LAND AT GRANGE FARM, CANNINGTON

Transport Assessment

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1 Introduction

1.1 Background

1.1.1 This Transport Assessment has been produced by IMA Transport Planning Ltd on behalf of Mrs D Yorke to support an outline planning application for a scheme of up to 73 dwellings on land at Grange Farm, Cannington.

1.1.2 The site is located to the east of the A39/Main Road roundabout and currently comprises agricultural land. The site is bordered by residential properties to the north and by a recently completed flood relief channel to the south. The site location is illustrated on Plan 1.

1.1.3 It is proposed to provide vehicular access to the site through the addition of a fourth arm to the A39/Main Road roundabout. The proposed access arrangements will also provide suitable facilities for pedestrians and cyclists.

1.1.4 This Transport Assessment assesses the highways and transport implications resulting from the proposed development. In particular, the Transport Assessment identifies opportunities for future residents to access a range of local facilities by sustainable modes including walking, cycling and public transport in line with national and local transport policy requirements. In addition, the impact of the proposed development on the local highway network has been assessed.

1.2 Scope of Report

1.2.1 The existing site and the immediate surroundings are described, including nearby local transport infrastructure.

1.2.2 The section on baseline transport data commences with a summary of the facilities that can be reached without a car. Local census data on commuting patterns is then considered. Traffic patterns on the local highway network are examined, using data obtained from surveys undertaken at the A39/Main Road roundabout.

1.2.3 The development proposals are described, including details of the proposed site access arrangement, parking provision and likely trip generation by all key modes. The likely distribution of peak period traffic on the local highway network is set out.

1.2.4 The likely change in travel demand is quantified and illustrated diagrammatically and the implications for existing facilities and infrastructure considered, with appropriate mitigation recommended where necessary.

1.2.5 Finally, the findings of the Transport Assessment are summarised and conclusions are provided.

2 Existing Site Information

2.1 Site Location

2.1.1 The site lies to the south of Cannington and just to the north of the recently completed flood relief channel. Cannington village centre is approximately 1.0km to the north. The site boundary and surroundings are shown in Plan 1.

2.1.2 The site is located to the south of the existing residential development served by Southbrook. To the east of the site is agricultural land.

2.2 Existing Site Description

2.2.1 The development site is approximately 3.0 hectares, sloping gently downwards to the north east, with most of the site being relatively level. The site is open grassland at present, with a public right of way (footpath BW 5/2) routing adjacent to the southern boundary of the site,

2.3 Local Transport Infrastructure

2.3.1 Access to the site is proposed via a new arm to the east of the A39/Main Road roundabout. The A39/Main Road roundabout is a 47m ICD roundabout with three-arms. To the north of the roundabout Main Road routes towards Cannington. Main Road is approximately 8.5m wide and is subject to a 30mph speed limit. Footways are provided either side of the carriageway which are approximately 1.3m in width. Dropped kerb crossing points are provided at the junctions adjoining Main Road.

2.3.2 To the north of Teals Acre, Main Road becomes Brook Street. The carriageway width of Brook Street is generally about 7.5m with 1.4m wide footways provided either side of the carriageway. A Pelican crossing is provided to the south of the Brook Street/Duke Avenue junction, providing an opportunity for pedestrians to cross between the eastern and western footways on Brook Street.

2.3.3 Brook Street continues north into Fore Street and the High Street. Both roads have footways either side of the carriageway which vary in width from 0.9m to 2.0m. A Puffin crossing is provided on the High Street outside the Kings Head public house.

2.3.4 The A39 is approximately 9.3m wide and is subject to a derestricted speed limit (60mph). The A39 provides a route around Cannington for through traffic via the Cannington Bypass .

2.3.5 The A39 Main Road is a single carriageway road, which is approximately 8.6m wide. To the east of the carriageway is a recently completed shared 2.5m wide footway/cycleway which provides an off-road route between the A39/Main Road roundabout and the A39 New Road/Sandford Hill/Quantock Road/Charlynch Lane roundabout.

2.3.6 The shared footway/cycleway provides a connection to the on-road cycling facilities on Sandford Hill which routes through Wemdon, which in turn connects to a series of cycle routes within Bridgwater, thus providing a cycle route between Cannington and Bridgwater.

2.3.7 There are bus stops located approximately 100m north of the site on Main Road, a walk of about one-minute. The stops are served by the 14 and 15 bus services. The 14 service operates at hourly intervals Monday to Saturday between Cannington and

Bridgwater. Weekday services run from 07:10 to 19:06 and Saturday services from 08:21 to 17:41.

2.3.8 The 15 bus service is a college service providing access to Bridgwater College during term time weekdays.

2.3.9 The existing pedestrian, cycling and public transport facilities are illustrated on Plan 2.

3 Baseline Transport Data

3.1 Accessibility Context

3.1.1 Access to the site is currently provided via the track to the south of the site, however, as part of the site access proposals a connection to the existing shared footway/cycleway at the A39/Main Road roundabout will be provided.

3.1.2 The facilities that might be reached from the site without a car are therefore considered in the above context.

3.1.3 Traffic surveys are then described to quantify traffic on the local highway network and the accident history is considered.

3.2 Facilities Accessible without a Car

3.2.1 The Department for Transport (DfT) have produced Journey Time Statistics (Updated April 2017) to provide theoretical journey times by main modes of transport for key land uses based on known journey origins and destinations.

3.2.2 Each of the land uses is considered below to appraise the ease with which they might be reached without relying on a car.

3.2.3 Journey times are from centre of the site and based on the DfT recommended speeds of 4.8kph for walking (4kph off-road) and 16kph for cycling (4.8kph on pedestrian streets, alleys and private roads). Bicycle journeys have 5-minutes added to allow for secure parking.

3.2.4 The bus journey times include allowances for walking at both ends and a five-minute wait for the bus. Only direct services are considered for all uses and employment trips only consider bus routes running during typical commuting times.

3.2.5 The local services and facilities located within Cannington are illustrated on Plan 3.

Employment Opportunities

3.2.6 The site is within reach of the following employment areas. Figures in brackets indicate where the facility is beyond normally accepted journey time or distance, but some people may still choose to undertake the trip by that mode.

Facility	Distance	Journey Times		
		On Foot	Bicycle	Bus
Cannington Village Centre	1.1km	14 mins	9 mins	-
Beech Business Park	6.5km	-	(30 mins)	49 mins
Bridgwater Town Centre	6.5km	-	(30 mins)	45 mins
Colley Lane Industrial Estate	6.7km	-	(30 mins)	55 mins

Table 1: Employment Accessible without a Car

3.2.7 The table shows there are opportunities to travel to a range of employment sites accessible either on foot, by bicycle or by bus.

Education Facilities

3.2.8 The table below summarises the journey times to pre-schools, schools and colleges from the site.

Facility	Distance	Journey Times		
		On Foot	Bicycle	Bus
The Wendy House (Pre-school)	400m	5 mins	7 mins	-
Cannington Church of England Primary School	800m	10 mins	8 mins	-
Bridgwater and Taunton College (Cannington Campus)	1.2km	15 mins	10 mins	-
Brymore Academy (Secondary School)	1.8km	23mins	12 mins	-
Bridgwater and Taunton College (Bridgwater Campus)	6.9km	-	(31 mins)	30 mins

Table 2: Education Facilities Accessible without a Car

3.2.9 A range of education facilities from pre-school to college are accessible without recourse to private car.

Healthcare Facilities

3.2.10 Table 3 provides a summary of the healthcare facilities within reach of the site by walking, cycling and public transport.

Facility	Distance	Journey Times		
		On Foot	Bicycle	Bus
Cannington Health Centre	1.3km	16 mins	10 mins	-
Parade Dental Practice	4.6km	-	22 mins	26 mins

Table 3: Health Care Facilities Accessible without a Car

3.2.11 Table 3 demonstrates that there are healthcare facilities within reach without a car. Cannington Health Centre also provides a service for ordering prescriptions; therefore, residents would not need to travel to pharmacy facilities located elsewhere.

Retail Facilities

3.2.12 The following retail facilities and town centres are within reach without a car.

Facility	Distance	Journey Times		
		On Foot	Bicycle	Bus
Croft Farm Butchers	700m	9 mins	8 mins	-
Cannington News	800m	10 mins	8 mins	-
Spar	1.1km	14 mins	9 mins	-
Post Office	1.1km	14 mins	9 mins	-
Bridgwater Town Centre	6.5km	-	(30 mins)	45 mins

Table 4: Retail Facilities Accessible without a Private Car

Leisure Facilities

3.2.13 The following leisure facilities are located within reach of the site by walking and cycling.

Facility	Distance	Journey Times		
		On Foot	Bicycle	Bus
The Friendly Spirit Inn	700m	9 mins	8 mins	-
The Kings Head	1.1km	14 mins	9 mins	-
Memsaab (Restaurant)	1.1km	14 mins	9 mins	-
The Walled Gardens of Cannington & Tea Rooms	1.2km	15 mins	10 mins	-
Cannington Activity Centre	1.2km	15 mins	10 mins	-
The Rose & Crown	1.3km	16 mins	10 mins	-
Cannington Equestrian Centre	1.4km	18 mins	10 mins	-
Cannington Golf Course	1.6km	20 mins	11 mins	-

Table 5: Leisure Facilities Accessible without a Car

3.2.14 It is evident from the tables above that facilities in all key land use categories would be accessible on foot, by bicycle or by bus. The site is evidently in a sustainable location.

3.3 Actual Commuting Choices

3.3.1 Having established a range of commuting choices that would be available to residents at the site, this section examines how existing residents in Cannington commute.

3.3.2 The following table summarises data from the 2011 Census, obtained from the Office for National Statistics (ONS) via the NOMIS website. The commuting data is from ONS table QS703EQ – Method of Travel to Work.

3.3.3 The table shows travel to work modes for people in employment living in the Lower Level Super Output Area covering the site and the built-up area of Cannington.

Commuting Mode	Local LSOA (E01029123)	Cannington BUA
Train	0.2%	0.5%
Bus, minibus or coach	2.6%	2.1%
Taxi	0.2%	0.1%
Motorcycle, scooter or moped	1.2%	1.2%
Driving a car or van	72.5%	75.2%
Passenger in a car or van	8.2%	6.7%
Bicycle	3.3%	3.7%
On foot	11.0%	9.8%
Other	0.8%	0.7%

Table 6: Commuting Modes from 2011 Census (Resident Population)

3.3.4 Table 6: Commuting Modes from 2011 Census (Resident Population)Table 6 demonstrates that car mode share accounts for 73% to 75% for all commuting journeys for the local area and the wider built up area. There is still a significant level of commuting by non-car modes evident however, with some 27% to 25% commuting trips made without driving a car.

3.4 Local Traffic Data

3.4.1 Traffic surveys have been carried out at the A39/Main Road roundabout to establish the local traffic patterns.

3.4.2 All turning movements were surveyed at the A39/Main Road roundabout by independent specialist Axiom Traffic Ltd on Tuesday 5 June 2018. The full survey data is included in Appendix 1 and the peak hour movements are summarised on Figure 1.

3.5 Local Commuting Patterns

3.5.1 Data from the 2011 Census has been used to derive a distribution of traffic on commuting trips by examining origin and destination data from Table WU03EW (Location of Usual Residence and Place of Work by Method of Travel to Work) for mid-layer super output area (MSOA) Sedgemoor 007, obtained via the NOMIS website.

3.5.2 Table 7 provides a summary of the commuting destinations by car.

Commute Destination	Percentage Car Driver
Bridgwater	37.7%
Taunton	16.7%
Cannington	12.4%
Watchet	8.7%
Burnham-On-Sea	6.2%
Other - North	3.4%
Bristol	2.0%
Other - East	1.8%
Weston-Super-Mare	1.5%
Other - South	1.2%
Other - West	1.2%
Wellington	1.0%
Yeovil	1.0%
Cheddar	0.9%
Glastonbury	0.9%
Minehead	0.8%
Wedmore	0.5%
Exeter	0.5%
Ilminster/Chard	0.5%
Clevedon	0.4%
Wells	0.4%
Portishead	0.3%
London	0.2%
Nailsea	0.1%
Total	**100.0%**

Table 7: Census 2011 Journey to Work Data - Car Driver Only (MSOA Sedgemoor 007)

3.5.3 Table 7 demonstrates that Bridgwater accounts for nearly 40% of commuting car driver trips from MSOA Sedgemoor 007 which contains the site. Taunton was next most popular destination, accounting for 16.7% of car commuting trips, followed by Cannington with 12.4% of car commuting trips.

3.5.4 The above distribution is illustrated on Figure 2 and will be applied to the development traffic predictions in Section 5.

3.6 Personal Injury Accident Data

3.6.1 Personal Injury Accident (PIA) data has been obtained from Somerset County Council (SCC) for the local highway network in the vicinity of the site for the most recently available five-year period. The study area includes:

- A39/Main Road roundabout;
- A39 Main Road;
- Main Road; and
- A39.

3.6.2 The data covers the period from 1 January 2013 to 31 December 2017 and is provided in Appendix 2.

3.6.3 Analysis of the data demonstrates that there has been a total of 13 collisions recorded, there as one 'fatal' accident, one 'serious' accident and 12 'slight' accidents. Table 8 provides a summary of the PIA data.

Location	Total Collisions				Involving Pedestrians/Cyclists			
	Slight	Serious	Fatal	Total	Slight	Serious	Fatal	Total
A39/Main Road Roundabout	2	-	1	3	-	-	-	0
A39 Main Road	5	-	-	5	-	-	-	0
Main Road	1	1	-	2	1	-	-	1
A39	3	-	-	3	-	-	-	0
Total	11	1	1	13		0	0	1

Table 8: Personal Injury Accident Summary

A39/Main Road Roundabout

3.6.4 A total of three accidents occurred at the A39/Main Road roundabout, one accident resulted in 'fatal' injury and two resulted in 'slight' injury. The accidents are described as follows:

- A car collided with another car whilst circulating the roundabout resulting in a fatal injury; and
- Two slight injury accidents were as a result of rear end shunts occurring on the A39 and A39 Main road entry arms.

A39 Main Road

3.6.5 Five 'slight' injury accidents were recorded on the A39 Main Road. The accidents were recorded as follows:

- A car clipped the kerb after overtaking another vehicle, causing the car to flip;
- A car left the carriageway coming to rest in a ditch;

- A car swerved to avoid an animal but clipped a kerb causing the vehicle to leave the carriageway;
- A car veered into an oncoming vehicle; and
- A car swerved off the carriageway and collided with a telegraph pole.

Main Road

3.6.6 Two accidents were recorded on Main Road with one accident resulting in 'serious' injury and one accident resulting in 'slight' injury.

- A car overtaking a stationary bus collided with a pedestrian that had alighted the bus resulting in slight injury; and
- A car lost control and left the carriageway colliding with a large rock, resulting in serious injury.

A39

3.6.7 A total of three slight injury accidents were recorded on the A39. The accidents are described as follows:

- A driver lost control of their car causing the vehicle to flip;
- The driver of a car lost control and collided with a tree, the vehicle then rebounded off the tree and collided with another car; and
- A car overtaking collided with the rear of the car it was overtaking.

3.6.8 The temporal distribution of the recorded accidents is relatively even with between two to four accidents occurring per year over the last five years.

3.6.9 The overall number and pattern of accidents is not unusual for a relatively busy highway network. Whilst the accident record does not suggest a particular safety issue at any particular location, Section 5 of the TS carefully assesses the traffic impact of the development proposal to identify whether it will materially change the operation of the local highway network to the detriment of highway safety.

4 Proposed Development

4.1 Development & Access Arrangements

4.1.1 It is proposed to develop land at Grange Farm, Cannington for up to 73 new dwellings with associated parking, vehicular and pedestrian/cycle access. The application is for an outline permission with access to be determined in detail, all other matters including layout, appearance and landscaping are to be determined as part of a future application.

4.1.2 A site layout has been prepared in support of the outline planning application, which identifies an indicative layout for the scheme. A copy of the site layout plan is included in Appendix 3.

4.1.3 The application for the proposed development is outline at this stage and therefore the development mix will be set through a future reserved matters planning application, however, Table 9 summarises the potential mix of the proposed development illustrated on the architect's site layout plan.

Number of Bedrooms	Total
2-bed	20
3-bed	28
3/4-bed	12
4-bed	13
Total	**73**

Table 9: Indicative Development Mix

4.1.4 The proposed site access is illustrated on Plan 4. The proposed access comprises a new arm to the east of the A39/Main Road roundabout. The site access road will have a width of 5.5m and 2.0m wide footways will be provided either side of the carriageway to tie into the existing provision at the A39/Main Road roundabout.

4.1.5 It is proposed to provide a pedestrian/cycle refuge island to facilitate crossing movements over the proposed site access arm.

4.2 Car & Cycle Parking Provision

4.2.1 All parking provision for development is dealt with in the SCC's Parking Strategy (March 2012). The site is located in Zone B and therefore the car parking standards set out in Table 10 are applicable.

Zone	One-Bedroom	Two-Bedrooms	Three-Bedrooms	Four-Bedrooms
B - Amber	1.5 car spaces	2 car spaces	2.5 car spaces	3 car spaces

Table 10: Somerset County Council's Residential Parking Standards

4.2.2 Notwithstanding that the application is outline form with layout to be determined, the parking shown on the illustrative site layout plan (ref: Appendix 3) has due regard to the SCC Parking Standards. The illustrative parking provision in accordance with the Parking Standards is summarised below:

Number of Bedrooms	Total	Parking Standard per Dwelling	Total
2-bed	20	2	40
3-bed	28	2.5	70
3/4-bed	12	3	36
4-bed	13	3	39
Visitor	-	0.2	15
Total	**73**		**200**

Table 11: Indicative Car Parking Provision

4.2.3 The illustrative site layout identifies 200 parking spaces which is in accordance with SCC's Parking Standards.

4.3 Refuse Vehicle Access Arrangements

4.3.1 Plan 5 demonstrates that a refuse vehicle can enter, circulate around the illustrative site layout and exit in forward gear. At the ends of the cul-de-sacs, adequate turning heads are provided to facilitate these manoeuvres.

