.1 Modelling Group Ltd were commissioned by Ardent Consulting Engineers to carry out a microsimulation model-based study of the area of Mountfitchet, Essex.

1.1.2 The aim has been to create a robust and reliable platform for assessment and mitigation of any impacts in the year 2027 resultant of the proposed development of 130 units on the B1051 in nearby Elsenham, which is expected to have an impact on the network within Mountfitchet to the southwest.


**FIGURE 1.1: MODEL EXTENTS & LOCATION OF PROPOSED DEVELOPMENT**

1.1.3 The future year scenario modelling has been developed within the agreed 2022 base year VISSIM model. Please see **Appendix A** for approved LMVR document *MG0193 - Elsenham, Stansted_LMVR_R_05-A_With_Appendices*.

## 1.2 Report Purpose

1.2.1 This report summarises the full future year modelling process, including the methodology for testing and analysing the comparative performance of all analysed options, the improvements achieved as a result of any mitigation proposals, and the details of any remaining impacts resultant of the proposed development scheme.

## 1.3 Report Structure

1.3.1 This report is structured as follows:

- **Section 2: Modelling Methodology** – Including details of the model development process and of all scenarios tested to date;
- **Section 3: Model Performance Analysis** – Including comparative network-wide performance statistics and analysis;
- **Section 4: Modelling Summary and Recommendations**

# 2 MODELLING METHODOLOGY

## 2.1 Overview

2.1.1 Consistent with the base VISSIM model, the focus of the assessment is on the road network within Mountfitchet and includes the following key junctions:

- J1 - B1051/Lower St
- J2 - B1051 Lower St/Mountfitchet Castle St/Church Rd/B1051 Chapel St
- J3 - Church Rd/Station Rd
- J4 - B1051 Chapel Hill/St John's Rd/Woodfield Terrace
- J5 - B1383 Cambridge Rd/B1051 Chapel Hill/B1383 Silver St/Bentfield Rd


**FIGURE 2.1: MODEL EXTENTS & JUNCTIONS**

2.1.2 The VISSIM model has been developed using the following specification.

| No. | Model Element | Details |
|---|---|---|
| 1 | VISSIM Version | Version 2020 (Service Pack 09) |
| 2 | Model Assessment Year | 2020 (Base) 2027 (Future Year) |
| 3 | Model Time Periods | AM Peak<br>• Warm Up Period = 0700-0730hrs<br>• Peak Period = 0730-0830hrs<br>• Cool Down Period = 0830-0930hrs<br>PM Peak<br>• Warm Up Period = 1630-1700hrs<br>• Peak Period = 1700-1800hrs<br>• Cool Down Period = 1800-1830hrs |

| No. | Model Element | Details |
|---|---|---|
| 4 | Model Units | Length:<br>• Kilometres<br>• Metres<br>Speed:<br>• Miles per hour (mph)<br>Acceleration:<br>• Metres/second squared (m/s²) |
| 5 | Vehicle Types Used | • Cars<br>• Light Goods Vehicles (LGVs)<br>• Heavy Goods Vehicles (HGVs) – which include:<br>  • Ordinary Goods Vehicle 1 (OGV1)<br>  • Ordinary Goods Vehicle 2 (OGV2)<br>• Buses/Coaches (modelled as public transport routes)<br>• Motorcycles |

**TABLE 2.1 MODEL SPECIFICATION**

## 2.2 Scenarios Tested

2.2.1 The scenarios tested include:

- 2027 Future Base – including the committed development scheme growth in the area
- 2027 Future Base + Mitigation – as above, also including the proposed mitigation on Grove Hill (B1051)
- 2027 Future Base + Development, which includes both committed development and the proposed development of 130 units on the B1051 in nearby Elsenham
- 2027 Future Base + Development + Mitigation – as above, also including the proposed mitigation on Grove Hill (B1051)

2.2.2 The flows for these scenarios have been provided by Ardent Consulting Engineers. See **Appendix B** for details. The proposed development is forecast to add:

- In the AM Peak, 22 vehicles travelling westbound & 7 vehicles travelling eastbound through the network
- In the PM Peak, 9 vehicles travelling westbound & 19 vehicles travelling eastbound through the network

## 2.3 Network Development

### Details on the proposed mitigation

2.3.1 The proposed mitigation on Grove Hill (B1051) includes an additional detector to register the presence (demand and extension) of vehicles located just east of the parking bays (location of secondary queue). The aim of this is to minimise the occurrences of demand not being recorded due to the delay of vehicles reaching the stop line detectors in time (see Figure 2.2).


**FIGURE 2.2 – APPROXIMATE LOCATION OF PROPOSED DETECTOR**

2.3.2 This mitigation measure, including detector type, range, exact location and other operational variables needs to be assessed further before implementation. However, the concept, as demonstrated in the results below appears to minimise the congestion in both the ‘with’ and ‘without’ scenarios.

2.3.3 Adjustments to the maximum green times at the signals, particularly in the PM Peak was also required to account for the increased demand at the junction and to allow enough time for vehicles in the secondary queue to travel through the westbound stop line. The changes are shown in Figure 2.3.

| Phase | AM Peak | | PM Peak | |
|---|---|---|---|---|
| | Base Max | Mitigation Max | Base Max | Mitigation Max |
| A (EB) | 14 | 14 | 30 | 30 |
| B (WB) | 34 | 34 | 14 | 30 |

**FIGURE 2.3 MITIGATION MAXIMUM GREEN TIMES (SECONDS)**

2.3.4 Note that no change was made to the AM Peak green times, as the additional detector by itself was enough to reduce journey times on Grove Hill (Hill). Any additional green time added to Phase B (WB) was found to adversely affect queuing on Silver Street and Lower Street due to the additional westbound traffic that moves through the network.

### Additional Network Changes since base modelling

2.3.5 Any further network changes since the base modelling are limited to the extension of links on Grove Hill B1051, Lower Street and Silver Street to ensure that latent demand is kept to a minimum and the full impacts to delay are included in the model (see Figure 2.4). The base model was already congested so the 2022-2027 uplift in traffic results in significant additional queueing.

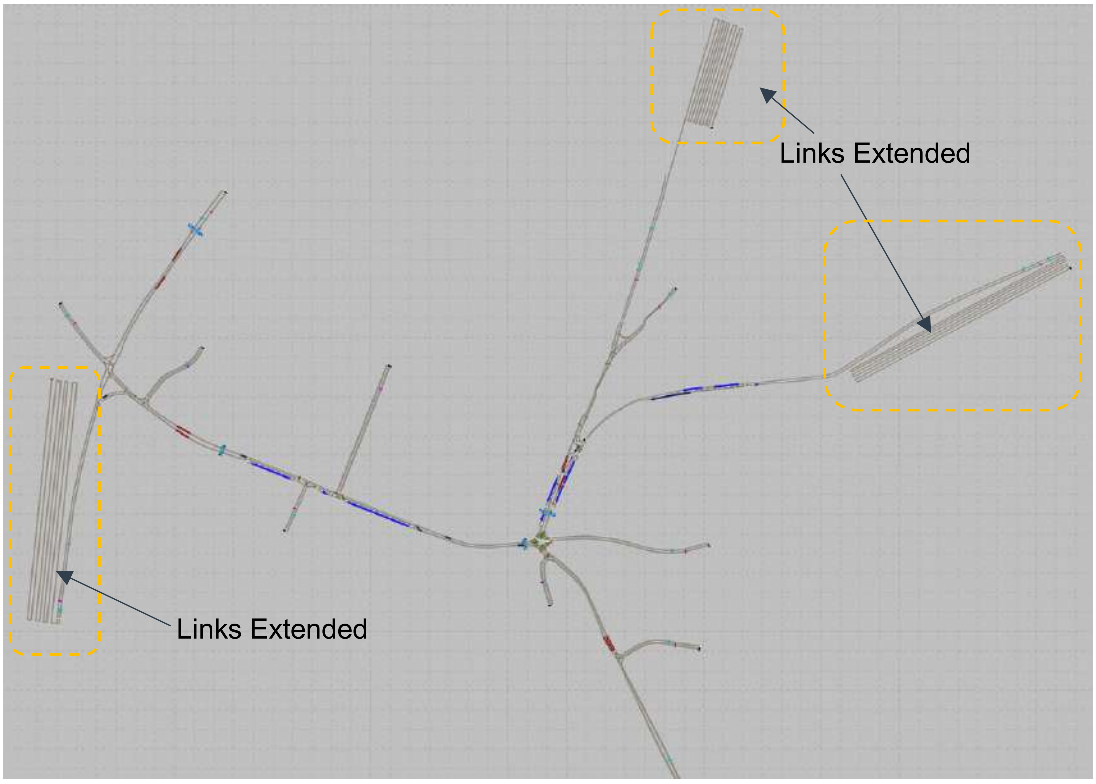



**FIGURE 2.4 LINKS EXTENDED TO INCLUDE FULL DEMAND**

## 2.4 Traffic Assignment Methodology

2.4.1 Consistent with the base modelling, the assignment has been setup using static routes (end to end) and vehicle inputs. However, the volumes and distributions used for the static assignment have been derived using LinSig as it provides the tools necessary to estimate an Origin-Destination (O-D) Matrix based on a set of measured traffic counts.

2.4.2 Once a suitable matrix was obtained, (GEH < 3 when comparing modelled and demand counts), the matrix for each vehicle type was converted into static routes using a spreadsheet (*Linsig_to_VISSIM_Matrix_Conversion.xlsx*).

# 3 MODEL PERFORMANCE ANALYSIS

## 3.1 Overview

3.1.1 The impact of the development on the local network in all future year scenario tests has been assessed using the following model outputs:

- Journey time comparison for the main routes through the network.
- Queue comparison for each approach, profiled in 5-minute intervals;
- Overall network performance statistics, including average per vehicle speed and delay, as well as network-wide average delay etc;

## 3.2 Random Seed Runs

3.2.1 The modelled scenario results have been averaged over 20 seeds to reflect daily fluctuations in overall network operation.

3.2.2 Due to the additional flow in the network (2027), combined with the complex operation of the parking bay overtaking on Chapel Hill, it was found that many of the model runs could not be used due to network 'locking'. To account for this, each model was run for a total of 40 random seeds and the Latent Delay and Latent Demand for each were inspected. This clearly highlighted the random seeds that locked up and were removed from the model average. The first twenty useable model runs make up this average as highlighted in grey in Table 3.1.

| Run | Seed | AM FB | | AM FB + Mit | | AM FB + DEV | | AM FB + DEV + Mit | | PM FB | | PM FB + Mit | | PM FB + DEV | | PM FB + DEV + Mit | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Latent Dem | Latent Delay | Latent Dem | Latent Delay | Latent Dem | Latent Delay | Latent Dem | Latent Delay | Latent Dem | Latent Delay | Latent Dem | Latent Delay | Latent Dem | Latent Delay | Latent Dem | Latent Delay |
| 1 | 42 | 0 | 335 | 0 | 336.2 | 0 | 348.6 | 0 | 349.2 | 0 | 454 | 174 | 62175.4 | 2037 | 3491640 | 0 | 488.6 |
| 2 | 84 | 0 | 329.6 | 0 | 332.6 | 0 | 337.6 | 0 | 337.4 | 0 | 417.8 | 0 | 418.6 | 0 | 433 | 0 | 434.4 |
| 3 | 126 | 0 | 326.2 | 0 | 325.6 | 0 | 349 | 13 | 4077 | 0 | 411 | 0 | 410.8 | 57 | 10485.4 | 147 | 33490.4 |
| 4 | 168 | 0 | 347.4 | 0 | 345.4 | 0 | 349.2 | 0 | 353 | 0 | 459.8 | 0 | 459.2 | 1805 | 2831974.8 | 0 | 468.8 |
| 5 | 210 | 1 | 324.4 | 1 | 324.8 | 8 | 980.4 | 1 | 341.4 | 0 | 399.6 | 0 | 399.8 | 0 | 423.6 | 0 | 421.4 |
| 6 | 252 | 0 | 351.4 | 0 | 357 | 2 | 400.2 | 0 | 386.6 | 0 | 463.4 | 0 | 464.4 | 1765 | 2683963.6 | 15 | 8657.8 |
| 7 | 294 | 0 | 325.8 | 0 | 324.8 | 0 | 340.6 | 0 | 341.6 | 1260 | 1538318.8 | 0 | 463 | 765 | 622991.8 | 0 | 469 |
| 8 | 336 | 0 | 421.2 | 0 | 420.2 | 0 | 423.4 | 0 | 424 | 1 | 527.6 | 1 | 527.2 | 0 | 544.2 | 0 | 543.2 |
| 9 | 378 | 0 | 319.8 | 0 | 319.2 | 1 | 388 | 10 | 832 | 0 | 439.4 | 0 | 440 | 0 | 463.8 | 0 | 462.8 |
| 10 | 420 | 0 | 320.2 | 0 | 320.8 | 0 | 330.6 | 0 | 365.6 | 1219 | 1426946.4 | 0 | 437.6 | 0 | 462.4 | 1137 | 1225323 |
| 11 | 462 | 0 | 343.2 | 0 | 342 | 0 | 352.4 | 0 | 351.4 | 0 | 404 | 0 | 403 | 308 | 122253.2 | 0 | 405.2 |
| 12 | 504 | 0 | 343.8 | 0 | 347 | 1 | 366.4 | 8 | 778 | 0 | 467.2 | 0 | 467.4 | 0 | 491.4 | 0 | 492.8 |
| 13 | 546 | 0 | 330.6 | 0 | 331.2 | 0 | 358 | 0 | 370.2 | 0 | 442.4 | 10 | 814 | 0 | 456.6 | 10 | 2152.2 |
| 14 | 588 | 0 | 307.2 | 0 | 307.6 | 6 | 1007.6 | 0 | 328.8 | 1647 | 2485762.2 | 0 | 379 | 0 | 424 | 223 | 82671.2 |
| 15 | 630 | 0 | 363.6 | 0 | 363.6 | 0 | 365.6 | 0 | 398 | 0 | 497.4 | 90 | 27939 | 0 | 521 | 1405 | 1866604.8 |
| 16 | 672 | 0 | 317.8 | 0 | 317.6 | 0 | 321.6 | 0 | 321.2 | 0 | 459.4 | 0 | 459 | 0 | 489 | 10 | 908 |
| 17 | 714 | 107 | 28358.6 | 0 | 315 | 1235 | 1328428 | 0 | 341.4 | 0 | 413.8 | 209 | 82274.8 | 0 | 407 | 0 | 403.6 |
| 18 | 756 | 0 | 398.4 | 0 | 400.4 | 0 | 442.2 | 0 | 409.8 | 475 | 273886.2 | 0 | 447 | 0 | 472.8 | 0 | 474.8 |
| 19 | 798 | 0 | 368.4 | 0 | 367.4 | 0 | 359.2 | 0 | 359.2 | 0 | 392.8 | 0 | 391.2 | 0 | 412.4 | 0 | 412.2 |
| 20 | 840 | 0 | 299.8 | 0 | 304 | 0 | 308.2 | 0 | 307.2 | 0 | 428.8 | 0 | 433.8 | 0 | 456.2 | 0 | 459 |
| 21 | 882 | 0 | 328.4 | 0 | 330 | 1 | 391.2 | 0 | 352 | 0 | 465.6 | 0 | 467.2 | 0 | 485 | 2 | 503.8 |
| 22 | 924 | 0 | 344.2 | 12 | 2723.4 | 29 | 5956.4 | 56 | 33297.2 | 0 | 422.8 | 0 | 423.6 | 0 | 456.2 | 0 | 459.4 |
| 23 | 966 | 1 | 342.8 | 1 | 343 | 1 | 354.6 | 1 | 356.2 | 1 | 469.8 | 1 | 471 | 1 | 486.2 | 1304 | 1631760.8 |
| 24 | 1008 | 0 | 321.8 | 0 | 346.6 | 0 | 326.8 | 8 | 609 | 0 | 425.8 | 1830 | 2973468.2 | 0 | 449.2 | 0 | 448.8 |
| 25 | 1050 | 0 | 320.8 | 0 | 321 | 0 | 329.2 | 0 | 329 | 0 | 395.4 | 0 | 396.4 | 0 | 414.8 | 0 | 415.8 |
| 26 | 1092 | 0 | 365.2 | 0 | 366.4 | 0 | 373.4 | 0 | 372.8 | 1809 | 2846252.8 | 0 | 451.8 | 0 | 475.6 | 1 | 986.4 |
| 27 | 1134 | 0 | 342.6 | 0 | 343.6 | 0 | 354.6 | 0 | 355.4 | 0 | 407 | 0 | 407 | 0 | 417.6 | 0 | 418.2 |
| 28 | 1176 | 0 | 328.6 | 0 | 328.6 | 0 | 334.2 | 0 | 333.2 | 0 | 430.4 | 0 | 431 | 0 | 475 | 0 | 474.2 |
| 29 | 1218 | 0 | 302.8 | 0 | 303.6 | 0 | 319 | 0 | 318.2 | 0 | 411.2 | 0 | 412.8 | 0 | 426.4 | 0 | 425.6 |
| 30 | 1260 | 0 | 354.2 | 0 | 355.4 | 3 | 483.8 | 0 | 370.2 | 0 | 443.4 | 753 | 579965 | 0 | 473.2 | 20 | 9188.8 |
| 31 | 1302 | 0 | 296.2 | 0 | 295.8 | 0 | 333 | 0 | 327.6 | 1626 | 2394657.2 | 628 | 430167.6 | 1 | 381.8 | 1 | 383.2 |
| 32 | 1344 | 0 | 354.2 | 0 | 353 | 0 | 358.6 | 0 | 356.6 | 0 | 420 | 133 | 33828.2 | 0 | 449 | 0 | 447.8 |
| 33 | 1386 | 0 | 298 | 0 | 297.6 | 0 | 315.6 | 0 | 312.6 | 0 | 382.2 | 0 | 389 | 0 | 418.8 | 0 | 423 |
| 34 | 1428 | 0 | 324.6 | 0 | 323.4 | 0 | 336.6 | 0 | 330.4 | 0 | 406.6 | 0 | 406.6 | 0 | 434.2 | 0 | 433 |
| 35 | 1470 | 0 | 360.2 | 0 | 360.8 | 0 | 375.2 | 7 | 992.4 | 2 | 464 | 190 | 46951.2 | 2 | 486.2 | 4 | 513.6 |
| 36 | 1512 | 0 | 340.6 | 0 | 339.6 | 0 | 371.2 | 4 | 570 | 0 | 435.4 | 0 | 438.2 | 0 | 445.4 | 0 | 446 |
| 37 | 1554 | 0 | 335.4 | 0 | 336.2 | 0 | 349.2 | 0 | 338.8 | 181 | 68357.8 | 0 | 448.8 | 0 | 464.2 | 0 | 464.6 |
| 38 | 1596 | 0 | 333.2 | 0 | 330.2 | 63 | 11151.8 | 0 | 345.6 | 0 | 432.4 | 471 | 263030 | 0 | 3925.4 | 16 | 5517.4 |
| 39 | 1638 | 1 | 342.4 | 1 | 343.2 | 1 | 340.8 | 1 | 343 | 106 | 31816.2 | 0 | 422.8 | 0 | 448.2 | 0 | 446.6 |
| 40 | 1680 | 0 | 325 | 0 | 326 | 0 | 336.6 | 0 | 339 | 0 | 423.4 | 0 | 423.6 | 1312 | 1635726.6 | 0 | 438.4 |
| Avg | | 2.75 | 1037.34 | 0.38 | 396.74 | 33.77 | 34001.21 | 2.73 | 1318.05 | 208.18 | 276997.79 | 112.25 | 112840.1 | 201.32 | 285437.63 | 107.38 | 122008.46 |
| St Dev | | 16.91 | 4430.71 | 1.9 | 378.14 | 195.1 | 209923.31 | 9.2 | 5220.5 | 512.38 | 741252.34 | 326.76 | 478715.07 | 538.42 | 835665.01 | 342.63 | 425500.88 |
| Min | | 0 | 296.2 | 0 | 295.8 | 0 | 308.2 | 0 | 307.2 | 0 | 382.2 | 0 | 379 | 0 | 381.8 | 0 | 383.2 |
| Max | | 107 | 28358.6 | 12 | 2723.4 | 1235 | 1328428 | 56 | 33297.2 | 1809 | 2846252.8 | 1830 | 2973468.2 | 2037 | 3491640 | 1405 | 1866604.8 |

**TABLE 3.1 MODEL RUNS / RANDOM SEEDS USED**

## 3.3 Comment on Road Closure May 2022

3.3.1 Unfortunately, in May 2022, traffic diversions were in place during the survey period (Monday 9th May – Friday 27th May 2022) due to a road closure on the B1383 just north of the model extents. This caused a significant diversion of traffic onto Lower Street and Chapel Hill creating site conditions that are not considered '*typical*'. In the absence of any other current data sources, the traffic flow information collected in May 2022 had to be used to develop the base model. To illustrate the additional traffic attracted to the area due to the roadworks, current 2022 flows have been compared to 2018 flows (sourced from document produced by WSP - *ADDENDUM_-_TRANSPORT_ASSESSMENT-2853911.pdf (pages 133-135)*), as highlighted in **Figure 3.1**. See **Appendix C** for more detail on the 2018 counts.

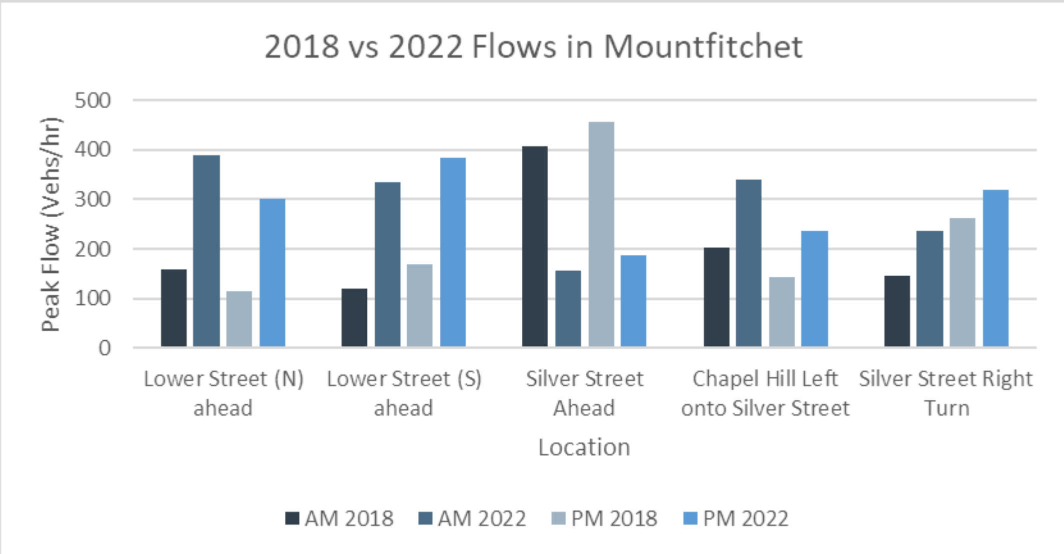



**FIGURE 3.1 2018 VS 2022 FLOWS**

3.3.2 This clearly shows that there is a significant increase in demand on Lower Street, Chapel Hill and Silver Street caused by the road closure which needs to be considered when commenting on the forecasting results in the next chapters.

## 3.4 Journey Time Comparison

3.4.1 Consistent with the approach used in the base model, the main east/west routes for through traffic in Mountfitchet have been compared. Each direction is broken down into smaller sections to illustrate the relative performance of each.


**FIGURE 3.2 ROUTES ASSESSED (WB & EB) FOR JOURNEY TIME**

3.4.2 Referring to **Figures 3.3 – 3.4**, the results are interpreted as follows:

3.4.3 In the AM Peak, the *Future Base + Dev* Scenario produces a slight journey time increase over the *Future Base* Scenario in both directions: 28 seconds (or +4%) travelling westbound and 17 seconds (+6%) travelling eastbound. For the westbound direction, section 101 (Grove Hill B1051) sees the biggest increase (27 seconds, +5%); Section 202 (Chapel Hill) in the eastbound direction sees an increase of 12 seconds (+8%).

3.4.4 The introduction of mitigation measures on Grove Hill does reduce the journey time on Section 101 (Grove Hill itself) which suggests that more traffic is travelling through the signals. This reduction is in the range of 49-54 seconds (without and with development respectively). Overall, the '*with development*' Scenario results in an overall westbound journey time increase of 23 seconds (+3%) in the AM Peak when compared to the *Future Base + Mitigation* Scenario. The eastbound journey time sees a smaller increase of 3 seconds (+1%). These are not considered significant impacts.

3.4.5 In the PM Peak, the *Future Base + Dev* Scenario sees a journey time increase of 34 seconds (+4%) over the *Future Base* Scenario (travelling westbound) and no change overall travelling eastbound.

3.4.6 On Section 101 (Grove Hill), the '*with mitigation*' Scenarios see an even greater reduction in journey time than recorded in the AM Peak - In the range of 197-256 seconds (with and without the development respectively). However, the results show an increase of 95 (+14%) seconds for westbound travel (with development), largely due to additional delay on Grove Hill (94s). Although the development flow is relatively small in the PM Peak, 19 vehicles travelling eastbound and 9 vehicles travelling westbound, when this is combined with the delay created by the on-street parking on Grove Hill, the impact is apparent.

3.4.7 In contrast, the PM Peak ‘*with mitigation*’ Scenario sees an increased journey time in the eastbound direction in the range of 59-67 seconds (with and without the development respectively), likely due to the additional westbound throughput on Grove Hill and an increased interaction of vehicles on Chapel Hill overtaking parked vehicles. However, the ‘*with development*’ Scenario sees a small reduction of journey time on sections 201 and 202 (-2s and -6s respectively).

| AM Peak | 07:30 | to | 08:30 |
|---|---|---|---|

| Route | Direction | Description | | | Future Base | | | | Future Base + Dev | | | | AVG DIFF. | | Future Base + Mitigation | | | | Future Base + Dev + Mitigation | | | | AVG DIFF. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Travel Time | | | | Travel Time | | | | | | Travel Time | | | | Travel Time | | | | | |
| | | | | | Min | Avg | Max | St Dev | Min | Avg | Max | St Dev | Diff. | % Diff. | Min | Avg | Max | St Dev | Min | Avg | Max | St Dev | Diff. | % Diff. |
| 101 | WB\SB | B1051 (100m east of Raven Cottage) | - | B1051 / Lower St | 515 | 571 | 629 | 30 | 566 | 598 | 632 | 22 | 27 | 5% | 476 | 522 | 566 | 29 | 481 | 544 | 601 | 29 | 22 | 4% |
| 102 | WB\SB | B1051 / Lower St | - | Lower Hill / Chapel Hill R'bout | 41 | 51 | 61 | 5 | 46 | 52 | 62 | 5 | 0 | 1% | 32 | 41 | 49 | 5 | 34 | 41 | 50 | 5 | 0 | 1% |
| 103 | WB\SB | Lower Hill / Chapel Hill R'bout | - | Chapel Hill / Cambridge Rd | 127 | 134 | 142 | 4 | 128 | 134 | 146 | 5 | 1 | 1% | 122 | 131 | 140 | 5 | 114 | 131 | 148 | 9 | 1 | 1% |
| 104 | WB\SB | Chapel Hill / Cambridge Rd | - | Silver St / Sanders Cl | 19 | 20 | 20 | 0 | 19 | 20 | 20 | 0 | 0 | 0% | 19 | 19 | 20 | 0 | 19 | 20 | 20 | 0 | 0 | 1% |
| | WB\SB | B1051 (100m east of Raven Cottage) | - | Silver St / Sanders Cl | 702 | 776 | 852 | | 758 | 804 | 861 | | 28 | 4% | 648 | 713 | 775 | | 649 | 735 | 820 | | 23 | 3% |
| 201 | NB\EB | Silver St / Sanders Cl | - | Chapel Hill / Cambridge Rd | 26 | 29 | 34 | 2 | 27 | 33 | 67 | 9 | 4 | 14% | 25 | 27 | 30 | 1 | 26 | 28 | 38 | 3 | 1 | 3% |
| 202 | NB\EB | Chapel Hill / Cambridge Rd | - | Lower Hill / Chapel Hill R'bout | 131 | 153 | 177 | 14 | 134 | 165 | 203 | 17 | 12 | 8% | 112 | 138 | 162 | 13 | 109 | 139 | 166 | 15 | 2 | 1% |
| 203 | NB\EB | Lower Hill / Chapel Hill R'bout | - | B1051 / Lower St | 29 | 31 | 33 | 1 | 29 | 31 | 34 | 1 | 0 | 1% | 45 | 53 | 59 | 4 | 49 | 54 | 59 | 3 | 1 | 2% |
| 204 | NB\EB | B1051 / Lower St | - | B1051 (100m east of Raven Cottage) | 53 | 55 | 57 | 1 | 53 | 55 | 57 | 1 | 0 | 1% | 55 | 57 | 59 | 1 | 56 | 57 | 59 | 1 | 0 | 0% |
| | NB\EB | Silver St / Sanders Cl | - | B1051 (100m east of Raven Cottage) | 240 | 266 | 302 | | 242 | 283 | 361 | | 17 | 6% | 236 | 275 | 310 | | 239 | 278 | 322 | | 3 | 1% |

**FIGURE 3.3 AM PEAK JOURNEY TIME COMPARISON**

**PM Peak 17:00 to 18:00**

| Route | Direction | Description | | | Future Base Travel Time | | | | Future Base + Dev Travel Time | | | | AVG DIFF. | | Future Base + Mitigation Travel Time | | | | Future Base + Dev + Mitigation Travel Time | | | | AVG DIFF. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Min | Avg | Max | St Dev | Min | Avg | Max | St Dev | Diff. | % Diff. | Min | Avg | Max | St Dev | Min | Avg | Max | St Dev | Diff. | % Diff. |
| 101 | WB\SB | B1051 (100m east of Raven Cottage) | - | B1051 / Lower St | 541 | 659 | 766 | 60 | 613 | 694 | 794 | 54 | 35 | 5% | 238 | 403 | 680 | 116 | 304 | 497 | 667 | 100 | 94 | 23% |
| 102 | WB\SB | B1051 / Lower St | - | Lower Hill / Chapel Hill R'bout | 77 | 92 | 102 | 6 | 86 | 92 | 103 | 5 | 0 | 0% | 82 | 96 | 113 | 9 | 77 | 94 | 106 | 8 | -2 | -2% |
| 103 | WB\SB | Lower Hill / Chapel Hill R'bout | - | Chapel Hill / Cambridge Rd | 134 | 155 | 166 | 10 | 132 | 153 | 178 | 12 | -2 | -1% | 132 | 149 | 190 | 15 | 120 | 151 | 177 | 18 | 3 | 2% |
| 104 | WB\SB | Chapel Hill / Cambridge Rd | - | Silver St / Sanders Cl | 18 | 19 | 20 | 0 | 19 | 19 | 20 | 0 | 0 | 0% | 19 | 19 | 20 | 0 | 19 | 19 | 20 | 0 | 0 | 0% |
| | WB\SB | B1051 (100m east of Raven Cottage) | - | Silver St / Sanders Cl | 771 | 925 | 1054 | | 850 | 959 | 1095 | | **34** | **4%** | 471 | 667 | 1003 | | 519 | 762 | 969 | | **95** | **14%** |
| 201 | NB\EB | Silver St / Sanders Cl | - | Chapel Hill / Cambridge Rd | 55 | 99 | 137 | 24 | 72 | 103 | 140 | 18 | 4 | 4% | 86 | 121 | 147 | 17 | 86 | 119 | 141 | 16 | -2 | -2% |
| 202 | NB\EB | Chapel Hill / Cambridge Rd | - | Lower Hill / Chapel Hill R'bout | 210 | 246 | 272 | 15 | 223 | 242 | 260 | 10 | -4 | -2% | 251 | 273 | 299 | 12 | 238 | 267 | 296 | 13 | -6 | -2% |
| 203 | NB\EB | Lower Hill / Chapel Hill R'bout | - | B1051 / Lower St | 30 | 33 | 35 | 1 | 31 | 33 | 35 | 1 | 0 | 1% | 45 | 48 | 51 | 2 | 46 | 49 | 51 | 2 | 1 | 1% |
| 204 | NB\EB | B1051 / Lower St | - | B1051 (100m east of Raven Cottage) | 52 | 53 | 55 | 1 | 52 | 53 | 55 | 1 | 0 | 0% | 53 | 55 | 62 | 2 | 53 | 55 | 58 | 2 | 0 | 0% |
| | NB\EB | Silver St / Sanders Cl | - | B1051 (100m east of Raven Cottage) | 347 | 431 | 500 | | 378 | 431 | 490 | | **0** | **0%** | 435 | 498 | 558 | | 424 | 490 | 546 | | **-8** | **-2%** |

**FIGURE 3.4 PM PEAK JOURNEY TIME COMPARISON**

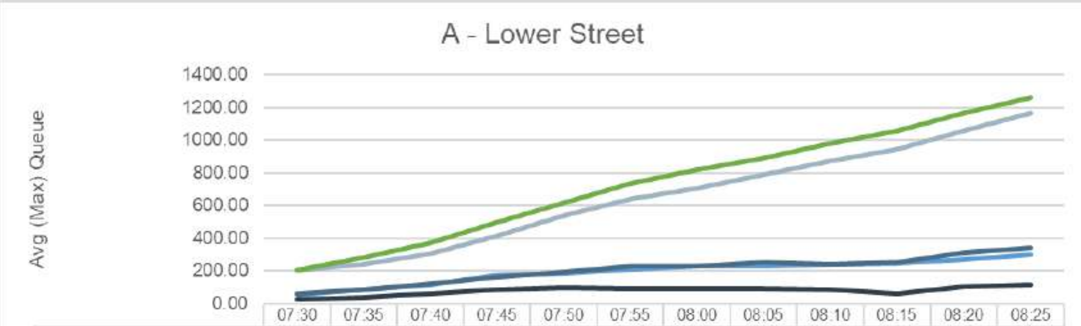
## 3.5 Queue Comparison

3.5.1 This section summarises the queue profiles for the approaches that see the biggest impact across scenarios in the network:

- Lower Street (impacted by traffic diversion due to road closure on B1383 northwest of model extents)
- B1051 Grove Hill (Queue Location 2, in advance of parking bays)
- Silver Street (impacted by additional right turning traffic onto Chapel Hill due to road closure)

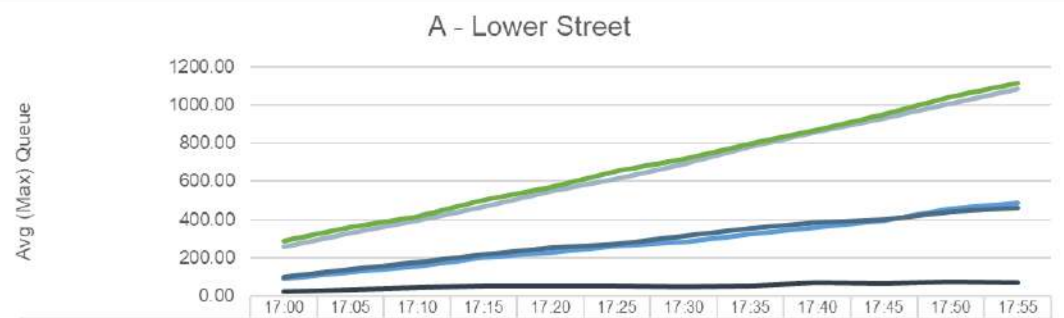
For completeness, **Appendix D** provides a queue comparison for all remaining minor approaches.