4.3.2 The refuse carry distances for the development will be designed in accordance with Schedule 1, Part H of the Building Regulations (2000). All of the dwellings will be located within 30m of a waste collection point and the refuse vehicle can manoeuvre to within 25m of all collection points.

5 Development Impact

5.1 Assessment Scenarios

5.1.1 Assessment of the operation of the A39/Main Road roundabout will be undertaken for the following three scenarios:

- 2018 existing conditions;
- 2023 base; and
- 2023 base plus development traffic.

5.2 2023 Base Traffic Flows

5.2.1 The historic requirement for an assessment five years after submission of a planning application set out in the 2007 Guidance on Transport Assessments has now been rescinded. However, in order to provide a robust assessment of the impact of the proposed development it is proposed to undertake the assessments of the local highway network for 2023 i.e. five years after submission of the planning application.

5.2.2 Local growth factors have been used to adjust the surveyed traffic flows shown on Figure 1 to represent the 2023 traffic volumes. These growth factors have been derived from the TEMPRO/NTM database (v7.2/dataset 72). The growth factors for the Sedgemoor 007 MSOA are summarised in Table 12.

Date Range	Morning Peak	Evening Peak
2018-2023	1.0665	1.0640

Table 12: Growth Rates – Sedgemoor Mid-Layer Super Output Area 007

5.2.3 The growth factors have been applied to the observed 2018 traffic flows, with Figure 3 showing the derived 2023 traffic flows.

5.3 Predicted Vehicular Trips

5.3.1 The TRICS trip generation database has been used to derive representative trip rates to establish the likely trip generation of the residential development. The trip rates are derived from the 'Houses Privately Owned' category and have been obtained using the following parameters:

- Regions – all regions of England, excluding Greater London;
- Size – 50 to 108 dwellings;
- Location – surveys in 'suburban area' and 'edge of town' locations only; and
- Survey days – weekdays only.

5.3.2 The resulting trip profile for 73 dwellings are provided in Table 13. The TRICS outputs for the proposed residential development are included in Appendix 4.

Hour Starting	Arrive	Depart	2-Way
07:00	6	24	30
08:00	**12**	**29**	**41**
09:00	9	11	20
10:00	9	12	20
11:00	12	14	25
12:00	11	11	22
13:00	11	13	24
14:00	10	12	22
15:00	15	11	26
16:00	20	10	29
17:00	**29**	**13**	**43**
18:00	20	11	31
Totals	164	170	333

Table 13: TRICS Trip Rates and Vehicle Flows – Houses Privately Owned

5.3.3 Table 13 demonstrates that the proposed development is expected to generate approximately 40 vehicle trips during the morning and evening peak hours, which equates to one vehicle movement every 1.5 minutes.

5.3.4 Commuting data from the 2011 Census was examined in Section 3 to derive a distribution of peak hour commuting trips. Figure 4 uses the distribution to set out the predicted pattern of traffic movements at the A39/Main Road roundabout. The 2023 base plus development traffic flows are shown on Figure 5.

5.4 Operational Analysis

5.4.1 Capacity analysis has been undertaken for the A39/Main Road roundabout to determine the existing operation of the roundabout and its ability to accommodate the additional traffic from the proposed development.

5.4.2 Tests for the junction have been undertaken for the weekday morning and evening peak hours (08:00 to 09:00 and 17:00 to 18:00). The roundabout has been tested using TRL Software Junctions 9. The assessment outputs are provided in Appendix 5 of this report. The junctions have been assessed using the 'one-hour profile' in Junctions 9 to account for peaks in traffic flow that occur within the peak hour. The results of the assessments are summarised in Table 14.

	Morning Peak (08:00-09:00)			Evening Peak (17:00-18:00)		
	Max RFC	Delay (s)	Queue	Max RFC	Delay (s)	Queue
2018						
Main Road	0.22	3.10	0.3	0.33	3.67	0.5
A39 Main Road	0.47	4.31	1.0	0.46	3.99	0.9
A39	0.26	3.46	0.4	0.31	3.54	0.5
2023 Base						
Main Road	0.23	3.2	0.3	0.36	3.87	0.6
A39 Main Road	0.50	4.58	1.1	0.49	4.21	1.0
A39	0.28	3.60	0.5	0.33	3.67	0.6
2023 Base plus Development						
Main Road	0.24	3.22	0.3	0.37	3.97	0.6
Site Access	0.05	5.57	0.1	0.03	6.71	0.0
A39 Main Road	0.51	4.66	1.1	0.50	4.36	1.1
A39	0.29	3.63	0.5	0.34	3.77	0.6

Table 14: A39/Main Road/Site Access Assessment Results

5.4.3 It is demonstrated that the junction will continue to operate within capacity with the addition of the site access arm and the development traffic.

5.5 Predicted Non-Car Travel Demand

5.5.1 Using the trip rate information obtained from the TRICS database (included in Table 13), it is expected that over 12-hours the site will generate 333 car trips for the proposed development of 73 dwellings. Table NTS0301 (Mode Share, average number of trips: England) identifies that 42% of all journeys are undertaken by car. If car mode share represents 42% of trips by all modes, then this would equate to 792-person trips over 12-hours. The breakdown of those trips is shown in Table 15.

Commuting Mode	Modal Split	12-Hour Trips by Mode
Car	42%	333
Passenger in Car	22%	174
Walk	22%	174
Bus	7%	55
Rail	3%	24
Cycle	2%	16
Other	2%	16
Total	**100.0%**	**792**

Table 15: Estimated 12-Hour Modal Split

5.6 Implications of Predicted Change in Travel Demand

5.6.1 As indicated by Table 15 above the biggest increase in non-car travel is likely to be journeys on foot, with about 174 trips predicted over the 12-hour period from 07:00-19:00, which equates to approximately 15 walking trips per hour.

5.6.2 Footways will be provided within the site which will connect to the shared footway/cycleway at the A39/Main Road roundabout. From here pedestrians will be able to route north towards the services and facilities located in Cannington using the existing footway network as described in Section 2.

5.6.3 Bus patronage is expected to increase by approximately 55-person trips over the 12-hour period. Hourly bus services to Bridgwater are available approximately 100m to the north of the site on Main Road. Suitable pedestrian facilities are provided from the site to the bus stops with footways provided either side of Main Road and a pedestrian refuge island provided at the roundabout to facilitate crossing movements over Main Road.

5.6.4 Cycle travel is the next most popular non-car mode of travel, accounting for an increase in 16 trips over the 12-hour period. As identified in Section 2 the cycle facilities in the vicinity of the site are very good with the provision of the recently completed footway/cycleway adjacent to the A39 Main Road, which provides a connection to the A39 New Road/Sandford Hill/Quantock Road/Charlynch Lane roundabout and onwards to Bridgwater via Wemdon.

5.6.5 The existing transport facilities within the vicinity of the site could therefore accommodate the predicted increase in non-car travel generated by the proposed development.

5.7 Travel Plan

5.7.1 A Framework Travel Plan (FTP) has been prepared to support the planning application. The FTP focuses on promoting sustainable lifestyles amongst new residents, providing non-car mode travel options for local journeys and influencing modal choice. The FTP also provides an initial framework for implementation, management and review of the Travel Plan.

5.7.2 To assist with achieving these objectives, the Framework Travel Plan proposes a package of measures with details to be provided on the Travel Plan website, which will cover the following:

- Provision of up-to-date travel information for walking, cycling and public transport;
- Details regarding the provision of broadband to enable easy access to local home delivery services and home working;
- Details about the Travel Plan, its aims and objectives, how to get involved and how travel will be monitored and reported back to residents;
- A plan of the new development, highlighting local facilities and nearby key destinations, the walking and cycling routes to these and public transport routes and the location of bus stops;
- Details of any negotiated discounts at local cycle stores;
- Information about opportunities to travel to local schools in the vicinity of the site by sustainable modes, local school travel plans, and schemes;

- Maps showing the location of key services and facilities and walking/cycling time isochrones to demonstrate to residents how long it will take to walk or cycle to these destinations;
- Bus and rail maps and timetable information;
- Information about journey planning services e.g. www.traveline.info;
- Information about car sharing through the www.liftshare.com website;
- Information about the home delivery services offered by supermarkets in the local area, and potentially a voucher for free home delivery on first use; and
- The offer of personalised journey planning for residents. The offer will be available to the first residents of each dwelling upon occupation.

5.7.3 If required the above information can be provided in hard copy form.

6 Summary and Conclusions

6.1 Summary

6.1.1 This Transport Assessment has considered proposals by Mrs D Yorke to develop land at Grange Farm, Cannington, to provide up to 73 dwellings. The main points are summarised as follows:

(i) The site lies on the southern side of Cannington, immediately to the south of the residential properties served by Southbrook;

(ii) The site lies to the east of the A39/Main Road roundabout where a shared footway/cycleway routes north to south along the western boundary of the site. The shared footway/cycleway provides a connection to the bus stops located on Main Road which are served by hourly services to Bridgwater;

(iii) The non-car travel infrastructure provides links to facilities in all key land use categories without having to use a car, including employment, education, healthcare and retail;

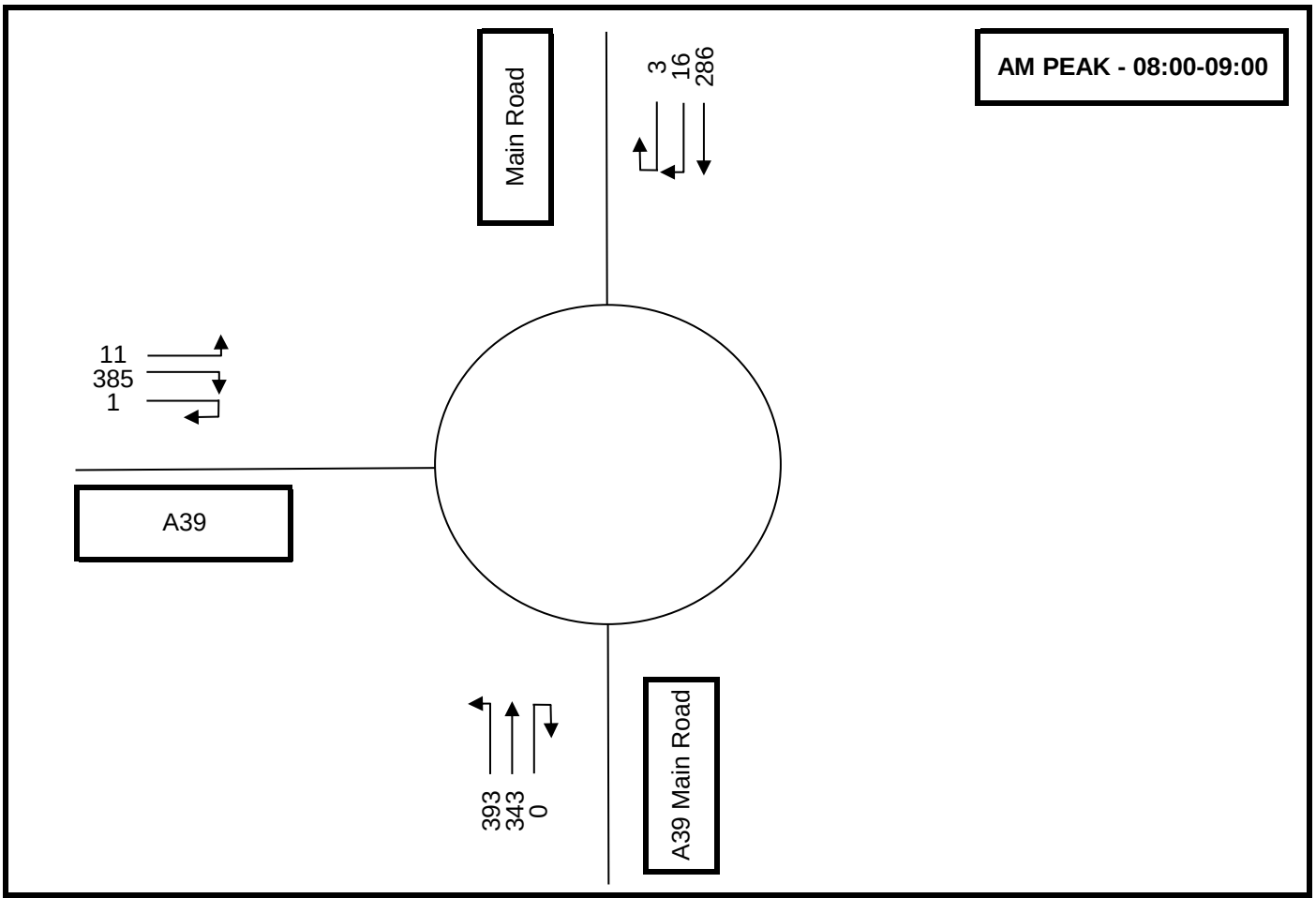
(iv) A review of the most recent five-year Personal Injury Accident data has been undertaken and it is identified that the overall number and pattern of accidents is not unusual for a busy highway network;

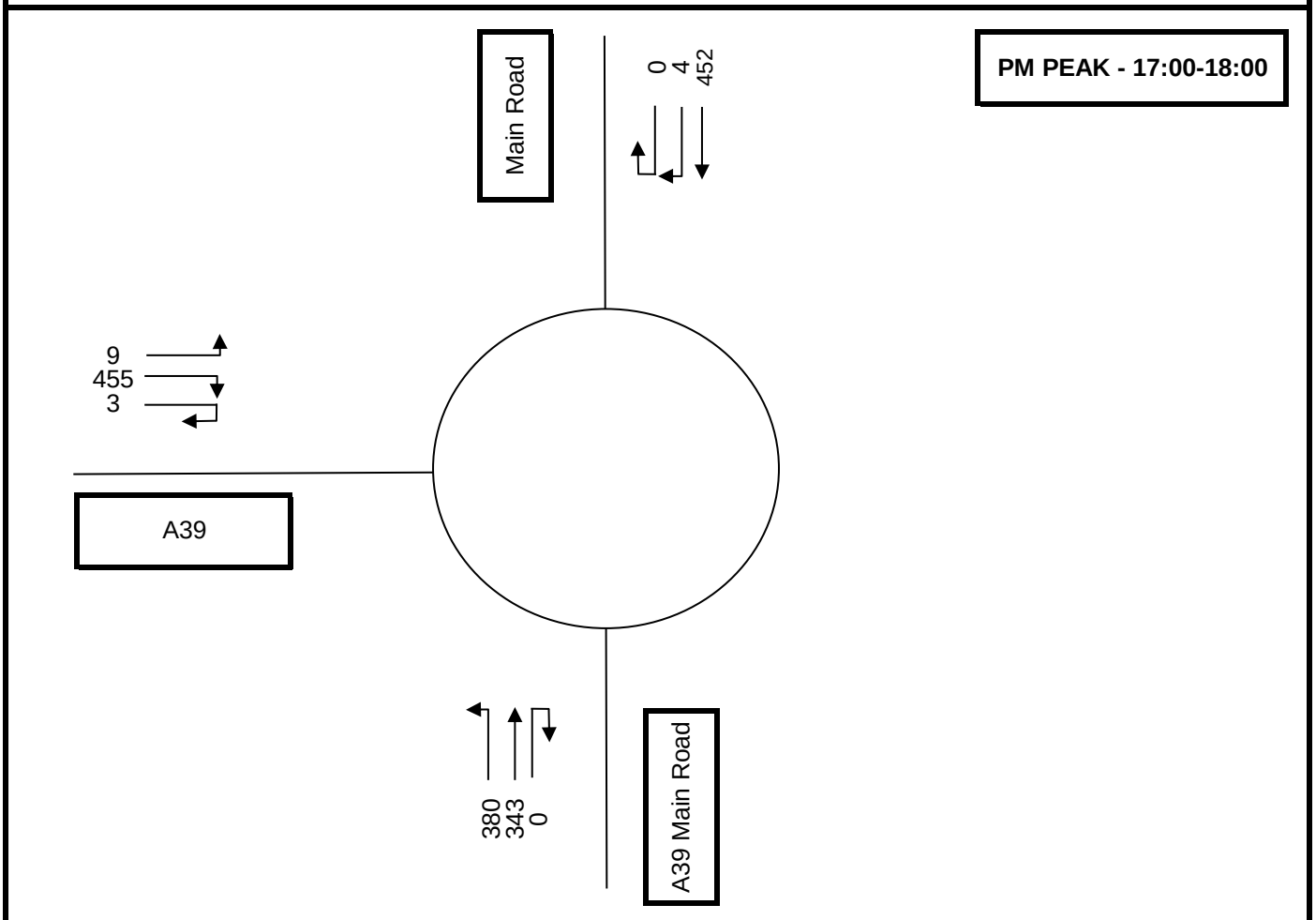
(v) The proposed development would consist of up to 73 dwellings served by car parking in accordance with the SCC adopted parking standards;

(vi) It is proposed to access the site via a new arm at the A39/Main Road roundabout. The site access proposals accord with standards identified in the Design Manual for Roads and Bridges. Suitable provision for pedestrians and cyclists is provided to tie into the existing shared footway/cycleway; and

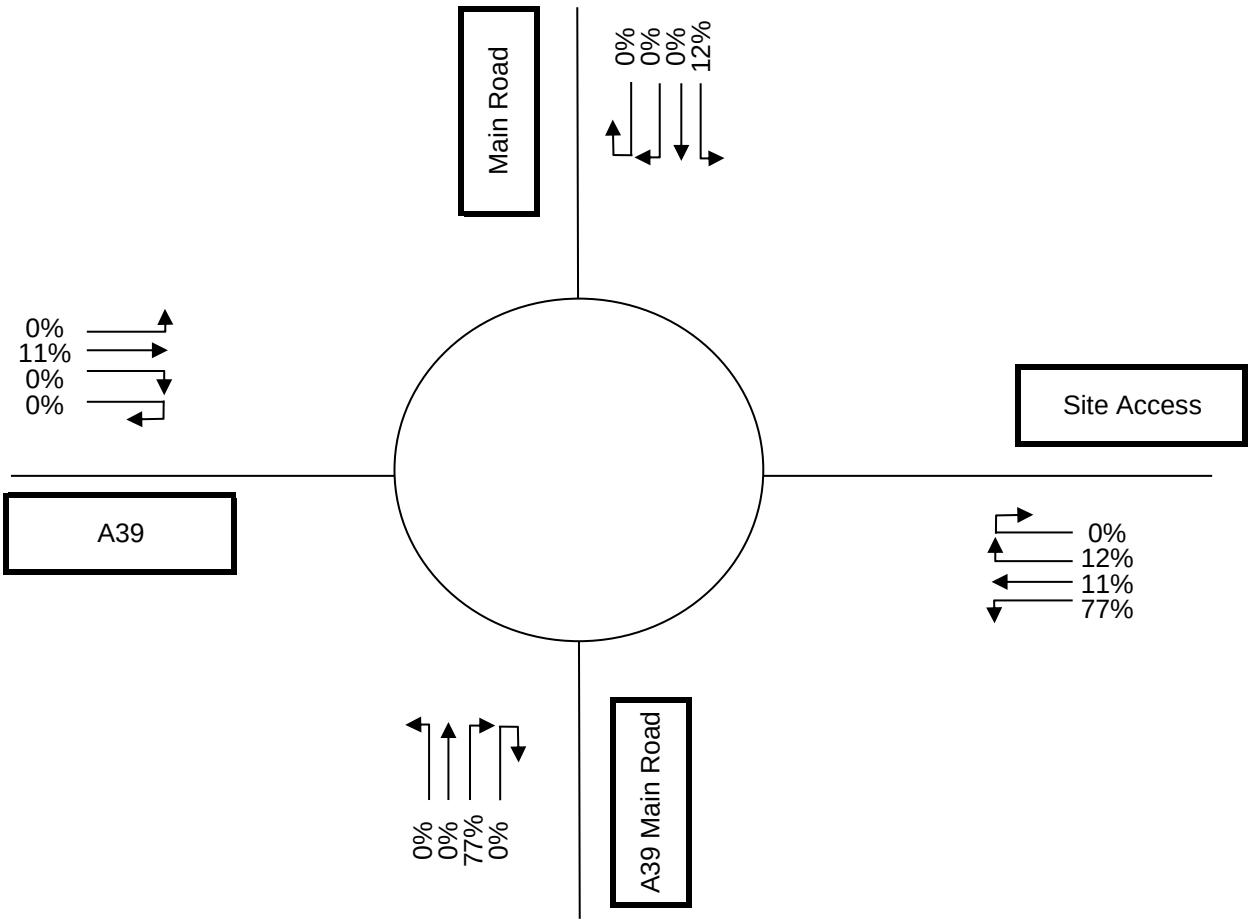
(vii) A Framework Travel Plan has been prepared to promote the use of sustainable modes to residents of the proposed development. A full Travel Plan will be prepared and agreed with SCC prior to occupation of the proposed development.

Figures



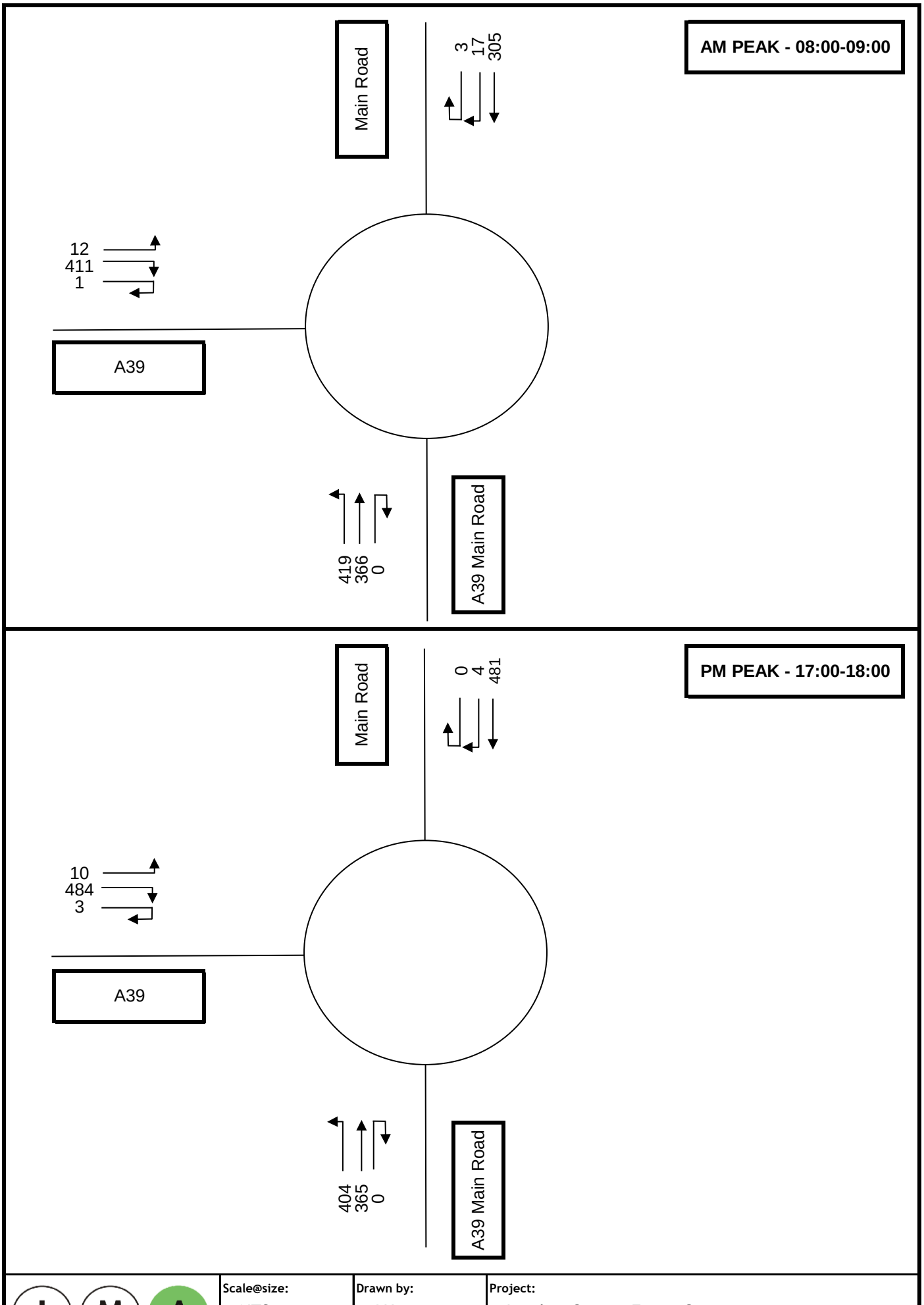


I M A TRANSPORT PLANNING	Scale@size: NTS	Drawn by: RH	Project: Land at Grange Farm, Cannington
	Job No: IMA-18-040	Date: May-18	Existing Traffic Flows - AM & PM Peak — Figure 1

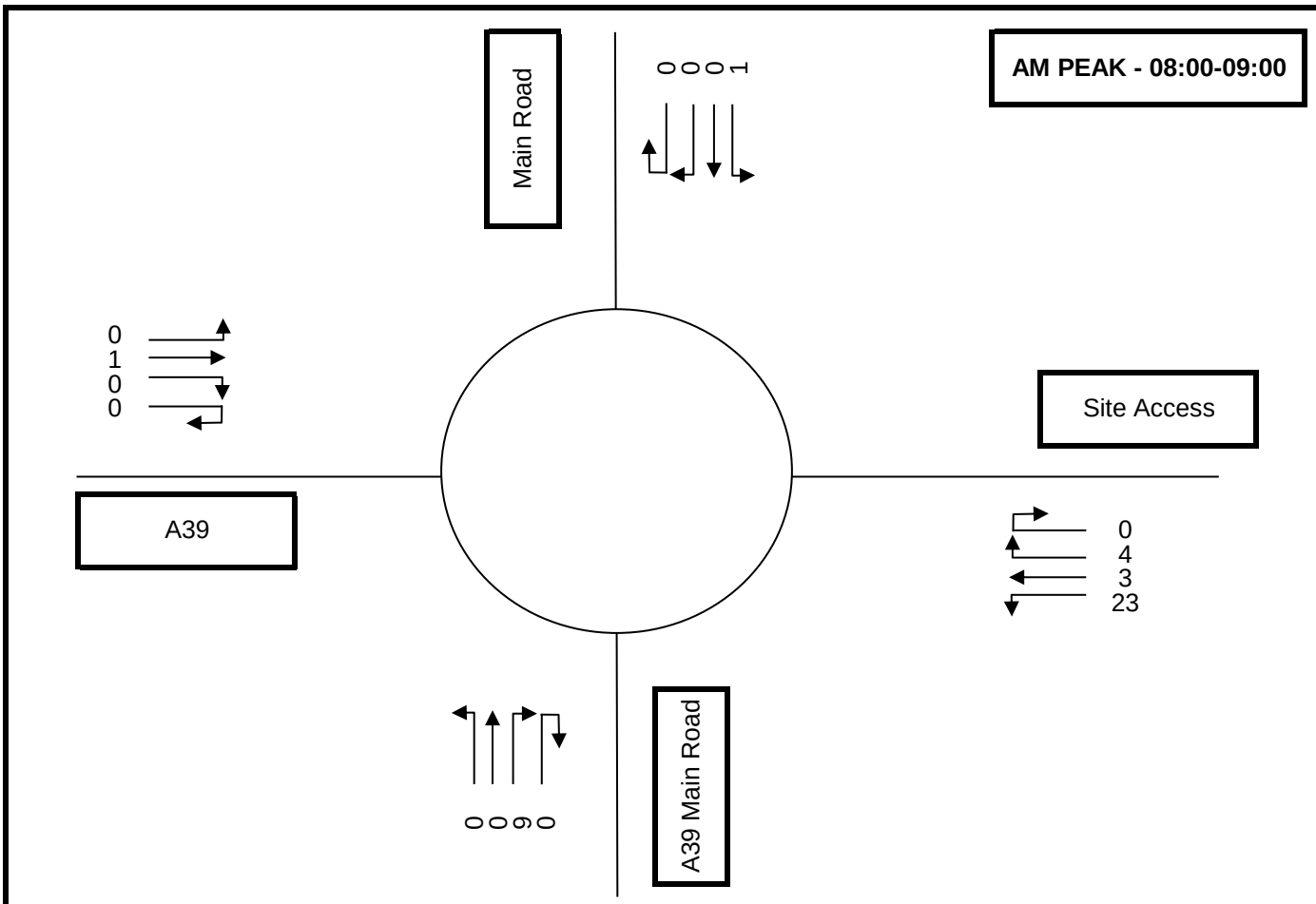


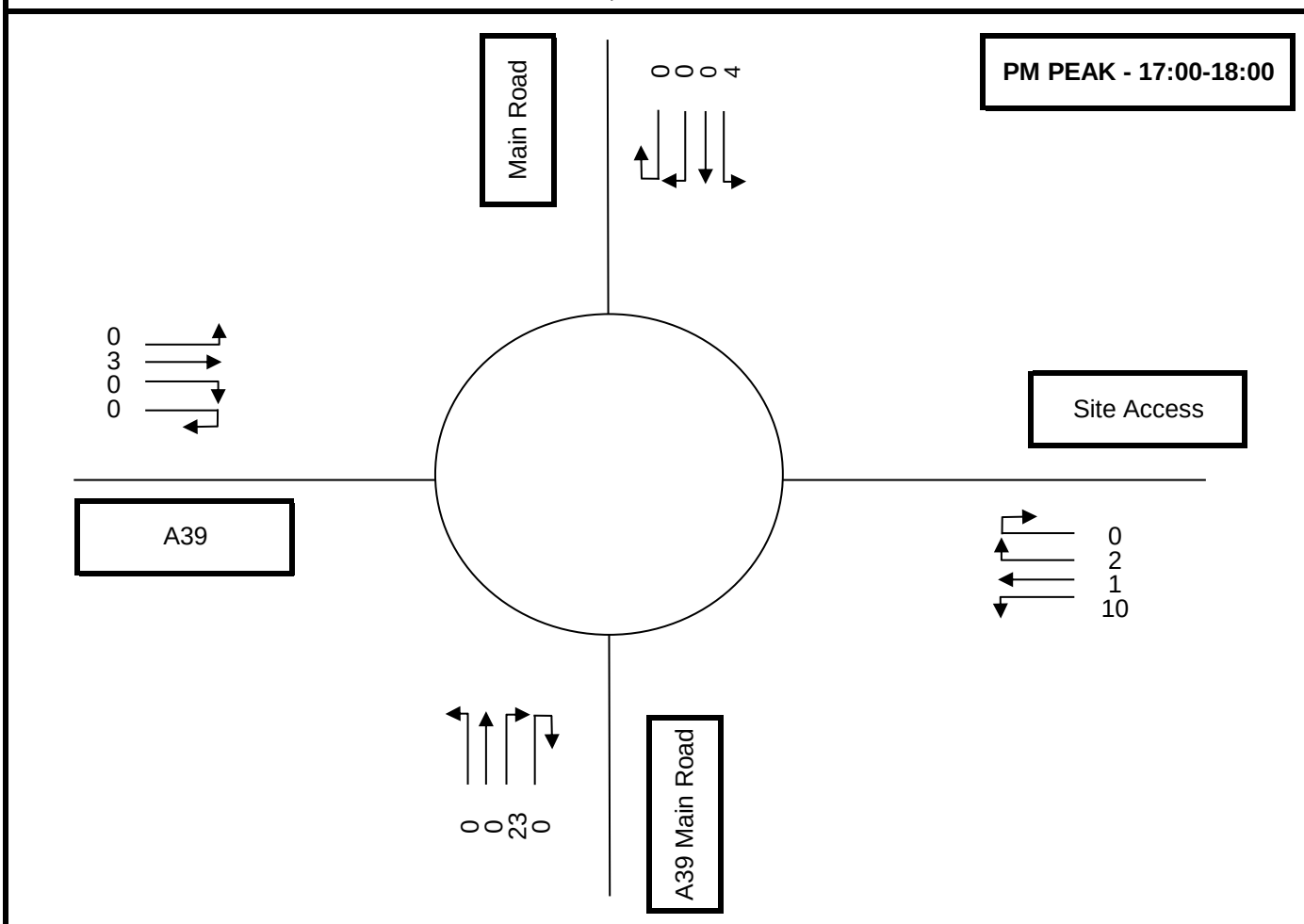
TRANSPORT PLANNING	Scale@size: NTS	Drawn by: RH	Project: Land at Grange Farm, Cannington
	Job No: IMA-18-040	Date: May-18	**Development Distribution - AM & PM Peak**