**3.5.2** **Figures 3.5-3.6** show the Lower Street queue comparison for the AM and PM Peaks respectively. Note that the Base 2022 model results have also been included for reference. In both peaks, the '*with mitigation*' Scenarios show a significant increase in queuing over the '*without mitigation*' Scenarios, with maximum queue levels gradually increasing over the model runtime. This increase in queueing is largely attributed to the additional westbound traffic that can move through the signals on Grove Hill, which reduces the gaps for Lower Street traffic to turn right onto the High Street. It is clear that the additional traffic on Lower Street due to the diversion is a large contributing factor here and that under normal conditions, this queueing would not be so extreme.




| | 07:30 | 07:35 | 07:40 | 07:45 | 07:50 | 07:55 | 08:00 | 08:05 | 08:10 | 08:15 | 08:20 | 08:25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Model | 25.89 | 38.13 | 58.93 | 87.75 | 97.26 | 93.44 | 89.81 | 91.56 | 86.61 | 62.37 | 104.41 | 114.04 |
| Future Base | 53.40 | 85.44 | 115.75 | 174.72 | 188.99 | 208.49 | 225.77 | 229.15 | 241.68 | 247.08 | 272.75 | 300.10 |
| Future Base + Dev | 63.05 | 86.69 | 121.44 | 162.11 | 190.96 | 226.51 | 228.37 | 251.75 | 241.82 | 253.55 | 309.07 | 339.18 |
| Future Base + Mit | 201.98 | 240.79 | 307.28 | 414.08 | 538.95 | 641.79 | 702.97 | 788.15 | 871.85 | 947.14 | 1059.14 | 1163.81 |
| Future Base + Dev + Mit | 205.13 | 282.69 | 373.92 | 494.22 | 615.92 | 736.57 | 818.79 | 888.53 | 977.70 | 1054.59 | 1162.76 | 1261.96 |

**FIGURE 3.5 AVERAGE MAX QUEUE PROFILE – LOWER STREET (AM)**




| | 17:00 | 17:05 | 17:10 | 17:15 | 17:20 | 17:25 | 17:30 | 17:35 | 17:40 | 17:45 | 17:50 | 17:55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Model | 21.69 | 31.77 | 41.31 | 53.42 | 54.55 | 52.04 | 46.04 | 51.89 | 67.91 | 64.72 | 75.05 | 67.17 |
| Future Base | 86.75 | 125.85 | 153.46 | 199.58 | 227.83 | 260.18 | 284.84 | 321.67 | 358.55 | 395.30 | 455.28 | 485.60 |
| Future Base + Dev | 100.55 | 136.99 | 175.64 | 217.73 | 253.76 | 274.09 | 311.54 | 356.45 | 385.01 | 397.68 | 439.55 | 460.78 |
| Future Base + Mit | 258.03 | 328.29 | 393.44 | 467.92 | 549.28 | 614.41 | 690.50 | 781.84 | 860.80 | 929.80 | 1008.18 | 1084.33 |
| Future Base + Dev + Mit | 286.08 | 358.12 | 416.77 | 502.92 | 570.49 | 656.43 | 719.62 | 798.77 | 872.78 | 952.04 | 1042.60 | 1116.66 |

**FIGURE 3.6 AVERAGE MAX QUEUE PROFILE – LOWER STREET (PM)**

3.5.3 In contrast, **Figures 3.7-3.8** highlight that the '*with mitigation*' Scenarios lead to a reduction in queuing over the equivalent '*without mitigation*' Scenarios. However, in both peaks the '*with development*' Scenarios do see an increase in queueing over the '*without development*' Scenarios.


| | 07:30 | 07:35 | 07:40 | 07:45 | 07:50 | 07:55 | 08:00 | 08:05 | 08:10 | 08:15 | 08:20 | 08:25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Model | 45.84 | 72.07 | 79.73 | 99.93 | 117.54 | 123.81 | 117.61 | 121.53 | 105.07 | 95.46 | 110.59 | 135.54 |
| Future Base | 314.82 | 413.29 | 512.74 | 621.38 | 738.10 | 857.52 | 949.78 | 1051.88 | 1126.71 | 1239.11 | 1364.05 | 1489.45 |
| Future Base + Dev | 410.05 | 534.70 | 645.79 | 776.53 | 906.81 | 1035.85 | 1143.69 | 1244.06 | 1340.72 | 1465.50 | 1605.74 | 1738.69 |
| Future Base + Mit | 282.44 | 372.17 | 456.78 | 553.69 | 663.00 | 771.28 | 853.62 | 939.83 | 1006.59 | 1108.66 | 1210.22 | 1323.29 |
| Future Base + Dev + Mit | 343.84 | 449.81 | 555.38 | 663.43 | 782.90 | 905.46 | 1006.57 | 1097.83 | 1188.14 | 1314.15 | 1435.16 | 1560.14 |

**FIGURE 3.7 AVERAGE MAX QUEUE PROFILE – GROVE HILL – Q2 (AM)**

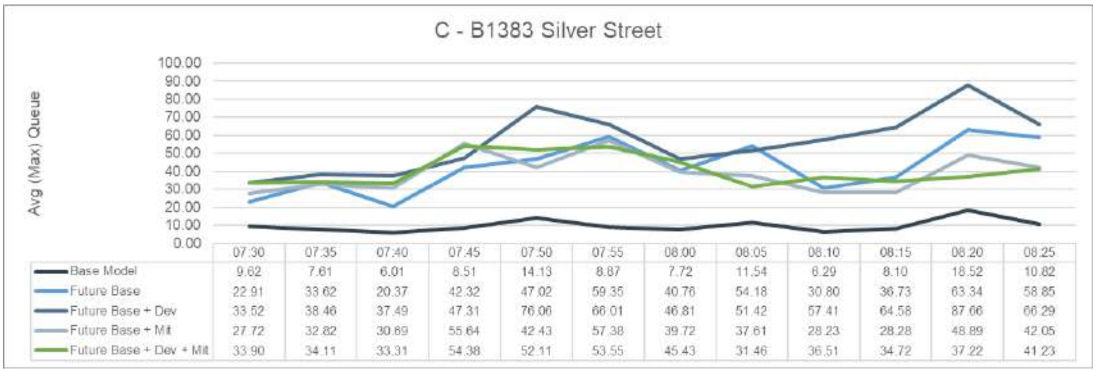

| | 17:00 | 17:05 | 17:10 | 17:15 | 17:20 | 17:25 | 17:30 | 17:35 | 17:40 | 17:45 | 17:50 | 17:55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Model | 22.97 | 28.79 | 28.73 | 29.67 | 36.46 | 33.77 | 35.73 | 43.79 | 32.66 | 31.90 | 31.72 | 28.84 |
| Future Base | 190.34 | 212.49 | 255.81 | 295.45 | 325.15 | 359.55 | 396.79 | 441.23 | 469.38 | 504.83 | 536.96 | 566.71 |
| Future Base + Dev | 207.11 | 241.22 | 282.57 | 321.09 | 361.16 | 408.15 | 450.84 | 496.70 | 539.19 | 594.12 | 641.88 | 687.38 |
| Future Base + Mit | 111.09 | 133.66 | 150.31 | 168.81 | 182.09 | 204.16 | 227.98 | 261.36 | 279.73 | 287.82 | 309.24 | 325.93 |
| Future Base + Dev + Mit | 143.57 | 163.08 | 191.15 | 215.08 | 235.20 | 267.59 | 303.63 | 345.38 | 373.82 | 404.66 | 431.06 | 464.38 |

**FIGURE 3.8 AVERAGE MAX QUEUE PROFILE – GROVE HILL – Q2 (PM)**

**3.5.4** Finally, **Figures 3.9-3.10** show the differences in queuing on Silver Street, caused by the right turn onto Chapel Hill. The AM Peak shows that the 2027 queueing levels are comparable across all scenarios, however the '*Future Base + Development*' scenario experiences the highest average maximum queue levels, with a peak of 87.66m.

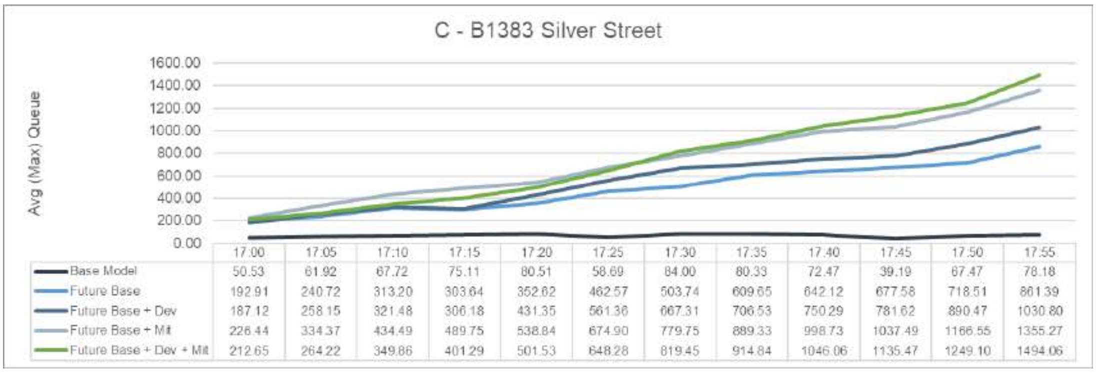
**3.5.5** In the PM Peak the mitigation has had a significant impact on queueing on Silver Street, with an increase by the end of the model run of around 500 metres (with and without development). Furthermore, the development adds around 140 metres onto the queue at 17:55.

3.5.6 As with the queueing on Lower Street, it is not expected that these high queue levels on Silver Street would occur under normal conditions, i.e., without the diversion mentioned in **Section 3.2** above.




| | 07:30 | 07:35 | 07:40 | 07:45 | 07:50 | 07:55 | 08:00 | 08:05 | 08:10 | 08:15 | 08:20 | 08:25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Model | 9.62 | 7.61 | 6.01 | 8.51 | 14.13 | 8.87 | 7.72 | 11.54 | 6.29 | 8.10 | 18.52 | 10.82 |
| Future Base | 22.91 | 33.62 | 20.37 | 42.32 | 47.02 | 59.35 | 40.76 | 54.18 | 30.80 | 36.73 | 63.34 | 58.85 |
| Future Base + Dev | 33.52 | 38.46 | 37.49 | 47.31 | 76.06 | 66.01 | 46.81 | 51.42 | 57.41 | 64.58 | 87.66 | 66.29 |
| Future Base + Mit | 27.72 | 32.82 | 30.69 | 55.64 | 42.43 | 57.38 | 39.72 | 37.61 | 28.23 | 28.28 | 48.89 | 42.05 |
| Future Base + Dev + Mit | 33.90 | 34.11 | 33.31 | 54.38 | 52.11 | 53.55 | 45.43 | 31.46 | 36.51 | 34.72 | 37.22 | 41.23 |

**FIGURE 3.9 AVERAGE MAX QUEUE PROFILE – B1383 SILVER STREET (AM)**




| | 17:00 | 17:05 | 17:10 | 17:15 | 17:20 | 17:25 | 17:30 | 17:35 | 17:40 | 17:45 | 17:50 | 17:55 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Model | 50.53 | 61.92 | 67.72 | 75.11 | 80.51 | 58.69 | 84.00 | 80.33 | 72.47 | 39.19 | 67.47 | 78.18 |
| Future Base | 192.91 | 240.72 | 313.20 | 303.64 | 352.62 | 462.57 | 503.74 | 609.65 | 642.12 | 677.58 | 718.51 | 861.39 |
| Future Base + Dev | 187.12 | 258.15 | 321.48 | 306.18 | 431.35 | 561.36 | 667.31 | 706.53 | 750.29 | 781.62 | 890.47 | 1030.80 |
| Future Base + Mit | 226.44 | 334.37 | 434.49 | 489.75 | 538.84 | 674.90 | 779.75 | 889.33 | 998.73 | 1037.49 | 1166.55 | 1355.27 |
| Future Base + Dev + Mit | 212.65 | 264.22 | 349.86 | 401.29 | 501.53 | 648.28 | 819.45 | 914.84 | 1046.06 | 1135.47 | 1249.10 | 1494.06 |

**FIGURE 3.10 AVERAGE MAX QUEUE PROFILE – B1383 SILVER STREET (PM)**

## 3.6 Overall Network Performance Statistics

3.6.1 This section summarises the network performance statistics. Network performance data is split into two main types – average per vehicle data, and total network statistics (taken over the peak hour).

3.6.2 Data is then further broken down as follows:

- Per Trip Average Per Vehicle Data:
  - Delay – defined as average time spent in a delay state (i.e. being held below desired speed due to network conditions);
  - Speed – defined as the overall average speed per trip, in miles per hour;
- Total Network Data:
  - Travel Time – defined as the total cumulative travel time of all vehicles completing trips within the peak hour;
  - Delay Time – defined as the total cumulative time spent in a delay state by all vehicles during the peak hour;
  - Vehicles Active – defined as the total number of vehicles still active within the network at the end of the peak hour;
  - Vehicles Arrived – defined as the total number of completed trips by the end of the peak hour;
  - Latent Demand – defined as the total number of vehicles (demand) stuck outside of the network at the end of the evaluation interval (generally due to queueing and delays).

3.6.3 **Tables 3.2-3.3** show a summary of network performance data for the morning and evening peak periods, respectively. The 2022 Base model results have also been included for reference.

3.6.4 The AM Peak *Future Base (2027)* shows an increase in average delay per vehicle of 163 seconds (~2.5 minutes) when compared to the *2022 Base* and the percentage delay per trip increases by 21.50%. Comparing the 2027 results, the *Future Base + Development* sees a 33 second increase in delay per vehicle over the *Future Base, equating to a* 3.43% increase in delay per trip.

3.6.5 Delay further increases in the '*with mitigation*' Scenarios largely attributed to the additional westbound traffic getting through the signals on Grove Hill. This leads to additional delay on Lower Street and Silver Street. The *Future Base + Mitigation + Development* Scenario sees an average delay per vehicle of 320 seconds (~5.5 minutes), which is a 35 second increase over the *Future Base + Mitigation* Scenario.

| | AM Peak | | | | |
|---|---|---|---|---|---|
| Network Performance Data | **Base Model** | **Future Base** | **Future Base + Dev** | **Future Base + Mit** | **Future Base + Dev + Mit** |
| Number of vehicles in the network at end of simulation | 114 | 370 | 413 | 453 | 499 |
| Number of vehicles that have left the network at end of simulation | 2233 | 2264 | 2264 | 2192 | 2187 |
| Total travel time (h) of vehicles in network | 373627 | 961004 | 1058751 | 1110304 | 1217220 |
| Average speed (mph) | 10.20 | 8.24 | 7.49 | 7.13 | 6.50 |
| Total delay time (h) of Vehicles in network | 153416 | 601234 | 698690 | 753452 | 860022 |
| Average Delay per vehicle (secs) | 65.37 | 228.17 | 261.01 | 284.78 | 320.08 |
| Latent Demand (Vehicles) – not able to enter network due to congestion | 0 | 0 | 0 | 0 | 0 |
| **Percentage delay per trip** | **41.06%** | **62.56%** | **65.99%** | **67.86%** | **70.65%** |

**TABLE 3.2: MORNING PEAK NETWORK PERFORMANCE STATISTICS**

3.6.6 The PM Peak *Future Base (2027)* shows an increase in average delay per vehicle of 153 seconds (~2.5 minutes) when compared to the *2022 Base* and the percentage delay per trip increases by 16.44%. Comparing the 2027 results, the *Future Base + Development* sees a 17 second increase in delay per vehicle over the *Future Base, equating to a* 1.66% increase in delay per trip.

3.6.7 As with the AM Peak, Delay in the PM Peak further increases in the '*with mitigation*' Scenarios largely attributed to the additional westbound traffic getting through the signals on Grove Hill which leads to additional delay on Lower Street and Silver Street. The *Future Base + Mitigation + Development* Scenario sees an average delay per vehicle of 312 seconds (~5 minutes), which is a 15 second increase over the *Future Base + Mitigation* Scenario.

| | PM Peak | | | | |
|---|---|---|---|---|---|
| Network Performance Data | **Base Model** | **Future Base** | **Future Base + Dev** | **Future Base + Mit** | **Future Base + Dev + Mit** |
| Number of vehicles in the network at end of simulation | 102 | 358 | 386 | 458 | 496 |
| Number of vehicles that have left the network at end of simulation | 2368 | 2409 | 2411 | 2324 | 2322 |
| Total travel time (h) of vehicles in network | 371910 | 969622 | 1029271 | 1167395 | 1224420 |
| Average speed (mph) | 10.23 | 8.62 | 8.22 | 7.02 | 6.74 |
| Total delay time (h) of Vehicles in network | 176898 | 620581 | 675845 | 824986 | 878464 |
| Average Delay per vehicle (secs) | 71.60 | 224.23 | 241.60 | 296.36 | 311.72 |
| Latent Demand (Vehicles) - not able to enter network due to congestion | 0 | 0 | 0 | 0 | 0 |
| **Percentage delay per trip** | **47.56%** | **64.00%** | **65.66%** | **70.67%** | **71.75%** |

**TABLE 3.3: EVENING PEAK NETWORK PERFORMANCE STATISTICS**

# 4 MODELLING SUMMARY & RECOMMENDATIONS

## 4.1 Overview

4.1.1 Modelling Group Ltd were commissioned by Ardent Consulting Engineers to carry out a microsimulation model-based study of the area of Mountfitchet. The aim has been to create a robust and reliable platform for assessment and mitigation of any impacts in the year 2027 resultant of the proposed development of 130 units on the B1051 in nearby Elsenham, which is expected to have an impact on the network within Mountfitchet to the southwest.

## 4.2 Modelling Scope & Purpose

4.2.1 A validated Base model to May 2022 conditions was used as a platform to test the following 2027 Future Year Scenarios:

- 2027 Future Base – including the committed development scheme growth in the area
- 2027 Future Base + Mitigation – as above, including the proposed mitigation on Grove Hill (B1051)
- 2027 Future Base + Development, which includes both committed development and the proposed development of 130 units on the B1051, in nearby Elsenham
- 2027 Future Base + Development + Mitigation – as above, including the proposed mitigation on Grove Hill (B1051)

4.2.2 Unfortunately, in May 2022, traffic diversions were in place during the survey period (Monday 9th May – Friday 27th May 2022) due to a road closure on the B1383 just north of the model extents. This caused a significant diversion of traffic onto Lower Street and Chapel Hill creating site conditions that are not considered '*typical*'. In the absence of any other current data sources, the traffic flow information collected in May 2022 had to be used to develop the base model.

## 4.3 Summary of Model Performance Analysis

### Journey Times

4.3.1 In the AM Peak, the *Future Base + Dev* Scenario experiences a journey time increase over the *Future Base* Scenario in both directions: 28 seconds (or +4%) travelling westbound and 17 seconds (+6%) travelling eastbound. The introduction of mitigation measures on Grove Hill does reduce the journey time in the range of 49-54 seconds (without and with development respectively). However, the '*with development*' Scenario results in an overall westbound journey time increase of 23 (+3%) seconds in the AM Peak when compared to the *Future Base + Mitigation* Scenario. The eastbound journey time sees a smaller increase of 3 seconds. These are not considered significant impacts.

4.3.2 In the PM Peak, the *Future Base + Dev* Scenario sees a journey time increase of 34 seconds (or +4%) over the *Future Base* Scenario (travelling westbound) and no change overall travelling eastbound.

4.3.3 Grove Hill, in the '*with mitigation*' Scenarios, sees an even greater reduction in journey time compared to '*with no mitigation*' than in the AM Peak - In the range of 197-256 seconds (with and without the development respectively). However, the results show a significant increase of 95 seconds (+14%) for westbound travel (with development), largely due to additional delay on Grove Hill (94s). Although the development flow is relatively small in the PM Peak, 19 vehicles travelling eastbound and 9 vehicles travelling westbound, when this is combined with the delay created by the on-street parking on Grove Hill, the impact is apparent.

4.3.4 In contrast, the PM Peak '*with mitigation*' Scenario sees an increased journey time in the eastbound direction in the range of 59-67 seconds (with and without the development respectively), likely due to the additional westbound throughput on Grove Hill and an increased interaction of vehicles on Chapel Hill overtaking parked vehicles. However, the '*with development*' Scenario sees a small reduction of journey time on sections 201 and 202 (-2s and -6s respectively).

### Queue Lengths

4.3.5 With regards to queuing, Lower Street, Grove Hill and Silver Street see the biggest impact to queue levels in 2027 (all scenarios) when compared to the 2022 base. The queues on Lower Street and Silver Street are significantly impacted by the road diversion as a very high flow is added to the network, diverting in both directions via Chapel Hill. The results show that both with and without the mitigation measure on Grove Hill, queuing on these approaches is consistently higher with the development traffic included. However, it is expected that the impact of this development traffic would be significantly lower without the inclusion of diversion traffic.

### Network Performance

4.3.6 Network Performance Statistics show that the AM Peak *Future Base (2027)* experiences an increase in average delay per vehicle of 163 seconds (~2.5 minutes) when compared to the *2022 Base* and the percentage delay per trip increases by 21.50%. Comparing the 2027 results, the *Future Base + Development* sees a 33 second increase in delay per vehicle over the *Future Base, equating to a* 3.43% increase in delay per trip.

4.3.7 Delay further increases in the '*with mitigation*' Scenarios largely attributed to the additional westbound traffic getting through the signals on Grove Hill which leads to additional delay on Lower Street and Silver Street. The *Future Base + Mitigation + Development* Scenario sees an average delay per vehicle of 320 seconds (~5.5 minutes), which is a 35 second increase over the *Future Base + Mitigation* Scenario.

4.3.8 The PM Peak *Future Base (2027)* shows an increase in average delay per vehicle of 153 seconds (~2.5 minutes) when compared to the *2022 Base* and the percentage delay per trip increases by 16.44%. Comparing the 2027 results, the *Future Base + Development* sees a 17 second increase in delay per vehicle over the *Future Base, equating to a* 1.66% increase in delay per trip.

4.3.9 As with the AM Peak, Delay in the PM Peak further increases in the '*with mitigation*' Scenarios largely attributed to the additional westbound traffic getting through the signals on Grove Hill which leads to additional delay on Lower Street and Silver Street. The *Future Base + Mitigation + Development* Scenario sees an average delay per vehicle of 312 seconds (~5 minutes), which is a 15 second increase over the *Future Base + Mitigation* Scenario.

## 4.4 Summary Recommendations

4.4.1 In summary, the modelling results show that the additional development traffic will have an impact on the network, particularly on Grove Hill, Lower Street and Silver Street.

4.4.2 However, it is likely that these impacts would be significantly reduced if the additional diverted traffic (as per May 2022 surveys) was not included.

4.4.3 As such, it is recommended that the modelling is revisited at a later stage, either by updating the base traffic to exclude the diverted traffic or by means of a sensitivity test which reduces the traffic demand on Lower Street and Silver Street and therefore more accurately represents typical conditions.

# APPENDIX A:

# LOCAL MODEL VALIDATION REPORT

# Local Model Validation Report

MG0193 – Elsenham, Stansted

Carl Moreno

28 June 2022

ARDENT

# DOCUMENT CONTROL ISSUE SHEET

## Project & document details

| | |
|---|---|
| Project name | Elsenham, Stansted |
| Project number | MG0193 |
| Document title | Local Model Validation Report |
| Document reference | \05_Technical\04_Reports & Notes\01_Existing Base |

## Document history

| Issue | Status | Reason for issue | Issued to |
|---|---|---|---|
| A | 1st Issue | Info for Model Audit | Jacobs |
| | | | |
| | | | |

## Issue control

| Issue | Date | Author | Contributors | Approved | Date |
|---|---|---|---|---|---|
| A | 28/06/2022 | Carl Moreno | | Dan Bent | 28/06/2022 |
| | | | | | |
| | | | | | |

# CONTENTS

## APPENDICES

*APPENDIX G: QUEUE COMPARISON*

*APPENDIX H: JOURNEY TIME VALIDATION*

# 1 INTRODUCTION

## 1.1 Project Overview

1.1.1 Modelling Group have been commissioned by Ardent Consulting Engineers to undertake VISSIM modelling associated with the proposed development of 130 units on the B1051 in nearby Elsenham, which is expected to have an impact on the network within Mountfitchet to the southwest.

## 1.2 Modelling Scope & Purpose

1.2.1 For this project, a base model of the road network around Mountfitchet has been developed to 2022 traffic conditions, providing a realistic platform for undertaking future year testing. Future year models for 2027 will then be developed to firstly understand the network operation prior to the introduction of the development and then including the development to determine the impacts.

## 1.3 Model Specification

1.3.1 The VISSIM model has been developed using the following specification.

| No. | Model Element | Details |
|---|---|---|
| 1 | VISSIM Version | Version 2020 (Service Pack 09) |
| 2 | Base Model Year | 2022 |
| 3 | Model Time Periods | AM Peak<br>• Warm Up Period = 0700-0730hrs<br>• Peak Period = 0730-0830hrs<br>• Cool Down Period = 0830-0930hrs<br>PM Peak<br>• Warm Up Period = 1630-1700hrs<br>• Peak Period = 1700-1800hrs<br>• Cool Down Period = 1800-1830hrs |
| 4 | Model Units | Length:<br>• Kilometres<br>• Metres<br>Speed:<br>• Miles per hour (mph)<br>Acceleration:<br>• Metres/second squared ($m/s^2$) |
| 5 | Vehicle Types Used | • Cars<br>• Light Goods Vehicles (LGVs)<br>• Heavy Goods Vehicles (HGVs) – which include:<br>  • Ordinary Goods Vehicle 1 (OGV1)<br>  • Ordinary Goods Vehicle 2 (OGV2)<br>• Buses/Coaches (modelled as public transport routes)<br>• Motorcycles |

**TABLE 1.1 MODEL SPECIFICATION**

### Mapping

1.3.2 Geometric calculations for the base model construction were derived from Ordnance-Survey (OS) mapping purchased (filename: *Promap-1892463-1991904-720-0.Dwg*). Secondary sources such as online satellite imagery and Google Street View were also utilised to inform the link length, lane width and number of lane parameters in the model.

### Modelled Results

1.3.3 The modelled results have been output with a model resolution of 5-time steps per second and have been based on 20 different random seed runs, starting with seed 42 and with an incremental increase of 10. 20 random seed runs represent a virtual month and allows a more informed set of results to be obtained from the model.

## 1.4 Model Periods

1.4.1 The model consists of AM and PM periods, which both include a thirty-minute warm up period, an hour for the peak period itself and then a thirty-minute cool down period. The AM and PM model periods are defined in **Table 1.1**.

1.4.2 The AM and PM peak periods have been calculated using survey data. The IN flows for each site have been analysed and summarised in **Table 1.2**.

| Peak Hour ID | Total - Avg | Total - Sum |
|---|---|---|
| 07:00-08:00 | 1040 | 5201 |
| 07:15-08:15 | 1098 | 5489 |
| **07:30-08:30** | **1164** | **5818** |
| 07:45-08:45 | 1161 | 5804 |
| 08:00-09:00 | 1153 | 5766 |
| 08:15-09:15 | 1118 | 5591 |
| 08:30-09:30 | 1054 | 5269 |
| 08:45-09:45 | 961 | 4803 |
| 09:00-10:00 | 860 | 4299 |
| | | |
| 16:00-17:00 | 984 | 4922 |
| 16:15-17:15 | 1020 | 5098 |
| 16:30-17:30 | 1064 | 5321 |
| 16:45-17:45 | 1080 | 5402 |
| **17:00-18:00** | **1110** | **5552** |
| 17:15-18:15 | 1093 | 5464 |
| 17:30-18:30 | 1049 | 5243 |
| 17:45-18:45 | 1007 | 5035 |
| 18:00-19:00 | 973 | 4865 |

**TABLE 1.2 PEAK HOURS IDENTIFIED**

## 1.5 Traffic Assignment Methodology

1.5.1 As the network modelled has no real route choice, the assignment has been setup using static routes (end to end) and vehicle inputs. However, the volumes and distributions used for the static assignment have been derived using LinSig as it provides the tools necessary to estimate an Origin-Destination (O-D) Matrix based on a set of measured traffic counts. LinSig uses a mathematical method called entropy maximisation.

1.5.2 This technique aims to estimate the most probable O-D matrix which will fit the traffic counts. This does not mean that this is necessarily the correct matrix only that the estimated matrix is the best possible estimate from the information contained within the traffic turning counts.

1.5.3 Once a suitable matrix was obtained, (GEH < 3 when comparing modelled and surveyed counts), the matrix for each vehicle type was converted into static routes using a spreadsheet (*Linsig_to_VISSIM_Matrix_Conversion.xlsx*).

1.5.4 Each 15-minute time slice was factored by the site average values below, which represents a proportion of the peak hour.

| | J1 | J2 | J3 | J4 | J5 | Site Average |
|---|---|---|---|---|---|---|
| **07:00** | 19% | 19% | 18% | 19% | 18% | 19% |
| **07:15** | 22% | 21% | 19% | 23% | 21% | 21% |
| **07:30** | 24% | 24% | 25% | 25% | 24% | **24%** |
| **07:45** | 25% | 25% | 25% | 27% | 26% | **25%** |
| **08:00** | 22% | 23% | 23% | 24% | 26% | **24%** |
| **08:15** | 29% | 28% | 28% | 25% | 24% | **27%** |
| **08:30** | 24% | 24% | 24% | 25% | 23% | 24% |
| **08:45** | 23% | 24% | 26% | 24% | 26% | 25% |
| | | | | | | |
| **16:30** | 23% | 24% | 25% | 22% | 22% | 23% |
| **16:45** | 22% | 22% | 22% | 24% | 24% | 23% |
| **17:00** | 26% | 25% | 22% | 25% | 25% | **25%** |
| **17:15** | 24% | 26% | 28% | 24% | 25% | **25%** |
| **17:30** | 25% | 24% | 24% | 25% | 26% | **25%** |
| **17:45** | 26% | 26% | 25% | 25% | 24% | **25%** |
| **18:00** | 23% | 23% | 23% | 25% | 22% | 23% |
| **18:15** | 21% | 22% | 18% | 25% | 22% | 21% |

**TABLE 1.3 PEAK HOUR PROFILE SPLIT**

## 1.6 Model Extents

1.6.1 The base VISSIM model focuses on the main network in Mountfitchet and includes the following key junctions:

- J1 - B1051/Lower St
- J2 - B1051 Lower St/Mountfitchet Castle St/Church Rd/B1051 Chapel St

- J3 - Church Rd/Station Rd
- J4 - B1051 Chapel Hill/St John's Rd/Woodfield Terrace
- J5 - B1383 Cambridge Rd/B1051 Chapel Hill/B1383 Silver St/Bentfield Rd

1.6.2 The model extents are shown in **Figures 1.1 and 1.2**.

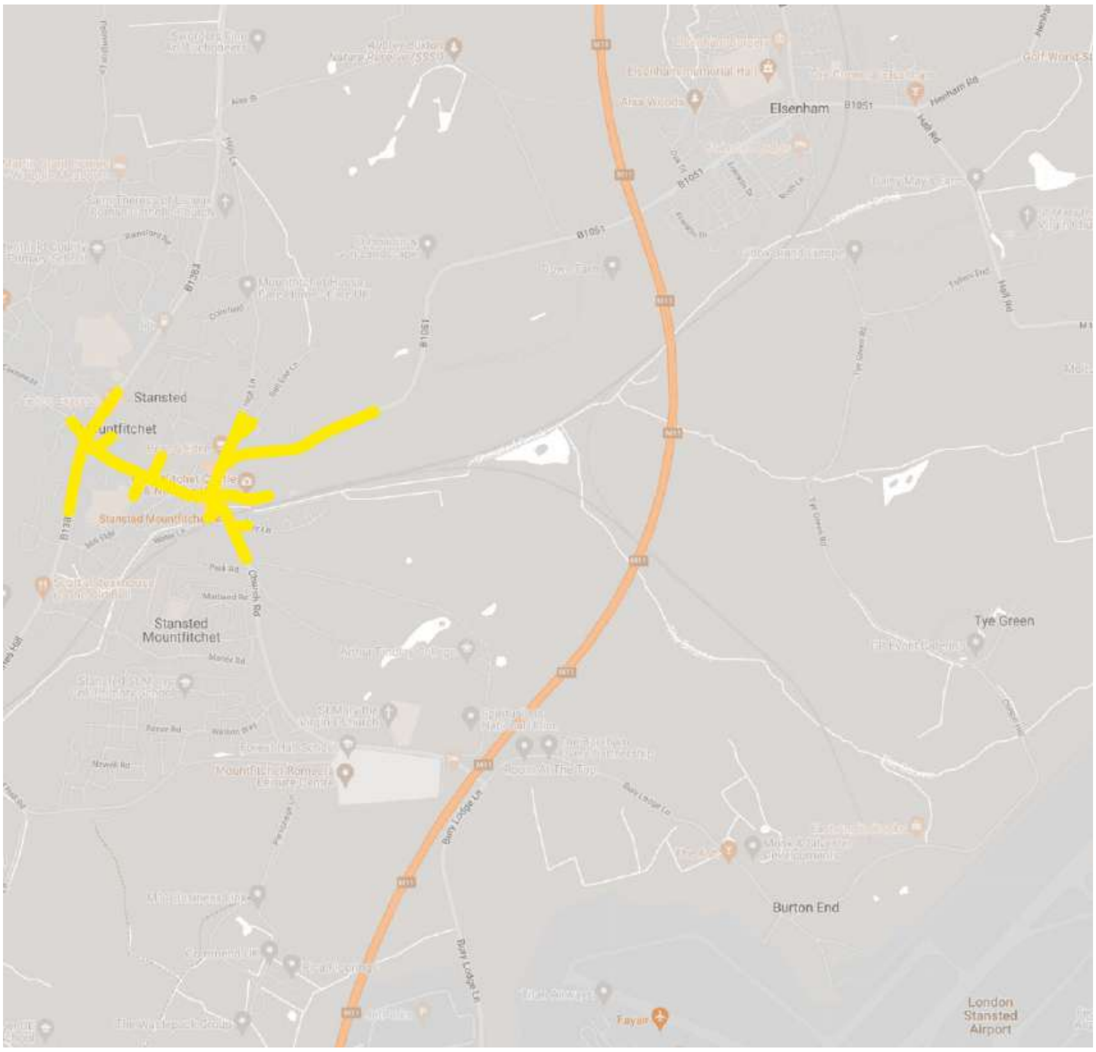



**FIGURE 1.1: MODEL EXTENTS & WIDER CONTEXT**


**FIGURE 1.2: MODEL EXTENTS – NETWORK DETAIL**

# 2 INPUT DATA PREPARATION

## 2.1 Data Sources – Non-Surveyed

2.1.1 The following sections detail data sources used for non-surveyed modelled elements.

### Desired Speed Distributions

2.1.2 The speed limit desired speed distributions within the model have been calculated from Department for Transport (DfT) statistics or, where national data is not available for certain speed bands, based on Transport for London (TfL) speed profiles.