Figure 2

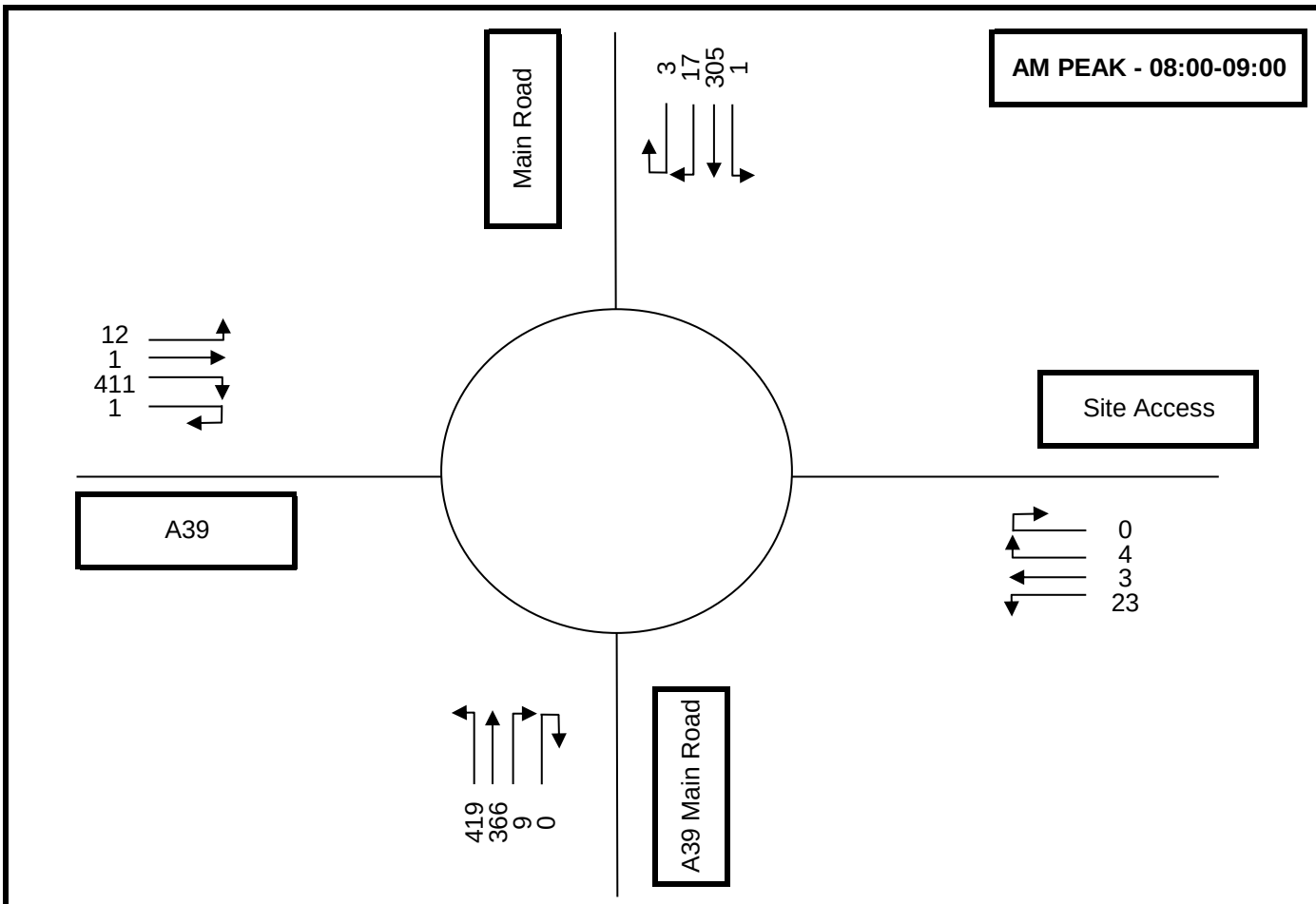


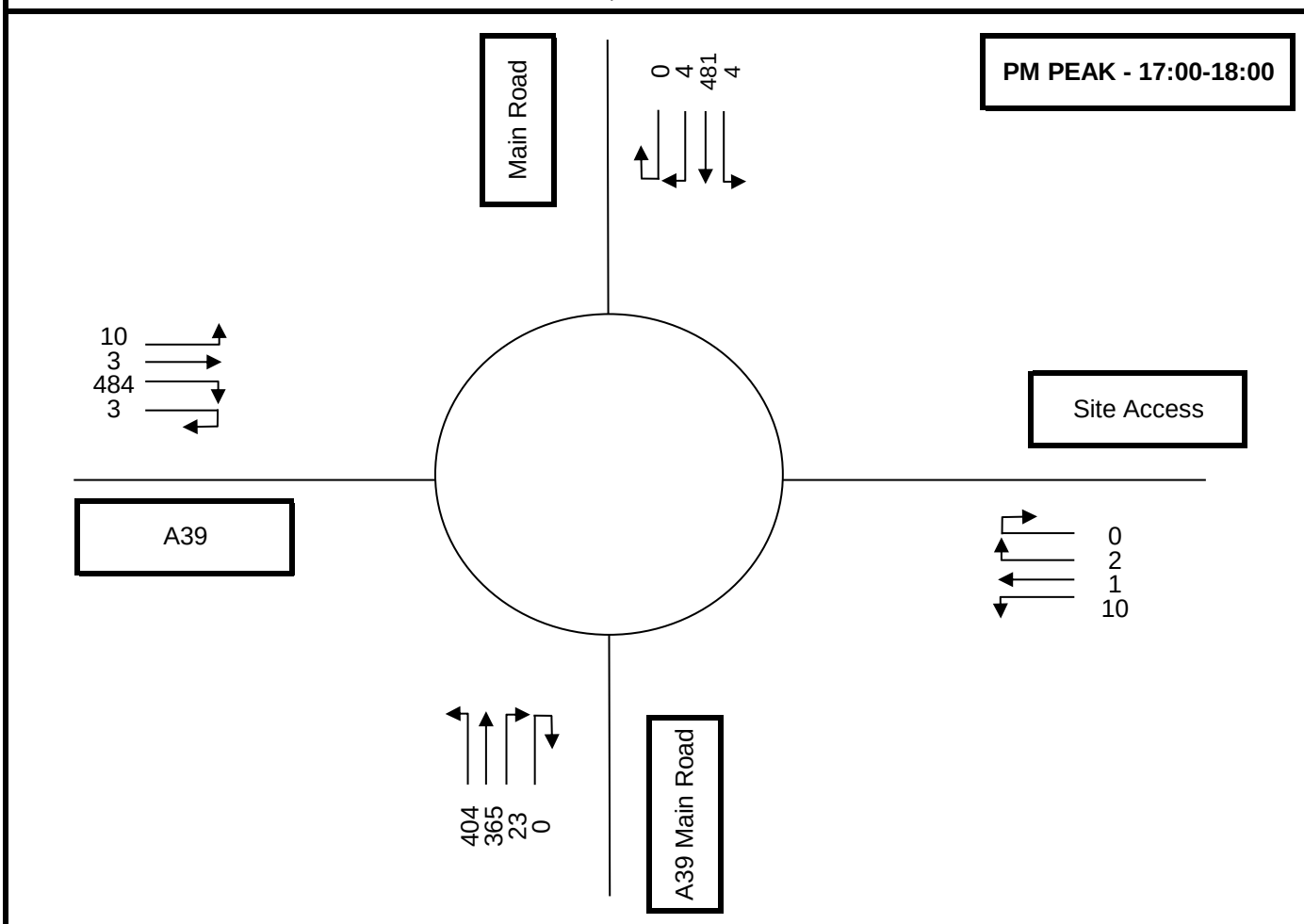
IMA TRANSPORT PLANNING	Scale@size: NTS	Drawn by: RH	Project: Land at Grange Farm, Cannington
	Job No: IMA-18-040	Date: May-18	2023 Base Traffic Flows - AM & PM Peak — Figure 3





IMA TRANSPORT PLANNING	Scale@size: NTS	Drawn by: RH	Project: Land at Grange Farm, Cannington
	Job No: IMA-18-040	Date: May-18	Development Traffic Flows - AM & PM Peak — Figure 4

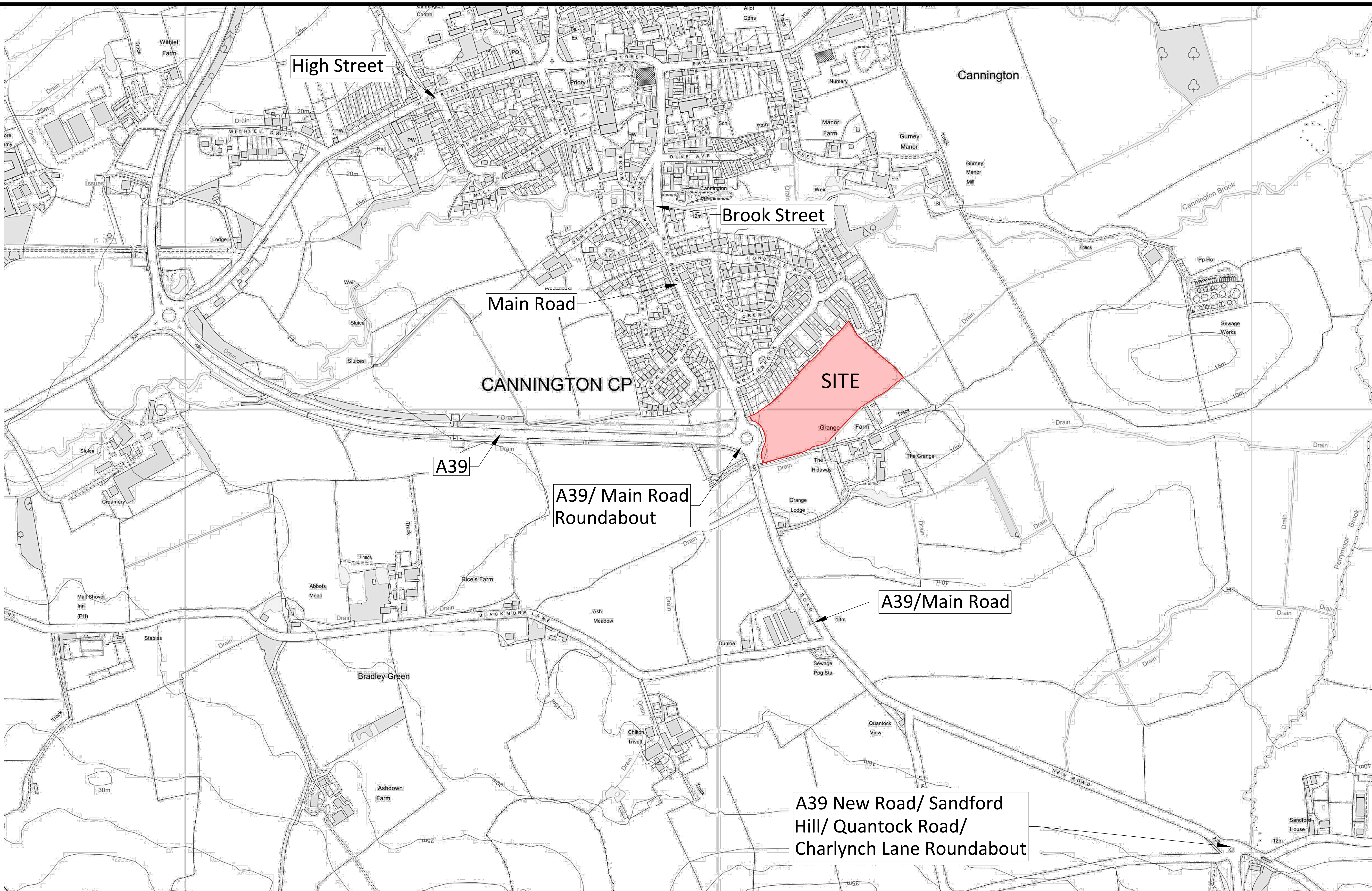




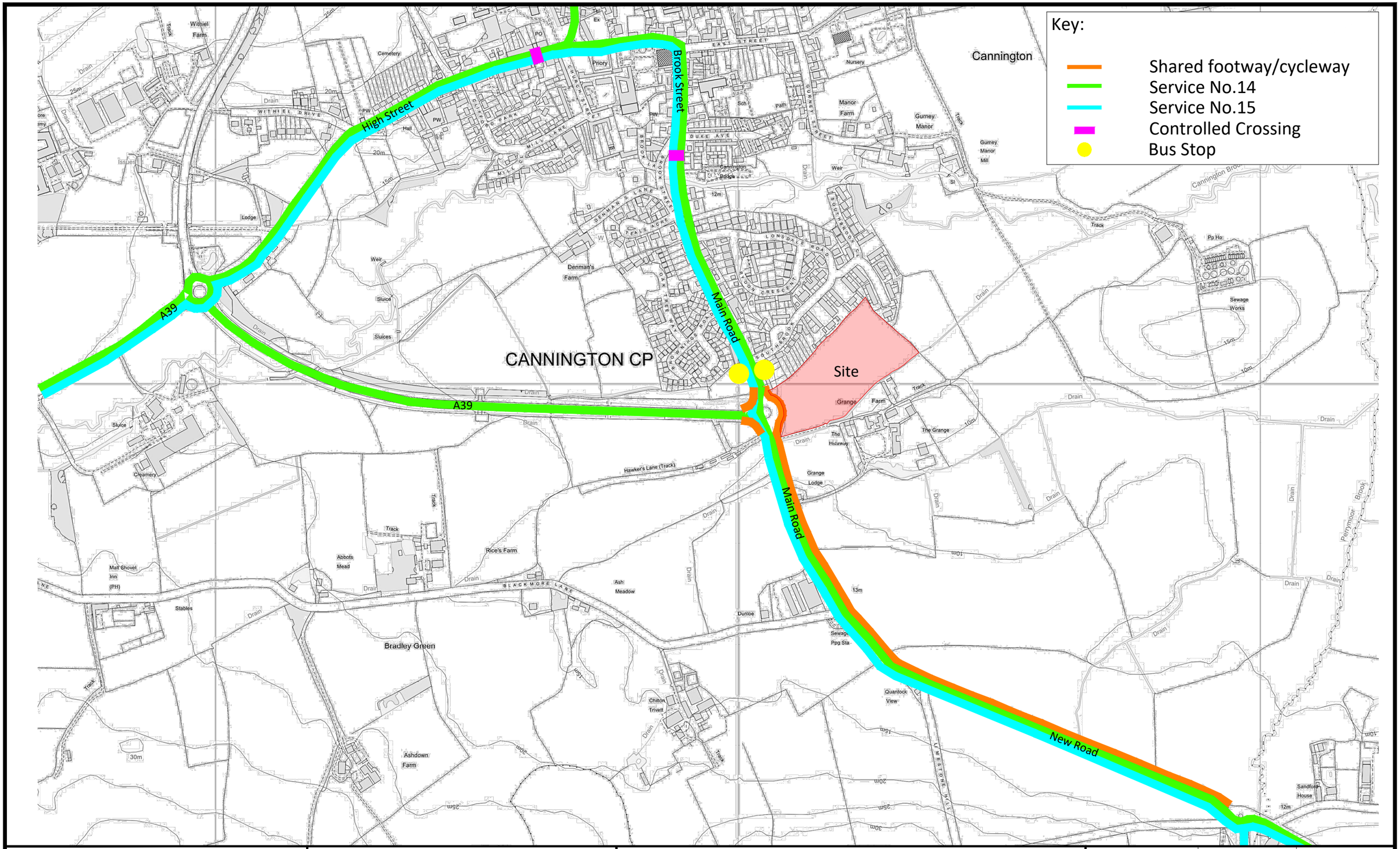
TRANSPORT PLANNING	Scale@size: NTS	Drawn by: RH	Project: Land at Grange Farm, Cannington
	Job No: IMA-18-040	Date: May-18	2023 + Development Traffic Flows - AM & PM Peak

Figure 5

Plans



IMA TRANSPORT PLANNING 11 KINGSMEAD SQUARE BATH BA1 2AB t: 01225 444 011 www.ima-tp.com	PROJECT: Grange Farm, Cannington	TITLE: Plan 1 Site Location Plan	SCALE: (A3) N.T.S CHECKED: APPROVED: CAD FILE: Layout_v.1.dwg DESIGN/DRAWN: AB DATE: July - 2018 PROJECT No: IMA-18-040 DRAWING No: 004 REV:



IMA TRANSPORT PLANNING
11 KINGSMEAD SQUARE
BATH BA1 2AB
t: 01225 444 011
www.ima-tp.com

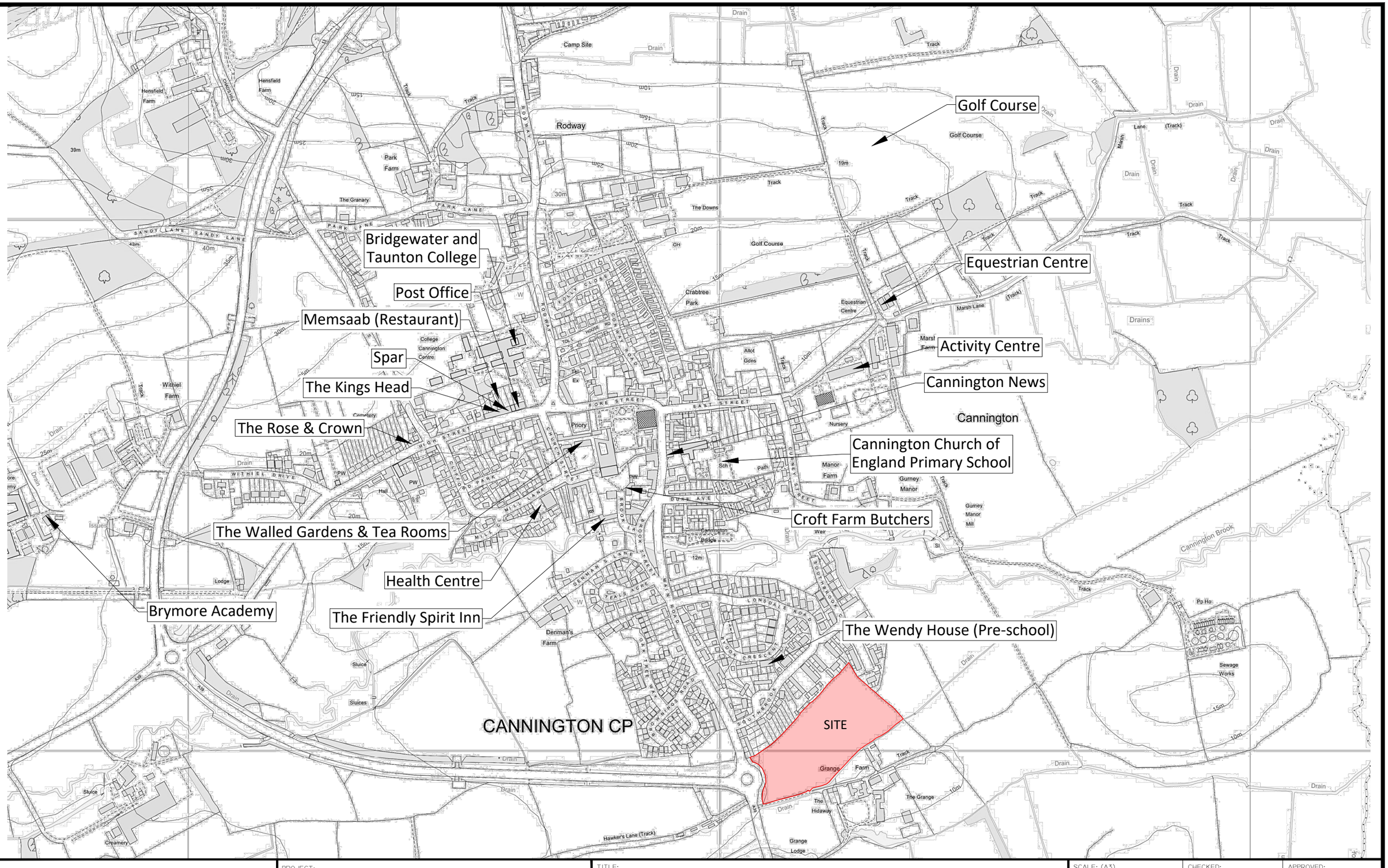
PROJECT:

Grange Farm, Cannington

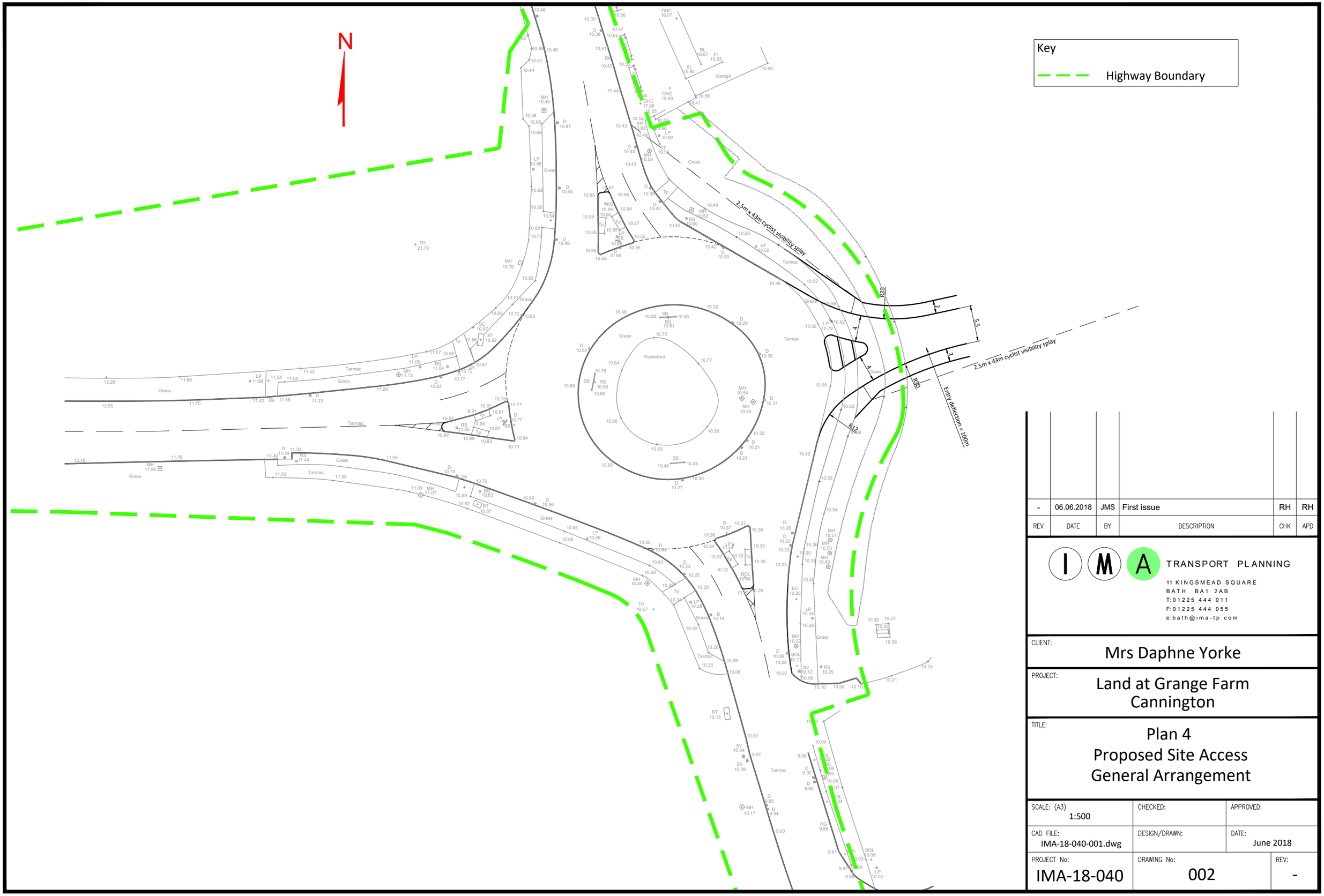
TITLE:

Plan 2
Existing Pedestrian/Cycle Facilities
and Existing Bus Services

SCALE: (A3) N.T.S	CHECKED:	APPROVED:
CAD FILE: Layout_v.1.dwg	DESIGN/DRAWN: AB	DATE: July - 2018
PROJECT No: IMA-18-040	DRAWING No: 005	REV:



IMA TRANSPORT PLANNING 11 KINGSMEAD SQUARE BATH BA1 2AB t:01225 444 011 www.ima-tp.com	PROJECT: Grange Farm, Cannington	TITLE: Plan 3 Local Services and Facilities	SCALE: (A3) N.T.S	CHECKED: / APPROVED:
			CAD FILE: Layout_v.1.dwg	DESIGN/DRAWN: AB / DATE: July - 2018
			PROJECT No: IMA-18-040	DRAWING No: 006 / REV:



REV	DATE	BY	DESCRIPTION	CHK	APD
-	06.06.2018	JMS	First issue	RH	RH

IMA TRANSPORT PLANNING
11 KINGSMEAD SQUARE
BATH BA1 2AB
T: 01225 444 011
F: 01225 444 055
e: bath@ima-tp.com

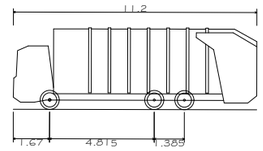
CLIENT: Mrs Daphne Yorke

PROJECT: Land at Grange Farm Cannington

TITLE: Plan 4 Proposed Site Access General Arrangement

SCALE: (A3)	CHECKED:	APPROVED:
1:500		
CAD FILE: IMA-18-040-001.dwg	DESIGN/DRAWN:	DATE: June 2018
PROJECT No: IMA-18-040	DRAWING No: 002	REV: -

Vehicle Details:



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)

Overall Length	11.200m
Overall Width	2.530m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to Lock Time	4.00s
Curb to Curb Turning Radius	9.500m

GRANGE CLOSE
SOUTHBROOK
Drain
Track
Grange Barn
Grange Farm
Hidaway Cottage

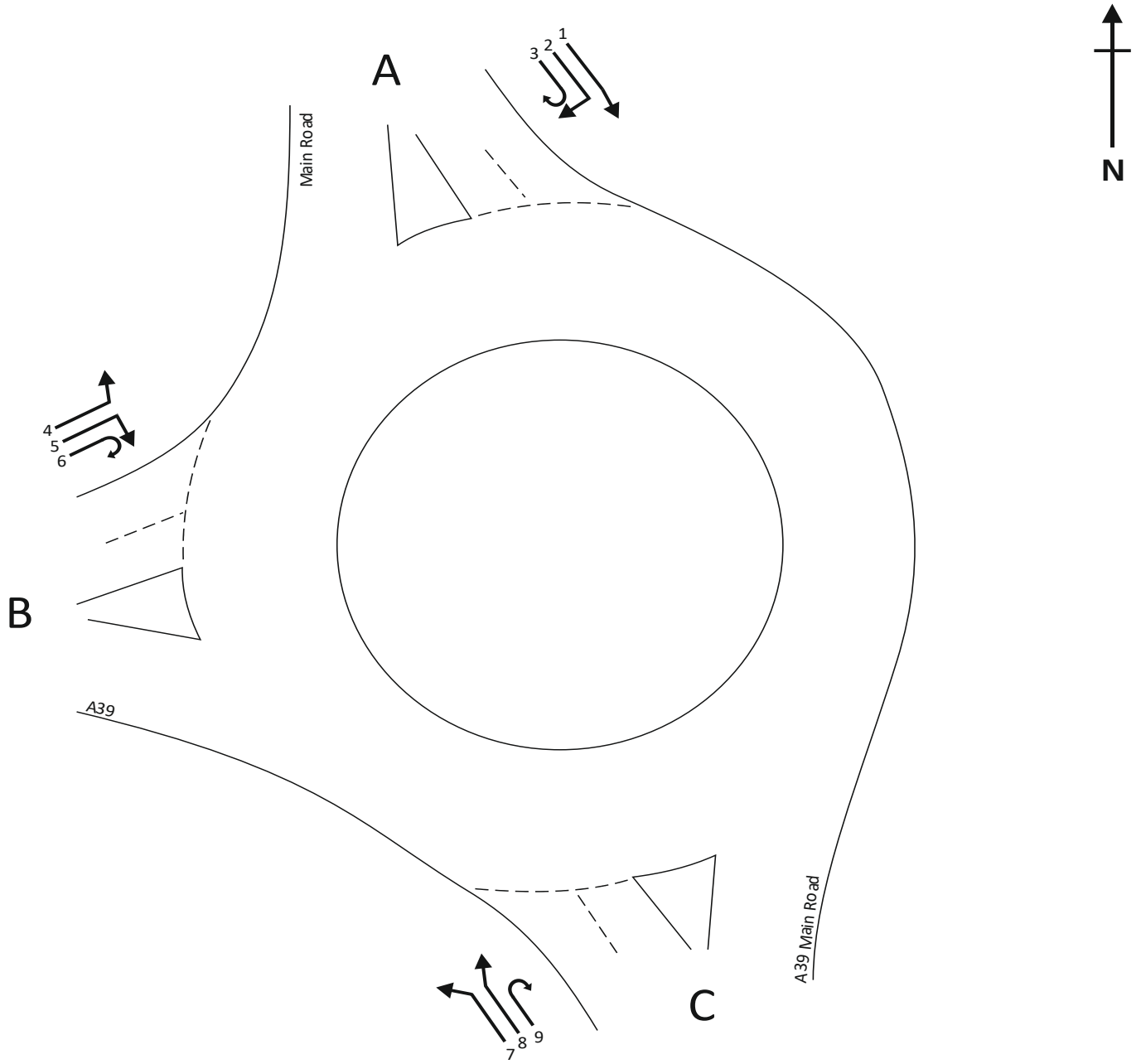
IMA TRANSPORT PLANNING
11 KINGSMEAD SQUARE
BATH BA1 2AB
t: 01225 444 011
www.ima-tp.com

PROJECT: Grange Farm, Cannington

TITLE: Plan 5
Refuse Vehicle Swept Path Analysis

SCALE: (A3) 1:1000	CHECKED:	APPROVED:
CAD FILE: IMA-18-040-003.dwg	DESIGN/DRAWN: AB	DATE: July - 2018
PROJECT No: IMA-18-040	DRAWING No: 003	REV:

Appendix 1



AXIOM Traffic Limited

For and on behalf of:

IMA TRANSPORT PLANNING

CANNINGTON

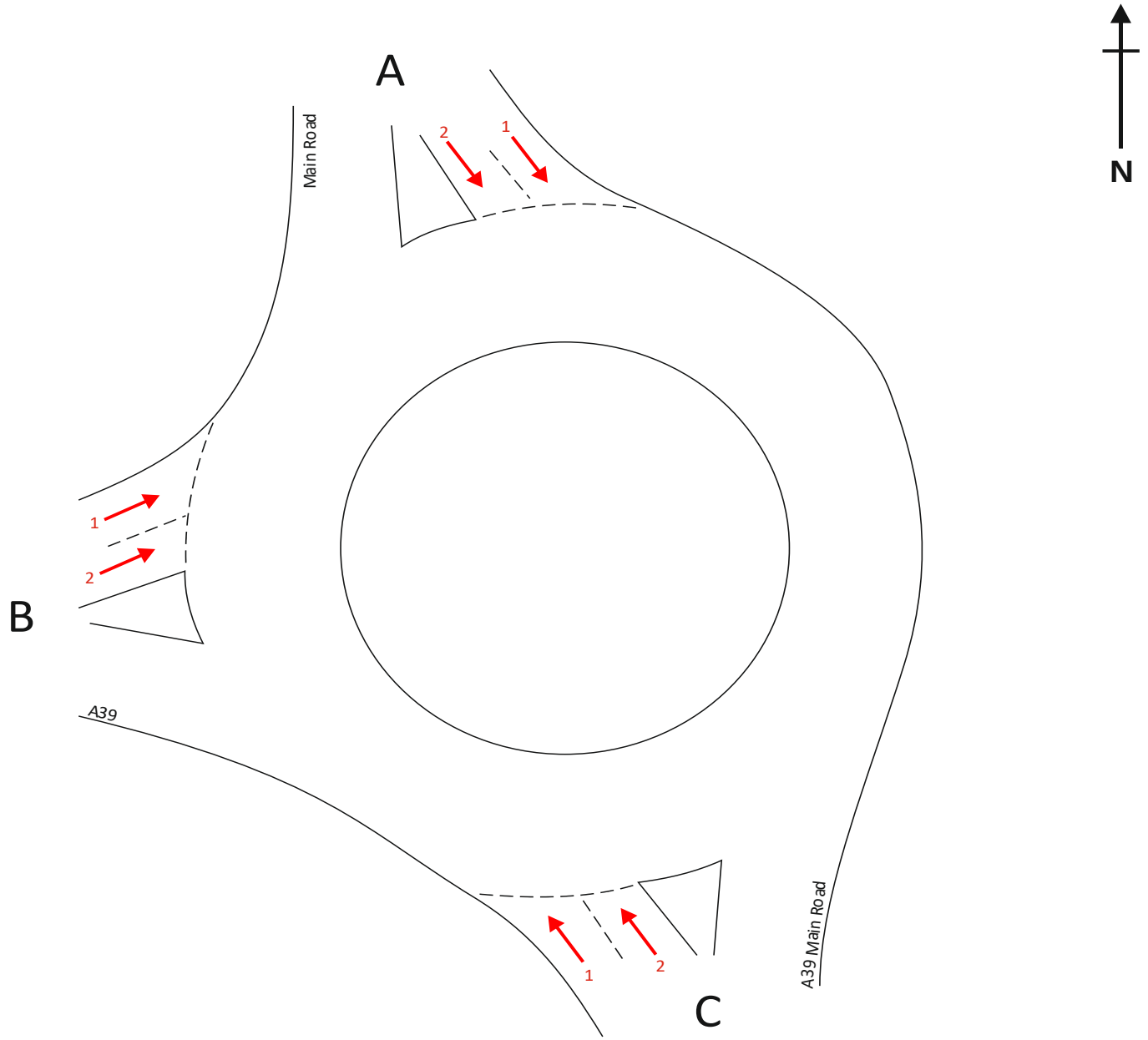
Tuesday 05 June 2018

0700-1000
1600-1900

Drawing N°: **22965 - 01**

Site: **1**

Location: **Main Road / A39 / A39 Main Road**



AXIOM Traffic Limited

For and on behalf of:

IMA TRANSPORT PLANNING

CANNINGTON

Tuesday 05 June 2018

0700-1000
1600-1900

Drawing N°: **22965 - 01**

Site: **1 - QUEUE LENGTHS**

Location: **Main Road / A39 / A39 Main Road**

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 1 FROM MAIN ROAD TO A39 MAIN ROAD								MOVEMENT 2 FROM MAIN ROAD TO A39							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	61	8	0	0	1	3	0	73	0	0	1	0	0	0	0	1
07:15	55	17	2	0	0	2	0	76	0	2	0	0	0	0	0	2
07:30	73	21	1	0	0	2	0	97	0	1	0	0	0	0	0	1
07:45	63	13	3	1	0	0	0	80	1	1	0	0	0	0	0	2
H/TOT	252	59	6	1	1	7	0	326	1	4	1	0	0	0	0	6
08:00	72	15	1	0	3	0	0	91	3	0	0	0	0	0	0	3
08:15	55	8	5	0	1	1	0	70	2	0	0	0	0	0	0	2
08:30	49	7	2	0	1	2	0	61	5	0	0	0	0	0	0	5
08:45	60	3	0	1	0	0	0	64	5	1	0	0	0	0	0	6
H/TOT	236	33	8	1	5	3	0	286	15	1	0	0	0	0	0	16
09:00	68	10	3	1	0	0	0	82	1	2	0	0	0	0	0	3
09:15	54	12	2	1	3	0	0	72	4	0	0	0	0	0	0	4
09:30	36	13	2	0	2	1	0	54	0	0	0	0	0	0	0	0
09:45	44	7	1	0	0	0	0	52	2	0	0	0	0	0	0	2
H/TOT	202	42	8	2	5	1	0	260	7	2	0	0	0	0	0	9
P/TOT	690	134	22	4	11	11	0	872	23	7	1	0	0	0	0	31

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 1 FROM MAIN ROAD TO A39 MAIN ROAD								MOVEMENT 2 FROM MAIN ROAD TO A39							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	58	19	3	0	4	1	0	85	0	0	0	0	0	0	0	0
16:15	64	31	4	0	0	4	0	103	2	0	0	0	0	0	0	2
16:30	106	20	1	0	1	7	0	135	0	0	0	0	0	0	0	0
16:45	126	18	1	0	1	4	0	150	1	0	0	0	0	0	0	1
H/TOT	354	88	9	0	6	16	0	473	3	0	0	0	0	0	0	3
17:00	127	30	0	0	0	2	0	159	0	0	0	0	0	0	0	0
17:15	92	30	1	0	2	2	0	127	1	0	1	0	0	0	0	2
17:30	84	15	2	1	0	3	1	106	0	0	0	0	0	0	0	0
17:45	41	11	1	1	0	5	1	60	1	0	0	0	0	1	0	2
H/TOT	344	86	4	2	2	12	2	452	2	0	1	0	0	1	0	4
18:00	76	10	3	0	1	1	0	91	0	0	0	0	0	0	0	0
18:15	52	18	1	0	0	2	1	74	0	1	0	0	0	0	0	1
18:30	43	6	0	0	0	0	0	49	2	0	0	0	0	0	0	2
18:45	54	7	0	0	0	2	0	63	0	1	0	0	0	0	0	1
H/TOT	225	41	4	0	1	5	1	277	2	2	0	0	0	0	0	4
P/TOT	923	215	17	2	9	33	3	1202	7	2	1	0	0	1	0	11

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 3 FROM MAIN ROAD TO MAIN ROAD								MOVEMENT 4 FROM A39 TO MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
H/TOT	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
08:00	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4
08:15	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
08:30	0	1	0	0	0	0	0	1	2	1	1	0	0	0	0	4
08:45	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
H/TOT	2	1	0	0	0	0	0	3	8	1	2	0	0	0	0	11
09:00	0	1	0	0	0	0	0	1	1	1	0	0	0	0	0	2
09:15	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2
09:30	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1
09:45	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1
H/TOT	0	3	0	0	0	0	0	3	3	2	0	0	0	1	0	6
P/TOT	2	4	0	0	0	0	0	6	14	4	2	0	0	1	0	21

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 3 FROM MAIN ROAD TO MAIN ROAD								MOVEMENT 4 FROM A39 TO MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
16:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
16:45	1	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1
H/TOT	2	0	0	0	0	0	0	2	7	0	0	0	0	1	0	8
17:00	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
17:15	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
17:30	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9
18:00	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	2
18:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
18:30	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
18:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
H/TOT	0	0	1	0	0	0	0	1	6	2	0	0	0	0	0	8
P/TOT	2	0	1	0	0	0	0	3	22	2	0	0	0	1	0	25