2.1.3 Further details of the distributions for the various speed limits and vehicle types are provided in **Appendix A**.

### Desired Speed Distributions – Turns

2.1.4 Within the network, various speed distributions have been created for vehicles negotiating turns of various radii within different speed limits.

2.1.5 Whilst this is not a requirement of DfT's TAG Unit 3.1 Guidance, it is recommended in Transport for London (TfL's) Modelling Guidelines.

2.1.6 To account for various speed limits, different vehicle types and to allow a set of distributions to apply to both urban and rural locations, a simplistic approach has been adopted to derive speed bands for instances of high and low braking. This is shown in **Table 2.1**.

| | Speed Band | | |
|---|---|---|---|
| | High Braking | | Low Braking |
| Speed limit | from | to/from | to |
| 20 mph | 10 | 15 | 20 |
| 30 mph | 20 | 25 | 30 |
| 40 mph | 30 | 35 | 40 |
| 50 mph | 40 | 45 | 50 |
| 60 mph | 50 | 55 | 60 |
| 70 mph | 60 | 65 | 70 |

**TABLE 2.1: TURNS – SPEED BANDS FOR DIFFERENT SPEED LIMITS**

2.1.7 Further details on this approach can be found in **Appendix B**.

## 2.2 Speed Limits

2.2.1 A global speed limit of 30 mph is in operation in the modelled network as shown in **Figure 2.1**.


**FIGURE 2.1: MODEL EXTENTS – MODELLED NETWORK SPEED LIMITS**

## 2.3 Signal Data

2.3.1 Details of the signals within the modelled network are provided in **Table 2.2** and their locations in **Figure 2.2**.

| Signal Controller No. | Name/Description | Type |
|---|---|---|
| 1 | 01J17 - B1051 Grove Hill/Lower Street, Stanstead | Vehicle Actuated Junction |
| 2 | Ped Crossing on B1383 | Pelican Crossing |
| 901 | Priority_Control | Bespoke program to control overtaking of parked vehicles on Chapel Hill. Described in more detail in **Section 2.7.7** |

**TABLE 2.2: SIGNAL CONTROLLER SUMMARY**

2.3.2 Signal Controller 1 has been coded based on the signal specification and *as-built* drawing provided, using a VAvap_setup template provided by TfL which simulates the operation of a vehicle actuated junction. The following maximum greens have been applied based on information contained in the signal specification.

| Stage | AM Peak | PM Peak |
|---|---|---|
| 1 | 14s | 30s |
| 2 | 34s | 14s |

**TABLE 2.3 MAXIMUM GREENS USED FOR SIGNAL CONTROLLER 1**

2.3.3 Signal Controller 2 has been coded using VISSIM's own pedestrian crossing controller. It has been assumed that a clearance time of 10 seconds is provided for pedestrians to safely finish crossing the road before the traffic stage starts. A clearance time of 5 seconds is provided between the end of the traffic stage and the start of the pedestrian stage. Please note this has been included for display purposes only (not demanded by pedestrians as no survey was available).


**FIGURE 2.2 LOCATION OF SIGNALISED JUNCTIONS**

2.3.4 Signal Controller 901 is a bespoke piece of logic which has been developed to model the behaviour along B1051 Chapel Hill in an attempt to replicate how drivers pass a series of parked cars in busy periods (further details provided in *Section 2.7* of this report).

## 2.4 Public Transport

2.4.1 For identifying the public transport routes within the network, the websites - [redacted] have been used to extract the locations of the bus stops, the bus routes and the frequencies within the AM and PM modelled periods.

2.4.2 Details of the public transport routes within the modelled network (calculated in *PT Data.xlsx*) are provided in **Table 2.4**.

| Identifier | Name | Provider | Frequency (in peak hour) |
|---|---|---|---|
| 1 | 7 (to Bishop's Stortford) | Central Connect | AM = 1 PM = 0 |
| 2 | 7 (to Stansted Airport) | Central Connect | AM = 1 PM = 1 |
| 3 | 7A (to Bishop's Stortford) | Central Connect | AM = 0 PM = 1 |
| 4 | 7A (to Stansted Airport) | Central Connect | AM = 0 PM = 0 |
| 5 | 441 (to Takeley) | Stephensons of Essex | AM = 0 PM = 0 |
| 6 | 441 (to Saffron Walden) | Stephensons of Essex | AM = 0 PM = 0 |
| 7 | 301 (to Saffron Walden) | Stephensons of Essex | AM = 1 PM = 0 |
| 8 | 301 (to Bishop's Stortford) | Stephensons of Essex | AM = 1 PM = 1 |

| Identifier | Name | Provider | Frequency (in peak hour) |
|---|---|---|---|
| 9 | 306 (to Wicken Bonhunt) | Central Connect | AM = 0 PM = 0 |
| 10 | 306 (to Bishop's Stortford) | Central Connect | AM = 1 PM = 0 |

**TABLE 2.4: PUBLIC TRANSPORT SUMMARY**

2.4.3 Each of these bus routes has been modelled as a static ‘PT Line’ within VISSIM, with the appropriate route stops activated. The times that the buses enter the model has also been calculated to account for the distance and speed on the links between the bus entry point and the first bus stop to be visited.

2.4.4 A map of the bus stops within the network is shown in **Figure 2.3**.


**FIGURE 2.3 BUS STOP LOCATIONS**

2.4.5 Further details of the bus stops are provided in **Table 2.5**.

| Map Ref No. | Name | Location | Direction |
|---|---|---|---|
| 1 | Stansted Mountfitchet, opp Clarence Road | Cambridge Rd | Northbound |
| 2 | Stansted Mountfitchet, adj Clarence Road | Cambridge Rd | Southbound |
| 3 | Stansted Mountfitchet Chapel Hill (SE-bound) | Chapel Hill | Eastbound |
| 4 | Stansted Mountfitchet Chapel Hill (NW-bound) | Chapel Hill | Westbound |
| 5 | Stansted Mountfitchet, opp Railway Station | Church Rd | Northbound |
| 6 | Stansted Mountfitchet, o/s Railway Station | Church Rd | Southbound |
| 7 | Stansted Mountfitchet Lower Street (SW-bound) | Lower St | Southbound |
| 8 | Stansted Mountfitchet Lower Street (NE-bound) | Lower St | Northbound |

**TABLE 2.5: BUS STOP DETAILS**

2.4.6 For the bus stop dwell times and in the absence of any site data, an empirical distribution has been used at each of the stops. This has a time range of 15-20 seconds to model stops more dynamically and to replicate varying numbers of passengers boarding and alighting.

## 2.5 Data Sources – Traffic Survey Data

2.5.1 Details of traffic survey data commissioned as part of this study are shown in **Figure 2.4**. In summary, the following traffic surveys were commissioned for this project:

- Manually Classified Count (MCC) – Tuesday 10th May 2022
- Automatic Traffic Count (ATC) – Monday 9th May – Friday 27th May 2022
- Queue lengths – Tuesday 10th May 2022
- Journey times – Historic TomTom data – Tuesday 10th May 2022
- Parking Surveys – Tuesday 10th May 2022
- Pedestrian Surveys – Tuesday 10th May 2022

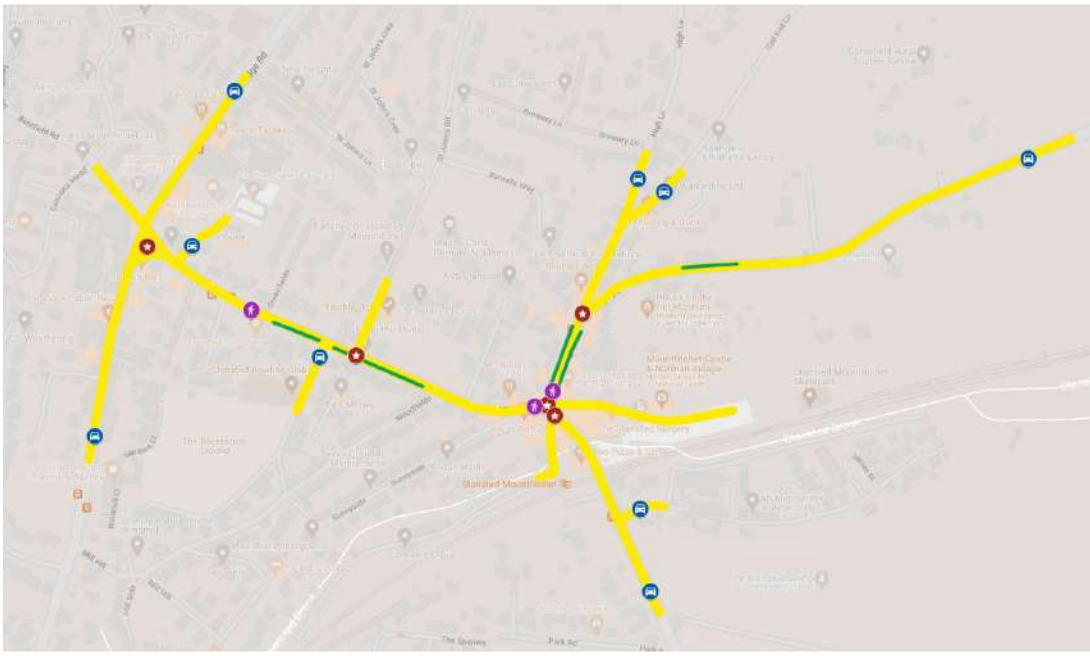


**FIGURE 2.4 SURVEY DATA COLLECTED**

[redacted]

## 2.6 Pedestrians

2.6.1 Several pedestrian crossings (zebra crossings) are located in the modelled area and although these are not heavily used, pedestrians have been included in 15-minute time slices based on survey data to ensure interaction with traffic is accounted for.

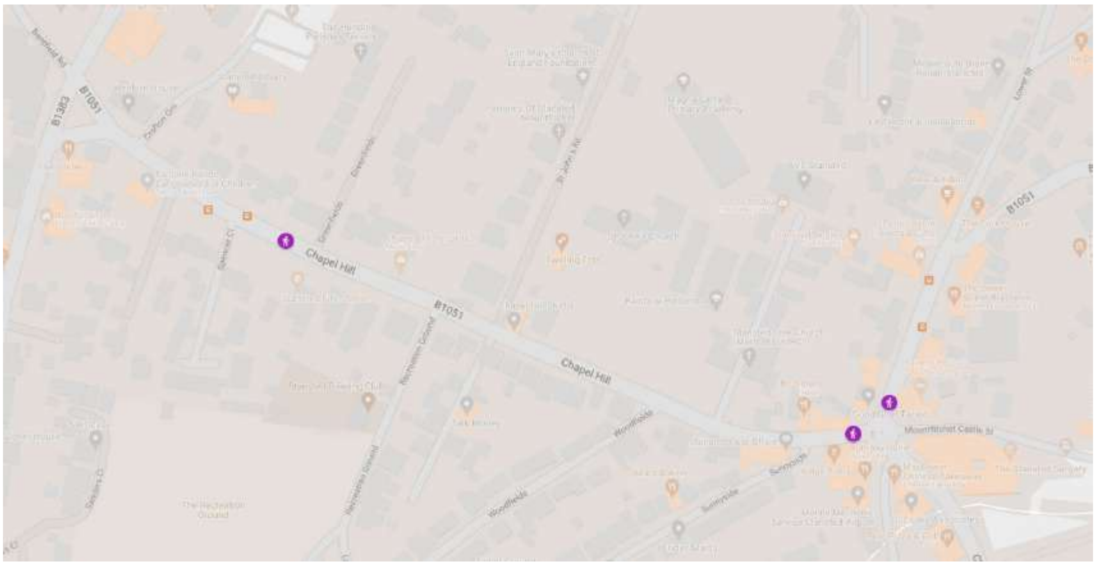



**FIGURE 2.5 LOCATION OF PEDESTRIAN CROSSINGS**

## 2.7 Parking

2.7.1 One of the key aspects of this model is the inclusion of parking that takes place in Mountfitchet as highlighted in **Figure 2.6**. These locations include:

1) B1051 Chapel Hill - Section 1
2) B1051 Chapel Hill - Section 2
3) Lower Street – Section 1
4) Lower Street – Section 2
5) B1051 Grove Hill – Section 1

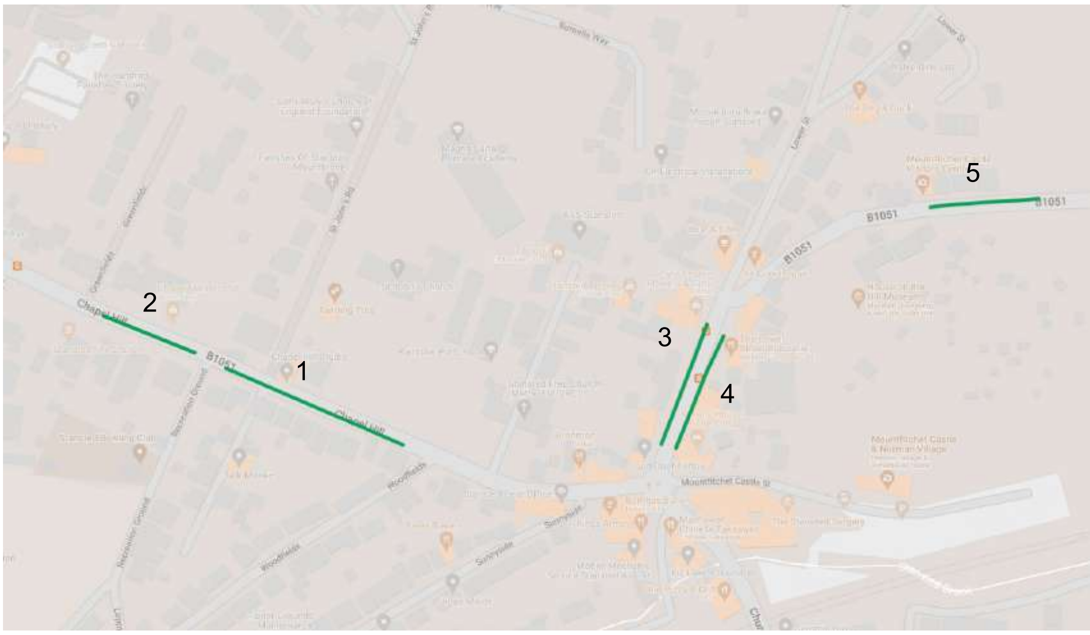



**FIGURE 2.6 PARKING LOCATIONS**

2.7.2 Parking bay demand was reflected based on information in the parking surveys carried out on Tuesday 10th May 2022 (**Appendix C**)**.** To make it easier to control both the arrival and departure times of each individual parking vehicle, these were modelled on separate links so that each dwell time was unique to that vehicle. **Figure 2.7** shows a series of links for each vehicle (including its input, static and parking route) that enters the network and parks. Each of the link sets is allocated to a parking location for ease of use. It has also been assumed that vehicles access the bays from the same direction of travel.


**FIGURE 2.7 LINKS ADDED TO MODEL PARKING**

2.7.3 Lower Street has parking available in parallel bays, which combined with the narrowing of the carriageway width, causes slow moving traffic. This is represented in the model using reduced speed areas and priority markers.

2.7.4 Chapel Hill and Grove Hill Parking is more complex as it takes place on-street, forcing both sides of the road to give way to each other, causing significant delay. The methodology used to model this behaviour is summarised in the following paragraphs.

### Chapel Hill Parking

2.7.5 In modelling the parking on Chapel Hill, it has been assumed that overtaking in the opposing lane will always take place at the start of the line of bays (worst case scenario) as it would prove difficult to model all the possible gaps in bays where vehicles could store temporarily, waiting for opposing traffic, as they move through the area. To model the interaction between traffic travelling in both directions through the area, a series of priority rules have been placed on both the side with parking and the non-impeded side of the road as follows:

- Eastbound vehicles give way at location A to westbound vehicles that have entered the on-street parked cars section (location Y in **Figure 2.8**)
- Similarly, if an eastbound vehicle has entered the on-street parked cars section (location X), the west vehicles will give way at location B.
- Vehicles stored in locations C and D (between parking bays) give way to oncoming traffic. Furthermore, to avoid blocking this area, if several westbound vehicles are waiting at location C, Vehicles at location B will wait until the area is cleared.

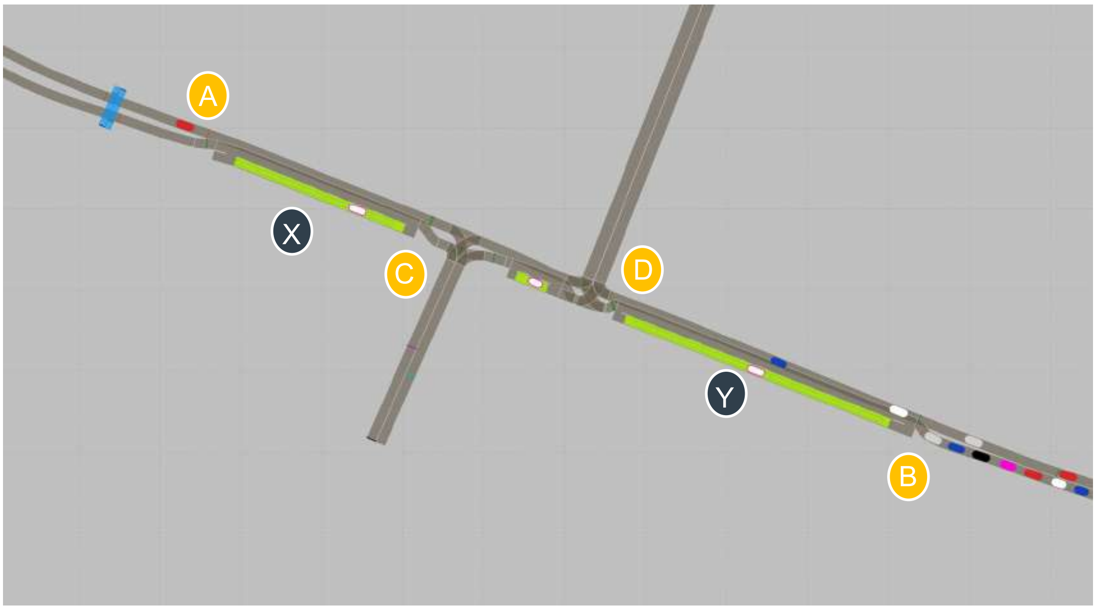



**FIGURE 2.8 PRIORITY RULES ON CHAPEL HILL (PARKING)**

2.7.6 During periods of low traffic, this strategy works well. However when traffic volume increases, one direction results in a constant flow of traffic and does not allow the opposite direction to enter the parking area. In the AM Peak the dominant flow is westbound and in the PM Peak, this is eastbound. This resulted in a situation where the models would constantly 'lock up' as there was not an equal use of the road network in each direction. The lockup occurred mostly due to blocking back to the Chapel Road / Lower Street Roundabout.

2.7.7 To mitigate this, an additional layer of control was required using signals and Vehicle Actuated Programming (VAP) logic as follows:

- Signals are positioned at locations 1 and 2 (see **Figure 2.9**), used to control the flow of traffic in each direction using VAP logic. When one of the signals is on green and the other on red, vehicles are counted in the direction with priority and once the maximum limit is reached, as defined in the logic, the other direction receives green instead. The same thing then happens in this direction until the maximum limit is reached. The aim of this strategy is to ensure that each direction gets the opportunity to move through the area in platoons. As part of the calibration / validation process, the following maximum limits were defined as per **Table 2.6**.

| Max Vehicle Count | AM Peak | PM Peak |
|---|---|---|
| West | 2 | 2 |
| East | 8 | 5 |

**TABLE 2.6 MAXIMUM VEHICLES ALLOWED IN EACH PLATOON**

- If the direction with priority (green signal) has a drop in demand (detector headway more than 3 seconds) then priority will switch to the other direction.
- Detectors have been added at locations 3,4,5 to help minimise the times the network 'locks up'. When vehicles block back to these detectors and occupy them for more than 4 seconds, then the signals are triggered to push more traffic through in the required direction; Green signal at location 1 when detector 4 is triggered, green signal at location 2 when detector 3 is triggered.
- When detector 5 is triggered, a red signal is given to location 1 to ensure the parking area is not blocked to westbound traffic.

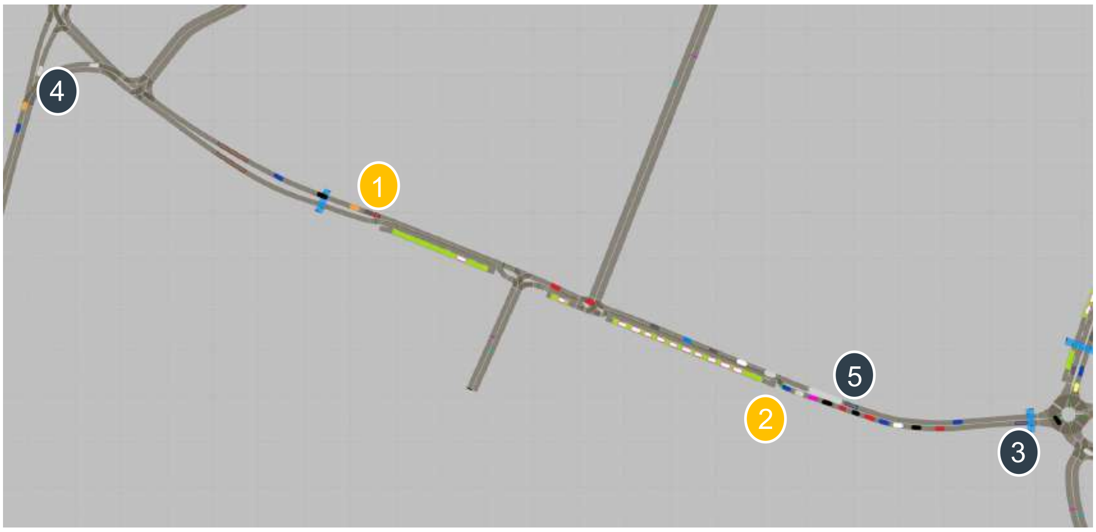



**FIGURE 2.9 ADDITIONAL CONTROL USING SIGNALS**

### Grove Hill Parking

2.7.8 Site observations show that capacity issues occur for westbound traffic on Grove Hill due to the gap left at the on-street parking location for vehicles travelling eastbound to overtake parked vehicles and to ensure that the area near the signals does not get blocked. Typically, 2-3 vehicles travelling westbound store at the stop line and the remaining vehicles wait just east of the parking bays. The issue with this is that when the west stream signals have a green aspect, the first three vehicles make it through the junction but the stage maxes out as the remaining vehicles do not join the back of the queue / get detected in time. This behaviour has been replicated in the model as follows:

- Vehicles at location A give priority to those at location B / already at location X (see **Figure 2.10**). A headway is also positioned near location C so that as vehicles slow down on approach to the stop line, vehicles upstream at location A leave a gap along location X.
- Vehicles at location B give priority to those already travelling westbound at location X.

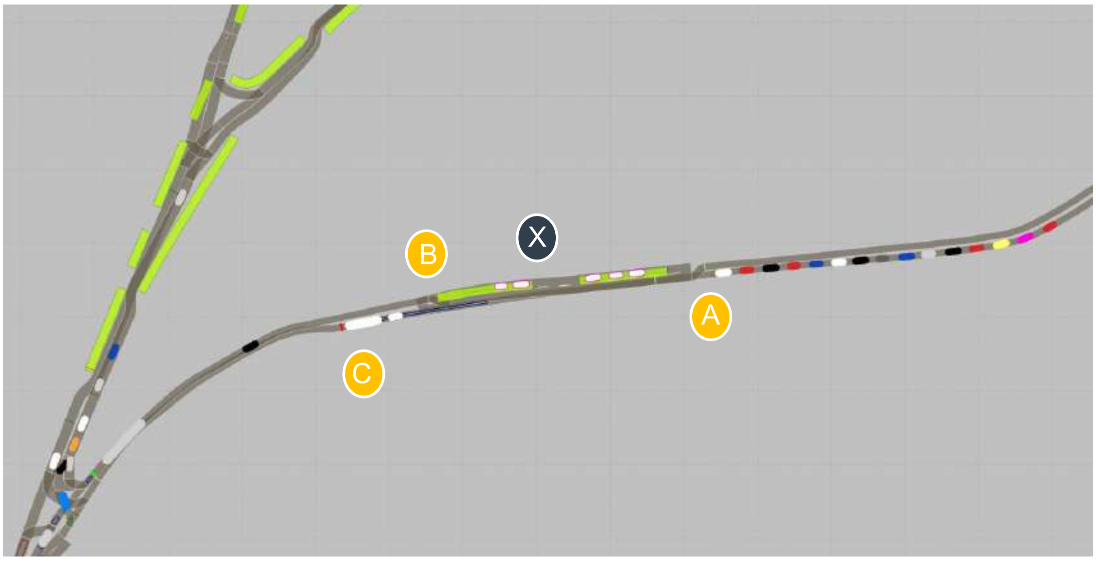



**FIGURE 2.10 GROVE HILL PARKING**

## 2.8 Driver Behaviour

2.8.1 There are three driving behaviours used within the models, as follows:

| Number | Name | Usage/Comments |
|---|---|---|
| 1 | Urban (motorized) [Default] | Primary behaviour used on most links |
| 4 | Footpath (no interaction) [Default] | Used at Pedestrian Crossings |
| 1001 | Parking (From PTV Parallel Left 12.inpx Example) | Used for links with Parking bays in nearside lane in order to account for lateral behaviour and effects of blocking time distribution |

**TABLE 2.7: DRIVER BEHAVIOUR SETTINGS USED**

# 3 MODEL CALIBRATION

## 3.1 Calibration Guidelines and Criteria

3.1.1 The calibration of the VISSIM model has been based on DfT's TAG Unit 3.1 and TfL's Modelling Guidelines, where appropriate.

3.1.2 Further details of the specific checks and criteria used can be found in **Appendix D**.

## 3.2 Link Flows

3.2.1 To ensure that the correct flows were entering/exiting the model, a comparison of the model flows and ATCs measured on site was carried out.

3.2.2 The results are summarised below for the AM and PM peak models, with more detail provided in **Appendix E**.

| AM PEAK – ALL VEHICLES | |
|---|---|
| Total number of movements | 18 |
| Total number of movements GEH =< 5 | 18 |
| Total percent of movements GEH =< 5 | 100.00% |
| Total number of movements GEH =< 10 | 18 |
| Total percent of movements GEH =< 10 | 100.00% |
| Total number of movements Flow Criteria | 18 |
| Total percent of movements Flow Criteria | 100.00% |

**TABLE 3.1: LINK FLOW CALIBRATION – AM PEAK**

| PM PEAK – ALL VEHICLES | |
|---|---|
| Total number of movements | 18 |
| Total number of movements GEH =< 5 | 18 |
| Total percent of movements GEH =< 5 | 100.00% |
| Total number of movements GEH =< 10 | 18 |
| Total percent of movements GEH =< 10 | 100.00% |
| Total number of movements Flow Criteria | 18 |
| Total percent of movements Flow Criteria | 100.00% |

**TABLE 3.2: LINK FLOW CALIBRATION – PM PEAK**

3.2.3 The results above show that all counts compared (AM and PM Peaks) have a GEH < 5, showing that the flows loaded into the model represent May 2022 flows.

## 3.3 Junction Flows

3.3.1 The modelled turning counts at each of the junctions have been compared against the observed data collected in May 2022.

3.3.2 The results of the comparisons for the AM and PM peaks are summarised in **Tables 3.3 – 3.8**. **Appendix F** includes more detailed comparisons for All Vehicles, Light Vehicles and Heavy Vehicles.

| AM PEAK – ALL VEHICLES | |
|---|---|
| Total number of movements | 46 |
| Total number of movements GEH =< 5 | 46 |
| Total percent of movements GEH =< 5 | 100.00% |
| Total number of movements GEH =< 10 | 46 |
| Total percent of movements GEH =< 10 | 100.00% |
| Total number of movements Flow Criteria | 46 |
| Total percent of movements Flow Criteria | 100.00% |

**TABLE 3.3: TURNING COUNT CALIBRATION – AM PEAK ALL VEHICLES**

| AM PEAK – LIGHTS | |
|---|---|
| Total number of movements | 46 |
| Total number of movements GEH =< 5 | 46 |
| Total percent of movements GEH =< 5 | 100.00% |
| Total number of movements GEH =< 10 | 46 |
| Total percent of movements GEH =< 10 | 100.00% |
| Total number of movements Flow Criteria | 46 |
| Total percent of movements Flow Criteria | 100.00% |

**TABLE 3.4: TURNING COUNT CALIBRATION – AM PEAK LIGHTS**

| AM PEAK – HEAVIES | |
|---|---|
| Total number of movements | 46 |
| Total number of movements GEH =< 5 | 46 |
| Total percent of movements GEH =< 5 | 100.00% |
| Total number of movements GEH =< 10 | 46 |
| Total percent of movements GEH =< 10 | 100.00% |
| Total number of movements Flow Criteria | 46 |
| Total percent of movements Flow Criteria | 100.00% |

**TABLE 3.5: TURNING COUNT CALIBRATION – AM PEAK HEAVIES**

3.3.3 **Tables 3.3 – 3.5** show that the AM peak model achieves the TAG criteria for turning counts, when looking at all vehicles and individually at the light and heavy vehicle classes.

| PM PEAK – ALL VEHICLES | |
|---|---|
| Total number of movements | 46 |
| Total number of movements GEH =< 5 | 46 |
| Total percent of movements GEH =< 5 | 100.00% |
| Total number of movements GEH =< 10 | 46 |
| Total percent of movements GEH =< 10 | 100.00% |
| Total number of movements Flow Criteria | 46 |
| Total percent of movements Flow Criteria | 100.00% |

**TABLE 3.6: TURNING COUNT CALIBRATION – PM PEAK ALL VEHICLES**

| PM PEAK – LIGHTS | |
|---|---|
| Total number of movements | 46 |
| Total number of movements GEH =< 5 | 46 |
| Total percent of movements GEH =< 5 | 100.00% |
| Total number of movements GEH =< 10 | 46 |
| Total percent of movements GEH =< 10 | 100.00% |
| Total number of movements Flow Criteria | 46 |
| Total percent of movements Flow Criteria | 100.00% |

**TABLE 3.7: TURNING COUNT CALIBRATION – PM PEAK LIGHTS**

| PM PEAK – HEAVIES | |
|---|---|
| Total number of movements | 46 |
| Total number of movements GEH =< 5 | 46 |
| Total percent of movements GEH =< 5 | 100.00% |
| Total number of movements GEH =< 10 | 46 |
| Total percent of movements GEH =< 10 | 100.00% |
| Total number of movements Flow Criteria | 46 |
| Total percent of movements Flow Criteria | 100.00% |

**TABLE 3.8: TURNING COUNT CALIBRATION – PM PEAK HEAVIES**

3.3.4 In the PM peak, **Tables 3.6 – 3.8** all show that the PM peak model achieves the TAG criteria for turning counts, when looking at all vehicles and individually at the light and heavy vehicle classes.

## 3.4 Queue Lengths

3.4.1 Due to the subjective nature of queue measurements on site, modelled and observed queue comparisons have been provided for information only. These served as a calibration aid and overall, the modelled profiles are largely comparable to those measured on site. **Appendix G** summarises the queue comparison.

## 3.5 PM Peak specific changes

3.5.1 Although every attempt has been made to keep parameters consistent between peaks, there was a need to make the following small PM Peak specific changes:

- Grove Hill – Priority Rule 45. Headway on Link 146-1 moved marginally closer to stop line in PM Peak, from 438.426 m to 442.309 m. This effectively makes westbound traffic slightly more cautious and minimises the times eastbound traffic is blocked (which is the dominant flow in the PM Peak).

- Lower Street – Priority Rules 74 & 75, gap times changed from 1.0s to 3.0s and 0.0s to 3.0s respectively. This is to replicate the additional delays to traffic observed due to higher parking activity in the PM Peak compared to the AM Peak.
- Chapel Hill westbound – Reduced speed areas 146 & 148 (located in front of parking areas). Speeds have been reduced in the PM Peak from desired speed distribution 103 to desired speed distributions 101 and 100 respectively. This is to reflect the slower moving traffic due to more bottleneck conditions experienced in the PM Peak.