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 5 FROM A39 TO A39 MAIN ROAD								MOVEMENT 6 FROM A39 TO A39							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	59	12	3	4	6	0	0	84	0	0	0	0	1	0	0	1
07:15	64	10	1	2	12	1	0	90	0	0	0	0	0	0	0	0
07:30	73	13	4	3	15	0	0	108	0	0	0	0	1	0	0	1
07:45	79	15	4	8	5	1	0	112	0	0	0	0	0	0	0	0
H/TOT	275	50	12	17	38	2	0	394	0	0	0	0	2	0	0	2
08:00	61	22	3	12	5	0	0	103	0	0	0	0	1	0	0	1
08:15	79	14	4	8	7	0	0	112	0	0	0	0	0	0	0	0
08:30	65	16	4	3	2	1	0	91	0	0	0	0	0	0	0	0
08:45	49	11	8	8	2	1	0	79	0	0	0	0	0	0	0	0
H/TOT	254	63	19	31	16	2	0	385	0	0	0	0	1	0	0	1
09:00	42	18	7	5	6	0	0	78	0	0	0	0	0	0	0	0
09:15	68	5	3	1	2	0	0	79	1	0	0	0	0	0	0	1
09:30	67	18	8	9	4	0	0	106	0	0	0	0	0	0	0	0
09:45	39	8	8	9	3	0	0	67	0	0	0	0	0	0	0	0
H/TOT	216	49	26	24	15	0	0	330	1	0	0	0	0	0	0	1
P/TOT	745	162	57	72	69	4	0	1109	1	0	0	0	3	0	0	4

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 5 FROM A39 TO A39 MAIN ROAD								MOVEMENT 6 FROM A39 TO A39							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	62	23	10	11	3	1	0	110	0	0	0	0	0	0	0	0
16:15	46	27	12	9	3	1	0	98	0	0	0	0	1	0	0	1
16:30	66	31	7	7	6	1	0	118	0	0	0	0	0	0	0	0
16:45	88	30	7	8	0	1	0	134	0	0	0	0	0	0	0	0
H/TOT	262	111	36	35	12	4	0	460	0	0	0	0	1	0	0	1
17:00	88	24	4	3	3	3	0	125	0	0	0	0	1	0	0	1
17:15	93	24	6	4	11	2	0	140	0	0	0	0	1	0	0	1
17:30	67	18	4	2	7	0	0	98	0	0	0	0	0	0	0	0
17:45	64	16	4	0	8	0	0	92	0	0	0	0	1	0	0	1
H/TOT	312	82	18	9	29	5	0	455	0	0	0	0	3	0	0	3
18:00	68	18	3	1	6	1	1	98	0	0	0	0	0	0	0	0
18:15	34	15	1	4	13	0	0	67	0	0	0	0	1	0	0	1
18:30	36	13	1	1	12	0	0	63	0	0	0	0	0	0	0	0
18:45	43	7	2	1	8	2	0	63	0	0	0	0	0	0	0	0
H/TOT	181	53	7	7	39	3	1	291	0	0	0	0	1	0	0	1
P/TOT	755	246	61	51	80	12	1	1206	0	0	0	0	5	0	0	5

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 7 FROM A39 MAIN ROAD TO A39								MOVEMENT 8 FROM A39 MAIN ROAD TO MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	52	33	3	10	10	2	0	110	91	27	1	0	1	4	0	124
07:15	55	36	11	16	5	2	0	125	74	25	1	2	1	7	0	110
07:30	42	19	5	11	6	2	0	85	58	17	3	0	1	3	0	82
07:45	50	46	11	15	2	1	0	125	60	15	3	1	1	2	0	82
H/TOT	199	134	30	52	23	7	0	445	283	84	8	3	4	16	0	398
08:00	71	30	5	12	3	0	0	121	68	10	3	1	0	0	0	82
08:15	60	26	6	3	2	0	0	97	63	15	4	0	0	4	0	86
08:30	58	18	2	9	4	0	0	91	74	7	2	1	0	1	0	85
08:45	41	24	2	14	1	2	0	84	69	20	1	0	0	0	0	90
H/TOT	230	98	15	38	10	2	0	393	274	52	10	2	0	5	0	343
09:00	45	19	6	18	5	1	0	94	42	14	0	3	1	0	0	60
09:15	31	17	3	7	0	0	0	58	32	13	3	1	1	0	0	50
09:30	34	17	5	12	1	0	0	69	40	13	0	0	1	0	0	54
09:45	48	22	4	17	3	1	0	95	30	9	0	1	0	1	0	41
H/TOT	158	75	18	54	9	2	0	316	144	49	3	5	3	1	0	205
P/TOT	587	307	63	144	42	11	0	1154	701	185	21	10	7	22	0	946

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 7 FROM A39 MAIN ROAD TO A39								MOVEMENT 8 FROM A39 MAIN ROAD TO MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	62	18	6	4	6	0	0	96	47	12	2	0	0	1	0	62
16:15	68	24	0	4	8	0	0	104	57	12	2	0	0	0	0	71
16:30	78	12	2	2	3	0	0	97	58	18	1	0	1	0	0	78
16:45	53	17	0	1	8	1	0	80	55	11	0	0	0	2	0	68
H/TOT	261	71	8	11	25	1	0	377	217	53	5	0	1	3	0	279
17:00	59	15	0	0	8	1	0	83	69	9	1	0	1	1	0	81
17:15	81	8	0	1	3	0	0	93	59	11	2	0	0	2	0	74
17:30	96	9	1	1	5	0	0	112	72	9	1	0	1	2	0	85
17:45	72	13	1	2	4	0	0	92	89	14	0	0	0	0	0	103
H/TOT	308	45	2	4	20	1	0	380	289	43	4	0	2	5	0	343
18:00	54	10	1	4	4	2	0	75	75	15	1	0	0	0	0	91
18:15	68	7	1	0	2	2	0	80	81	11	0	1	0	0	0	93
18:30	66	11	1	3	1	0	0	82	65	13	1	0	1	0	0	80
18:45	50	7	1	1	1	0	0	60	62	10	1	0	0	0	0	73
H/TOT	238	35	4	8	8	4	0	297	283	49	3	1	1	0	0	337
P/TOT	807	151	14	23	53	6	0	1054	789	145	12	1	4	8	0	959

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 9 FROM A39 MAIN ROAD TO A39 MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0
09:00	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0
09:45	1	0	0	0	0	0	0	1
H/TOT	1	0	0	0	0	0	0	1
P/TOT	1	0	0	0	0	0	0	1

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	MOVEMENT 9 FROM A39 MAIN ROAD TO A39 MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0
18:00	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0
H/TOT	0	0	0	0	0	0	0	0
P/TOT	0	0	0	0	0	0	0	0

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	TO ARM A MAIN ROAD								FROM ARM A MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	92	27	1	0	1	4	0	125	61	8	1	0	1	3	0	74
07:15	74	25	1	2	1	7	0	110	55	19	2	0	0	2	0	78
07:30	58	17	3	0	1	3	0	82	73	22	1	0	0	2	0	98
07:45	62	16	3	1	1	2	0	85	64	14	3	1	0	0	0	82
H/TOT	286	85	8	3	4	16	0	402	253	63	7	1	1	7	0	332
08:00	73	10	3	1	0	0	0	87	76	15	1	0	3	0	0	95
08:15	64	15	5	0	0	4	0	88	57	8	5	0	1	1	0	72
08:30	76	9	3	1	0	1	0	90	54	8	2	0	1	2	0	67
08:45	71	20	1	0	0	0	0	92	66	4	0	1	0	0	0	71
H/TOT	284	54	12	2	0	5	0	357	253	35	8	1	5	3	0	305
09:00	43	16	0	3	1	0	0	63	69	13	3	1	0	0	0	86
09:15	32	14	3	1	1	1	0	52	58	12	2	1	3	0	0	76
09:30	41	14	0	0	1	0	0	56	36	14	2	0	2	1	0	55
09:45	31	10	0	1	0	1	0	43	46	8	1	0	0	0	0	55
H/TOT	147	54	3	5	3	2	0	214	209	47	8	2	5	1	0	272
P/TOT	717	193	23	10	7	23	0	973	715	145	23	4	11	11	0	909

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	TO ARM A MAIN ROAD								FROM ARM A MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	50	12	2	0	0	1	0	65	58	19	3	0	4	1	0	85
16:15	59	12	2	0	0	0	0	73	67	31	4	0	0	4	0	106
16:30	61	18	1	0	1	0	0	81	106	20	1	0	1	7	0	135
16:45	56	11	0	0	0	3	0	70	128	18	1	0	1	4	0	152
H/TOT	226	53	5	0	1	4	0	289	359	88	9	0	6	16	0	478
17:00	70	9	1	0	1	1	0	82	127	30	0	0	0	2	0	159
17:15	62	11	2	0	0	2	0	77	93	30	2	0	2	2	0	129
17:30	77	9	1	0	1	2	0	90	84	15	2	1	0	3	1	106
17:45	89	14	0	0	0	0	0	103	42	11	1	1	0	6	1	62
H/TOT	298	43	4	0	2	5	0	352	346	86	5	2	2	13	2	456
18:00	77	15	2	0	0	0	0	94	76	10	4	0	1	1	0	92
18:15	83	11	0	1	0	0	0	95	52	19	1	0	0	2	1	75
18:30	66	14	1	0	1	0	0	82	45	6	0	0	0	0	0	51
18:45	63	11	1	0	0	0	0	75	54	8	0	0	0	2	0	64
H/TOT	289	51	4	1	1	0	0	346	227	43	5	0	1	5	1	282
P/TOT	813	147	13	1	4	9	0	987	932	217	19	2	9	34	3	1216

TO ARM A IS TOTAL OF MOVEMENTS 3, 4, 8

FROM ARM A IS TOTAL OF MOVEMENTS 1, 2, 3

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	TO ARM B A39								FROM ARM B A39							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	52	33	4	10	11	2	0	112	60	12	3	4	7	0	0	86
07:15	55	38	11	16	5	2	0	127	64	10	1	2	12	1	0	90
07:30	42	20	5	11	7	2	0	87	73	13	4	3	16	0	0	109
07:45	51	47	11	15	2	1	0	127	81	16	4	8	5	1	0	115
H/TOT	200	138	31	52	25	7	0	453	278	51	12	17	40	2	0	400
08:00	74	30	5	12	4	0	0	125	65	22	3	12	6	0	0	108
08:15	62	26	6	3	2	0	0	99	80	14	5	8	7	0	0	114
08:30	63	18	2	9	4	0	0	96	67	17	5	3	2	1	0	95
08:45	46	25	2	14	1	2	0	90	50	11	8	8	2	1	0	80
H/TOT	245	99	15	38	11	2	0	410	262	64	21	31	17	2	0	397
09:00	46	21	6	18	5	1	0	97	43	19	7	5	6	0	0	80
09:15	36	17	3	7	0	0	0	63	69	6	3	1	2	1	0	82
09:30	34	17	5	12	1	0	0	69	68	18	8	9	4	0	0	107
09:45	50	22	4	17	3	1	0	97	40	8	8	9	3	0	0	68
H/TOT	166	77	18	54	9	2	0	326	220	51	26	24	15	1	0	337
P/TOT	611	314	64	144	45	11	0	1189	760	166	59	72	72	5	0	1134

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	TO ARM B A39								FROM ARM B A39							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	62	18	6	4	6	0	0	96	65	23	10	11	3	1	0	113
16:15	70	24	0	4	9	0	0	107	47	27	12	9	4	1	0	100
16:30	78	12	2	2	3	0	0	97	69	31	7	7	6	1	0	121
16:45	54	17	0	1	8	1	0	81	88	30	7	8	0	2	0	135
H/TOT	264	71	8	11	26	1	0	381	269	111	36	35	13	5	0	469
17:00	59	15	0	0	9	1	0	84	89	24	4	3	4	3	0	127
17:15	82	8	1	1	4	0	0	96	96	24	6	4	12	2	0	144
17:30	96	9	1	1	5	0	0	112	72	18	4	2	7	0	0	103
17:45	73	13	1	2	5	1	0	95	64	16	4	0	9	0	0	93
H/TOT	310	45	3	4	23	2	0	387	321	82	18	9	32	5	0	467
18:00	54	10	1	4	4	2	0	75	70	18	3	1	6	1	1	100
18:15	68	8	1	0	3	2	0	82	36	15	1	4	14	0	0	70
18:30	68	11	1	3	1	0	0	84	37	14	1	1	12	0	0	65
18:45	50	8	1	1	1	0	0	61	44	8	2	1	8	2	0	65
H/TOT	240	37	4	8	9	4	0	302	187	55	7	7	40	3	1	300
P/TOT	814	153	15	23	58	7	0	1070	777	248	61	51	85	13	1	1236

TO ARM B IS TOTAL OF MOVEMENTS 2, 6, 7

FROM ARM B IS TOTAL OF MOVEMENTS 4, 5, 6

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	TO ARM C A39 MAIN ROAD								FROM ARM C A39 MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
07:00	120	20	3	4	7	3	0	157	143	60	4	10	11	6	0	234
07:15	119	27	3	2	12	3	0	166	129	61	12	18	6	9	0	235
07:30	146	34	5	3	15	2	0	205	100	36	8	11	7	5	0	167
07:45	142	28	7	9	5	1	0	192	110	61	14	16	3	3	0	207
H/TOT	527	109	18	18	39	9	0	720	482	218	38	55	27	23	0	843
08:00	133	37	4	12	8	0	0	194	139	40	8	13	3	0	0	203
08:15	134	22	9	8	8	1	0	182	123	41	10	3	2	4	0	183
08:30	114	23	6	3	3	3	0	152	132	25	4	10	4	1	0	176
08:45	109	14	8	9	2	1	0	143	110	44	3	14	1	2	0	174
H/TOT	490	96	27	32	21	5	0	671	504	150	25	40	10	7	0	736
09:00	110	28	10	6	6	0	0	160	87	33	6	21	6	1	0	154
09:15	122	17	5	2	5	0	0	151	63	30	6	8	1	0	0	108
09:30	103	31	10	9	6	1	0	160	74	30	5	12	2	0	0	123
09:45	84	15	9	9	3	0	0	120	79	31	4	18	3	2	0	137
H/TOT	419	91	34	26	20	1	0	591	303	124	21	59	12	3	0	522
P/TOT	1436	296	79	76	80	15	0	1982	1289	492	84	154	49	33	0	2101

MANUAL CLASSIFIED COUNTS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

TIME	TO ARM C A39 MAIN ROAD								FROM ARM C A39 MAIN ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	TOT
16:00	120	42	13	11	7	2	0	195	109	30	8	4	6	1	0	158
16:15	110	58	16	9	3	5	0	201	125	36	2	4	8	0	0	175
16:30	172	51	8	7	7	8	0	253	136	30	3	2	4	0	0	175
16:45	214	48	8	8	1	5	0	284	108	28	0	1	8	3	0	148
H/TOT	616	199	45	35	18	20	0	933	478	124	13	11	26	4	0	656
17:00	215	54	4	3	3	5	0	284	128	24	1	0	9	2	0	164
17:15	185	54	7	4	13	4	0	267	140	19	2	1	3	2	0	167
17:30	151	33	6	3	7	3	1	204	168	18	2	1	6	2	0	197
17:45	105	27	5	1	8	5	1	152	161	27	1	2	4	0	0	195
H/TOT	656	168	22	11	31	17	2	907	597	88	6	4	22	6	0	723
18:00	144	28	6	1	7	2	1	189	129	25	2	4	4	2	0	166
18:15	86	33	2	4	13	2	1	141	149	18	1	1	2	2	0	173
18:30	79	19	1	1	12	0	0	112	131	24	2	3	2	0	0	162
18:45	97	14	2	1	8	4	0	126	112	17	2	1	1	0	0	133
H/TOT	406	94	11	7	40	8	2	568	521	84	7	9	9	4	0	634
P/TOT	1678	461	78	53	89	45	4	2408	1596	296	26	24	57	14	0	2013

TO ARM C IS TOTAL OF MOVEMENTS 1, 5, 9

FROM ARM C IS TOTAL OF MOVEMENTS 7, 8, 9

QUEUE LENGTHS

JOB REF: 22965

JOB NAME: CANNINGTON

SITE: 1 **DATE:** 05/06/2018

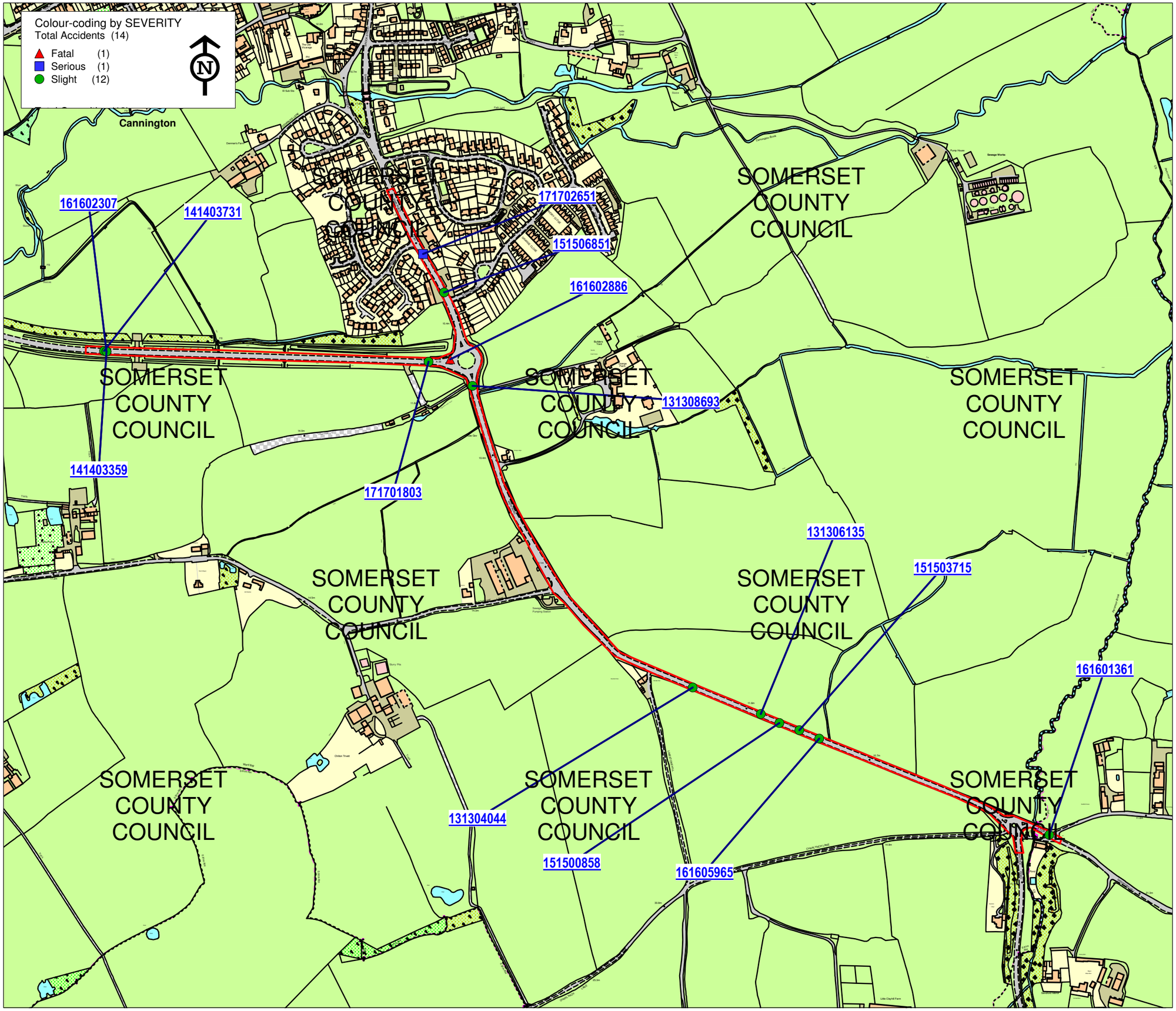
LOCATION: MAIN ROAD / A39 / A39 MAIN ROAD **DAY:** TUESDAY

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

TIME	ARM A MAIN RD		ARM B A39		ARM C A39 MAIN RD	
	LANE 1	LANE 2	LANE 1	LANE 2	LANE 1	LANE 2
07:00	0	0	0	0	0	0
07:05	0	0	0	0	0	0
07:10	0	0	0	0	0	0
07:15	0	0	0	4	0	0
07:20	0	0	0	0	0	0
07:25	0	0	0	0	0	0
07:30	0	0	0	0	0	0
07:35	0	0	0	0	0	0
07:40	0	0	0	0	0	0
07:45	8	0	0	0	0	0
07:50	2	0	0	0	0	0
07:55	0	0	0	0	0	0
08:00	0	0	0	1	0	0
08:05	0	0	0	0	0	0
08:10	10	1	0	0	0	0
08:15	1	0	0	0	0	0
08:20	0	0	0	0	0	0
08:25	1	1	0	0	0	0
08:30	0	0	0	0	0	0
08:35	3	1	0	3	0	0
08:40	0	0	0	0	0	0
08:45	1	0	0	2	0	0
08:50	0	0	0	0	0	0
08:55	0	0	0	3	0	0
09:00	0	0	0	1	0	0
09:05	0	0	0	0	0	0
09:10	1	0	0	0	0	0
09:15	0	0	0	0	0	0
09:20	0	0	0	0	0	0
09:25	1	0	0	0	0	0
09:30	1	0	0	0	0	0
09:35	0	0	0	0	0	0
09:40	0	0	0	0	0	0
09:45	0	0	0	4	0	0
09:50	0	0	0	4	0	0
09:55	0	0	0	0	0	0
10:00	0	0	0	0	0	0

TIME	ARM A MAIN RD		ARM B A39		ARM C A39 MAIN RD	
	LANE 1	LANE 2	LANE 1	LANE 2	LANE 1	LANE 2
16:00	0	0	0	0	0	0
16:05	0	0	0	2	0	0
16:10	0	0	0	0	0	0
16:15	0	0	0	0	0	0
16:20	0	0	0	8	0	0
16:25	0	0	0	0	0	0
16:30	3	0	0	0	0	0
16:35	0	0	0	0	0	0
16:40	0	0	0	0	0	0
16:45	6	0	0	0	0	0
16:50	0	0	0	0	0	0
16:55	6	0	0	0	0	0
17:00	3	1	0	13	0	0
17:05	3	0	0	3	0	0
17:10	3	0	0	0	0	0
17:15	4	0	0	4	0	0
17:20	0	0	0	4	0	0
17:25	1	0	0	0	0	0
17:30	0	0	0	6	0	0
17:35	0	0	0	0	0	0
17:40	0	0	0	0	0	0
17:45	0	0	0	1	0	0
17:50	0	0	0	0	0	0
17:55	0	0	0	9	0	0
18:00	0	0	0	1	0	0
18:05	0	0	0	0	0	0
18:10	0	0	0	0	0	0
18:15	0	0	0	1	0	0
18:20	0	0	0	3	0	0
18:25	0	0	0	0	0	0
18:30	0	0	0	0	0	0
18:35	0	0	0	0	0	0
18:40	2	0	0	0	0	0
18:45	0	0	0	0	0	0
18:50	0	0	0	0	0	0
18:55	0	0	0	0	0	0
19:00	0	0	0	0	0	0

Appendix 2



Cannington

Collisions between 01/01/2013 and 31/12/2017

CORRECT AT TIME OF PRINTING

SOMERSET Road Safety

SCALE	1 : 6000
DATE	28/06/2018
DRAWING No.	0045/2018
DRAWN BY	M.P.D
CHECKED BY	D.H

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months

Selection:
Selected using Manual Selection

Notes:
Cannington

131304044 16/06/2013 Sunday Time 1040 Vehicles 1 Casualties 1 Slight
Raining without high winds Road surface Wet/Damp Daylight: no street lighting
Special Conditions None Road Type Single carriageway
V1, TRAVELLING WEST, OVERTOOK VEHS AND ON RETURNING TO CORRECT SIDE OF CARRIAGEWAY, CLIPPED NEARSIDE KERB. V1 ROLLED AND CAME TO REST ON ITS ROOF IN THE CARRIAGEWAY
Occurred on A39, EAST OF JCT WITH LIMESTONE HILL, BETWEEN BRIDGWATER AND CANNINGTON

Vehicle Reference 1 Car Going ahead
Not in restricted lane Overturned
First point of impact Nearside Age of Driver 41
Vehicle direction SE to NW
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 41 Male Driver/rider Severity: Slight

---

131306135 28/07/2013 Sunday Time 0230 Vehicles 1 Casualties 1 Slight
Fine without high winds Road surface Dry Darkness: no street lighting
Special Conditions None Road Type Single carriageway
V1, TRAVELLING WESTBOUND, LEFT MAIN CARRIAGEWAY, HIT THE KERB, SPUN INTO A TREE THEN CAME TO REST IN A DITCH.
Occurred on A39 NEW ROAD, BETWEEN BRIDGWATER AND CANNINGTON

Vehicle Reference 1 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 23
Vehicle direction E to W
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 23 Female Driver/rider Severity: Slight

---

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months

Selection:
Selected using Manual Selection

Notes:
Cannington

131308693 21/11/2013 Thursday Time 1545 Vehicles 2 Casualties 1 Slight
Raining without high winds Road surface Wet/Damp Daylight: street lights present
Special Conditions None Road Type Roundabout
V1 & V2 WAITING IN QUEUE OF TRAFFIC. TRAFFIC STARTED MOVING AND V1 DROVE INTO REAR OF V2.
Occurred on A39 MAIN ROAD RAB, CANNINGTON

Vehicle Reference 1 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 18
Vehicle direction S to N
FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Car Waiting to go ahead but held up
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Back Age of Driver 51
Vehicle direction S to N
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 51 Male Driver/rider Severity: Slight

---

141403359 27/04/2014 Sunday Time 2347 Vehicles 1 Casualties 1 Slight
Raining without high winds Road surface Wet/Damp Darkness: no street lighting
Special Conditions None Road Type Single carriageway
V1 TRAVELLING EAST. DRIVER LOST CONTROL, V1 FLIPPED INTO THE AIR AND LANDED ON THE ROAD ON ITS ROOF
Occurred on A39 CANNINGTON BYPASS

Vehicle Reference 1 Car Going ahead
Not in restricted lane Overturned
First point of impact Did not impact Age of Driver 32
Vehicle direction W to E
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 32 Female Driver/rider Severity: Slight

---

Collisions between dates **01/01/2013 and 31/12/2017** (60) months
Selection: **Notes:**
Selected using Manual Selection Cannington

141403731 23/05/2014 Friday Time 1657 Vehicles 2 Casualties 1 Slight
Raining without high winds Road surface Wet/Damp Daylight: street lights present
Special Conditions None Road Type Single carriageway
V1 TRAVELLING WEST, V2 TRAVELLING OPPOSITE DIRECTION. DRIVER OF V1 LOST CONTROL.
V1 HIT A TREE ON THE NEARSIDE AND REBOUNDED ONTO CARRIAGEWAY WHERE IT COLLIDED WITH V2
Occurred on A39 CANNINGTON BYPASS

Vehicle Reference 1 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 40
Vehicle direction W to E
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 40 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Offside Age of Driver 51
Vehicle direction E to W
FRV Not foreign registered vehicle Journey 6

151500858 18/01/2015 Sunday Time 0530 Vehicles 1 Casualties 1 Slight
Fine without high winds Road surface Wet/Damp Darkness: no street lighting
Special Conditions None Road Type Single carriageway
V1 TRAVELLING ALONG NEW ROAD, WHEN THE DRIVER SAW AN ANIMAL IN ROAD.
V1 TRIED TO AVOID ANIMAL BUT CLIPPED THE KERB, LOST CONTROL AND FLIPPED INTO A FIELD
Occurred on A39 NEW ROAD, CANNINGTON

Vehicle Reference 1 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 17
Vehicle direction NW to SE
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 17 Male Driver/rider Severity: Slight

---

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months
Selection: Selected using Manual Selection
Notes: Cannington

151503715 02/05/2015 Saturday Time 1215 Vehicles 2 Casualties 2 Slight
Raining without high winds Road surface Wet/Damp Daylight: street lights present
Special Conditions None Road Type Single carriageway
V2 TRAVELLING NORTH WEST. V1 VEERED ACROSS ITS PATH, COLLIDING WITH IT.
Occurred on A39 NEW ROAD, CANNINGTON.

Vehicle Reference 1 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Offside Age of Driver 19
Vehicle direction NW to SE
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 19 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Offside Age of Driver 77
Vehicle direction SE to NW
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 2 Age: 34 Female Passenger Severity: Slight

---

151506851 01/09/2015 Tuesday Time 1725 Vehicles 1 Casualties 1 Slight
Fine without high winds Road surface Dry Daylight: street lights present
Special Conditions None Road Type Single carriageway
V1 WAS DRIVING ALONG MAIN ROAD HEADING TOWARDS THE VILLAGE WHEN IT OVERTOOK A BUS STOPPED OUTSIDE LONGSTONES GARAGE. PED GOT OFF THE BUS AND WALKED IN FRONT OF THE BUS AS V1 WAS PASSING. PED COLLIDED WITH V1.
Occurred on MAIN ROAD, CANNINGTON.

Vehicle Reference 1 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 65
Vehicle direction N to S
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 16 Male Pedestrian Severity: Slight
9

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months
Selection: Selected using Manual Selection
Notes: Cannington

161601361 23/02/2016 Tuesday Time 1415 Vehicles 2 Casualties 1 Slight
Fine without high winds Road surface Dry Daylight: street lights present
Special Conditions None Road Type Dual carriageway
V1 TRAVELLING SANDFORD HILL APPROACHING RAB, V2 HAD BEEN TRAVELLING BEHIND V1 FOR SOME TIME. V1 COLLIDED WITH V2.
Occurred on B3339 RAB, SANDFORD HILL, WEMBDON.

Vehicle Reference 1 Car Slowing or Stopping
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Back Age of Driver 23
Vehicle direction SE to NW
FRV Not foreign registered vehicle Journey Journey as part of work

Casualty Reference: 1 Age: 23 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Slowing or Stopping
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 25
Vehicle direction SE to NW
FRV Not foreign registered vehicle Journey 6

161602307 10/03/2016 Thursday Time 1515 Vehicles 2 Casualties 2 Slight
Fine without high winds Road surface Dry Daylight: street lights present
Special Conditions None Road Type Single carriageway
V1 & V2 TRAVELLING WEST. V1 SLOWED DOWN HAVING INDICATED TO TURN RIGHT INTO A WORKYARD ENTRANCE SITUATED ALONG THE BYPASS. AS V1 TURNED RIGHT V2 WENT TO OVERTAKE V1. V2 COLLIDED WITH V1.
Occurred on A39 CANNINGTON BYPASS.

Vehicle Reference 1 Agricultural vehicle Turning right
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Offside Age of Driver 23
Vehicle direction E to N
FRV Not foreign registered vehicle Journey Journey as part of work

Casualty Reference: 1 Age: 23 Male Driver/rider Severity: Slight

Vehicle Reference 2 Car Overtaking moving vehicle on its offside
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 74
Vehicle direction E to W
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 2 Age: 74 Female Driver/rider Severity: Slight

---

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months

Selection:
Selected using Manual Selection

Notes:
Cannington

161602886 27/03/2016 Sunday Time 1831 Vehicles 2 Casualties 1 Fatal
Raining without high winds Road surface Wet/Damp Daylight: street lights present
Special Conditions None Road Type Roundabout
V2 WAS TRAVELLING EAST. WHILST NEGOTIATING RAB V1 TRAVELLING SAME DIRECTION COLLIDED WITH REAR OF V2.
Occurred on A39 CANNINGTON BYPASS, ON RAB.

Vehicle Reference 1 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 93
Vehicle direction W to E
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 93 Male Driver/rider Severity: Fatal

Vehicle Reference 2 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Back Age of Driver 53
Vehicle direction W to E
FRV Not foreign registered vehicle Journey 6

161605965 29/07/2016 Friday Time 1258 Vehicles 1 Casualties 2 Slight
Fine without high winds Road surface Dry Daylight: street lights present
Special Conditions None Road Type Single carriageway
V1 TRAVELLING SOUTH EAST SWERVED SUDDENLY AND COLLIDED WITH A BT POLE.
Occurred on A39 NEW ROAD, CANNINGTON.

Vehicle Reference 1 Car Going ahead
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Offside Age of Driver 67
Vehicle direction NW to SE
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 67 Male Driver/rider Severity: Slight

Casualty Reference: 2 Age: 9 Female Passenger Severity: Slight

---

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months
Selection: Selected using Manual Selection
Notes: Cannington

171701803 24/02/2017 Friday Time 1010 Vehicles 4 Casualties 2 Slight
Fine without high winds Road surface Dry Daylight: street lights present
Special Conditions None Road Type Single carriageway
V1, V2, V3 & V4 (UNLADEN HGV) TRAVELLING EAST. V1 STOPPED SHARPLY DUE TO VEH IN FRONT. V1, V2 & V3 STOPPED WITHOUT COLLISION. V4 WAS UNABLE TO STOP IN TIME AND SHUNTED V3 WHICH THEN CONTINUED THE SHUNT TO V1.
Occurred on A39 CANNINGTON BY PASS, CANNINGTON.

Vehicle Reference 1 Car Slowing or Stopping
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Back Age of Driver 53
Vehicle direction W to E
FRV Not foreign registered vehicle Journey 6

Vehicle Reference 2 Car Slowing or Stopping
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Back Age of Driver 45
Vehicle direction W to E
FRV Not foreign registered vehicle Journey 6

Vehicle Reference 3 Car Slowing or Stopping
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Back Age of Driver 23
Vehicle direction W to E
FRV Not foreign registered vehicle Journey 6

Casualty Reference: 1 Age: 23 Female Driver/rider Severity: Slight

Casualty Reference: 2 Age: 4 Male Passenger Severity: Slight

Vehicle Reference 4 Goods >= 7.5 tonnes mgw Slowing or Stopping
Not in restricted lane No skidding, jack-knifing or overturning
First point of impact Front Age of Driver 41
Vehicle direction W to E
FRV Not foreign registered vehicle Journey 6

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months

Selection:
Selected using Manual Selection

Notes:
Cannington

171702651 08/03/2017 Wednesday Time 1417 Vehicles 1 Casualties 1 Serious
Fine without high winds Road surface Wet/Damp Daylight: street lights present
Special Conditions None Road Type Unknown
V1 TRAVELLING SOUTH EAST. DRIVER LOST CONTROL,
DROVE ACROSS THE OPPOSITE CARRIAGEWAY AND HIT A LARGE ROCK.
Occurred on MAIN ROAD, CANNINGTON.