## 3.6 Model Calibration Summary

3.6.1 This section has detailed the techniques and comparisons that have been used to calibrate the model and ensure that it represents the nature of the network around Mountfitchet.

3.6.2 The entry flow and junction flow comparisons show that the model meets TAG criteria, and the network includes the correct amount of traffic for each junction.

# 4 MODEL VALIDATION

## 4.1 Validation Guidelines & Criteria

4.1.1 The validation of the VISSIM model has been on DfT's TAG Unit 3.1 and TfL's Modelling Guidelines.

4.1.2 Further details of the specific checks and criteria used can be found in **Appendix D**.

## 4.2 Exit Flows

4.2.1 The first validation check was on the exit flows, to ensure that the vehicles in the model reached their destinations within the AM and PM peak periods.

4.2.2 **Tables 4.1 & 4.2** summarise the comparisons of the modelled vs. demand exit flows, with more detailed results provided in **Appendix E**.

| AM PEAK – ALL VEHICLES | |
|---|---|
| Total number of counts considered | 13 |
| VISSIM model counts with GEH <5 | 13 |
| % of VISSIM model counts with GEH <5 | 100.00% |
| VISSIM model counts within TAG Unit 3.1 Criteria | 13 |
| % of VISSIM model counts within TAG Unit 3.1 Criteria | 100.00% |

**TABLE 4.1 EXIT FLOW VALIDATION – AM PEAK**

| PM PEAK – ALL VEHICLES | |
|---|---|
| Total number of counts considered | 13 |
| VISSIM model counts with GEH <5 | 13 |
| % of VISSIM model counts with GEH <5 | 100.00% |
| VISSIM model counts within TAG Unit 3.1 Criteria | 13 |
| % of VISSIM model counts within TAG Unit 3.1 Criteria | 100.00% |

**TABLE 4.2 EXIT FLOW VALIDATION – PM PEAK**

4.2.3 The results show that all the exit flows have a GEH less than 5 and meet the Individual Flow criteria.

## 4.3 Journey Times – General Traffic

4.3.1 The modelled journey times have been compared against the observed data for the route shown in **Figure 4.1**. This represents the main east/west route for through traffic in Mountfitchet. Each direction is broken down into smaller sections to illustrate how each of these performs against observed data. Please note that the average journey times of modelled vehicles parking has been taken out of the assessment due to the likelihood that results will be skewed for the longer parking durations.

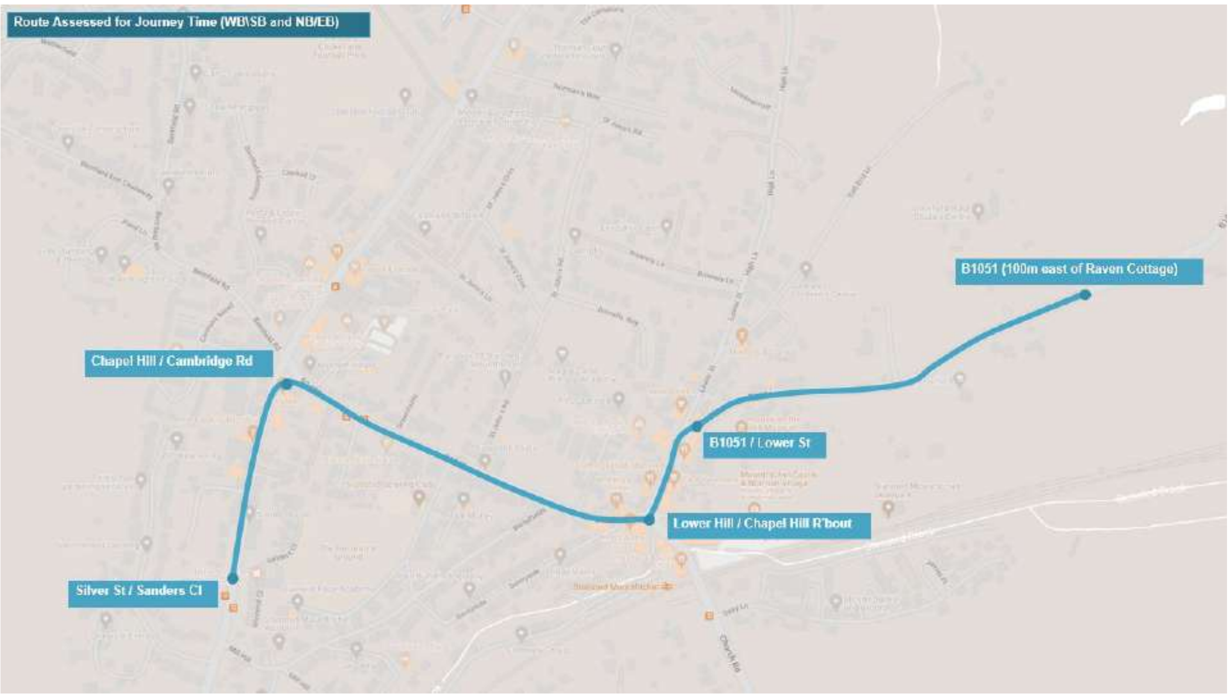



**FIGURE 4.1 ROUTE ASSESSED FOR JOURNEY TIME VALIDATION**

4.3.2 The results of the comparisons for the AM and PM peak periods are summarised in **Tables 4.3** & **4.4**, with more detailed comparisons provided in **Appendix H**.

| AM PEAK (07:30 – 08:30) SUMMARY | |
|---|---|
| Vehicle Class | ALL (Except Parked Veh.) |
| Total number of sections considered | 8 |
| Number of VISSIM sections with 15% of observed | 8 |
| % of VISSIM sections within 15% of observed | 100.0% |
| Number of VISSIM sections within 60s of observed | 8 |
| % of VISSIM sections within 60s of observed | 100.0% |
| Number of VISSIM sections meeting at least one set of criteria | 8 |
| % of VISSIM sections meeting at least one set of criteria | 100.0% |

**TABLE 4.3: JOURNEY TIME VALIDATION – AM PEAK**

4.3.3 **Table 4.3** shows that in the AM peak all of the section journey times are within 15% or within 60 seconds of observed values. This meets the criteria set out in TAG Unit 3.1.

| PM PEAK (17:00 – 18:00) SUMMARY | |
|---|---|
| Vehicle Class | ALL (Except Parked Veh.) |
| Total number of sections considered | 8 |
| Number of VISSIM sections with 15% of observed | 6 |
| % of VISSIM sections within 15% of observed | 75.0% |
| Number of VISSIM sections within 60s of observed | 8 |
| % of VISSIM sections within 60s of observed | 100.0% |
| Number of VISSIM sections meeting at least one set of criteria | 8 |
| % of VISSIM sections meeting at least one set of criteria | 100.01% |

**TABLE 4.4: JOURNEY TIME VALIDATION – PM PEAK**

4.3.4 **Table 4.4** shows that in the PM peak, the model meets TAG Unit 3.1 criteria, although only 75.0% (6/8) of the sections are within 15%. The sections which fall outside of the 15% are:

- JT Section 101 – B1051 (100m east of Raven Cottage) – B1051/Lower St Junction = 22% (-30s) difference
- JT Section 201 – Silver St / Sanders Cl – Chapel Hill / Cambridge Rd = 23%, which only has a 6s difference

4.3.5 However, referring to **Table 4.5**, considering the overall route (end to end) in both directions and peaks, the results show that all routes are within a maximum modelled to observed difference of 15%.

| Route | Direction | Description | | | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Actual Diff. | % Diff. | Within 15% | Actual Diff. | % Diff. | Within 15% |
| 1 | WB\SB | B1051 (100m east of Raven Cottage) | - | Silver St / Sanders Cl | 0 | 0% | ✓ | -63 | -14% | ✓ |
| 2 | NB\EB | Silver St / Sanders Cl | - | B1051 (100m east of Raven Cottage) | -12 | -5% | ✓ | 1 | 0% | ✓ |

**TABLE 4.5 OVERALL ROUTE JOURNEY TIME VALIDATION**

## 4.4 Model Error Log Analysis

### AM Peak

4.4.1 The AM peak error logs have been reviewed and these show no significant issues to impact on the network performance.

### PM Peak

4.4.2 The PM peak error logs have been reviewed and these show no significant issues to impact on the network performance.

## 4.5 Model Validation Summary

4.5.1 This section has detailed the comparisons undertaken to validate the model and ensure that it represents the nature of the network around Mountfitchet.

4.5.2 The exit flows and journey time comparisons show that the model meets TAG criteria, and the performance reflects the data collected from the various sources.

4.5.3 The review of the error logs also shows no issues that have a significant impact on the network performance.

# 5 MODELLING CONCLUSIONS

## 5.1 Overview

5.1.1 Modelling Group have been commissioned by Ardent Consulting Engineers to undertake VISSIM modelling associated with the proposed development of 130 units on the B1051 in nearby Elsenham, which is expected to have an impact on the network within Mountfitchet to the southwest.

## 5.2 Modelling Scope & Purpose

5.2.1 For this project, a base model and future year models were required to be developed.

5.2.2 A base model has been developed of the road network around Mountfitchet, to provide a realistic platform for undertaking future year testing.

## 5.3 Model Calibration Summary

5.3.1 Various modelling techniques and comparisons have been used to calibrate the model and ensure that it represents the nature of the network around Mountfitchet.

5.3.2 The entry flow and junction flow comparisons show that the model meets TAG criteria, and the network includes the correct amount of traffic for each junction.

5.3.3 The visual observations show that the key elements of congestion and queuing around the area are present in the model.

## 5.4 Model Validation Summary

5.4.1 Comparisons have been undertaken to validate the model and ensure that it represents the nature of the network around Mountfitchet.

5.4.2 The exit flows and journey time comparisons show that the model meets TAG criteria, and the performance reflects the data collected from the various sources.

5.4.3 The review of the error logs also shows no issues that have a significant impact on the network performance.

## 5.5 Overall Conclusions

5.5.1 The model has been successfully calibrated and validated to match a range of observed data collected and is therefore a suitable base for future year testing.

# APPENDIX A:

# SPEED PROFILES TECHNICAL NOTE

| | | | |
|---|---|---|---|
| Prepared by: | Daniel Bent | Reviewed by: | Luke Best |
| Client: | Internal | Date: | 16 June 2021 |

# Standardised Speed Distributions – DfT Statistics

## 1 INTRODUCTION

1.1 The speed limit desired speed distributions within the model have been calculated from Department for Transport (DfT) statistics or, where national statistics are not available, based on Transport for London (TfL) speed profiles.

## 2 SPEED PROFILES CALCULATED

2.1 The following speed profiles have been based on the DfT SPE0111 **2019** dataset:

- 20mph Built Up Roads
- 30mph Built Up Roads
- National Speed Limit – Single Carriageway Road
- Motorways

2.2 The data has been obtained from the following link:

HTTPS://WWW.GOV.UK/GOVERNMENT/STATISTICAL-DATA-SETS/SPE01-VEHICLE-SPEEDS

2.3 Due to no data being available, the following speed profiles have been based on the DfT SPE0102 **2014** dataset (latest available data):

- 40mph Built Up Roads

2.4 The data has been obtained from AECOM during a previous modelling exercise.

2.5 Due to no data being available, the following speed profiles have been based on the DfT SPE0111 **2009** dataset – Table TRA9906 (latest available data):

- Dual Carriageway Non-Built Up Roads

2.6 The data has been obtained from the following link:

HTTP://WEBARCHIVE.NATIONALARCHIVES.GOV.UK/20110218142807/HTTP:/DFT.GOV.UK/PGR/STATISTICS/DATATABLESPUBLICATIONS/TSGB/

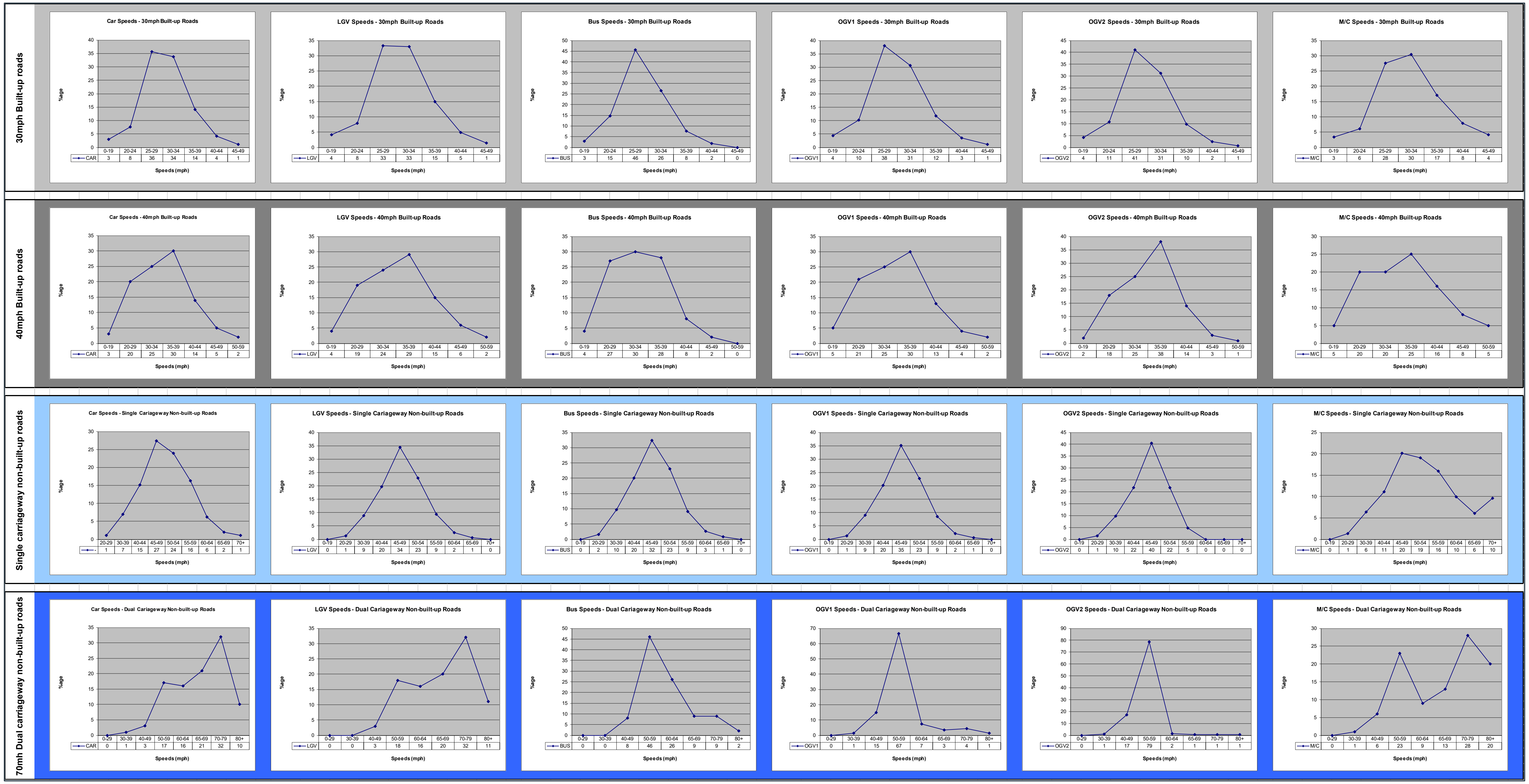
2.7 The associated speed graphs for these profiles are detailed on the following page.

# 3 TFL SPEED PROFILES

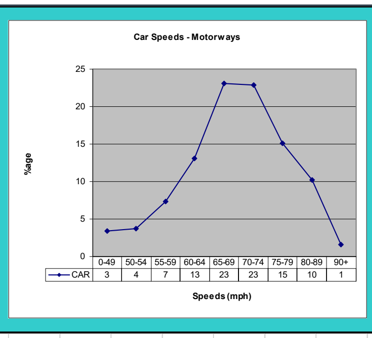
3.1 The 10mph and 50mph speed profiles have been based on the latest TfL template, as no information is available in the DfT statistics for these speed limits.

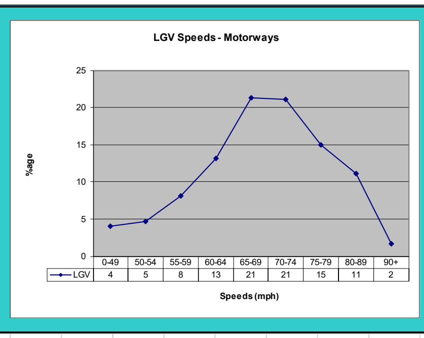
# 4 SPEED DISTRIBUTIONS IN VISSIM

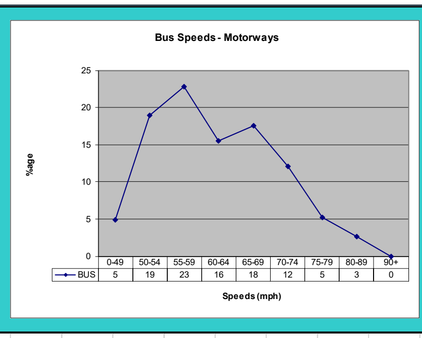
4.1 For use in VISSIM, the upper and lower bands of each speed profile and for each vehicle type have been removed to reduce the effect of any outliers or anomalies in the statistics.

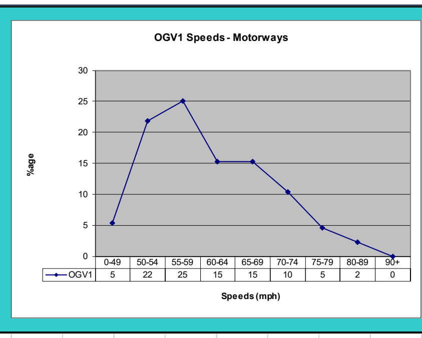

30mph Built-up roads
40mph Built-up roads
Single carriageway non-built-up roads
70mh Dual carriageway non-built-up roads
Car Speeds - 30mph Built-up Roads
0-19 20-24 25-29 30-34 35-39 40-44 45-49
CAR 3 8 36 34 14 4 1
LGV Speeds - 30mph Built-up Roads
LGV 4 8 33 33 15 5 1
Bus Speeds - 30mph Built-up Roads
BUS 3 15 46 26 8 2 0
OGV1 Speeds - 30mph Built-up Roads
OGV1 4 10 38 31 12 3 1
OGV2 Speeds - 30mph Built-up Roads
OGV2 4 11 41 31 10 2 1
M/C Speeds - 30mph Built-up Roads
M/C 3 6 28 30 17 8 4
Car Speeds - 40mph Built-up Roads
0-19 20-29 30-34 35-39 40-44 45-49 50-59
CAR 3 20 25 30 14 5 2
LGV Speeds - 40mph Built-up Roads
LGV 4 19 24 29 15 6 2
Bus Speeds - 40mph Built-up Roads
BUS 4 27 30 28 8 2 0
OGV1 Speeds - 40mph Built-up Roads
OGV1 5 21 25 30 13 4 2
OGV2 Speeds - 40mph Built-up Roads
OGV2 2 18 25 38 14 3 1
M/C Speeds - 40mph Built-up Roads
M/C 5 20 20 25 16 8 5
Car Speeds - Single Cariageway Non-built-up Roads
20-29 30-39 40-44 45-49 50-54 55-59 60-64 65-69 70+
1 7 15 27 24 16 6 2 1
LGV Speeds - Single Cariageway Non-built-up Roads
0-19 20-29 30-39 40-44 45-49 50-54 55-59 60-64 65-69 70+
LGV 0 1 9 20 34 23 9 2 1 0
Bus Speeds - Single Cariageway Non-built-up Roads
BUS 0 2 10 20 32 23 9 3 1 0
OGV1 Speeds - Single Cariageway Non-built-up Roads
OGV1 0 1 9 20 35 23 9 2 1 0
OGV2 Speeds - Single Cariageway Non-built-up Roads
OGV2 0 1 10 22 40 22 5 0 0 0
M/C Speeds - Single Cariageway Non-built-up Roads
M/C 0 1 6 11 20 19 16 10 6 10
Car Speeds - Dual Cariageway Non-built-up Roads
0-29 30-39 40-49 50-59 60-64 65-69 70-79 80+
CAR 0 1 3 17 16 21 32 10
LGV Speeds - Dual Cariageway Non-built-up Roads
LGV 0 0 3 18 16 20 32 11
Bus Speeds - Dual Cariageway Non-built-up Roads
BUS 0 0 8 46 26 9 9 2
OGV1 Speeds - Dual Cariageway Non-built-up Roads
OGV1 0 1 15 67 7 3 4 1
OGV2 Speeds - Dual Cariageway Non-built-up Roads
OGV2 0 1 17 79 2 1 1 1
M/C Speeds - Dual Cariageway Non-built-up Roads
M/C 0 1 6 23 9 13 28 20
%age
Speeds (mph)

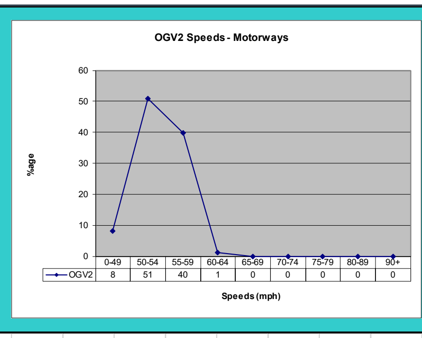
**70mph Motorways**

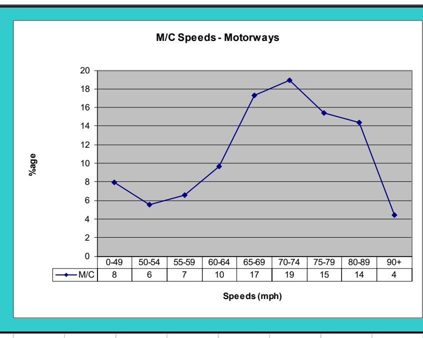


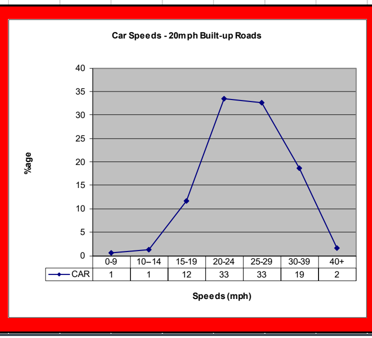



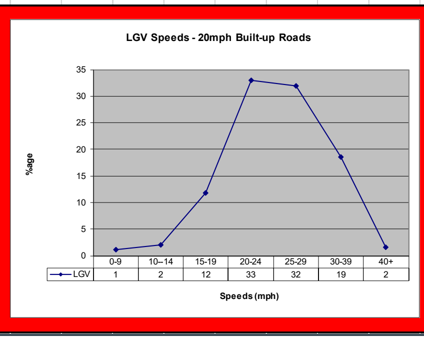



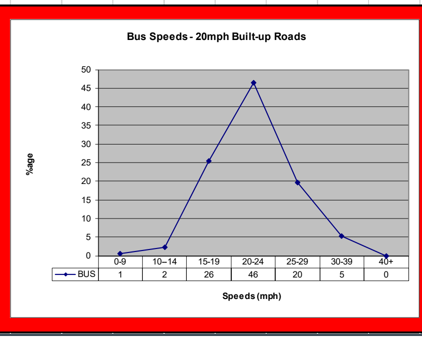



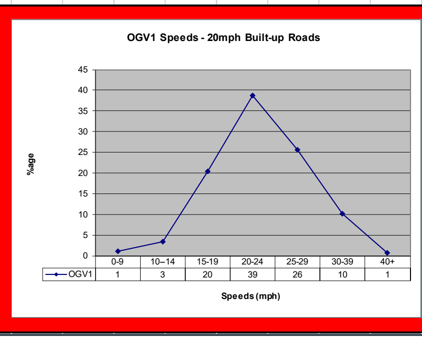



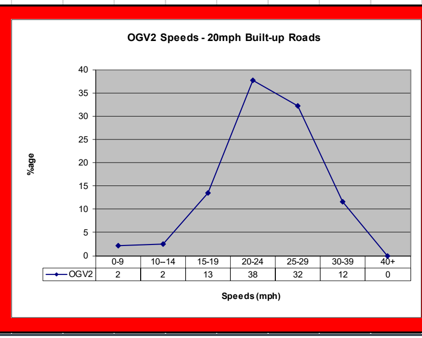

**20mph Built-up roads**

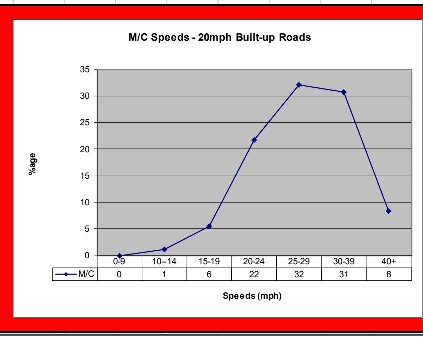


# APPENDIX B:

# SPEED PROFILES - TURNS TECHNICAL NOTE

| | | | |
|---|---|---|---|
| Prepared by: | Daniel Bent | Reviewed by: | Luke Best |
| Client: | Internal | Date: | 23 June 2021 |

# Standardised Speed Distributions – Turns

## 1 INTRODUCTION

1.1 This note describes the methodology used to determine speed distributions for vehicles negotiating turns of various radii on carriageway with different speed limits.

1.2 These are required in line with TfL's Modelling Guidelines, which suggests that distributions should be used for turns, dependent on radii (see **Figure 1.1**).

> **V226 Reduced Speed Areas**
>
> Reduced speed areas are used in Vissim models for a variety of purposes, most importantly to:
>
> - Replicate lower speeds used by turning vehicles within the model;
> - Represent localised changes in speeds due to network geometry or driver psychology; and
> - Calibrate saturation flows at junction stoplines.
>
> The TfL Traffic Modelling Guidelines recommend that reduced speed areas should be placed at all stoplines and wherever road geometry or other factors cause drivers to decelerate, for example bends, turning movements, speed reduction measures, complex junction layouts or where there is poor visibility.
>
> Suitable desired speed distributions should be associated with each reduced speed area, which will be checked by the MAE. Where separate distributions are applied to

**FIGURE 1.1: TFL MODEL AUDITING PROCESS (V3.5) – REDUCED SPEED AREAS**

## 2 SPEED PROFILES FOR DIFFERING SPEED LIMITS

2.1 To account for various speed limits, different vehicle types and to allow a set of distributions to apply to both urban and rural locations, a simplistic approach has been adopted to derive speed bands for instances of high and low braking. This is shown in **Table 2.1**.

| Speed limit | Speed Band | | |
|---|---|---|---|
| | | High Braking | Low Braking |
| | from | to/from | to |
| 20 mph | 10 | 15 | 20 |
| 30 mph | 20 | 25 | 30 |
| 40 mph | 30 | 35 | 40 |
| 50 mph | 40 | 45 | 50 |
| 60 mph | 50 | 55 | 60 |
| 70 mph | 60 | 65 | 70 |

**TABLE 2.1: SPEED BANDS FOR DIFFERENT SPEED LIMITS**

2.2 The thought process behind the speed banding is that for locations where higher braking is required, vehicles tend to slow down 5-10mph below the speed limit. For locations where lower braking is required, vehicles slow down up to 5mph below the speed limit, and down to the speed limit if the vehicles assigned speed distribution is over that at all.

2.3 A more simplified breakdown of the speed profiles created are shown in **Table 2**.

| Speed Profile | | Speed Band (mph) | |
|---|---|---|---|
| VISSIM No. | Name | Lower | Upper |
| 100 | RSA – 20mph Braking – High | 10 | 15 |
| 101 | RSA – 20mph Braking – Low | 15 | 20 |
| 102 | RSA – 30mph Braking – High | 20 | 25 |
| 103 | RSA – 30mph Braking – Low | 25 | 30 |
| 104 | RSA – 40mph Braking – High | 30 | 35 |
| 105 | RSA – 40mph Braking – Low | 35 | 40 |
| 106 | RSA – 50mph Braking – High | 40 | 45 |
| 107 | RSA – 50mph Braking – Low | 45 | 50 |
| 108 | RSA – 60mph Braking – High | 50 | 55 |
| 109 | RSA – 60mph Braking – Low | 55 | 60 |
| 110 | RSA – 70mph Braking – High | 60 | 65 |
| 111 | RSA – 70mph Braking – Low | 65 | 70 |

**TABLE 2.2: VISSIM SPEED DISTRIBUTIONS**

# 3 SUMMARY

3.1 These developed speed distributions allow for both a consideration of the turning radii, the vehicle type and the speed limit. This allows vehicle speeds on corners in the modelled network to be more representative of on-street conditions.

3.2 It should be noted that these speed distributions provide a starting point in model calibration and validation process and any further, more refined speed profiles to account for site specific behaviour should be developed, justified and modelled.

# APPENDIX C:

# PARKING SURVEY

| 1 - B1051 Chapel Hill - Section 1 | | | | | |
|---|---|---|---|---|---|
| Arrival Time | Arr Bin | Departure Time | Dept Bin | Duration of stay | Vehicle Class |
| In at start time | N/A | 07:54:06 | 07:45 - 08:00 | N/A | Car |
| In at start time | N/A | 07:54:30 | 07:45 - 08:00 | N/A | Car |
| In at start time | N/A | 08:12:52 | 08:00 - 08:15 | N/A | Car |
| In at start time | N/A | 08:19:38 | 08:15 - 08:30 | N/A | Car |
| In at start time | N/A | 09:41:25 | 09:30 - 09:45 | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Lgv |
| 07:19:55 | 07:15 - 07:30 | End of the survey | N/A | N/A | Car |
| 07:57:41 | 07:45 - 08:00 | 08:02:23 | 08:00 - 08:15 | 00:04:42 | Car |
| 08:32:14 | 08:30 - 08:45 | 08:43:25 | 08:30 - 08:45 | 00:11:11 | Lgv |
| 08:56:58 | 08:45 - 09:00 | End of the survey | N/A | N/A | Car |
| 09:02:38 | 09:00 - 09:15 | End of the survey | N/A | N/A | Car |
| 09:09:23 | 09:00 - 09:15 | End of the survey | N/A | N/A | Car |
| 09:58:15 | 09:45 - 10:00 | 10:02:16 | 10:00 - 10:15 | 00:04:01 | Car |
| PM SURVEY PERIOD | | | | | |
| In at start time | N/A | 18:48:18 | 18:45 - 19:00 | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| 18:34:16 | 18:30 - 18:45 | 18:48:07 | 18:45 - 19:00 | 00:13:51 | Car |

| 2 - B1051 Chapel Hill - Section 2 | | | | | |
|---|---|---|---|---|---|
| Arrival Time | Arr Bin | Departure Time | Dept Bin | Duration of stay | Vehicle Class |
| In at start time | N/A | 07:14:23 | 07:00 - 07:15 | N/A | Car |
| In at start time | N/A | 08:24:47 | 08:15 - 08:30 | N/A | Car |
| 07:58:45 | 07:45 - 08:00 | 09:02:44 | 09:00 - 09:15 | 01:03:59 | Car |
| 08:06:07 | 08:00 - 08:15 | End of the survey | N/A | N/A | Car |
| 09:41:46 | 09:30 - 09:45 | 09:42:31 | 09:45 - 10:00 | 00:00:45 | Car |
| PM SURVEY PERIOD | | | | | |
| In at start time | N/A | 16:27:22 | 16:15 - 16:30 | N/A | Car |
| In at start time | N/A | 17:38:17 | 17:30 - 17:45 | N/A | Car |
| In at start time | N/A | 18:43:45 | 18:30 - 18:45 | N/A | Car |
| 16:22:10 | 16:15 - 16:30 | 16:24:58 | 16:15 - 16:30 | 00:02:48 | Lgv |
| 16:46:31 | 16:45 - 17:00 | 16:48:10 | 16:45 - 17:00 | 00:01:39 | Car |
| 18:27:53 | 18:15 - 18:30 | 18:34:15 | 18:30 - 18:45 | 00:06:22 | Lgv |

| 3 - Lower Street - Section 1 | | | | | |
|---|---|---|---|---|---|
| Arrival Time | Arr Bin | Departure Time | Dept Bin | Duration of stay | Vehicle Class |
| In at start time | N/A | 07:16:00 | 07:15 - 07:30 | N/A | Lgv |
| 07:15:43 | 07:15 - 07:30 | 07:16:43 | 07:15 - 07:30 | 00:01:00 | Car |
| 07:26:33 | 07:15 - 07:30 | 07:27:13 | 07:15 - 07:30 | 00:00:40 | Bus |
| 07:28:36 | 07:15 - 07:30 | 08:05:30 | 08:00 - 08:15 | 00:36:54 | Ogv 1 |
| 07:38:37 | 07:30 - 07:45 | 08:03:27 | 08:00 - 08:15 | 00:24:50 | Car |
| 07:41:55 | 07:30 - 07:45 | 07:42:14 | 07:30 - 07:45 | 00:00:19 | Car |
| 08:05:57 | 08:00 - 08:15 | 08:10:04 | 08:00 - 08:15 | 00:04:07 | Car |
| 08:06:19 | 08:00 - 08:15 | 08:06:26 | 08:00 - 08:15 | 00:00:07 | Car |
| 08:17:27 | 08:15 - 08:30 | 08:20:14 | 08:15 - 08:30 | 00:02:47 | Car |
| 08:37:26 | 08:30 - 08:45 | 09:39:11 | 09:30 - 09:45 | 01:01:45 | Car |
| 08:39:37 | 08:30 - 08:45 | 08:46:20 | 08:45 - 09:00 | 00:06:43 | Lgv |
| 08:52:16 | 08:45 - 09:00 | End of the survey | N/A | N/A | Car |
| 08:57:35 | 08:45 - 09:00 | 08:58:52 | 08:45 - 09:00 | 00:01:17 | Car |
| 09:01:49 | 09:00 - 09:15 | 09:06:47 | 09:00 - 09:15 | 00:04:58 | Car |
| 09:10:56 | 09:00 - 09:15 | 09:17:41 | 09:15 - 09:30 | 00:06:45 | Car |
| 09:20:35 | 09:15 - 09:30 | End of the survey | N/A | N/A | Car |
| 09:24:20 | 09:15 - 09:30 | End of the survey | N/A | N/A | Car |
| 09:42:30 | 09:30 - 09:45 | End of the survey | N/A | N/A | Car |
| 09:52:58 | 09:45 - 10:00 | End of the survey | N/A | N/A | Lgv |
| PM SURVEY PERIOD | | | | | |
| In at start time | N/A | 16:19:30 | 16:15 - 16:30 | N/A | Car |
| In at start time | N/A | 16:43:16 | 16:30 - 16:45 | N/A | Lgv |
| In at start time | N/A | 17:01:09 | 17:00 - 17:15 | N/A | Lgv |
| 16:00:25 | 16:00 - 16:15 | 16:27:38 | 16:15 - 16:30 | 00:27:13 | Lgv |
| 16:21:56 | 16:15 - 16:30 | 16:33:27 | 16:30 - 16:45 | 00:11:31 | Car |
| 16:38:02 | 16:30 - 16:45 | 16:59:40 | 16:45 - 17:00 | 00:21:38 | Car |
| 16:43:58 | 16:30 - 16:45 | 17:22:02 | 17:15 - 17:30 | 00:38:04 | Car |
| 17:02:12 | 17:00 - 17:15 | 17:18:35 | 17:15 - 17:30 | 00:16:23 | Car |
| 17:11:33 | 17:00 - 17:15 | 17:12:06 | 17:00 - 17:15 | 00:00:33 | Lgv |
| 17:25:58 | 17:15 - 17:30 | 17:26:36 | 17:15 - 17:30 | 00:00:38 | Car |
| 17:26:45 | 17:15 - 17:30 | 17:31:19 | 17:30 - 17:45 | 00:04:34 | Car |
| 17:27:08 | 17:15 - 17:30 | 18:37:20 | 18:30 - 18:45 | 01:10:12 | Car |
| 17:28:12 | 17:15 - 17:30 | 18:26:44 | 18:15 - 18:30 | 00:58:32 | Car |
| 17:33:18 | 17:30 - 17:45 | 17:33:44 | 17:30 - 17:45 | 00:00:26 | Car |
| 18:02:39 | 18:00 - 18:15 | End of the survey | N/A | N/A | Car |
| 18:28:53 | 18:15 - 18:30 | End of the survey | N/A | N/A | Car |
| 18:33:44 | 18:30 - 18:45 | 18:42:56 | 18:30 - 18:45 | 00:09:12 | Lgv |
| 18:42:32 | 18:30 - 18:45 | 18:43:05 | 18:30 - 18:45 | 00:00:33 | Car |
| 18:42:48 | 18:30 - 18:45 | End of the survey | N/A | N/A | Car |
| 18:43:27 | 18:30 - 18:45 | 18:55:33 | 18:45 - 19:00 | 00:12:06 | Car |

| 4 - Lower Street - Section 2 | | | | | |
|---|---|---|---|---|---|
| Arrival Time | Arr Bin | Departure Time | Dept Bin | Duration of stay | Vehicle Class |
| In at start time | N/A | 07:13:57 | 07:00 - 07:15 | N/A | Car |
| 07:12:49 | 07:00 - 07:15 | 07:14:35 | 07:00 - 07:15 | 00:01:46 | Car |
| 07:21:55 | 07:15 - 07:30 | 07:31:37 | 07:30 - 07:45 | 00:09:42 | Lgv |
| 07:22:42 | 07:15 - 07:30 | 07:23:15 | 07:15 - 07:30 | 00:00:33 | Car |
| 07:29:06 | 07:15 - 07:30 | End of the survey | N/A | N/A | Car |
| 07:34:41 | 07:30 - 07:45 | 07:37:21 | 07:30 - 07:45 | 00:02:40 | Lgv |
| 07:39:10 | 07:30 - 07:45 | 07:39:20 | 07:30 - 07:45 | 00:00:10 | Car |
| 07:41:03 | 07:30 - 07:45 | 07:41:21 | 07:30 - 07:45 | 00:00:18 | Car |
| 07:44:47 | 07:30 - 07:45 | 07:50:49 | 07:45 - 08:00 | 00:06:02 | Car |
| 07:54:02 | 07:45 - 08:00 | 07:55:46 | 07:45 - 08:00 | 00:01:44 | Car |
| 07:55:50 | 07:45 - 08:00 | 08:37:40 | 08:30 - 08:45 | 00:41:50 | Lgv |
| 07:56:25 | 07:45 - 08:00 | End of the survey | N/A | N/A | Car |
| 07:58:03 | 07:45 - 08:00 | End of the survey | N/A | N/A | Lgv |
| 07:58:10 | 07:45 - 08:00 | 08:02:45 | 08:00 - 08:15 | 00:04:35 | Car |
| 08:05:06 | 08:00 - 08:15 | 08:05:36 | 08:00 - 08:15 | 00:00:30 | Car |
| 08:07:38 | 08:00 - 08:15 | 08:07:59 | 08:00 - 08:15 | 00:00:21 | Car |
| 08:09:23 | 08:00 - 08:15 | 08:47:55 | 08:45 - 09:00 | 00:38:32 | Car |
| 08:29:02 | 08:15 - 08:30 | 08:32:29 | 08:30 - 08:45 | 00:03:27 | Car |
| 08:42:07 | 08:30 - 08:45 | 08:44:42 | 08:30 - 08:45 | 00:02:35 | Car |
| 08:45:16 | 08:45 - 09:00 | 08:50:31 | 08:45 - 09:00 | 00:05:15 | Car |
| 08:54:56 | 08:45 - 09:00 | 09:07:17 | 09:00 - 09:15 | 00:12:21 | Car |
| 08:56:57 | 08:45 - 09:00 | 09:18:49 | 09:15 - 09:30 | 00:21:52 | Lgv |
| 09:04:56 | 09:00 - 09:15 | 09:09:00 | 09:00 - 09:15 | 00:04:04 | Lgv |
| 09:17:52 | 09:15 - 09:30 | End of the survey | N/A | N/A | Car |
| 09:20:37 | 09:15 - 09:30 | End of the survey | N/A | N/A | Car |
| 09:20:48 | 09:15 - 09:30 | End of the survey | N/A | N/A | Car |
| PM SURVEY PERIOD | | | | | |
| In at start time | N/A | 16:20:52 | 16:15 - 16:30 | N/A | Car |
| In at start time | N/A | 16:21:30 | 16:15 - 16:30 | N/A | Mcl |
| In at start time | N/A | 16:46:34 | 16:45 - 17:00 | N/A | Car |
| In at start time | N/A | 17:33:35 | 17:30 - 17:45 | N/A | Lgv |
| In at start time | N/A | 17:30:26 | 17:30 - 17:45 | N/A | Car |
| 16:04:58 | 16:00 - 16:15 | 16:08:41 | 16:00 - 16:15 | 00:03:43 | Car |
| 16:22:54 | 16:15 - 16:30 | 16:35:40 | 16:30 - 16:45 | 00:12:46 | Car |
| 16:23:15 | 16:15 - 16:30 | 16:24:16 | 16:15 - 16:30 | 00:01:01 | Car |
| 16:24:59 | 16:15 - 16:30 | 16:35:51 | 16:30 - 16:45 | 00:10:52 | Car |
| 16:38:27 | 16:30 - 16:45 | 17:29:43 | 17:15 - 17:30 | 00:51:16 | Car |
| 16:42:18 | 16:30 - 16:45 | 16:51:57 | 16:45 - 17:00 | 00:09:39 | Car |
| 16:47:18 | 16:45 - 17:00 | 17:05:27 | 17:00 - 17:15 | 00:18:09 | Car |
| 16:53:47 | 16:45 - 17:00 | 16:58:26 | 16:45 - 17:00 | 00:04:39 | Car |
| 16:54:35 | 16:45 - 17:00 | 17:02:14 | 17:00 - 17:15 | 00:07:39 | Car |
| 17:05:46 | 17:00 - 17:15 | 17:09:55 | 17:00 - 17:15 | 00:04:09 | Lgv |
| 17:13:47 | 17:00 - 17:15 | 17:22:08 | 17:15 - 17:30 | 00:08:21 | Lgv |
| 17:31:39 | 17:30 - 17:45 | End of the survey | N/A | N/A | Car |
| 17:34:11 | 17:30 - 17:45 | 17:41:53 | 17:30 - 17:45 | 00:07:42 | Lgv |
| 17:34:13 | 17:30 - 17:45 | 17:44:00 | 17:30 - 17:45 | 00:09:47 | Car |
| 17:36:11 | 17:30 - 17:45 | 17:37:28 | 17:30 - 17:45 | 00:01:17 | Car |
| 17:41:12 | 17:30 - 17:45 | End of the survey | N/A | N/A | Car |
| 17:59:30 | 17:45 - 18:00 | End of the survey | N/A | N/A | Car |
| 18:02:42 | 18:00 - 18:15 | 18:25:27 | 18:15 - 18:30 | 00:22:45 | Car |
| 18:03:20 | 18:00 - 18:15 | 18:09:01 | 18:00 - 18:15 | 00:05:41 | Car |
| 18:06:18 | 18:00 - 18:15 | End of the survey | N/A | N/A | Car |
| 18:19:22 | 18:15 - 18:30 | 18:38:51 | 18:30 - 18:45 | 00:19:29 | Car |
| 18:28:10 | 18:15 - 18:30 | End of the survey | N/A | N/A | Car |
| 18:37:08 | 18:30 - 18:45 | 18:39:25 | 18:30 - 18:45 | 00:02:17 | Car |
| 18:47:45 | 18:45 - 19:00 | End of the survey | N/A | N/A | Car |

| **5 - B1051 Grove Hill - Section 1** | | | | | |
|---|---|---|---|---|---|
| Arrival Time | Arr Bin | Departure Time | Dept Bin | Duration of stay | Vehicle Class |
| In at start time | N/A | 07:25:43 | 07:15 - 07:30 | N/A | Car |
| In at start time | N/A | 07:52:28 | 07:45 - 08:00 | N/A | Car |
| In at start time | N/A | 09:01:24 | 09:00 - 09:15 | N/A | Car |
| In at start time | N/A | 09:49:53 | 09:45 - 10:00 | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| 09:31:49 | 09:30 - 09:45 | 09:33:15 | 09:30 - 09:45 | 00:01:26 | Car |
| PM SURVEY PERIOD | | | | | |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| In at start time | N/A | End of the survey | N/A | N/A | Car |
| 16:25:32 | 16:15 - 16:30 | End of the survey | N/A | N/A | Car |
| 17:53:02 | 17:45 - 18:00 | End of the survey | N/A | N/A | Car |
| 18:06:48 | 18:00 - 18:15 | 18:24:23 | 18:15 - 18:30 | 00:17:35 | Car |


Stansted Angling
Fishing shop
Alter by Joanna
First Class Turkish Barbers · Stansted
Paris Legore Flowers & Gifts
Florist
Lower St. Tanning Salon
The Dog House
Vanity Fayre Hair & Beauty Salon
The Lower Street Brasserie
Modern European
End of Tenancy Cleansing Stansted...
Elsenham Cabs
Lower St
Kings Family Butchers
Butchers
Flames kebab stansted
Cafe Yeomans
The Queen's Head
Crimson 8
Chinese
Brohmon
Indian
Tapers The Barber Shop
Church
Mountfitchet Castle Visitors Centre
B1051
5) B1051 - Section 1
B1051

# APPENDIX D:

# CALIBRATION & VALIDATION CRITERIA TECHNICAL NOTE

| | | | |
|---|---|---|---|
| Prepared by: | Daniel Bent | Reviewed by: | Luke Best |
| Client: | Internal | Date: | 29 June 2021 |

# Calibration & Validation – Guidance & Criteria

## 1 INTRODUCTION

1.1 This note describes the guidance and criteria used to calibrate and validate microsimulation models.

## 2 CALIBRATION & VALIDATION DEFINITIONS

2.1 Calibration and validation are the main processes required to ensure that a base year microsimulation model developed is representative of on-street conditions.

2.2 The definitions of these processes are as follows:

- Calibration – the process of checking modelled outputs against observed data that has been used to develop model inputs. An example of this would be the comparison of observed junction turning flows that have been used to build the origin-destination (O-D) matrices for the model.
- Validation – the process of checking modelled outputs against *independent* observed data, that has **not** been used for model inputs. An example of this would be the comparison of modelled journey times against site data.

2.3 When calibrating a microsimulation model, the following comparisons are usually made between modelled and observed outputs:

- Junction Turning Flows
- Entry Flows
- Screen-line Counts
- Queue Lengths
- Other Site Observations – for example bus dwell times, parking durations, signal timings

2.4 When validating a microsimulation model, the following comparisons are usually made between modelled and observed outputs:

- Journey Times

- Exit Flows
- Screen-line Counts
- Saturation Flows

# 3 CALIBRATION & VALIDATION GUIDANCE

3.1 There are two primary pieces of guidance that inform the calibration and validation criteria for microsimulation models:

- Department for Transport’s (DfT’s) Transport Analysis Guidance (TAG).
- Transport for London’s (TfL’s) Model Auditing Process (MAP).

The specific documents that are most relevant are:

- DfT TAG Unit M3.1 – Highway Assignment Modelling, May 2020.
- TfL’s MAP Version 3.5 – Engineer Guide for Design Engineer (DE), Checking Engineer (CE) and Model Auditing Engineer (MAE), March 2017.

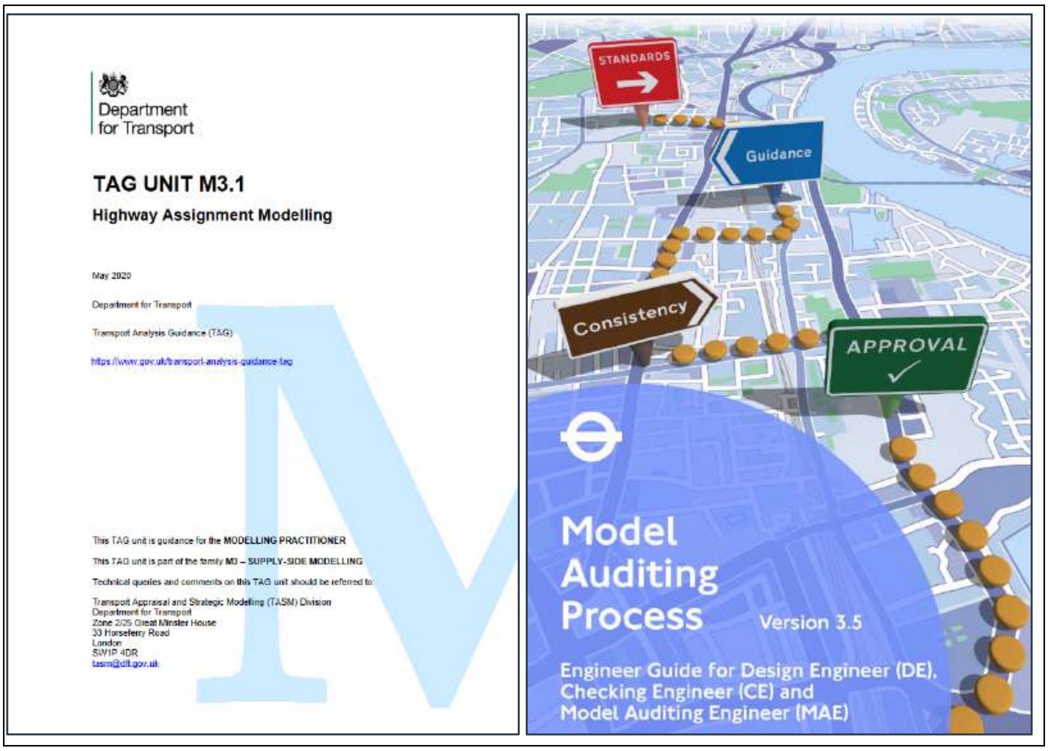



**FIGURE 3.1: CALIBRATION & VALIDATION GUIDANCE**

# 4 CALIBRATION CRITERIA

4.1 To ensure that the modelled outputs are representative of the observed data, TAG Unit 3.1 and TfL's MAP guidelines detail specific criteria that must be met.

4.2 The following sections detail the criteria required for each of the data comparisons.

## Junction Turning Flows

4.3 For junction turning flows, there are two comparisons that need to be made:

- The absolute and percentage differences between modelled and observed flows
- The GEH (Geoffrey E. Havers) statistic, which is a Chi-squared statistic that incorporates both the relative and absolute errors. This is defined as:

$$GEH = \sqrt{\frac{(M-C)^2}{(M+C)/2}}$$

where: GEH is the GEH statistic

M is the modelled flow

C is the observed flow

4.4 TAG Unit 3.1's criteria and guidelines for turning movements is defined in Table 2 in the guidance and shown in **Figure 4.1**.

Table 2 Link Flow and Turning Movement Validation Criteria and Guidelines

| Criteria | Description of Criteria | Guideline |
|---|---|---|
| 1 | Individual flows within 100 veh/h of counts for flows less than 700 veh/h | > 85% of cases |
| | Individual flows within 15% of counts for flows from 700 to 2,700 veh/h | |
| | Individual flows within 400 veh/h of counts for flows more than 2,700 veh/h | |
| 2 | GEH < 5 for individual flows | > 85% of cases |

**FIGURE 4.1: TAG UNIT 3.1 – FLOW CALIBRATION/VALIDATION CRITERIA**

4.5 TAG Unit 3.1 states that modelled flows that meet either criterion should be regarded as satisfactory.

4.6 TAG Unit 3.1 also details further requirements for the link flow and turning count comparisons, including:

- The criteria should be applied to both link flows and turning movements
- The comparisons should be presented for All Vehicles, Cars and Heavy Vehicles (if sufficiently accurate counts have been collected).

- The comparisons should be presented separately for each peak period modelled.

## Entry Flows

4.7 TfL's MAP v3.5 guidelines (section V304 – Traffic Flow Comparison) states that:

*"All entry links into the network should show modelled flows within 5% of observed flows. This requirement should be achieved for all entry links as vehicle flows on external links are direct input values."*

4.7.1 TAG Unit 3.1 also references validation of the trip matrices (*para. 3.3.7 and Table 1*), with differences between modelled flows and counts required to be within 5%.

4.7.2 The GEH statistic is also compared, with a value less than 3 deemed suitable in accordance with TfL Guidelines.

## Screen-line Counts

4.8 For screen-line counts, which could take the form of comparing modelled outputs to Automatic Traffic Counts (ATCs), the same criteria as for Junction Turning Counts should be used (see **Figure 4.1**).

## Queue Lengths

4.9 Section V305 of TfL's MAP v3.5 guidance gives details on the comparison of modelled and observed queues. Whilst there are no strict criteria to measure against, the guidance states:

*"Modelled queues should, however, correlate reasonably with site observations of queuing behaviour and any significant discrepancies may indicate that areas of the model require further calibration."*

4.10 It should also be noted that TfL guidance states that queue length comparison is **not** considered a suitable validation criterion.

## Other Site Observations

4.11 For other site observations such as bus dwell times, parking durations and signal timings, there is no set criteria for comparing modelled and observed outputs. However, TfL's MAP v3.5 guidance recommends providing comparisons to provide further evidence that the model is representative of on-street conditions.

# 5 VALIDATION CRITERIA

5.1 To ensure that the modelled outputs are representative of the observed data, TAG Unit 3.1 and TfL's MAP guidelines detail specific criteria that must be met.

5.2 The following sections detail the criteria required for each of the data comparisons.

## Journey Times

5.3 For journey times, the measure which should be used is the percentage difference between modelled and observed journey times.

5.4 TAG Unit 3.1's criteria and guidelines for journey times is defined in Table 3 in the guidance and shown in **Figure 5.1**.

5.5

Table 3 Journey Time Validation Criterion and Guideline

| Criteria | Guideline |
|---|---|
| Modelled times along routes should be within 15% of surveyed times (or 1 minute, if higher than 15%) | > 85% of routes |

**FIGURE 5.1: TAG UNIT 3.1 – JOURNEY TIME VALIDATION CRITERIA**

## Exit Flows

5.6 The comparison of exit flows can be used for validation, as only the entry flows are directly input (a calibration measure) and the performance of the network determines the numbers of vehicles that reach each exit. For exit flow validation, the same criteria as for Junction Turning Counts should be used (see **Figure 4.1**).

## Screen-line Counts

5.7 For screen-line counts, which could take the form of comparing modelled outputs to ATCs, the same criteria as for Junction Turning Counts should be used (see **Figure 4.1**).

## Saturation Flows

5.8 Section V303 of TfL's MAP v3.5 guidance provides details on the comparison of observed and modelled saturation flows. This is required as it provides a measure of the capacity of signal-controlled approaches.

5.9 TfL's guidance states that:

*"Modelled saturation flow values should be within 10% of observed values, or values used in any corresponding approved LINSIG or TRANSYT modelling."*

The guidance further states that:

*"If saturation flows are seen to vary between peaks in the associated MAP Stage 3-approved LINSIG or TRANSYT models (e.g. due to tidal movements), those saturation flows should be validated separately within each VISSIM base model."*

# 6 SUMMARY

6.1 This note describes the guidance and criteria used to calibrate and validate microsimulation models.

6.2 The calibration and validation criteria assessed and reported on will depend on the nature of the base model being developed and Modelling Group will liaise and collaborate with external auditors during the modelling process to agree the criteria to be used.

# APPENDIX E:

# CALIBRATION/VALIDATION RESULTS – LINK & EXIT FLOWS

| AM Peak Summary | |
|---|---|
| Total number of counts considered | 18 |
| | |
| VISSIM model counts with GEH <3 | 16 |
| % of VISSIM counts with GEH <3 | 88.89% |
| | |
| VISSIM model counts with GEH <5 | 18 |
| % of VISSIM counts with GEH <5 | 100.00% |
| | |
| VISSIM model counts with GEH <10 | 18 |
| % of VISSIM counts with GEH <10 | 100.00% |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 18 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

| AM Peak | 07:30 | to | 08:30 |
|---|---|---|---|

| JUNCTION / MOVEMENT | | | Vehicle Flow | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ATC No. | ATC Name | Month/Year | All Observed | All Modelled | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 |
| NB | ATC 1 - Lower St/High Ln | May 2022 | 304 | 344 | 40 | 13% | 2.23 | ✓ | ✓ | | | |
| SB | | | 313 | 390 | 77 | 25% | 4.11 | ✓ | ✓ | | | |
| NB | ATC 2 - Lower St/Gall End Ln | | 5 | 4 | -1 | -26% | 0.65 | ✓ | ✓ | | | |
| SB | | | 9 | 4 | -5 | -56% | 1.99 | ✓ | ✓ | | | |
| WB | ATC 3 - B1051 | | 282 | 312 | 31 | 11% | 1.77 | ✓ | ✓ | | | |
| EB | | | 174 | 181 | 7 | 4% | 0.53 | ✓ | ✓ | | | |
| WB | ATC 4 - Dairy Ln | | 23 | 16 | -7 | -30% | 1.55 | ✓ | ✓ | | | |
| EB | | | 11 | 8 | -3 | -29% | 1.05 | ✓ | ✓ | | | |
| NB | ATC 5 - Church Rd | | 334 | 322 | -12 | -3% | 0.64 | ✓ | ✓ | | | |
| SB | | | 383 | 391 | 8 | 2% | 0.42 | ✓ | ✓ | | | |
| NB | ATC 6 - Recreation Ground | | 4 | 8 | 4 | 104% | 1.67 | ✓ | ✓ | | | |
| SB | | | 3 | 8 | 5 | 191% | 2.26 | ✓ | ✓ | | | |
| NB | ATC 7 - Crafton Green | | 21 | 19 | -2 | -8% | 0.37 | ✓ | ✓ | | | |
| SB | | | 11 | 8 | -3 | -29% | 1.07 | ✓ | ✓ | | | |
| NB | ATC 8 - B1383 South | | 456 | 458 | 2 | 0% | 0.10 | ✓ | ✓ | | | |
| SB | | | 603 | 601 | -2 | 0% | 0.08 | ✓ | ✓ | | | |
| NB | ATC 9 - B1383 North | | 147 | 207 | 60 | 41% | 4.50 | ✓ | ✓ | | | |
| SB | | | 209 | 250 | 41 | 19% | 2.69 | ✓ | ✓ | | | |

| PM Peak Summary | |
|---|---|
| Total number of counts considered | 18 |
| | |
| VISSIM model counts with GEH <3 | 18 |
| % of VISSIM counts with GEH <3 | 100.00% |
| | |
| VISSIM model counts with GEH <5 | 18 |
| % of VISSIM counts with GEH <5 | 100.00% |
| | |
| VISSIM model counts with GEH <10 | 18 |
| % of VISSIM counts with GEH <10 | 100.00% |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 18 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

| PM Peak | 17:00 | to | 18:00 |
|---|---|---|---|

| JUNCTION / MOVEMENT | | | Vehicle Flow | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ATC No. | ATC Name | Month/Year | All Observed | All Modelled | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 |
| NB | ATC 1 - Lower St/High Ln | May 2022 | 358 | 380 | 22 | 6% | 1.13 | ✓ | ✓ | | | |
| SB | | | 317 | 321 | 4 | 1% | 0.24 | ✓ | ✓ | | | |
| NB | ATC 2 - Lower St/Gall End Ln | | 10 | 6 | -4 | -37% | 1.26 | ✓ | ✓ | | | |
| SB | | | 7 | 4 | -3 | -45% | 1.40 | ✓ | ✓ | | | |
| WB | ATC 3 - B1051 | | 191 | 183 | -8 | -4% | 0.59 | ✓ | ✓ | | | |
| EB | | | 310 | 323 | 13 | 4% | 0.73 | ✓ | ✓ | | | |
| WB | ATC 4 - Dairy Ln | | 18 | 12 | -6 | -33% | 1.51 | ✓ | ✓ | | | |
| EB | | | 23 | 22 | -1 | -2% | 0.11 | ✓ | ✓ | | | |
| NB | ATC 5 - Church Rd | | 405 | 407 | 2 | 0% | 0.09 | ✓ | ✓ | | | |
| SB | | | 373 | 355 | -18 | -5% | 0.92 | ✓ | ✓ | | | |
| NB | ATC 6 - Recreation Ground | | 7 | 4 | -3 | -40% | 1.15 | ✓ | ✓ | | | |
| SB | | | 9 | 10 | 1 | 7% | 0.21 | ✓ | ✓ | | | |
| NB | ATC 7 - Crafton Green | | 22 | 20 | -2 | -8% | 0.40 | ✓ | ✓ | | | |
| SB | | | 34 | 28 | -6 | -16% | 0.99 | ✓ | ✓ | | | |
| NB | ATC 8 - B1383 South | | 636 | 640 | 5 | 1% | 0.18 | ✓ | ✓ | | | |
| SB | | | 483 | 462 | -21 | -4% | 0.96 | ✓ | ✓ | | | |
| NB | ATC 9 - B1383 North | | 239 | 235 | -4 | -2% | 0.24 | ✓ | ✓ | | | |
| SB | | | 222 | 218 | -4 | -2% | 0.24 | ✓ | ✓ | | | |

| AM Peak Summary | |
|---|---|
| Total number of counts considered | 13 |
| | |
| VISSIM model counts with GEH <3 | 13 |
| % of VISSIM counts with GEH <3 | 100.00% |
| | |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 13 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

| AM Peak | 07:30 | to | 08:30 |
|---|---|---|---|

| Exit Point | Vehicle Flow | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | All | | | | | | | | | |
| Location | Exit Flow | Modelled Flow | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 |
| Lower St/High Ln | 358 | 344 | -14 | -4% | 0.75 | ✓ | ✓ | | | |
| Lower St/Gall End Ln | 3 | 4 | 1 | 33% | 0.53 | ✓ | ✓ | | | |
| B1051 | 179 | 181 | 2 | 1% | 0.15 | ✓ | ✓ | | | |
| Dairy Ln | 8 | 8 | 0 | 0% | 0.00 | ✓ | ✓ | | | |
| Church Rd | 411 | 391 | -20 | -5% | 1.00 | ✓ | ✓ | | | |
| Recreation Ground | 8 | 8 | 0 | 0% | 0.00 | ✓ | ✓ | | | |
| Crafton Green | 18 | 19 | 1 | 6% | 0.23 | ✓ | ✓ | | | |
| B1383 South | 620 | 601 | -19 | -3% | 0.77 | ✓ | ✓ | | | |
| B1383 North | 210 | 207 | -3 | -1% | 0.21 | ✓ | ✓ | | | |
| Bentfield Rd | 149 | 144 | -5 | -3% | 0.41 | ✓ | ✓ | | | |
| St John's Rd | 35 | 33 | -2 | -6% | 0.34 | ✓ | ✓ | | | |
| Station Rd | 64 | 59 | -5 | -8% | 0.64 | ✓ | ✓ | | | |
| Mountfitchet Castle St | 81 | 80 | -1 | -1% | 0.11 | ✓ | ✓ | | | |

| PM Peak Summary | |
|---|---|
| Total number of counts considered | 13 |
| | |
| VISSIM model counts with GEH <3 | 13 |
| % of VISSIM counts with GEH <3 | 100.00% |
| | |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 13 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

| PM Peak | 17:00 | to | 18:00 |
|---|---|---|---|

| Exit Point | Vehicle Flow | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | All | | | | | | | | | |
| Location | Exit Flow | Modelled Flow | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 |
| Lower St/High Ln | 384 | 380 | -4 | -1% | 0.20 | ✓ | ✓ | | | |
| Lower St/Gall End Ln | 7 | 6 | -1 | -14% | 0.39 | ✓ | ✓ | | | |
| B1051 | 329 | 323 | -6 | -2% | 0.33 | ✓ | ✓ | | | |
| Dairy Ln | 22 | 22 | 0 | 0% | 0.00 | ✓ | ✓ | | | |
| Church Rd | 365 | 355 | -10 | -3% | 0.53 | ✓ | ✓ | | | |
| Recreation Ground | 9 | 10 | 1 | 11% | 0.32 | ✓ | ✓ | | | |
| Crafton Green | 20 | 20 | 0 | 0% | 0.00 | ✓ | ✓ | | | |
| B1383 South | 471 | 462 | -9 | -2% | 0.42 | ✓ | ✓ | | | |
| B1383 North | 235 | 235 | 0 | 0% | 0.00 | ✓ | ✓ | | | |
| Bentfield Rd | 205 | 203 | -2 | -1% | 0.14 | ✓ | ✓ | | | |
| St John's Rd | 33 | 33 | 0 | 0% | 0.00 | ✓ | ✓ | | | |
| Station Rd | 46 | 45 | -1 | -2% | 0.15 | ✓ | ✓ | | | |
| Mountfitchet Castle St | 93 | 90 | -3 | -3% | 0.31 | ✓ | ✓ | | | |

# APPENDIX F:

# CALIBRATION RESULTS – TURNING COUNTS

| AM Peak Summary | |
|---|---|
| Total number of counts considered | 46 |
| | |
| VISSIM model counts with GEH <3 (Critical Links only) | 45 |
| % of VISSIM counts with GEH <3 | 97.83% |
| | |
| VISSIM model counts with GEH <5 | 46 |
| % of VISSIM counts with GEH <5 | 100.00% |
| | |
| VISSIM model counts with GEH <10 | 46 |
| % of VISSIM counts with GEH <10 | 100.00% |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 46 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

| AM Peak | 07:30 | to | 08:30 |
|---|---|---|---|

| JUNCTION / MOVEMENT | | | Vehicle Flow | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | | Critical Link |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Junction | Approach | Turn | All | | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 | |
| | | | Observed | Modelled | | | | | | | | | |
| Lower St / B1051 Grove Hill | Lower Street N | Left | 17 | 18 | 1 | 6% | 0.24 | ✓ | ✓ | | | | Y |
| | | Ahead | 390 | 363 | -27 | -7% | 1.39 | ✓ | ✓ | | | | Y |
| | B1051 | Left | 312 | 287 | -25 | -8% | 1.44 | ✓ | ✓ | | | | Y |
| | | Right | 13 | 11 | -2 | -15% | 0.58 | ✓ | ✓ | | | | Y |
| | Lower Street S | Ahead | 357 | 335 | -22 | -6% | 1.18 | ✓ | ✓ | | | | Y |
| | | Right | 159 | 161 | 2 | 1% | 0.16 | ✓ | ✓ | | | | Y |
| Chapel Hill / Church Rd Mini R'bout | Lower Street | Left | 20 | 22 | 2 | 10% | 0.44 | ✓ | ✓ | | | | Y |
| | | Ahead | 371 | 327 | -44 | -12% | 2.36 | ✓ | ✓ | | | | Y |
| | | Right | 311 | 290 | -21 | -7% | 1.21 | ✓ | ✓ | | | | Y |
| | | U-Turn | 3 | 3 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Mountfitchet Castle St | Left | 26 | 21 | -5 | -19% | 1.03 | ✓ | ✓ | | | | Y |
| | | Ahead | 9 | 7 | -2 | -22% | 0.71 | ✓ | ✓ | | | | Y |
| | | Right | 13 | 11 | -2 | -15% | 0.58 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Church Rd | Left | 88 | 76 | -12 | -14% | 1.33 | ✓ | ✓ | | | | Y |
| | | Ahead | 238 | 230 | -8 | -3% | 0.52 | ✓ | ✓ | | | | Y |
| | | Right | 39 | 38 | -1 | -3% | 0.16 | ✓ | ✓ | | | | Y |
| | | U-Turn | 2 | 0 | -2 | -100% | 2.00 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 265 | 251 | -14 | -5% | 0.87 | ✓ | ✓ | | | | Y |
| | | Ahead | 22 | 21 | -1 | -5% | 0.22 | ✓ | ✓ | | | | Y |
| | | Right | 85 | 72 | -13 | -15% | 1.47 | ✓ | ✓ | | | | Y |
| | | U-Turn | 2 | 0 | -2 | -100% | 2.00 | ✓ | ✓ | | | | Y |
| Station Rd / Church Rd | Church Rd N | Ahead | 445 | 382 | -63 | -14% | 3.10 | ✓ | ✓ | | | | Y |
| | | Right | 42 | 38 | -4 | -10% | 0.63 | ✓ | ✓ | | | | Y |
| | Church Rd S | Left | 23 | 21 | -2 | -9% | 0.43 | ✓ | ✓ | | | | Y |
| | | Ahead | 340 | 318 | -22 | -6% | 1.21 | ✓ | ✓ | | | | Y |
| | Station Rd | Left | 30 | 27 | -3 | -10% | 0.56 | ✓ | ✓ | | | | Y |
| | | Right | 20 | 17 | -3 | -15% | 0.70 | ✓ | ✓ | | | | Y |
| Chapel Hill / St John's Rd | St John's Rd | Left | 29 | 25 | -4 | -14% | 0.77 | ✓ | ✓ | | | | Y |
| | | Right | 35 | 32 | -3 | -9% | 0.52 | ✓ | ✓ | | | | Y |
| | Chapel Hill E | Ahead | 359 | 362 | 3 | 1% | 0.16 | ✓ | ✓ | | | | Y |
| | | Right | 15 | 14 | -1 | -7% | 0.26 | ✓ | ✓ | | | | Y |
| | Chapel Hill W | Left | 21 | 20 | -1 | -5% | 0.22 | ✓ | ✓ | | | | Y |
| | | Ahead | 337 | 320 | -17 | -5% | 0.94 | ✓ | ✓ | | | | Y |
| Chapel Hill / B1383 | B1383 Cambridge Rd N | Left | 96 | 90 | -6 | -6% | 0.62 | ✓ | ✓ | | | | Y |
| | | Ahead | 135 | 131 | -4 | -3% | 0.35 | ✓ | ✓ | | | | Y |
| | | Right | 32 | 30 | -2 | -6% | 0.36 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 339 | 331 | -8 | -2% | 0.44 | ✓ | ✓ | | | | Y |
| | | Ahead | 37 | 34 | -3 | -8% | 0.50 | ✓ | ✓ | | | | Y |
| | | Right | 25 | 24 | -1 | -4% | 0.20 | ✓ | ✓ | | | | Y |
| | B1383 Cambridge Rd S | Left | 82 | 80 | -2 | -2% | 0.22 | ✓ | ✓ | | | | Y |
| | | Ahead | 157 | 157 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 236 | 221 | -15 | -6% | 0.99 | ✓ | ✓ | | | | Y |
| | Bentfield Rd | Left | 28 | 27 | -1 | -4% | 0.19 | ✓ | ✓ | | | | Y |
| | | Ahead | 42 | 42 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 149 | 140 | -9 | -6% | 0.75 | ✓ | ✓ | | | | Y |

| AM Peak Summary | |
|---|---|
| Total number of counts considered | 46 |
| | |
| VISSIM model counts with GEH <3 (Critical Links only) | 45 |
| % of VISSIM counts with GEH <3 | 97.83% |
| | |
| VISSIM model counts with GEH <5 | 46 |
| % of VISSIM counts with GEH <5 | 100.00% |
| | |
| VISSIM model counts with GEH <10 | 46 |
| % of VISSIM counts with GEH <10 | 100.00% |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 46 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

AM Peak 07:30 to 08:30

| JUNCTION / MOVEMENT | | | Vehicle Flow Lights | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | | Critical Link |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Junction | Approach | Turn | Observed | Modelled | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 | |
| Lower St / B1051 Grove Hill | Lower Street N | Left | 17 | 18 | 1 | 6% | 0.24 | ✓ | ✓ | | | | Y |
| | | Ahead | 384 | 355 | -29 | -8% | 1.51 | ✓ | ✓ | | | | Y |
| | B1051 | Left | 299 | 279 | -20 | -7% | 1.18 | ✓ | ✓ | | | | Y |
| | | Right | 12 | 11 | -1 | -8% | 0.29 | ✓ | ✓ | | | | Y |
| | Lower Street S | Ahead | 333 | 325 | -8 | -2% | 0.44 | ✓ | ✓ | | | | Y |
| | | Right | 157 | 159 | 2 | 1% | 0.16 | ✓ | ✓ | | | | Y |
| Chapel Hill / Church Rd Mini R'bout | Lower Street | Left | 20 | 22 | 2 | 10% | 0.44 | ✓ | ✓ | | | | Y |
| | | Ahead | 365 | 316 | -49 | -13% | 2.66 | ✓ | ✓ | | | | Y |
| | | Right | 298 | 285 | -13 | -4% | 0.76 | ✓ | ✓ | | | | Y |
| | | U-Turn | 3 | 3 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Mountfitchet Castle St | Left | 26 | 21 | -5 | -19% | 1.03 | ✓ | ✓ | | | | Y |
| | | Ahead | 9 | 7 | -2 | -22% | 0.71 | ✓ | ✓ | | | | Y |
| | | Right | 13 | 11 | -2 | -15% | 0.58 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Church Rd | Left | 85 | 72 | -13 | -15% | 1.47 | ✓ | ✓ | | | | Y |
| | | Ahead | 229 | 225 | -4 | -2% | 0.27 | ✓ | ✓ | | | | Y |
| | | Right | 39 | 38 | -1 | -3% | 0.16 | ✓ | ✓ | | | | Y |
| | | U-Turn | 2 | 0 | -2 | -100% | 2.00 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 249 | 244 | -5 | -2% | 0.32 | ✓ | ✓ | | | | Y |
| | | Ahead | 22 | 21 | -1 | -5% | 0.22 | ✓ | ✓ | | | | Y |
| | | Right | 85 | 72 | -13 | -15% | 1.47 | ✓ | ✓ | | | | Y |
| | | U-Turn | 2 | 0 | -2 | -100% | 2.00 | ✓ | ✓ | | | | Y |
| Station Rd / Church Rd | Church Rd N | Ahead | 439 | 371 | -68 | -15% | 3.38 | ✓ | ✓ | | | | Y |
| | | Right | 42 | 38 | -4 | -10% | 0.63 | ✓ | ✓ | | | | Y |
| | Church Rd S | Left | 23 | 21 | -2 | -9% | 0.43 | ✓ | ✓ | | | | Y |
| | | Ahead | 328 | 308 | -20 | -6% | 1.12 | ✓ | ✓ | | | | Y |
| | Station Rd | Left | 30 | 27 | -3 | -10% | 0.56 | ✓ | ✓ | | | | Y |
| | | Right | 20 | 17 | -3 | -15% | 0.70 | ✓ | ✓ | | | | Y |
| Chapel Hill / St John's Rd | St John's Rd | Left | 29 | 25 | -4 | -14% | 0.77 | ✓ | ✓ | | | | Y |
| | | Right | 35 | 32 | -3 | -9% | 0.52 | ✓ | ✓ | | | | Y |
| | Chapel Hill E | Ahead | 343 | 353 | 10 | 3% | 0.54 | ✓ | ✓ | | | | Y |
| | | Right | 15 | 14 | -1 | -7% | 0.26 | ✓ | ✓ | | | | Y |
| | Chapel Hill W | Left | 21 | 20 | -1 | -5% | 0.22 | ✓ | ✓ | | | | Y |
| | | Ahead | 319 | 313 | -6 | -2% | 0.34 | ✓ | ✓ | | | | Y |
| Chapel Hill / B1383 | B1383 Cambridge Rd N | Left | 85 | 84 | -1 | -1% | 0.11 | ✓ | ✓ | | | | Y |
| | | Ahead | 126 | 120 | -6 | -5% | 0.54 | ✓ | ✓ | | | | Y |
| | | Right | 31 | 29 | -2 | -6% | 0.37 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 327 | 324 | -3 | -1% | 0.17 | ✓ | ✓ | | | | Y |
| | | Ahead | 37 | 34 | -3 | -8% | 0.50 | ✓ | ✓ | | | | Y |
| | | Right | 22 | 21 | -1 | -5% | 0.22 | ✓ | ✓ | | | | Y |
| | B1383 Cambridge Rd S | Left | 76 | 75 | -1 | -1% | 0.12 | ✓ | ✓ | | | | Y |
| | | Ahead | 144 | 143 | -1 | -1% | 0.08 | ✓ | ✓ | | | | Y |
| | | Right | 228 | 219 | -9 | -4% | 0.60 | ✓ | ✓ | | | | Y |
| | Bentfield Rd | Left | 26 | 26 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 42 | 42 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 145 | 137 | -8 | -6% | 0.67 | ✓ | ✓ | | | | Y |

| AM Peak Summary | |
|---|---|
| Total number of counts considered | 46 |
| | |
| VISSIM model counts with GEH <3 (Critical Links only) | 44 |
| % of VISSIM counts with GEH <3 | 95.65% |
| | |
| VISSIM model counts with GEH <5 | 46 |
| % of VISSIM counts with GEH <5 | 100.00% |
| | |
| VISSIM model counts with GEH <10 | 46 |
| % of VISSIM counts with GEH <10 | 100.00% |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 46 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

AM Peak 07:30 to 08:30

| JUNCTION / MOVEMENT | | | Vehicle Flow | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | | Critical Link |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Junction | Approach | Turn | Heavies Observed | Heavies Modelled | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 | |
| Lower St / B1051 Grove Hill | Lower Street N | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 6 | 8 | 2 | 33% | 0.76 | ✓ | ✓ | | | | Y |
| | B1051 | Left | 13 | 9 | -4 | -31% | 1.21 | ✓ | ✓ | | | | Y |
| | | Right | 1 | 0 | -1 | -100% | 1.41 | ✓ | ✓ | | | | Y |
| | Lower Street S | Ahead | 24 | 10 | -14 | -58% | 3.40 | ✓ | ✓ | | | | Y |
| | | Right | 2 | 2 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Chapel Hill / Church Rd Mini R'bout | Lower Street | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 6 | 11 | 5 | 83% | 1.71 | ✓ | ✓ | | | | Y |
| | | Right | 13 | 6 | -7 | -54% | 2.27 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Mountfitchet Castle St | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Church Rd | Left | 3 | 4 | 1 | 33% | 0.53 | ✓ | ✓ | | | | Y |
| | | Ahead | 9 | 5 | -4 | -44% | 1.51 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 16 | 7 | -9 | -56% | 2.65 | ✓ | ✓ | | | | Y |
| | | Ahead | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Station Rd / Church Rd | Church Rd N | Ahead | 6 | 11 | 5 | 83% | 1.71 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Church Rd S | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 12 | 9 | -3 | -25% | 0.93 | ✓ | ✓ | | | | Y |
| | Station Rd | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Chapel Hill / St John's Rd | St John's Rd | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Chapel Hill E | Ahead | 16 | 10 | -6 | -38% | 1.66 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Chapel Hill W | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 18 | 7 | -11 | -61% | 3.11 | ✓ | ✓ | | | | Y |
| Chapel Hill / B1383 | B1383 Cambridge Rd N | Left | 11 | 5 | -6 | -55% | 2.12 | ✓ | ✓ | | | | Y |
| | | Ahead | 9 | 11 | 2 | 22% | 0.63 | ✓ | ✓ | | | | Y |
| | | Right | 1 | 1 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 12 | 7 | -5 | -42% | 1.62 | ✓ | ✓ | | | | Y |
| | | Ahead | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 3 | 3 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | B1383 Cambridge Rd S | Left | 6 | 5 | -1 | -17% | 0.43 | ✓ | ✓ | | | | Y |
| | | Ahead | 13 | 14 | 1 | 8% | 0.27 | ✓ | ✓ | | | | Y |
| | | Right | 8 | 2 | -6 | -75% | 2.68 | ✓ | ✓ | | | | Y |
| | Bentfield Rd | Left | 2 | 1 | -1 | -50% | 0.82 | ✓ | ✓ | | | | Y |
| | | Ahead | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 4 | 3 | -1 | -25% | 0.53 | ✓ | ✓ | | | | Y |

| PM Peak Summary | |
|---|---|
| Total number of counts considered | 46 |
| | |
| VISSIM model counts with GEH <3 (Critical Links only) | 46 |
| % of VISSIM counts with GEH <3 | 100.00% |
| | |
| VISSIM model counts with GEH <5 | 46 |
| % of VISSIM counts with GEH <5 | 100.00% |
| | |
| VISSIM model counts with GEH <10 | 46 |
| % of VISSIM counts with GEH <10 | 100.00% |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 46 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

| PM Peak | 17:00 | to | 18:00 |
|---|---|---|---|

| JUNCTION / MOVEMENT | | | Vehicle Flow | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | | Critical Link |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Junction | Approach | Turn | All Observed | All Modelled | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 | |
| Lower St / B1051 Grove Hill | Lower Street N | Left | 26 | 26 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 302 | 293 | -9 | -3% | 0.52 | ✓ | ✓ | | | | Y |
| | B1051 | Left | 169 | 165 | -4 | -2% | 0.31 | ✓ | ✓ | | | | Y |
| | | Right | 16 | 16 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Lower Street S | Ahead | 385 | 368 | -17 | -4% | 0.88 | ✓ | ✓ | | | | Y |
| | | Right | 306 | 298 | -8 | -3% | 0.46 | ✓ | ✓ | | | | Y |
| Chapel Hill / Church Rd Mini R'bout | Lower Street | Left | 26 | 25 | -1 | -4% | 0.20 | ✓ | ✓ | | | | Y |
| | | Ahead | 264 | 252 | -12 | -5% | 0.75 | ✓ | ✓ | | | | Y |
| | | Right | 188 | 176 | -12 | -6% | 0.89 | ✓ | ✓ | | | | Y |
| | | U-Turn | 6 | 5 | -1 | -17% | 0.43 | ✓ | ✓ | | | | Y |
| | Mountfitchet Castle St | Left | 52 | 46 | -6 | -12% | 0.86 | ✓ | ✓ | | | | Y |
| | | Ahead | 14 | 15 | 1 | 7% | 0.26 | ✓ | ✓ | | | | Y |
| | | Right | 43 | 42 | -1 | -2% | 0.15 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Church Rd | Left | 63 | 59 | -4 | -6% | 0.51 | ✓ | ✓ | | | | Y |
| | | Ahead | 305 | 310 | 5 | 2% | 0.29 | ✓ | ✓ | | | | Y |
| | | Right | 45 | 44 | -1 | -2% | 0.15 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 332 | 310 | -22 | -7% | 1.23 | ✓ | ✓ | | | | Y |
| | | Ahead | 24 | 21 | -3 | -13% | 0.63 | ✓ | ✓ | | | | Y |
| | | Right | 68 | 63 | -5 | -7% | 0.62 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Station Rd / Church Rd | Church Rd N | Ahead | 358 | 337 | -21 | -6% | 1.13 | ✓ | ✓ | | | | Y |
| | | Right | 25 | 24 | -1 | -4% | 0.20 | ✓ | ✓ | | | | Y |
| | Church Rd S | Left | 22 | 21 | -1 | -5% | 0.22 | ✓ | ✓ | | | | Y |
| | | Ahead | 388 | 390 | 2 | 1% | 0.10 | ✓ | ✓ | | | | Y |
| | Station Rd | Left | 26 | 23 | -3 | -12% | 0.61 | ✓ | ✓ | | | | Y |
| | | Right | 31 | 31 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Chapel Hill / St John's Rd | St John's Rd | Left | 25 | 22 | -3 | -12% | 0.62 | ✓ | ✓ | | | | Y |
| | | Right | 22 | 22 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Chapel Hill E | Ahead | 235 | 240 | 5 | 2% | 0.32 | ✓ | ✓ | | | | Y |
| | | Right | 11 | 11 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Chapel Hill W | Left | 22 | 23 | 1 | 5% | 0.21 | ✓ | ✓ | | | | Y |
| | | Ahead | 383 | 373 | -10 | -3% | 0.51 | ✓ | ✓ | | | | Y |
| Chapel Hill / B1383 | B1383 Cambridge Rd N | Left | 73 | 71 | -2 | -3% | 0.24 | ✓ | ✓ | | | | Y |
| | | Ahead | 108 | 105 | -3 | -3% | 0.29 | ✓ | ✓ | | | | Y |
| | | Right | 42 | 41 | -1 | -2% | 0.16 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 236 | 230 | -6 | -3% | 0.39 | ✓ | ✓ | | | | Y |
| | | Ahead | 32 | 31 | -1 | -3% | 0.18 | ✓ | ✓ | | | | Y |
| | | Right | 32 | 32 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | B1383 Cambridge Rd S | Left | 132 | 132 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 188 | 185 | -3 | -2% | 0.22 | ✓ | ✓ | | | | Y |
| | | Right | 320 | 322 | 2 | 1% | 0.11 | ✓ | ✓ | | | | Y |
| | Bentfield Rd | Left | 18 | 18 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 34 | 33 | -1 | -3% | 0.17 | ✓ | ✓ | | | | Y |
| | | Right | 131 | 127 | -4 | -3% | 0.35 | ✓ | ✓ | | | | Y |

| PM Peak Summary | |
|---|---|
| Total number of counts considered | 46 |
| | |
| VISSIM model counts with GEH <3 (Critical Links only) | 46 |
| % of VISSIM counts with GEH <3 | 100.00% |
| | |
| VISSIM model counts with GEH <5 | 46 |
| % of VISSIM counts with GEH <5 | 100.00% |
| | |
| VISSIM model counts with GEH <10 | 46 |
| % of VISSIM counts with GEH <10 | 100.00% |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 46 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

**PM Peak 17:00 to 18:00**

| JUNCTION / MOVEMENT | | | Vehicle Flow | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | | Critical Link |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Lights | | | | | | | | | | |
| Junction | Approach | Turn | Observed | Modelled | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 | |
| Lower St / B1051 Grove Hill | Lower Street N | Left | 26 | 26 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 297 | 293 | -4 | -1% | 0.23 | ✓ | ✓ | | | | Y |
| | B1051 | Left | 168 | 164 | -4 | -2% | 0.31 | ✓ | ✓ | | | | Y |
| | | Right | 16 | 16 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Lower Street S | Ahead | 384 | 367 | -17 | -4% | 0.88 | ✓ | ✓ | | | | Y |
| | | Right | 304 | 296 | -8 | -3% | 0.46 | ✓ | ✓ | | | | Y |
| Chapel Hill / Church Rd Mini R'bout | Lower Street | Left | 25 | 25 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 262 | 251 | -11 | -4% | 0.69 | ✓ | ✓ | | | | Y |
| | | Right | 185 | 176 | -9 | -5% | 0.67 | ✓ | ✓ | | | | Y |
| | | U-Turn | 6 | 5 | -1 | -17% | 0.43 | ✓ | ✓ | | | | Y |
| | Mountfitchet Castle St | Left | 51 | 46 | -5 | -10% | 0.72 | ✓ | ✓ | | | | Y |
| | | Ahead | 14 | 15 | 1 | 7% | 0.26 | ✓ | ✓ | | | | Y |
| | | Right | 43 | 42 | -1 | -2% | 0.15 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Church Rd | Left | 63 | 58 | -5 | -8% | 0.64 | ✓ | ✓ | | | | Y |
| | | Ahead | 304 | 309 | 5 | 2% | 0.29 | ✓ | ✓ | | | | Y |
| | | Right | 45 | 44 | -1 | -2% | 0.15 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 330 | 308 | -22 | -7% | 1.23 | ✓ | ✓ | | | | Y |
| | | Ahead | 24 | 21 | -3 | -13% | 0.63 | ✓ | ✓ | | | | Y |
| | | Right | 66 | 62 | -4 | -6% | 0.50 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Station Rd / Church Rd | Church Rd N | Ahead | 353 | 335 | -18 | -5% | 0.97 | ✓ | ✓ | | | | Y |
| | | Right | 25 | 24 | -1 | -4% | 0.20 | ✓ | ✓ | | | | Y |
| | Church Rd S | Left | 22 | 21 | -1 | -5% | 0.22 | ✓ | ✓ | | | | Y |
| | | Ahead | 387 | 388 | 1 | 0% | 0.05 | ✓ | ✓ | | | | Y |
| | Station Rd | Left | 26 | 23 | -3 | -12% | 0.61 | ✓ | ✓ | | | | Y |
| | | Right | 31 | 31 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Chapel Hill / St John's Rd | St John's Rd | Left | 25 | 22 | -3 | -12% | 0.62 | ✓ | ✓ | | | | Y |
| | | Right | 22 | 22 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Chapel Hill E | Ahead | 231 | 239 | 8 | 3% | 0.52 | ✓ | ✓ | | | | Y |
| | | Right | 11 | 11 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Chapel Hill W | Left | 22 | 23 | 1 | 5% | 0.21 | ✓ | ✓ | | | | Y |
| | | Ahead | 379 | 370 | -9 | -2% | 0.47 | ✓ | ✓ | | | | Y |
| Chapel Hill / B1383 | B1383 Cambridge Rd N | Left | 73 | 71 | -2 | -3% | 0.24 | ✓ | ✓ | | | | Y |
| | | Ahead | 107 | 104 | -3 | -3% | 0.29 | ✓ | ✓ | | | | Y |
| | | Right | 42 | 41 | -1 | -2% | 0.16 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 232 | 230 | -2 | -1% | 0.13 | ✓ | ✓ | | | | Y |
| | | Ahead | 32 | 31 | -1 | -3% | 0.18 | ✓ | ✓ | | | | Y |
| | | Right | 32 | 31 | -1 | -3% | 0.18 | ✓ | ✓ | | | | Y |
| | B1383 Cambridge Rd S | Left | 129 | 129 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 185 | 182 | -3 | -2% | 0.22 | ✓ | ✓ | | | | Y |
| | | Right | 318 | 320 | 2 | 1% | 0.11 | ✓ | ✓ | | | | Y |
| | Bentfield Rd | Left | 18 | 18 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 33 | 33 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 130 | 127 | -3 | -2% | 0.26 | ✓ | ✓ | | | | Y |

| PM Peak Summary | |
|---|---|
| Total number of counts considered | 46 |
| | |
| VISSIM model counts with GEH <3 (Critical Links only) | 45 |
| % of VISSIM counts with GEH <3 | 97.83% |
| | |
| VISSIM model counts with GEH <5 | 46 |
| % of VISSIM counts with GEH <5 | 100.00% |
| | |
| VISSIM model counts with GEH <10 | 46 |
| % of VISSIM counts with GEH <10 | 100.00% |
| | |
| VISSIM model counts meeting WebTAG Unit 3.1 criteria | 46 |
| % of VISSIM counts meeting WebTAG Unit 3.1 flow criteria | 100.00% |

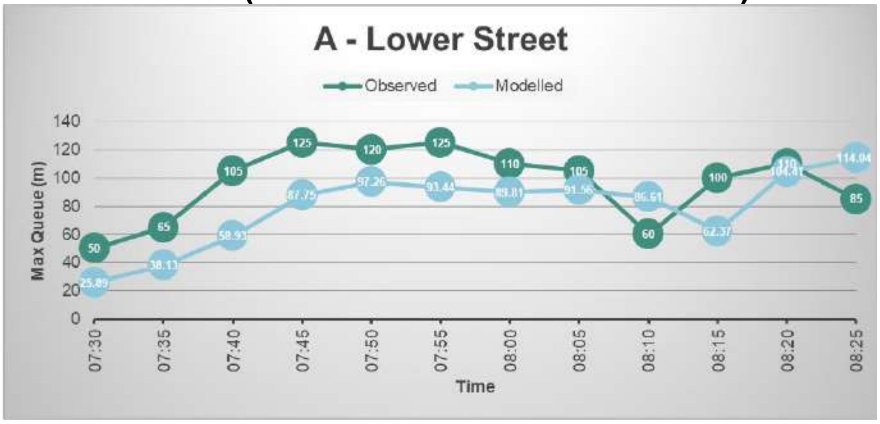
**PM Peak 17:00 to 18:00**

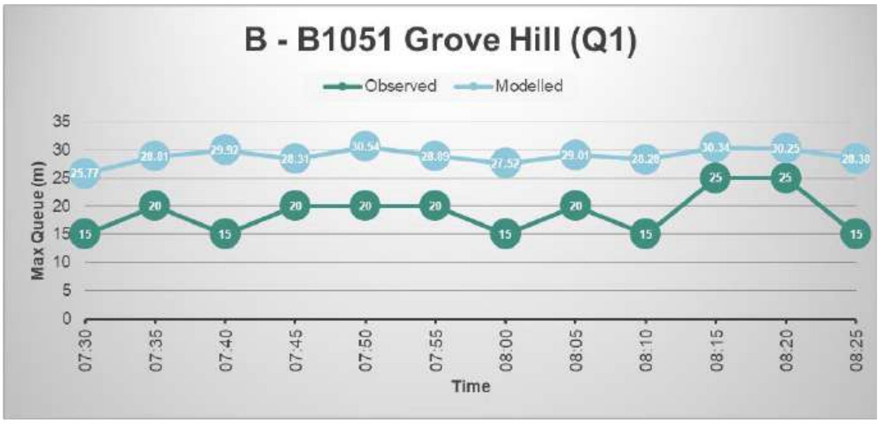
| JUNCTION / MOVEMENT | | | Vehicle Flow | | DIFFERENCE | | GEH Criteria Met? | | FLOW | | | | Critical Link |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Junction | Approach | Turn | Heavies Observed | Heavies Modelled | Diff. | % Diff. | GEH | GEH | FLOW | <700 | 700 – 2700 | >2700 | |
| Lower St / B1051 Grove Hill | Lower Street N | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 5 | 0 | -5 | -100% | 3.16 | ✓ | ✓ | | | | Y |
| | B1051 | Left | 1 | 1 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Lower Street S | Ahead | 1 | 1 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 2 | 2 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Chapel Hill / Church Rd Mini R'bout | Lower Street | Left | 1 | 0 | -1 | -100% | 1.41 | ✓ | ✓ | | | | Y |
| | | Ahead | 2 | 1 | -1 | -50% | 0.82 | ✓ | ✓ | | | | Y |
| | | Right | 3 | 0 | -3 | -100% | 2.45 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Mountfitchet Castle St | Left | 1 | 0 | -1 | -100% | 1.41 | ✓ | ✓ | | | | Y |
| | | Ahead | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Church Rd | Left | 0 | 1 | 1 | - | 1.41 | ✓ | ✓ | | | | Y |
| | | Ahead | 1 | 1 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 2 | 2 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 2 | 1 | -1 | -50% | 0.82 | ✓ | ✓ | | | | Y |
| | | U-Turn | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Station Rd / Church Rd | Church Rd N | Ahead | 5 | 2 | -3 | -60% | 1.60 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Church Rd S | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 1 | 2 | 1 | 100% | 0.82 | ✓ | ✓ | | | | Y |
| | Station Rd | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| Chapel Hill / St John's Rd | St John's Rd | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Chapel Hill E | Ahead | 4 | 1 | -3 | -75% | 1.90 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | Chapel Hill W | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 4 | 3 | -1 | -25% | 0.53 | ✓ | ✓ | | | | Y |
| Chapel Hill / B1383 | B1383 Cambridge Rd N | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 1 | 1 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | B1051 Chapel Hill | Left | 4 | 0 | -4 | -100% | 2.83 | ✓ | ✓ | | | | Y |
| | | Ahead | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 0 | 1 | 1 | - | 1.41 | ✓ | ✓ | | | | Y |
| | B1383 Cambridge Rd S | Left | 3 | 3 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 3 | 3 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Right | 2 | 3 | 1 | 50% | 0.63 | ✓ | ✓ | | | | Y |
| | Bentfield Rd | Left | 0 | 0 | 0 | 0% | 0.00 | ✓ | ✓ | | | | Y |
| | | Ahead | 1 | 0 | -1 | -100% | 1.41 | ✓ | ✓ | | | | Y |
| | | Right | 1 | 0 | -1 | -100% | 1.41 | ✓ | ✓ | | | | Y |

# APPENDIX G:

# QUEUE COMPARISON

## AM Peak - J1 (Lower St / B1051 Grove Hill)

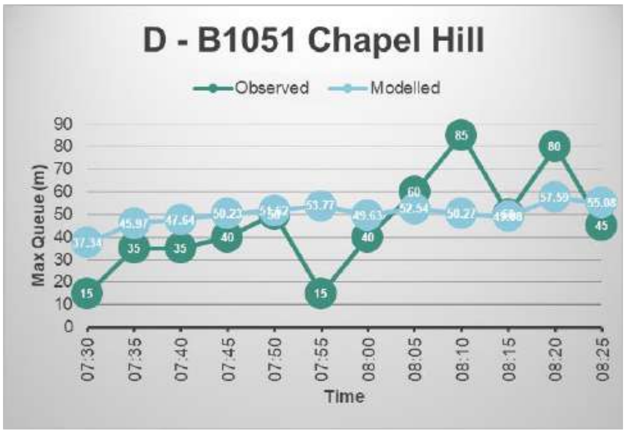


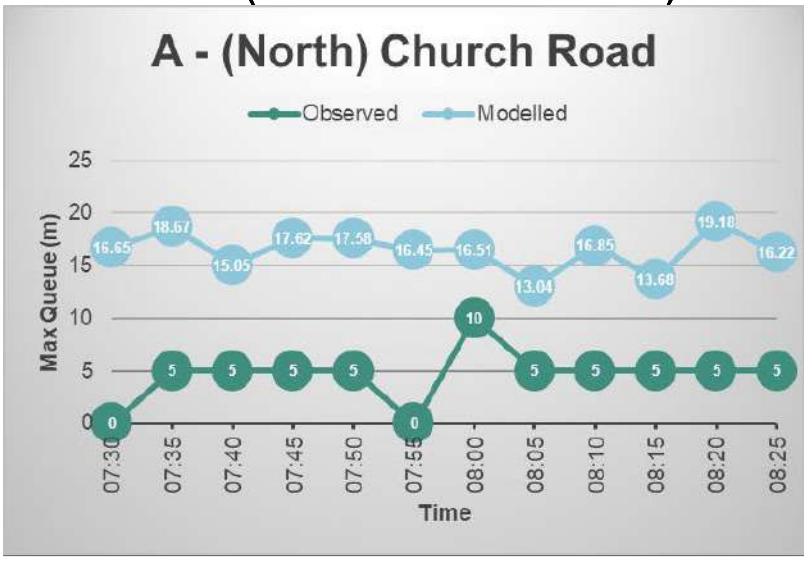


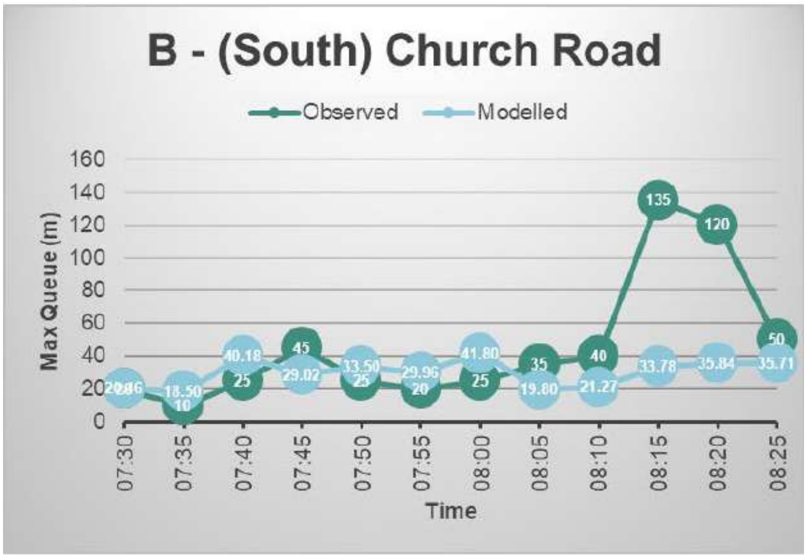
## AM Peak - J2 (Chapel Hill / Church Rd Mini R'bout)

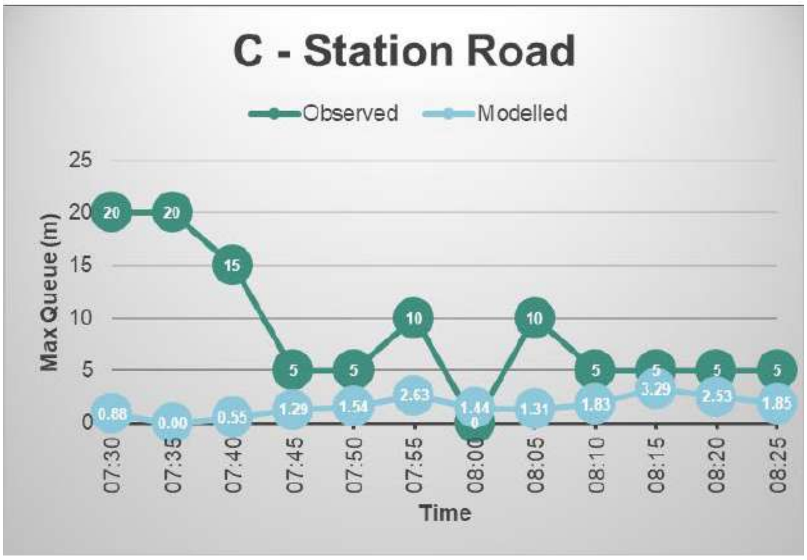


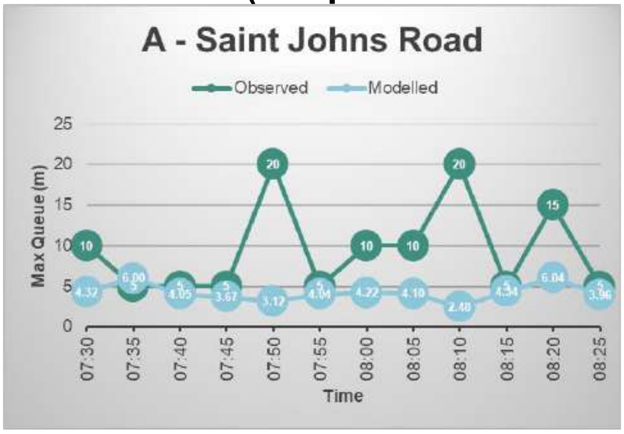
## AM Peak - J3 (Station Rd / Church Rd)

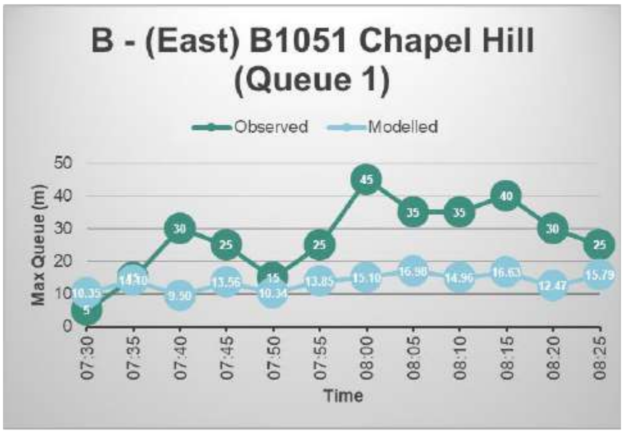


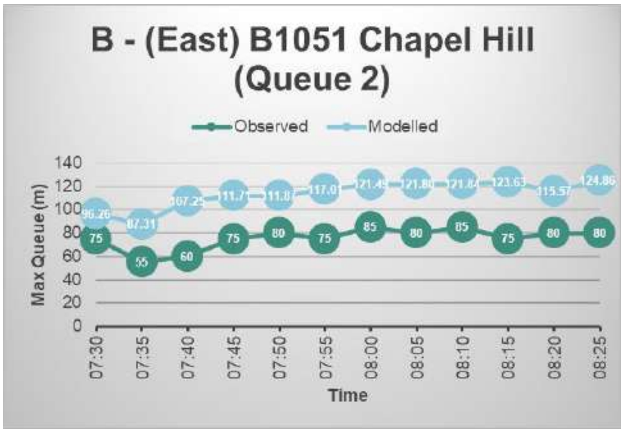



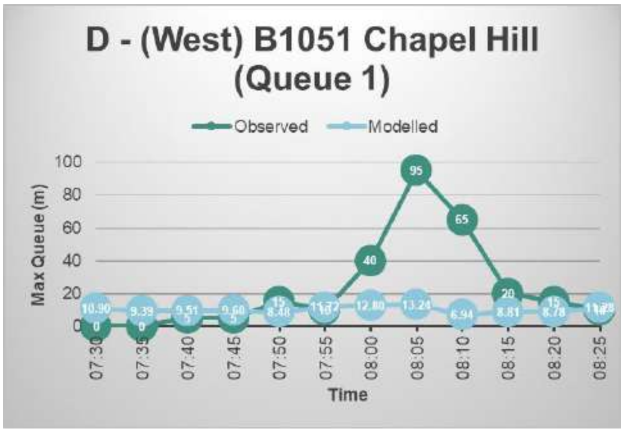



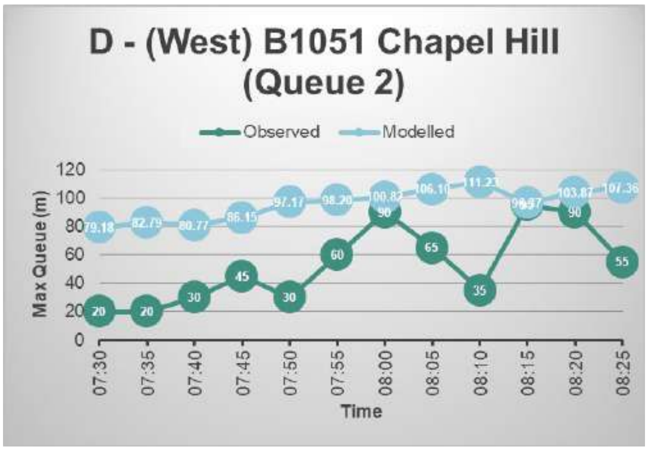
# AM Peak - J4 (Chapel Hill / St John's Rd)



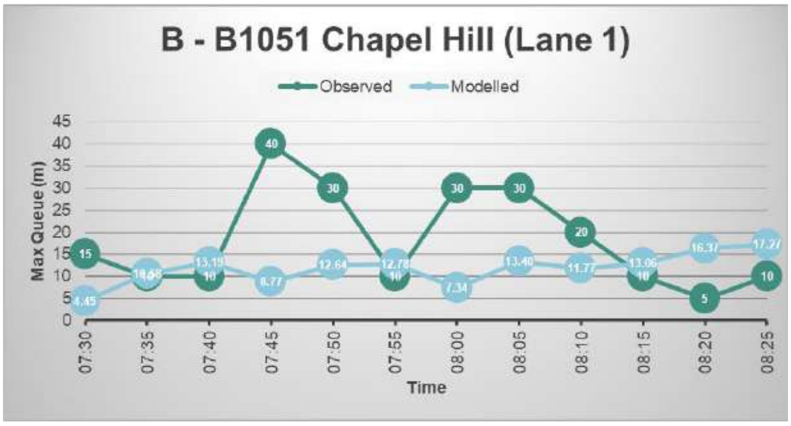



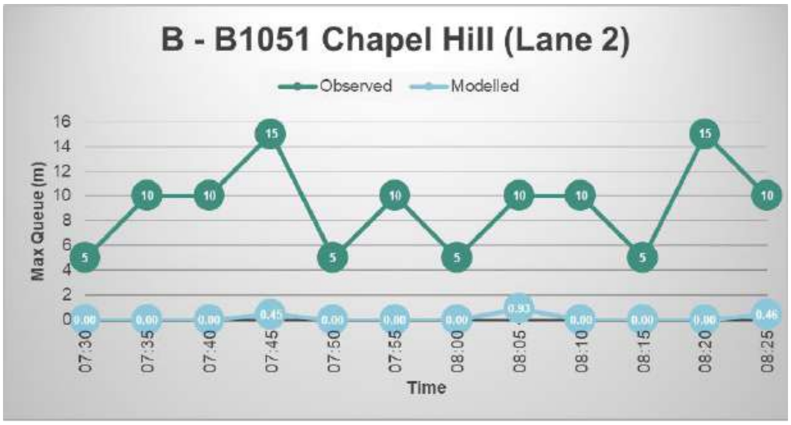



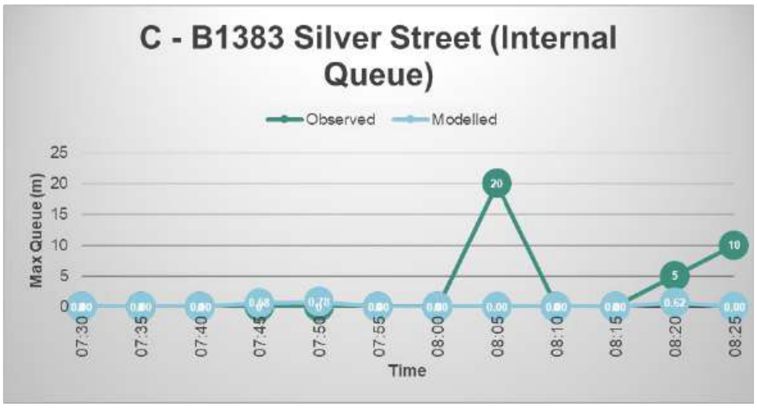




D - (West) B1051 Chapel Hill (Queue 2)
Observed
Modelled
Max Queue (m)
Time
120
100
80
60
40
20
0
07:30
07:35
07:40
07:45
07:50
07:55
08:00
08:05
08:10
08:15
08:20
08:25
79.18
82.79
80.77
86.15
97.17
98.20
100.82
106.10
111.23
103.87
107.36
20
20
30
45
30
60
90
65
35
90
55

## AM Peak - J5 (Chapel Hill / B1383)

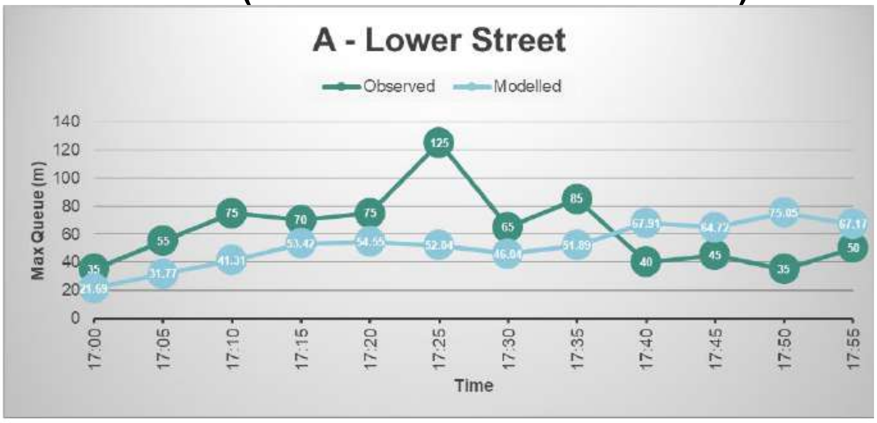





C - B1383 Silver Street (Internal Queue)
Observed
Modelled
Max Queue (m)
25
20
15
10
5
0
20
5
10
0.62
0.00
07:30
07:35
07:40
07:45
07:50
07:55
08:00
08:05
08:10
08:15
08:20
08:25
Time

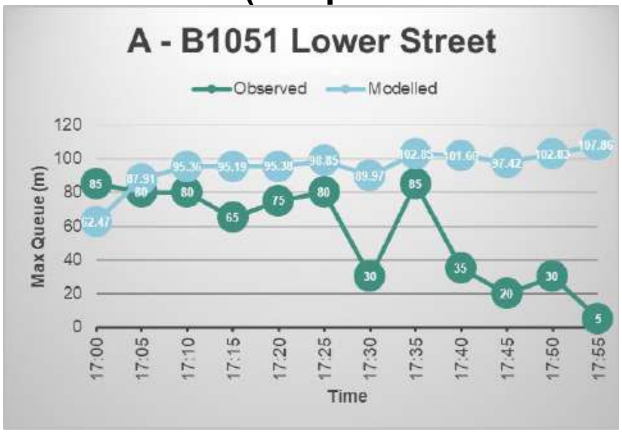

D - Bentfield Road
Observed
Modelled
Max Queue (m)
35
30
25
20
15
10
5
0
10
20
25
20
25
25
20
30
15
15
25
15
3.22
2.38
3.07
3.98
4.64
3.03
2.53
0.44
2.93
2.61
4.08
3.53
07:30
07:35
07:40
07:45
07:50
07:55
08:00
08:05
08:10
08:15
08:20
08:25
Time

# PM Peak - J1 (Lower St / B1051 Grove Hill)

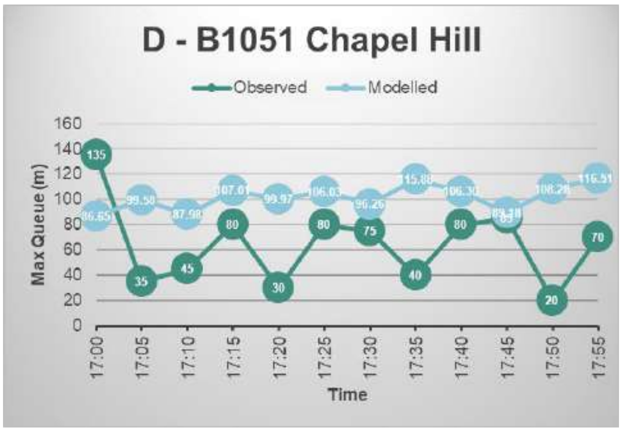




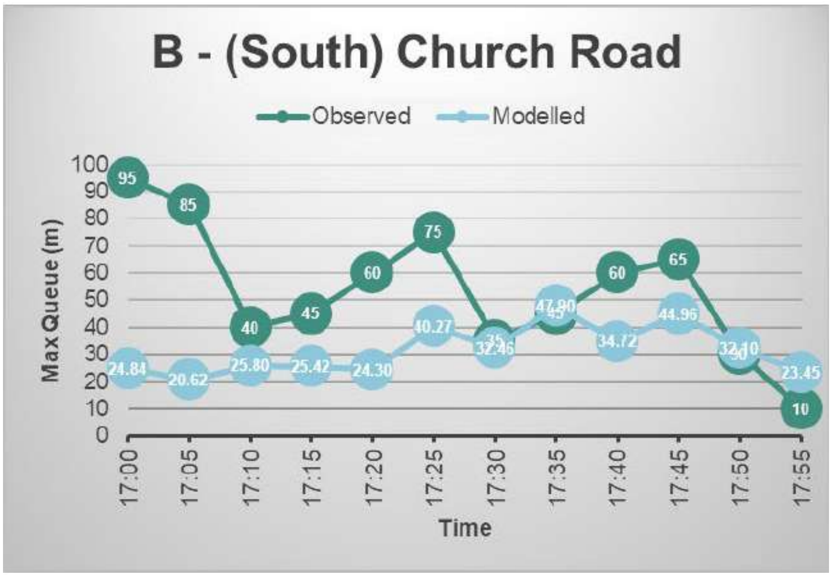

# PM Peak - J2 (Chapel Hill / Church Rd Mini R'bout)

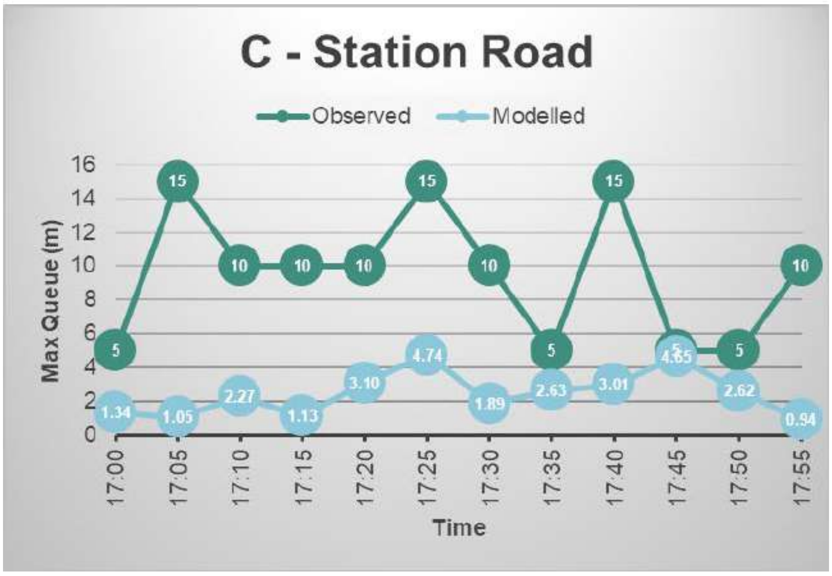




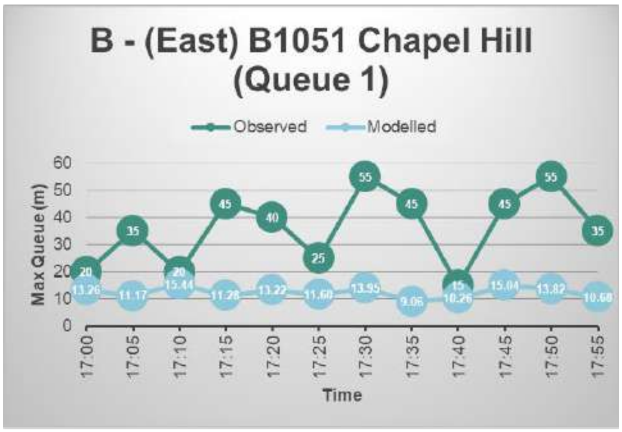



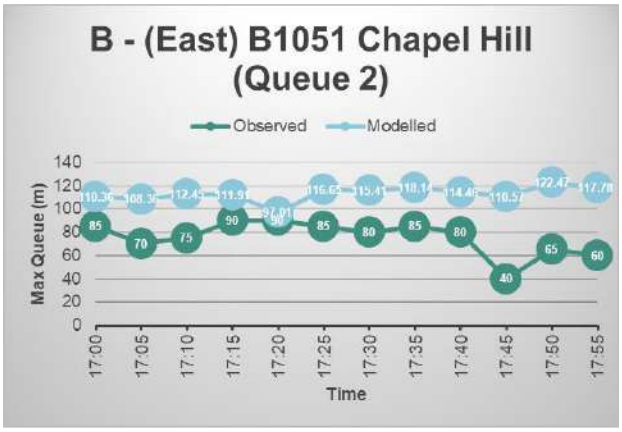
## PM Peak - J3 (Station Rd / Church Rd)

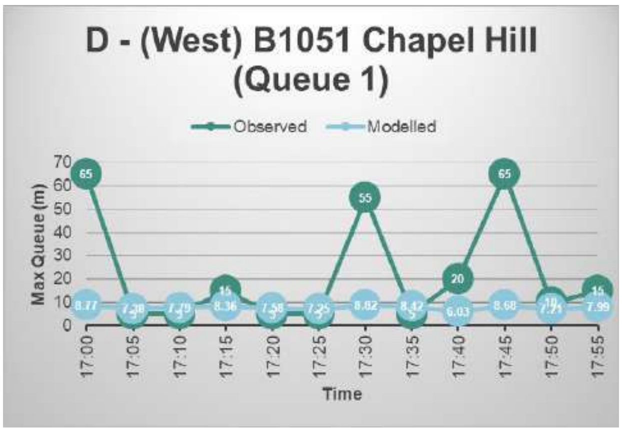



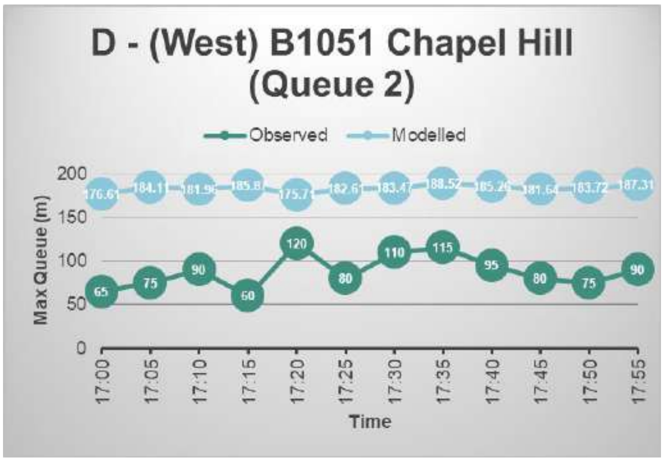



## PM Peak - J4 (Chapel Hill / St John's Rd)

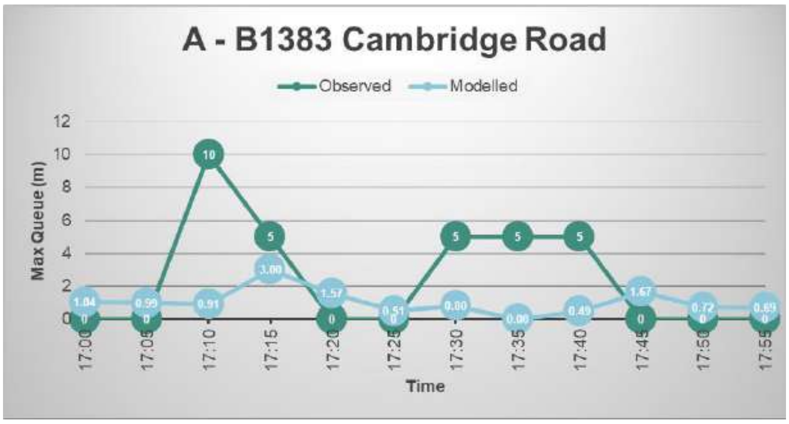



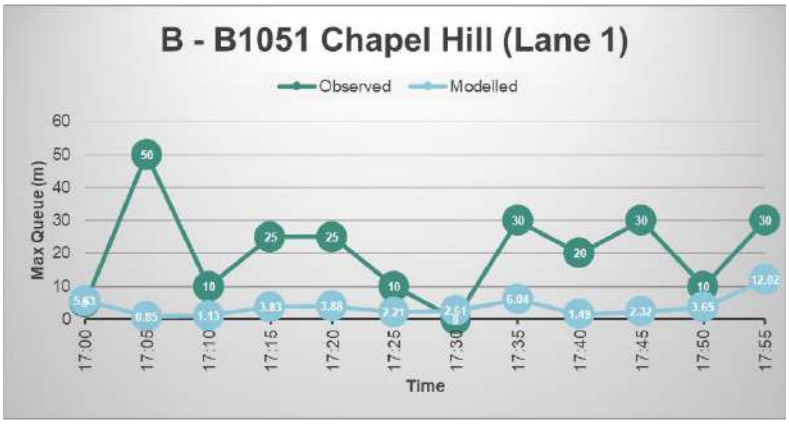



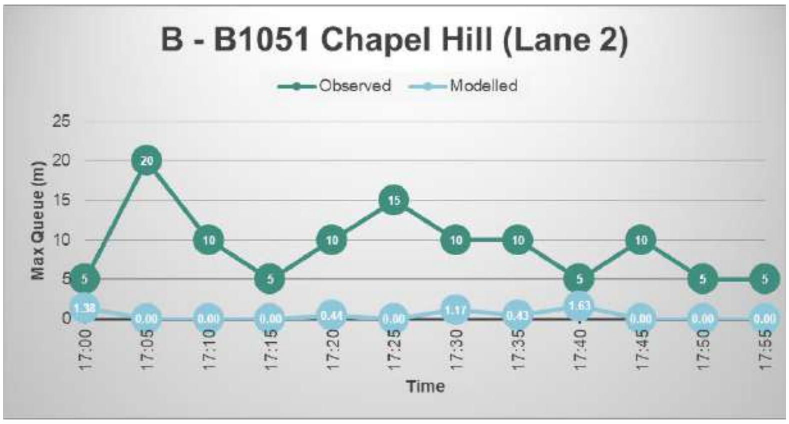




D - (West) B1051 Chapel Hill
(Queue 2)
Observed
Modelled
Max Queue (m)
200
150
100
50
0
176.61
184.11
181.96
185.8
175.71
182.61
183.47
188.52
185.26
181.64
183.72
187.31
65
75
90
60
120
80
110
115
95
80
75
90
17:00
17:05
17:10
17:15
17:20
17:25
17:30
17:35
17:40
17:45
17:50
17:55
Time

## PM Peak - J5 (Chapel Hill / B1383)





C - B1383 Silver Street (Internal Queue)
Observed
Modelled
Max Queue (m)
Time
17:00
17:05
17:10
17:15
17:20
17:25
17:30
17:35
17:40
17:45
17:50
17:55


D - Bentfield Road
Observed
Modelled
Max Queue (m)
Time
17:00
17:05
17:10
17:15
17:20
17:25
17:30
17:35
17:40
17:45
17:50
17:55

# APPENDIX H:

# JOURNEY TIME VALIDATION

| Route | Direction | Description | | | Sample Size | Observed Journey Times | | Modelled Journey Times | | | | AM Peak 07:30 08:30 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Travel Time | | | | Validation | | | |
| | | | | | | Distance | Avg | Min | Avg | Max | St Dev | Actual Diff. | % Diff. | Within 15% | Validates |
| 101 | WB\SB | B1051 (100m east of Raven Cottage) | - | B1051 / Lower St | 12 | 515 | 145 | 109 | 164 | 236 | 35 | 18 | 13% | ✓ | ✓ |
| 102 | WB\SB | B1051 / Lower St | - | Lower Hill / Chapel Hill R'bout | 29 | 146 | 41 | 37 | 43 | 53 | 5 | 2 | 4% | ✓ | ✓ |
| 103 | WB\SB | Lower Hill / Chapel Hill R'bout | - | Chapel Hill / Cambridge Rd | 13 | 480 | 150 | 119 | 131 | 147 | 7 | -19 | -13% | ✓ | ✓ |
| 104 | WB\SB | Chapel Hill / Cambridge Rd | - | Silver St / Sanders Cl | 26 | 228 | 20 | 19 | 19 | 20 | 0 | -1 | -3% | ✓ | ✓ |
| | WB\SB | B1051 (100m east of Raven Cottage) | - | Silver St / Sanders Cl | 12 | 1370 | 357 | 283 | 357 | 455 | | 0 | 0% | ✓ | ✓ |
| 201 | NB\EB | Silver St / Sanders Cl | - | Chapel Hill / Cambridge Rd | 25 | 228 | 24 | 20 | 21 | 22 | 1 | -3 | -11% | ✓ | ✓ |
| 202 | NB\EB | Chapel Hill / Cambridge Rd | - | Lower Hill / Chapel Hill R'bout | 12 | 480 | 119 | 93 | 114 | 132 | 11 | -4 | -4% | ✓ | ✓ |
| 203 | NB\EB | Lower Hill / Chapel Hill R'bout | - | B1051 / Lower St | 10 | 124 | 33 | 26 | 28 | 30 | 1 | -5 | -15% | ✓ | ✓ |
| 204 | NB\EB | B1051 / Lower St | - | B1051 (100m east of Raven Cottage) | 11 | 515 | 54 | 52 | 54 | 55 | 1 | 0 | 0% | ✓ | ✓ |
| | NB\EB | Silver St / Sanders Cl | - | B1051 (100m east of Raven Cottage) | 10 | 1348 | 229 | 191 | 217 | 240 | | -12 | -5% | ✓ | ✓ |

| Route | Direction | Description | | | Sample Size | Observed Journey Times | | Modelled Journey Times | | | | PM Peak 17:00 18:00 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Travel Time | | | | Validation | | | |
| | | | | | | Distance | Avg | Min | Avg | Max | St Dev | Actual Diff. | % Diff. | Within 15% | Validates |
| 101 | WB\SB | B1051 (100m east of Raven Cottage) | - | B1051 / Lower St | 12 | 515 | 132 | 86 | 102 | 132 | 11 | -30 | -22% | × | ✓ |
| 102 | WB\SB | B1051 / Lower St | - | Lower Hill / Chapel Hill R'bout | 29 | 146 | 56 | 45 | 60 | 87 | 12 | 4 | 8% | ✓ | ✓ |
| 103 | WB\SB | Lower Hill / Chapel Hill R'bout | - | Chapel Hill / Cambridge Rd | 13 | 480 | 233 | 172 | 197 | 218 | 12 | -36 | -15% | ✓ | ✓ |
| 104 | WB\SB | Chapel Hill / Cambridge Rd | - | Silver St / Sanders Cl | 26 | 228 | 21 | 19 | 19 | 20 | 0 | -2 | -10% | ✓ | ✓ |
| | WB\SB | B1051 (100m east of Raven Cottage) | - | Silver St / Sanders Cl | 12 | 1370 | 442 | 322 | 379 | 456 | | -63 | -14% | ✓ | ✓ |
| 201 | NB\EB | Silver St / Sanders Cl | - | Chapel Hill / Cambridge Rd | 25 | 228 | 26 | 25 | 31 | 61 | 8 | 6 | 23% | × | ✓ |
| 202 | NB\EB | Chapel Hill / Cambridge Rd | - | Lower Hill / Chapel Hill R'bout | 12 | 480 | 205 | 189 | 205 | 235 | 10 | 0 | 0% | ✓ | ✓ |
| 203 | NB\EB | Lower Hill / Chapel Hill R'bout | - | B1051 / Lower St | 10 | 124 | 35 | 29 | 31 | 33 | 1 | -4 | -10% | ✓ | ✓ |
| 204 | NB\EB | B1051 / Lower St | - | B1051 (100m east of Raven Cottage) | 11 | 515 | 53 | 51 | 52 | 53 | 1 | -1 | -3% | ✓ | ✓ |
| | NB\EB | Silver St / Sanders Cl | - | B1051 (100m east of Raven Cottage) | 10 | 1348 | 318 | 293 | 319 | 382 | | 1 | 0% | ✓ | ✓ |

Modelling Group Ltd
11 Cofton Park Drive
Birmingham
B45 8DF

modelling.group

Registered in England & Wales: 12262604
Registered address: Crosby Court, 28 George Street, Birmingham B3 1QG

# APPENDIX B:

# TRAFFIC GROWTH CALCULATIONS

ARDENT
CONSULTING ENGINEERS

# COUNTRYSIDE PROPERTIES PLC

# LAND SOUTH OF HENHAM ROAD, ELSENHAM

## TECHNICAL NOTE

## REPORT REF.
## 2008170-010

## July 2022

**HEAD OFFICE**: 3rd Floor, The Hallmark Building, 52-56 Leadenhall Street, London, EC3M 5JE **T** | 020 7680 4088
**ESSEX**: 1 - 2 Crescent Court, Billericay, Essex, CM12 9AQ **T** | 01277 657 677
**KENT**: Suite 10, Building 40, Churchill Business Centre, Kings Hill, Kent, ME19 4YU **T** | 01732 752 155
**MIDLANDS**: Office 3, The Garage Studios, 41-43 St Mary's Gate, Nottingham, NG1 1PU **T** | 0115 697 0940
**SOUTH WEST**: City Point, Temple Gate, Bristol, BS1 6PL **T** | 0117 456 4994
**SUFFOLK**: Suite 110, Suffolk Enterprise Centre, 44 Felaw Street, Ipswich, IP2 8SJ **T** | 01473 407 321

**Email**: enquiries@ardent-ce.co.uk

## Contents



## Appendices

## Document Control Sheet

| REV | ISSUE PURPOSE | AUTHOR | CHECKED | APPROVED | DATE |
|---|---|---|---|---|---|
| - | Final | FM | FM | IW | 18/07/22 |

[redacted]

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# 1. Introduction

1.1 This Technical Note (TSN) has been produced by Ardent Consulting Engineers (ACE) on behalf of Countryside Properties PLC to provide a summary of the future year flow scenario assumptions for use in the Vissim model for Stansted Mountfitchet.

# 2. Vehicle Trip Generation

2.1 The proposed development scheme seeks to provide 130 residential units. The traffic generation associated with this development has been calculated using trip rates per unit extracted from the TRICS database and applied to the quantum of development.

2.2 The proposed weekday trip rates associated with the residential units were selected based on sites of a similar scale and region. The following criteria was used:

- All regions excluding Greater London, Ireland, Scotland and Wales;
- Town Centre, Edge of Town Centre and neighbourhood centres excluded;
- 'Mixed Private/Rented' selected;
- Trip rate based upon number of units up to 150; and
- Pre-covid survey dates selected.

2.3 Table 1.1 sets out the vehicular trip rates used and the resultant forecast vehicle weekday peak hour trip generation of the proposed residential site (based on traditional network peak hours). The full output is included at **Appendix A**.

**Table 2.1: Predicted Weekday Vehicle Trip Generation of the Proposed Residential Units (source: TRICS)**

| Period and Mode | Trip Rates (per dwelling) | | | Trips (130 dwellings) | | |
|---|---|---|---|---|---|---|
| | In | Out | Two-Way | In | Out | Two-Way |
| **Weekday AM Peak Hour (08:00 – 09:00)** | | | | | | |
| Vehicles | 0.117 | 0.363 | 0.480 | 15 | 47 | 62 |
| **Weekday PM Peak Hour (17:00 – 18:00)** | | | | | | |
| Vehicles | 0.323 | 0.162 | 0.485 | 42 | 21 | 63 |
| **Daily (07:00 – 19:00)** | | | | | | |
| **Vehicles** | 2.241 | 2.307 | 4.548 | 291 | 300 | 591 |

Note: any discrepancies are a result of rounding.

# 3. Trip Distribution

3.1 The vehicle trip distribution has been derived from 2011 Journey To Work Census Data for car drivers from mid layer output area "Uttlesford 005" (within which the site is located), travelling to work destinations across the UK. The routes that the traffic is likely to use to the various destinations has been defined through consideration of Google traffic journey times for AM peak periods.

3.2 The table at **Appendix B** sets out the assumptions on which routes have been used for the various output destinations. The routes defined are as follows:

- Route 1: West via Stansted Mountfitchet
- Route 2: South via Hall Road/Thremhall Avenue
- Route 3: North via Station Road
- Route 4: East via Henham Road
- Route 5: South via Hall Road/Coopers Avenue (assumed to be 100% Stansted Airport staff)

3.3 The distribution across all five routes is shown below in Table 1.2 alongside the distribution used in the appeal sites in Elsenham for comparison purposes:

**Table 3.1: Proposed Distribution and Appeal Site's Distribution**

| Routes | Proposed Distribution | Appeal Site's Distribution |
|---|---|---|
| **West** | | |
| West through Stansted Mountfitchet | 47% (all via Lower Street, Saffron Walden trips assumed to use Station Road) | 54% (53% via Lower Street, 1% via High Lane for Saffron Walden trips) |
| **South** | | |
| *South via Hall Road/Thremhall Avenue* | *28%* | *17%* |
| *South via Hall Road/Parsonage Road* | *1%* | *3%* |
| *South via Hall Road/Coopers Avenue* | *12%* | *14%* |
| TOTAL via Hall Road | 41% | 34% |
| **North** | | |
| North via B1051/Station Road | 5% | 9% |

| East | | |
|---|---|---|
| East via B1051 Henham Road | **6%** | 2% |

*Note: any discrepancies are a result of rounding.*

3.4 As can be seen the proposed distribution and that of the appeal sites is broadly similar. The differences lie in the interpretation of the likely routes. The following differences are noted:

- All destinations were included in the Ardent distribution whereas the NE Elsenham and Isabel Drive distributions excluded destinations with fewer than 5 people travelling to them (this excluded 630 people);
- The Ardent distribution assumes that traffic to Saffron Walden would more likely use Station Road rather than travel through Stansted Mountfitchet via High Lane (as assumed in appeal sites). This is on the basis of Google traffic analysis which shows routing via Station Road and east via Henham Road for various locations within Saffron Walden. It is noted that only a small part of Saffron Walden to the north of the town included the route through Stansted Mountfitchet as the quickest option; and
- The Ardent distribution assumes that a negligible amount of traffic would use Parsonage Road with most traffic expected to travel south via Thremhall Avenue to head south or access the A120 to head east.

3.5 In terms of the distribution assumptions, a 50/50 split of traffic heading to the wider area using the strategic network has been applied to the Stansted Mountfitchet route and the Stansted airport route where both options are equally attractive in terms of time/distance (for example, heading northwest to Coventry or southwest to London Borough of Hillingdon). Whereas, for destinations to the south and southeast such as London Borough of Havering or Thurrock the Stansted airport route has been selected as more applicable.

3.6 From the journey to work data, it appears that much of the traffic using the Stansted Mountfitchet route from the MSOA surrounding Elsenham is travelling through the town to access employment in East Hertfordshire district (Bishops Stortford and Hertford) and Harlow district (Harlow); as well as further afield via the strategic network (A120 and M11) as discussed above. Traffic associated with employment in East Hertfordshire is assumed to use the Stansted Mountfitchet route whereas traffic heading to the Harlow MSOAs has been split 50/50 between Stansted Mountfitchet and Stansted airport routes.

3.7 The traffic distribution and proposed development traffic flows are shown in figures at **Appendix C.**

## 4. Growth Factors

4.1 The predicted traffic associated with other consented developments in the area have been used to provide a future year assessment of 2027 (5 years post planning submission). The list of consented schemes in the area is comprehensive and is considered to take account of increase in traffic in the local area associated with the household element of the TEMPro growth factors. Therefore, alternative planning assumptions have been applied to TEMPro to remove the number of households over the 5 year period as they are explicitly included for through the consented schemes (discussed below). This is considered to be reasonable to reduce double counting. However, the element of the TEMPro growth associated with the number of jobs has not been altered from the default position so as to include for background growth associated with Stansted airport and other employment uses in the area.

4.2 The growth factors applied to the 2022 traffic flows are as follows:

- AM Peak: 1.00015
- PM Peak: 0.99975

## 5. Committed Development

5.1 The following committed development has been included in the 2027 base case:

**Table 5.1: Consented sites**

| Committed Development Scheme | Source |
|---|---|
| Trisail – 3 office blocks with GFA of 6969sqm (UTT/11/1473) | Flows extracted from E Elsenham site (UTT/17/3575/OP) |
| Land West of Hall Road, Elsenham – 130 dwellings (UTT/13/0177 at the time of assessment but since approved under UTT/19/0462/FUL) | Flows extracted from E Elsenham site (UTT/17/3575/OP) |

| | |
|---|---|
| Magna Carta School – 7 FE primary school (UTT/17/0052) | Flows extracted from E Elsenham site |
| Elsenham Primary School Expansion from 1FE to 2FE (UTT/17/2594) | Flows extracted from E Elsenham site (UTT/17/3575/OP) |
| Land South of Rush Lane, Elsenham – 44 dwellings (UTT/19/0437/OP) | No flows presented in Transport Statement – therefore, calculated using trip generation from TS and trip distribution from proposed Henham Road TA |
| Land East of Elsenham – 350 units (UTT/17/3575/OP) | Flows extracted from TA for planning application |
| Land West of Elsenham (Isabel Drive) – 99 units (UTT/19/2470/OP) | Flows extracted from TA for planning application |
| Land South of Vernons Close – 45 dwellings (UTT/20/0604/OP) | Flows extracted from TA for planning application |
| Land West of Parsonage Road, Takeley (UTT/19/0393/OP) – 119 dwellings | Flows extracted from TA for planning application |
| Land East of Parsonage Road, Takeley (UTT/19/0394/OP) – 66 bed care home | Flows extracted from TA for planning application |

5.2 The total committed development and the individual committed traffic flows taken from the relevant TAs for the planning applications considered are shown in flow diagrams included at Appendix D.

## 6. 2027 Base Case flows

6.1 Adding 2022 survey flows growthed to 2027 and traffic associated with the committed development gives the predicted 2027 Base Case flows, shown in flow diagrams contained in Appendix E.

## 7. Development Case flows

7.1 Adding the predicted traffic associated with the proposed development on the site to the 2027 Base Case flows gives the 2027 Development Case flows, shown in diagrams contained in Appendix E.

# Appendix A

Calculation Reference: AUDIT-437201-220315-0304

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : M - MIXED PRIVATE/AFFORDABLE HOUSING

MULTI-MODAL TOTAL VEHICLES

*Selected regions and areas:*

| | | | |
|---|---|---|---|
| 02 | SOUTH EAST | | |
| | ES | EAST SUSSEX | 6 days |
| | HC | HAMPSHIRE | 1 days |
| | KC | KENT | 2 days |
| | OX | OXFORDSHIRE | 1 days |
| | WS | WEST SUSSEX | 6 days |
| 03 | SOUTH WEST | | |
| | DV | DEVON | 1 days |
| 04 | EAST ANGLIA | | |
| | CA | CAMBRIDGESHIRE | 1 days |
| | NF | NORFOLK | 2 days |
| 06 | WEST MIDLANDS | | |
| | WK | WARWICKSHIRE | 1 days |
| 09 | NORTH | | |
| | TW | TYNE & WEAR | 1 days |

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

Primary 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: No of Dwellings
Actual Range: 52 to 140 (units: )
Range Selected by User: 50 to 150 (units: )

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/13 to 28/02/21

*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 | 2 days |
| Tuesday | 3 days |
| Wednesday | 5 days |
| Thursday | 8 days |
| Friday | 4 days |

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

*Selected survey types:*

| | |
|---|---|
| Manual count | 22 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 undertaking using machines.*

*Selected Locations:*

| | |
|---|---|
| Suburban Area (PPS6 Out of Centre) | 3 |
| Edge of Town | 19 |

*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.*

*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 | 22 days |

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

*Population within 500m Range:*
All Surveys Included

*Population within 1 mile:*

| | |
|---|---|
| 1,001 to 5,000 | 4 days |
| 5,001 to 10,000 | 9 days |
| 10,001 to 15,000 | 2 days |
| 15,001 to 20,000 | 2 days |
| 20,001 to 25,000 | 1 days |
| 25,001 to 50,000 | 4 days |

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

*Population within 5 miles:*

| | |
|---|---|
| 5,001 to 25,000 | 2 days |
| 25,001 to 50,000 | 4 days |
| 50,001 to 75,000 | 5 days |
| 75,001 to 100,000 | 1 days |
| 100,001 to 125,000 | 2 days |
| 125,001 to 250,000 | 6 days |
| 250,001 to 500,000 | 1 days |
| 500,001 or More | 1 days |

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

*Car ownership within 5 miles:*

| | |
|---|---|
| 0.6 to 1.0 | 2 days |
| 1.1 to 1.5 | 18 days |
| 1.6 to 2.0 | 2 days |

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

*Travel Plan:*

| | |
|---|---|
| Yes | 17 days |
| No | 5 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 | 22 days |

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

| | | |
|---|---|---|
| Covid-19 Restrictions | Yes | At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions |

<u>*LIST OF SITES relevant to selection parameters*</u>

1 CA-03-M-01 MIXED HOUSES & FLATS CAMBRIDGESHIRE
BANNOLD ROAD
WATERBEACH

Edge of Town
Residential Zone
Total No of Dwellings: 52
*Survey date: WEDNESDAY 20/06/18 Survey Type: MANUAL*

2 DV-03-M-02 MIXED HOUSES & FLATS DEVON
SAINT PETER ' SQUAY
TOTNES

Edge of Town
Residential Zone
Total No of Dwellings: 90
*Survey date: FRIDAY 29/03/19 Survey Type: MANUAL*

3 ES-03-M-10 MIXED HOUSES & FLATS EAST SUSSEX
DITTONS ROAD
POLEGATE

Edge of Town
Residential Zone
Total No of Dwellings: 108
*Survey date: MONDAY 11/07/16 Survey Type: MANUAL*

4 ES-03-M-12 MIXED HOUSES & FLATS EAST SUSSEX
PARK ROAD
HAILSHAM

Edge of Town
Residential Zone
Total No of Dwellings: 93
*Survey date: THURSDAY 21/06/18 Survey Type: MANUAL*

5 ES-03-M-14 MIXED HOUSES & FLATS EAST SUSSEX
KINGS DRIVE
EASTBOURNE
UPPERTON
Edge of Town
Residential Zone
Total No of Dwellings: 119
*Survey date: THURSDAY 15/11/18 Survey Type: MANUAL*

6 ES-03-M-15 MIXED HOUSES EAST SUSSEX
FIELD END
MARESFIELD

Edge of Town
Residential Zone
Total No of Dwellings: 80
*Survey date: WEDNESDAY 13/03/19 Survey Type: MANUAL*

7 ES-03-M-16 MIXED HOUSES & FLATS EAST SUSSEX
BARNHORN ROAD
BEXHILL
LITTLE COMMON
Edge of Town
Residential Zone
Total No of Dwellings: 119
*Survey date: WEDNESDAY 10/07/19 Survey Type: MANUAL*

8 ES-03-M-17 MIXED HOUSES & FLATS EAST SUSSEX
NEW ROAD
HAILSHAM
AMBERSTONE
Edge of Town
Residential Zone
Total No of Dwellings: 91
*Survey date: THURSDAY 07/11/19 Survey Type: MANUAL*

*LIST OF SITES relevant to selection parameters (Cont.)*

9 HC-03-M-05 HOUSES & FLATS HAMPSHIRE
WIMPSON LANE
SOUTHAMPTON
MAYBUSH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 62
*Survey date: FRIDAY 03/10/14 Survey Type: MANUAL*

10 KC-03-M-02 MIXED HOUSES AND FLATS KENT
HERMITAGE LANE
MAIDSTONE
BARMING
Edge of Town
No Sub Category
Total No of Dwellings: 119
*Survey date: TUESDAY 05/06/18 Survey Type: MANUAL*

11 KC-03-M-03 MIXED HOUSES & FLATS KENT
BUNYARD WAY
MAIDSTONE
ALLINGTON
Edge of Town
Residential Zone
Total No of Dwellings: 140
*Survey date: TUESDAY 22/05/18 Survey Type: MANUAL*

12 NF-03-M-04 MIXED HOUSES & FLATS NORFOLK
HUNSTANTON ROAD
HUNSTANTON

Edge of Town
Residential Zone
Total No of Dwellings: 70
*Survey date: THURSDAY 19/09/19 Survey Type: MANUAL*

13 NF-03-M-39 MIXED HOUSES NORFOLK
LONDON ROAD
ATTLEBOROUGH

Edge of Town
Residential Zone
Total No of Dwellings: 61
*Survey date: WEDNESDAY 14/10/20 Survey Type: MANUAL*

14 OX-03-M-01 MIXED HOUSES OXFORDSHIRE
WENMAN ROAD
THAME

Edge of Town
Industrial Zone
Total No of Dwellings: 100
*Survey date: THURSDAY 28/06/18 Survey Type: MANUAL*

15 TW-03-M-02 MIXED HOUSES & FLATS TYNE & WEAR
BENTON ROAD
NEWCASTLE UPON TYNE

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 108
*Survey date: FRIDAY 19/10/18 Survey Type: MANUAL*

*LIST OF SITES relevant to selection parameters (Cont.)*

16 WK-03-M-02 MIXED HOUSES WARWICKSHIRE
BISHOPTON LANE
STRATFORD UPON AVON
BISHOPTON
Edge of Town
Residential Zone
Total No of Dwellings: 130
*Survey date: FRIDAY 29/06/18 Survey Type: MANUAL*

17 WS-03-M-05 MIXED HOUSING WEST SUSSEX
ELLIS ROAD
WEST HORSHAM
S BROADBRIDGE HEATH
Edge of Town
Residential Zone
Total No of Dwellings: 92
*Survey date: THURSDAY 23/10/14 Survey Type: MANUAL*

18 WS-03-M-06 SEMI DETACHED/DETACHED WEST SUSSEX
SOUTHFIELDS CLOSE
CHICHESTER

Edge of Town
Residential Zone
Total No of Dwellings: 67
*Survey date: TUESDAY 27/01/15 Survey Type: MANUAL*

19 WS-03-M-07 HOUSES & FLATS WEST SUSSEX
ROSE GREEN ROAD
BOGNOR REGIS
ALDWICK
Edge of Town
Residential Zone
Total No of Dwellings: 90
*Survey date: WEDNESDAY 05/03/14 Survey Type: MANUAL*

20 WS-03-M-18 MIXED HOUSES & FLATS WEST SUSSEX
WESTLOATS LANE
BOGNOR REGIS
NORTH BERSTED
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 86
*Survey date: THURSDAY 17/10/19 Survey Type: MANUAL*

21 WS-03-M-21 MIXED HOUSES WEST SUSSEX
CLAPPERS LANE
BRACKLESHAM BAY

Edge of Town
Residential Zone
Total No of Dwellings: 57
*Survey date: THURSDAY 14/11/19 Survey Type: MANUAL*

22 WS-03-M-22 MIXED HOUSES & FLATS WEST SUSSEX
RUSPER ROAD
CRAWLEY
IFIELD
Edge of Town
Residential Zone
Total No of Dwellings: 91
*Survey date: MONDAY 19/10/20 Survey Type: MANUAL*

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.81

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.084 | 22 | 92 | 0.284 | 22 | 92 | 0.368 |
| 08:00 - 09:00 | 22 | 92 | 0.110 | **22** | **92** | **0.358** | 22 | 92 | 0.468 |
| 09:00 - 10:00 | 22 | 92 | 0.144 | 22 | 92 | 0.179 | 22 | 92 | 0.323 |
| 10:00 - 11:00 | 22 | 92 | 0.133 | 22 | 92 | 0.140 | 22 | 92 | 0.273 |
| 11:00 - 12:00 | 22 | 92 | 0.143 | 22 | 92 | 0.157 | 22 | 92 | 0.300 |
| 12:00 - 13:00 | 22 | 92 | 0.179 | 22 | 92 | 0.156 | 22 | 92 | 0.335 |
| 13:00 - 14:00 | 22 | 92 | 0.171 | 22 | 92 | 0.172 | 22 | 92 | 0.343 |
| 14:00 - 15:00 | 22 | 92 | 0.144 | 22 | 92 | 0.182 | 22 | 92 | 0.326 |
| 15:00 - 16:00 | 22 | 92 | 0.246 | 22 | 92 | 0.181 | 22 | 92 | 0.427 |
| 16:00 - 17:00 | 22 | 92 | 0.235 | 22 | 92 | 0.150 | 22 | 92 | 0.385 |
| 17:00 - 18:00 | **22** | **92** | **0.320** | 22 | 92 | 0.156 | **22** | **92** | **0.476** |
| 18:00 - 19:00 | 22 | 92 | 0.284 | 22 | 92 | 0.161 | 22 | 92 | 0.445 |
| 19:00 - 20:00 | 1 | 119 | 0.126 | 1 | 119 | 0.008 | 1 | 119 | 0.134 |
| 20:00 - 21:00 | 1 | 119 | 0.101 | 1 | 119 | 0.017 | 1 | 119 | 0.118 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 2.420 | | | 2.301 | | | 4.721 |

*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.*



Parameter summary

| | |
|---|---|
| Trip rate parameter range selected: | 52 - 140 (units: ) |
| Survey date date range: | 01/01/13 - 28/02/21 |
| Number of weekdays (Monday-Friday): | 22 |
| Number of Saturdays: | 0 |
| Number of Sundays: | 0 |
| Surveys automatically removed from selection: | 5 |
| Surveys manually removed from selection: | 0 |

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.003 | 22 | 92 | 0.003 | 22 | 92 | 0.006 |
| 08:00 - 09:00 | 22 | 92 | 0.004 | 22 | 92 | 0.006 | 22 | 92 | 0.010 |
| 09:00 - 10:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 11:00 - 12:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 12:00 - 13:00 | 22 | 92 | 0.001 | 22 | 92 | 0.000 | 22 | 92 | 0.001 |
| 13:00 - 14:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 14:00 - 15:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 15:00 - 16:00 | 22 | 92 | 0.006 | 22 | 92 | 0.006 | 22 | 92 | 0.012 |
| 16:00 - 17:00 | 22 | 92 | 0.002 | 22 | 92 | 0.001 | 22 | 92 | 0.003 |
| 17:00 - 18:00 | 22 | 92 | 0.002 | 22 | 92 | 0.002 | 22 | 92 | 0.004 |
| 18:00 - 19:00 | 22 | 92 | 0.002 | 22 | 92 | 0.001 | 22 | 92 | 0.003 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.023 | | | 0.022 | | | 0.045 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 08:00 - 09:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 09:00 - 10:00 | 22 | 92 | 0.002 | 22 | 92 | 0.003 | 22 | 92 | 0.005 |
| 10:00 - 11:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 11:00 - 12:00 | **22** | **92** | **0.003** | **22** | **92** | **0.004** | **22** | **92** | **0.007** |
| 12:00 - 13:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 13:00 - 14:00 | 22 | 92 | 0.003 | 22 | 92 | 0.002 | 22 | 92 | 0.005 |
| 14:00 - 15:00 | 22 | 92 | 0.000 | 22 | 92 | 0.001 | 22 | 92 | 0.001 |
| 15:00 - 16:00 | 22 | 92 | 0.002 | 22 | 92 | 0.002 | 22 | 92 | 0.004 |
| 16:00 - 17:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 17:00 - 18:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 18:00 - 19:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.015 | | | 0.017 | | | 0.032 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 08:00 - 09:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 09:00 - 10:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 11:00 - 12:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 12:00 - 13:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 13:00 - 14:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 14:00 - 15:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 15:00 - 16:00 | **22** | **92** | **0.002** | **22** | **92** | **0.002** | **22** | **92** | **0.004** |
| 16:00 - 17:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 17:00 - 18:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 18:00 - 19:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.003 | | | 0.003 | | | 0.006 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL 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 | 22 | 92 | 0.003 | 22 | 92 | 0.007 | 22 | 92 | 0.010 |
| 08:00 - 09:00 | 22 | 92 | 0.002 | **22** | **92** | **0.014** | **22** | **92** | **0.016** |
| 09:00 - 10:00 | 22 | 92 | 0.002 | 22 | 92 | 0.002 | 22 | 92 | 0.004 |
| 10:00 - 11:00 | 22 | 92 | 0.002 | 22 | 92 | 0.003 | 22 | 92 | 0.005 |
| 11:00 - 12:00 | 22 | 92 | 0.002 | 22 | 92 | 0.002 | 22 | 92 | 0.004 |
| 12:00 - 13:00 | 22 | 92 | 0.002 | 22 | 92 | 0.003 | 22 | 92 | 0.005 |
| 13:00 - 14:00 | 22 | 92 | 0.005 | 22 | 92 | 0.002 | 22 | 92 | 0.007 |
| 14:00 - 15:00 | 22 | 92 | 0.003 | 22 | 92 | 0.005 | 22 | 92 | 0.008 |
| 15:00 - 16:00 | **22** | **92** | **0.010** | 22 | 92 | 0.005 | 22 | 92 | 0.015 |
| 16:00 - 17:00 | 22 | 92 | 0.006 | 22 | 92 | 0.008 | 22 | 92 | 0.014 |
| 17:00 - 18:00 | 22 | 92 | 0.008 | 22 | 92 | 0.004 | 22 | 92 | 0.012 |
| 18:00 - 19:00 | 22 | 92 | 0.004 | 22 | 92 | 0.003 | 22 | 92 | 0.007 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.049 | | | 0.058 | | | 0.107 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.093 | 22 | 92 | 0.413 | 22 | 92 | 0.506 |
| 08:00 - 09:00 | 22 | 92 | 0.132 | **22** | **92** | **0.619** | **22** | **92** | **0.751** |
| 09:00 - 10:00 | 22 | 92 | 0.168 | 22 | 92 | 0.256 | 22 | 92 | 0.424 |
| 10:00 - 11:00 | 22 | 92 | 0.162 | 22 | 92 | 0.200 | 22 | 92 | 0.362 |
| 11:00 - 12:00 | 22 | 92 | 0.190 | 22 | 92 | 0.220 | 22 | 92 | 0.410 |
| 12:00 - 13:00 | 22 | 92 | 0.242 | 22 | 92 | 0.205 | 22 | 92 | 0.447 |
| 13:00 - 14:00 | 22 | 92 | 0.235 | 22 | 92 | 0.227 | 22 | 92 | 0.462 |
| 14:00 - 15:00 | 22 | 92 | 0.194 | 22 | 92 | 0.242 | 22 | 92 | 0.436 |
| 15:00 - 16:00 | 22 | 92 | 0.430 | 22 | 92 | 0.247 | 22 | 92 | 0.677 |
| 16:00 - 17:00 | 22 | 92 | 0.356 | 22 | 92 | 0.217 | 22 | 92 | 0.573 |
| 17:00 - 18:00 | **22** | **92** | **0.460** | 22 | 92 | 0.228 | 22 | 92 | 0.688 |
| 18:00 - 19:00 | 22 | 92 | 0.408 | 22 | 92 | 0.222 | 22 | 92 | 0.630 |
| 19:00 - 20:00 | 1 | 119 | 0.168 | 1 | 119 | 0.017 | 1 | 119 | 0.185 |
| 20:00 - 21:00 | 1 | 119 | 0.151 | 1 | 119 | 0.017 | 1 | 119 | 0.168 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 3.389 | | | 3.330 | | | 6.719 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL PEDESTRIANS
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 | 22 | 92 | 0.025 | 22 | 92 | 0.050 | 22 | 92 | 0.075 |
| 08:00 - 09:00 | 22 | 92 | 0.049 | **22** | **92** | **0.159** | 22 | 92 | 0.208 |
| 09:00 - 10:00 | 22 | 92 | 0.042 | 22 | 92 | 0.037 | 22 | 92 | 0.079 |
| 10:00 - 11:00 | 22 | 92 | 0.024 | 22 | 92 | 0.042 | 22 | 92 | 0.066 |
| 11:00 - 12:00 | 22 | 92 | 0.038 | 22 | 92 | 0.042 | 22 | 92 | 0.080 |
| 12:00 - 13:00 | 22 | 92 | 0.042 | 22 | 92 | 0.029 | 22 | 92 | 0.071 |
| 13:00 - 14:00 | 22 | 92 | 0.034 | 22 | 92 | 0.033 | 22 | 92 | 0.067 |
| 14:00 - 15:00 | 22 | 92 | 0.034 | 22 | 92 | 0.061 | 22 | 92 | 0.095 |
| 15:00 - 16:00 | **22** | **92** | **0.155** | 22 | 92 | 0.054 | **22** | **92** | **0.209** |
| 16:00 - 17:00 | 22 | 92 | 0.081 | 22 | 92 | 0.047 | 22 | 92 | 0.128 |
| 17:00 - 18:00 | 22 | 92 | 0.050 | 22 | 92 | 0.040 | 22 | 92 | 0.090 |
| 18:00 - 19:00 | 22 | 92 | 0.042 | 22 | 92 | 0.042 | 22 | 92 | 0.084 |
| 19:00 - 20:00 | 1 | 119 | 0.008 | 1 | 119 | 0.008 | 1 | 119 | 0.016 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.624 | | | 0.644 | | | 1.268 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING

MULTI-MODAL BUS/TRAM PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | 22 | 92 | 0.028 | 22 | 92 | 0.028 |
| 08:00 - 09:00 | 22 | 92 | 0.002 | 22 | 92 | 0.025 | 22 | 92 | 0.027 |
| 09:00 - 10:00 | 22 | 92 | 0.006 | 22 | 92 | 0.008 | 22 | 92 | 0.014 |
| 10:00 - 11:00 | 22 | 92 | 0.004 | 22 | 92 | 0.009 | 22 | 92 | 0.013 |
| 11:00 - 12:00 | 22 | 92 | 0.010 | 22 | 92 | 0.012 | 22 | 92 | 0.022 |
| 12:00 - 13:00 | 22 | 92 | 0.009 | 22 | 92 | 0.012 | 22 | 92 | 0.021 |
| 13:00 - 14:00 | 22 | 92 | 0.010 | 22 | 92 | 0.011 | 22 | 92 | 0.021 |
| 14:00 - 15:00 | 22 | 92 | 0.006 | 22 | 92 | 0.009 | 22 | 92 | 0.015 |
| 15:00 - 16:00 | 22 | 92 | 0.033 | 22 | 92 | 0.012 | 22 | 92 | 0.045 |
| 16:00 - 17:00 | 22 | 92 | 0.021 | 22 | 92 | 0.007 | 22 | 92 | 0.028 |
| 17:00 - 18:00 | 22 | 92 | 0.019 | 22 | 92 | 0.009 | 22 | 92 | 0.028 |
| 18:00 - 19:00 | 22 | 92 | 0.017 | 22 | 92 | 0.006 | 22 | 92 | 0.023 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.137 | | | 0.148 | | | 0.285 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL RAIL PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | **22** | **92** | **0.015** | **22** | **92** | **0.015** |
| 08:00 - 09:00 | 22 | 92 | 0.000 | 22 | 92 | 0.010 | 22 | 92 | 0.010 |
| 09:00 - 10:00 | 22 | 92 | 0.000 | 22 | 92 | 0.002 | 22 | 92 | 0.002 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.005 | 22 | 92 | 0.005 |
| 11:00 - 12:00 | 22 | 92 | 0.002 | 22 | 92 | 0.003 | 22 | 92 | 0.005 |
| 12:00 - 13:00 | 22 | 92 | 0.003 | 22 | 92 | 0.002 | 22 | 92 | 0.005 |
| 13:00 - 14:00 | 22 | 92 | 0.002 | 22 | 92 | 0.001 | 22 | 92 | 0.003 |
| 14:00 - 15:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 15:00 - 16:00 | 22 | 92 | 0.008 | 22 | 92 | 0.001 | 22 | 92 | 0.009 |
| 16:00 - 17:00 | **22** | **92** | **0.010** | 22 | 92 | 0.000 | 22 | 92 | 0.010 |
| 17:00 - 18:00 | 22 | 92 | 0.009 | 22 | 92 | 0.000 | 22 | 92 | 0.009 |
| 18:00 - 19:00 | 22 | 92 | 0.007 | 22 | 92 | 0.002 | 22 | 92 | 0.009 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.042 | | | 0.042 | | | 0.084 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL COACH PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | 22 | 92 | 0.003 | 22 | 92 | 0.003 |
| 08:00 - 09:00 | 22 | 92 | 0.000 | 22 | 92 | 0.001 | 22 | 92 | 0.001 |
| 09:00 - 10:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 11:00 - 12:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 12:00 - 13:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 13:00 - 14:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 14:00 - 15:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 15:00 - 16:00 | 22 | 92 | 0.004 | 22 | 92 | 0.000 | 22 | 92 | 0.004 |
| 16:00 - 17:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 17:00 - 18:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 18:00 - 19:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.004 | | | 0.004 | | | 0.008 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | 22 | 92 | 0.046 | 22 | 92 | 0.046 |
| 08:00 - 09:00 | 22 | 92 | 0.002 | 22 | 92 | 0.037 | 22 | 92 | 0.039 |
| 09:00 - 10:00 | 22 | 92 | 0.006 | 22 | 92 | 0.011 | 22 | 92 | 0.017 |
| 10:00 - 11:00 | 22 | 92 | 0.004 | 22 | 92 | 0.014 | 22 | 92 | 0.018 |
| 11:00 - 12:00 | 22 | 92 | 0.012 | 22 | 92 | 0.015 | 22 | 92 | 0.027 |
| 12:00 - 13:00 | 22 | 92 | 0.013 | 22 | 92 | 0.014 | 22 | 92 | 0.027 |
| 13:00 - 14:00 | 22 | 92 | 0.012 | 22 | 92 | 0.013 | 22 | 92 | 0.025 |
| 14:00 - 15:00 | 22 | 92 | 0.008 | 22 | 92 | 0.010 | 22 | 92 | 0.018 |
| 15:00 - 16:00 | 22 | 92 | 0.045 | 22 | 92 | 0.014 | 22 | 92 | 0.059 |
| 16:00 - 17:00 | 22 | 92 | 0.032 | 22 | 92 | 0.008 | 22 | 92 | 0.040 |
| 17:00 - 18:00 | 22 | 92 | 0.028 | 22 | 92 | 0.009 | 22 | 92 | 0.037 |
| 18:00 - 19:00 | 22 | 92 | 0.025 | 22 | 92 | 0.008 | 22 | 92 | 0.033 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.187 | | | 0.199 | | | 0.386 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 1.81

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.121 | 22 | 92 | 0.516 | 22 | 92 | 0.637 |
| 08:00 - 09:00 | 22 | 92 | 0.185 | **22** | **92** | **0.828** | **22** | **92** | **1.013** |
| 09:00 - 10:00 | 22 | 92 | 0.218 | 22 | 92 | 0.306 | 22 | 92 | 0.524 |
| 10:00 - 11:00 | 22 | 92 | 0.193 | 22 | 92 | 0.259 | 22 | 92 | 0.452 |
| 11:00 - 12:00 | 22 | 92 | 0.241 | 22 | 92 | 0.279 | 22 | 92 | 0.520 |
| 12:00 - 13:00 | 22 | 92 | 0.299 | 22 | 92 | 0.250 | 22 | 92 | 0.549 |
| 13:00 - 14:00 | 22 | 92 | 0.285 | 22 | 92 | 0.275 | 22 | 92 | 0.560 |
| 14:00 - 15:00 | 22 | 92 | 0.239 | 22 | 92 | 0.319 | 22 | 92 | 0.558 |
| 15:00 - 16:00 | **22** | **92** | **0.640** | 22 | 92 | 0.320 | 22 | 92 | 0.960 |
| 16:00 - 17:00 | 22 | 92 | 0.475 | 22 | 92 | 0.280 | 22 | 92 | 0.755 |
| 17:00 - 18:00 | 22 | 92 | 0.546 | 22 | 92 | 0.281 | 22 | 92 | 0.827 |
| 18:00 - 19:00 | 22 | 92 | 0.480 | 22 | 92 | 0.276 | 22 | 92 | 0.756 |
| 19:00 - 20:00 | 1 | 119 | 0.176 | 1 | 119 | 0.025 | 1 | 119 | 0.201 |
| 20:00 - 21:00 | 1 | 119 | 0.151 | 1 | 119 | 0.017 | 1 | 119 | 0.168 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 4.249 | | | 4.231 | | | 8.480 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING

MULTI-MODAL CARS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.067 | 22 | 92 | 0.253 | 22 | 92 | 0.320 |
| 08:00 - 09:00 | 22 | 92 | 0.086 | 22 | 92 | 0.328 | 22 | 92 | 0.414 |
| 09:00 - 10:00 | 22 | 92 | 0.114 | 22 | 92 | 0.150 | 22 | 92 | 0.264 |
| 10:00 - 11:00 | 22 | 92 | 0.101 | 22 | 92 | 0.111 | 22 | 92 | 0.212 |
| 11:00 - 12:00 | 22 | 92 | 0.117 | 22 | 92 | 0.122 | 22 | 92 | 0.239 |
| 12:00 - 13:00 | 22 | 92 | 0.143 | 22 | 92 | 0.126 | 22 | 92 | 0.269 |
| 13:00 - 14:00 | 22 | 92 | 0.139 | 22 | 92 | 0.138 | 22 | 92 | 0.277 |
| 14:00 - 15:00 | 22 | 92 | 0.120 | 22 | 92 | 0.160 | 22 | 92 | 0.280 |
| 15:00 - 16:00 | 22 | 92 | 0.214 | 22 | 92 | 0.145 | 22 | 92 | 0.359 |
| 16:00 - 17:00 | 22 | 92 | 0.202 | 22 | 92 | 0.129 | 22 | 92 | 0.331 |
| 17:00 - 18:00 | 22 | 92 | 0.287 | 22 | 92 | 0.138 | 22 | 92 | 0.425 |
| 18:00 - 19:00 | 22 | 92 | 0.261 | 22 | 92 | 0.147 | 22 | 92 | 0.408 |
| 19:00 - 20:00 | 1 | 119 | 0.126 | 1 | 119 | 0.008 | 1 | 119 | 0.134 |
| 20:00 - 21:00 | 1 | 119 | 0.101 | 1 | 119 | 0.017 | 1 | 119 | 0.118 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 2.078 | | | 1.972 | | | 4.050 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL LGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.010 | 22 | 92 | 0.022 | 22 | 92 | 0.032 |
| 08:00 - 09:00 | 22 | 92 | 0.018 | 22 | 92 | 0.020 | 22 | 92 | 0.038 |
| 09:00 - 10:00 | 22 | 92 | 0.026 | 22 | 92 | 0.026 | 22 | 92 | 0.052 |
| 10:00 - 11:00 | 22 | 92 | 0.030 | 22 | 92 | 0.028 | 22 | 92 | 0.058 |
| 11:00 - 12:00 | 22 | 92 | 0.023 | 22 | 92 | 0.030 | 22 | 92 | 0.053 |
| 12:00 - 13:00 | 22 | 92 | 0.032 | 22 | 92 | 0.027 | 22 | 92 | 0.059 |
| 13:00 - 14:00 | 22 | 92 | 0.027 | 22 | 92 | 0.029 | 22 | 92 | 0.056 |
| 14:00 - 15:00 | 22 | 92 | 0.021 | 22 | 92 | 0.020 | 22 | 92 | 0.041 |
| 15:00 - 16:00 | 22 | 92 | 0.021 | 22 | 92 | 0.025 | 22 | 92 | 0.046 |
| 16:00 - 17:00 | 22 | 92 | 0.028 | 22 | 92 | 0.018 | 22 | 92 | 0.046 |
| 17:00 - 18:00 | 22 | 92 | 0.029 | 22 | 92 | 0.013 | 22 | 92 | 0.042 |
| 18:00 - 19:00 | 22 | 92 | 0.018 | 22 | 92 | 0.012 | 22 | 92 | 0.030 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.283 | | | 0.270 | | | 0.553 |

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/AFFORDABLE HOUSING
MULTI-MODAL MOTOR CYCLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

| | ARRIVALS | | | DEPARTURES | | | TOTALS | | |
|---|---|---|---|---|---|---|---|---|---|
| Time Range | 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 | 22 | 92 | 0.000 | **22** | **92** | **0.003** | **22** | **92** | **0.003** |
| 08:00 - 09:00 | 22 | 92 | 0.000 | 22 | 92 | 0.001 | 22 | 92 | 0.001 |
| 09:00 - 10:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 10:00 - 11:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 11:00 - 12:00 | 22 | 92 | 0.000 | 22 | 92 | 0.000 | 22 | 92 | 0.000 |
| 12:00 - 13:00 | 22 | 92 | 0.002 | 22 | 92 | 0.001 | 22 | 92 | 0.003 |
| 13:00 - 14:00 | 22 | 92 | 0.000 | 22 | 92 | 0.001 | 22 | 92 | 0.001 |
| 14:00 - 15:00 | 22 | 92 | 0.001 | 22 | 92 | 0.000 | 22 | 92 | 0.001 |
| 15:00 - 16:00 | 22 | 92 | 0.001 | 22 | 92 | 0.001 | 22 | 92 | 0.002 |
| 16:00 - 17:00 | 22 | 92 | 0.001 | 22 | 92 | 0.000 | 22 | 92 | 0.001 |
| 17:00 - 18:00 | 22 | 92 | 0.001 | 22 | 92 | 0.002 | 22 | 92 | 0.003 |
| 18:00 - 19:00 | **22** | **92** | **0.002** | 22 | 92 | 0.000 | 22 | 92 | 0.002 |
| 19:00 - 20:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 20:00 - 21:00 | 1 | 119 | 0.000 | 1 | 119 | 0.000 | 1 | 119 | 0.000 |
| 21:00 - 22:00 | | | | | | | | | |
| 22:00 - 23:00 | | | | | | | | | |
| 23:00 - 24:00 | | | | | | | | | |
| Total Rates: | | | 0.008 | | | 0.009 | | | 0.017 |

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

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

## Appendix B