Vehicle Reference 1 Car Going ahead
Not in restricted lane Skidded
First point of impact Front Age of Driver 75
Vehicle direction NW to SE
FRV Not foreign registered vehicle Journey Journey as part of work

Casualty Reference: 1 Age: 75 Female Driver/rider Severity: Serious

---

Collisions involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding	1	1	12	14
2-wheeled motor vehicles	0	0	0	0
Pedal cycles	0	0	0	0
Horses and other	0	0	0	0
Total	1	1	12	14

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	1	1	12	14
Passenger	0	0	3	3
Motorcycle rider	0	0	0	0
Cyclist	0	0	0	0
Pedestrian	0	0	1	1
Other	0	0	0	0
Total	1	1	16	18

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months

Selection:
Selected using Manual Selection
Young Drivers 17 to 24
Older Drivers >= 60

Notes:
Cannington

DEFAULT VEHICLE GROUPS

Collisions involving:	Fatal	Serious	Slight	Total
Motor Vehicles Only	1	1	12	14
2-wheeled motor vehicles	0	0	0	0
Pedal Cycles	0	0	0	0
Horses & Other	0	0	0	0
Total Collisions	1	1	12	14

Casualties:	Fatal	Serious	Slight	Total
Vehicle Driver	1	1	12	14
Vehicle Passenger	0	0	3	3
Motorcycle rider	0	0	0	0
Cyclist	0	0	0	0
Pedestrians	0	0	1	1
Other	0	0	0	0
Total	1	1	16	18

BVPI CATEGORIES

* Figures include Passengers/Pillions where applicable

Casualties:	Fatal	Serious	Slight	Total
Pedestrians	0	0	1	1
Pedal cyclists	0	0	0	0
Motorcyclists	0	0	0	0
Car users	1	1	14	16
Other vehicle use	0	0	1	1
Total	1	1	16	18

YOUNG DRIVERS

Collisions involving:	Fatal	Serious	Slight	Total
Car drivers	0	0	6	6
Cycle riders	0	0	0	0
Motorcycle riders	0	0	0	0
Other motor vehs	0	0	0	0

Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	0	5	5
Cycle riders	0	0	0	0
Motorcycle riders	0	0	0	0
Other motor vehs	0	0	0	0
Passengers of YD	0	0	1	1
Pedestrians by YD	0	0	0	0
Total	0	0	6	6

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months

Selection:
Selected using Manual Selection
Young Drivers 17 to 24
Older Drivers >= 60

Notes:
Cannington

CHILD CASUALTIES

Collisions involving:	Fatal	Serious	Slight	Total
Car drivers	0	0	2	2
Cycle riders	0	0	0	0
Motorcycle riders	0	0	0	0
Other motor vehs	0	0	1	1

Casualties:	Fatal	Serious	Slight	Total
Car drivers	0	0	0	0
Cycle riders	0	0	0	0
Motorcycle riders	0	0	0	0
Other motor vehs	0	0	0	0
Passengers	0	0	2	2
Pedestrians	0	0	0	0
Total	0	0	2	2

OLDER DRIVERS

Colliisons involving:	Fatal	Serious	Slight	Total
Car drivers	1	1	4	6
Cycle riders	0	0	0	0
Motorcycle riders	0	0	0	0
Other motor vehs	0	0	0	0

Casualties:	Fatal	Serious	Slight	Total
Car drivers	1	1	2	4
Cycle riders	0	0	0	0
Motorcycle riders	0	0	0	0
Other motor vehs	0	0	0	0
Passengers of OD	0	0	2	2
Pedestrians by OD	0	0	1	1
Total	1	1	5	7

URBAN/RURAL

Collisions:	Fatal	Serious	Slight	Total
Urban (Spd lim <41)	0	1	1	2
Rural (Spd lim >40)	1	0	11	12

Casualties:	Fatal	Serious	Slight	Total
Urban (Spd lim	0	1	1	2
Rural (Spd lim >4	1	0	15	16
Total	1	1	16	18

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months

Selection:
Selected using Manual Selection

Notes:
Cannington

Table 1 - Collisions by Month

	2013	2014	2015	2016	2017	Total
January	-	-	1	-	-	1
February	-	-	-	1	1	2
March	-	-	-	2	1	3
April	-	1	-	-	-	1
May	-	1	1	-	-	2
June	1	-	-	-	-	1
July	1	-	-	1	-	2
August	-	-	-	-	-	0
September	-	-	1	-	-	1
October	-	-	-	-	-	0
November	1	-	-	-	-	1
December	-	-	-	-	-	0
TOTAL	3	2	3	4	2	14

Table 2 - Casualties by Month

	2013	2014	2015	2016	2017	Total
January	-	-	1	-	-	1
February	-	-	-	1	2	3
March	-	-	-	3	1	4
April	-	1	-	-	-	1
May	-	1	2	-	-	3
June	1	-	-	-	-	1
July	1	-	-	2	-	3
August	-	-	-	-	-	0
September	-	-	1	-	-	1
October	-	-	-	-	-	0
November	1	-	-	-	-	1
December	-	-	-	-	-	0
TOTAL	3	2	4	6	3	18

Table 3 - All Collisions by Severity

	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	1	0	1
Serious	0	0	0	0	1	1
Slight	3	2	3	3	1	12
TOTAL	3	2	3	4	2	14

Table 4 - Casualties by Severity

	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	1	0	1
Serious	0	0	0	0	1	1
Slight	3	2	4	5	2	16
TOTAL	3	2	4	6	3	18

Collisions between dates **01/01/2013** **and** **31/12/2017** (60) months

Selection:
Selected using Manual Selection

Notes:
Cannington

Table 5 - Pedestrian Collisions by Severity

	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	0	0	1	0	0	1
TOTAL	0	0	1	0	0	1

Table 6 - Cycle Collisions by Severity

	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

Table 7 - Motor Vehicle Only Collisions by Severity

	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	1	0	1
Serious	0	0	0	0	1	1
Slight	3	2	2	3	1	11
TOTAL	3	2	2	4	2	13

Table 8 - OAP Collisions by Severity

	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	1	0	1
Serious	0	0	0	0	1	1
Slight	0	0	0	2	0	2
TOTAL	0	0	0	3	1	4

Table 9 - Child Collisions by Severity

	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	0	0	0	1	1	2
TOTAL	0	0	0	1	1	2

Table 10 - P2W Collisions by Severity

	2013	2014	2015	2016	2017	Total
Fatal	0	0	0	0	0	0
Serious	0	0	0	0	0	0
Slight	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0

Appendix 3

Rev	Description	Date	By
A	transfered to topographical survey	20.06.18	lehm

N.B: approx. GIAs

2 bed -	76m2	x20
3 bed -	88m2	x28
3/4 bed -	115m2	x12
4 bed -	120m2	x13
TOTAL		73
garages		

approx. site area	3.03ha
housing density	24.1 dwellings/ha

excluding swale,buffer strip & pumping station

approx. site area	2.42ha
housing density	30.2 dwellings/ha

SCALE 1:1000

0 10 20 30 40 50m

gth Greenslade Taylor Hunt

LAND & PLANNING DIVISION
WINCHESTER HOUSE
DEANE GATE AVENUE
TAUNTON
SOMERSET
TA1 2UH

TEL: 01823 334466

PROJECT TITLE

Land at Grange Farm
Cannington

DRAWING TITLE

Proposed residential development

Site Plan

STATUS	sketch		
SCALE	1/1000	SHEET SIZE	A3L
DATE	May 2018	DRAWN	lehm
DWG NO.	2494-sk-01	REVISION	A

Appendix 4

Calculation Reference: AUDIT-527501-180403-0437

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	HC	HAMPSHIRE	1 days
	KC	KENT	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	1 days
09	NORTH		
	DH	DURHAM	1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
Actual Range: 50 to 108 (units:)
Range Selected by User: 40 to 140 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 27/11/17

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

Selected survey days:

Tuesday	3 days
Thursday	3 days

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

Selected survey types:

Manual count	6 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)	4
Edge of Town	2

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

Selected Location Sub Categories:

Residential Zone	4
No Sub Category	2

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	6 days

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

Population within 1 mile:

5,001 to 10,000	3 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days

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

Population within 5 miles:

25,001 to 50,000	2 days
75,001 to 100,000	4 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	5 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	1 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	6 days

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

LIST OF SITES relevant to selection parameters

1 DH-03-A-01 SEMI DETACHED DURHAM
GREENFIELDS ROAD

BISHOP AUCKLAND
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 50
Survey date: TUESDAY *28/03/17* *Survey Type: MANUAL*

2 HC-03-A-18 HOUSES & FLATS HAMPSHIRE
CANADA WAY

LIPHOOK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 62
Survey date: TUESDAY *29/11/16* *Survey Type: MANUAL*

3 KC-03-A-03 MIXED HOUSES & FLATS KENT
HYTHE ROAD
WILLESBOROUGH
ASHFORD
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 51
Survey date: THURSDAY *14/07/16* *Survey Type: MANUAL*

4 NY-03-A-10 HOUSES AND FLATS NORTH YORKSHIRE
BOROUGHBRIDGE ROAD

RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: TUESDAY *17/09/13* *Survey Type: MANUAL*

5 SH-03-A-04 TERRACED SHROPSHIRE
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 108
Survey date: THURSDAY *11/06/09* *Survey Type: MANUAL*

6 SH-03-A-05 SEMI-DETACHED/TERRACED SHROPSHIRE
SANDCROFT
SUTTON HILL
TELFORD
Edge of Town
Residential Zone
Total Number of dwellings: 54
Survey date: THURSDAY *24/10/13* *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/A - HOUSES PRIVATELY OWNED
VEHICLES
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	6	66	0.081	6	66	0.331	6	66	0.412
08:00 - 09:00	6	66	0.164	6	66	0.402	6	66	0.566
09:00 - 10:00	6	66	0.124	6	66	0.146	6	66	0.270
10:00 - 11:00	6	66	0.121	6	66	0.159	6	66	0.280
11:00 - 12:00	6	66	0.159	6	66	0.187	6	66	0.346
12:00 - 13:00	6	66	0.157	6	66	0.144	6	66	0.301
13:00 - 14:00	6	66	0.152	6	66	0.172	6	66	0.324
14:00 - 15:00	6	66	0.136	6	66	0.159	6	66	0.295
15:00 - 16:00	6	66	0.199	6	66	0.154	6	66	0.353
16:00 - 17:00	6	66	0.270	6	66	0.134	6	66	0.404
17:00 - 18:00	6	66	0.402	6	66	0.182	6	66	0.584
18:00 - 19:00	6	66	0.275	6	66	0.152	6	66	0.427
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.240			2.322			4.562

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:	50 - 108 (units:)
Survey date date range:	01/01/09 - 27/11/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
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	6	66	0.010	6	66	0.010	6	66	0.020
08:00 - 09:00	6	66	0.000	6	66	0.000	6	66	0.000
09:00 - 10:00	6	66	0.010	6	66	0.008	6	66	0.018
10:00 - 11:00	6	66	0.000	6	66	0.003	6	66	0.003
11:00 - 12:00	6	66	0.005	6	66	0.005	6	66	0.010
12:00 - 13:00	6	66	0.003	6	66	0.003	6	66	0.006
13:00 - 14:00	6	66	0.003	6	66	0.003	6	66	0.006
14:00 - 15:00	6	66	0.005	6	66	0.005	6	66	0.010
15:00 - 16:00	6	66	0.005	6	66	0.005	6	66	0.010
16:00 - 17:00	6	66	0.000	6	66	0.000	6	66	0.000
17:00 - 18:00	6	66	0.003	6	66	0.003	6	66	0.006
18:00 - 19:00	6	66	0.003	6	66	0.003	6	66	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.047			0.048			0.095

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:	50 - 108 (units:)
Survey date date range:	01/01/09 - 27/11/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
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	6	66	0.000	6	66	0.000	6	66	0.000
08:00 - 09:00	6	66	0.000	6	66	0.000	6	66	0.000
09:00 - 10:00	6	66	0.000	6	66	0.000	6	66	0.000
10:00 - 11:00	6	66	0.000	6	66	0.000	6	66	0.000
11:00 - 12:00	6	66	0.003	6	66	0.000	6	66	0.003
12:00 - 13:00	6	66	0.008	6	66	0.005	6	66	0.013
13:00 - 14:00	6	66	0.005	6	66	0.010	6	66	0.015
14:00 - 15:00	6	66	0.003	6	66	0.003	6	66	0.006
15:00 - 16:00	6	66	0.003	6	66	0.000	6	66	0.003
16:00 - 17:00	6	66	0.000	6	66	0.003	6	66	0.003
17:00 - 18:00	6	66	0.000	6	66	0.000	6	66	0.000
18:00 - 19:00	6	66	0.000	6	66	0.000	6	66	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.022			0.021			0.043

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

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

Parameter summary

Trip rate parameter range selected:	50 - 108 (units:)
Survey date date range:	01/01/09 - 27/11/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
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	6	66	0.000	6	66	0.000	6	66	0.000
08:00 - 09:00	6	66	0.000	6	66	0.000	6	66	0.000
09:00 - 10:00	6	66	0.000	6	66	0.000	6	66	0.000
10:00 - 11:00	6	66	0.000	6	66	0.000	6	66	0.000
11:00 - 12:00	6	66	0.005	6	66	0.005	6	66	0.010
12:00 - 13:00	6	66	0.000	6	66	0.000	6	66	0.000
13:00 - 14:00	6	66	0.000	6	66	0.000	6	66	0.000
14:00 - 15:00	6	66	0.000	6	66	0.000	6	66	0.000
15:00 - 16:00	6	66	0.000	6	66	0.000	6	66	0.000
16:00 - 17:00	6	66	0.000	6	66	0.000	6	66	0.000
17:00 - 18:00	6	66	0.000	6	66	0.000	6	66	0.000
18:00 - 19:00	6	66	0.000	6	66	0.000	6	66	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.005			0.005			0.010

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

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Parameter summary

Trip rate parameter range selected:	50 - 108 (units:)
Survey date date range:	01/01/09 - 27/11/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
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	6	66	0.003	6	66	0.000	6	66	0.003
08:00 - 09:00	6	66	0.000	6	66	0.018	6	66	0.018
09:00 - 10:00	6	66	0.000	6	66	0.013	6	66	0.013
10:00 - 11:00	6	66	0.005	6	66	0.010	6	66	0.015
11:00 - 12:00	6	66	0.003	6	66	0.003	6	66	0.006
12:00 - 13:00	6	66	0.003	6	66	0.003	6	66	0.006
13:00 - 14:00	6	66	0.008	6	66	0.003	6	66	0.011
14:00 - 15:00	6	66	0.003	6	66	0.000	6	66	0.003
15:00 - 16:00	6	66	0.010	6	66	0.005	6	66	0.015
16:00 - 17:00	6	66	0.018	6	66	0.005	6	66	0.023
17:00 - 18:00	6	66	0.008	6	66	0.003	6	66	0.011
18:00 - 19:00	6	66	0.005	6	66	0.003	6	66	0.008
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.066			0.066			0.132

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:	50 - 108 (units:)
Survey date date range:	01/01/09 - 27/11/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

Appendix 5

Junctions 9

ARCADY 9 - Roundabout Module

Filename: A39-Main Road Existing Roundabout.j9
Path: P:\2018\IMA-18-040 Grange Farm, Cannington\Assessments
Report generation date: 13/06/2018 16:16:28

Summary of junction performance

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	2018															
1 - Main Road	0.3	1.2	3.10	0.22	A	3.82	A	101 % [2 - A39 Main Road]	0.5	2.3	3.67	0.33	A	3.77	A	107 % [2 - A39 Main Road]
2 - A39 Main Road	1.0	1.8	4.31	0.47	A				0.9	1.8	3.99	0.46	A			
3 - A39	0.4	1.7	3.46	0.26	A				0.5	2.1	3.54	0.31	A			
	2023															
1 - Main Road	0.3	1.3	3.20	0.23	A	4.02	A	88 % [2 - A39 Main Road]	0.6	2.7	3.87	0.36	A	3.96	A	95 % [2 - A39 Main Road]
2 - A39 Main Road	1.1	1.6	4.58	0.50	A				1.0	1.5	4.21	0.49	A			
3 - A39	0.5	1.7	3.60	0.28	A				0.6	2.5	3.67	0.33	A			

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	13/06/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	IMA-TP\TRL
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2018	AM	ONE HOUR	07:45	09:15	15	✓
D2	2018	PM	ONE HOUR	16:45	18:15	15	✓
D3	2023	AM	ONE HOUR	07:45	09:15	15	✓
D4	2023	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

2018, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	3.82	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	101	2 - A39 Main Road

Arms

Arms

Arm	Name	Description
1	Main Road	
2	A39 Main Road	
3	A39	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Main Road	4.34	7.11	17.2	25.0	47.0	40.0	
2 - A39 Main Road	4.30	7.05	18.5	17.0	47.0	47.0	
3 - A39	4.54	7.66	15.2	20.0	47.0	36.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Main Road	0.637	1822
2 - A39 Main Road	0.609	1741
3 - A39	0.654	1905

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	2018	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Main Road		ONE HOUR	✓	305	100.000
2 - A39 Main Road		ONE HOUR	✓	736	100.000
3 - A39		ONE HOUR	✓	397	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - Main Road	2 - A39 Main Road	3 - A39
From	1 - Main Road	3	286	16
	2 - A39 Main Road	343	0	393
	3 - A39	11	385	1

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Main Road	2 - A39 Main Road	3 - A39
From	1 - Main Road	0	5	0
	2 - A39 Main Road	4	0	16
	3 - A39	18	17	100

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Main Road	0.22	3.10	0.3	1.2	A	280	420
2 - A39 Main Road	0.47	4.31	1.0	1.8	A	675	1013
3 - A39	0.26	3.46	0.4	1.7	A	364	546

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	230	57	290	1638	0.140	229	268	0.0	0.2	2.670	A
2 - A39 Main Road	554	139	15	1732	0.320	552	504	0.0	0.5	3.345	A
3 - A39	299	75	260	1735	0.172	298	308	0.0	0.2	2.936	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	274	69	347	1602	0.171	274	321	0.2	0.2	2.835	A
2 - A39 Main Road	662	165	18	1730	0.382	661	603	0.5	0.7	3.696	A
3 - A39	357	89	311	1702	0.210	357	368	0.2	0.3	3.139	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	336	84	425	1552	0.216	336	393	0.2	0.3	3.095	A
2 - A39 Main Road	810	203	22	1728	0.469	809	738	0.7	1.0	4.299	A
3 - A39	437	109	380	1656	0.264	437	451	0.3	0.4	3.463	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	336	84	425	1552	0.216	336	393	0.3	0.3	3.095	A
2 - A39 Main Road	810	203	22	1728	0.469	810	739	1.0	1.0	4.309	A
3 - A39	437	109	381	1656	0.264	437	451	0.4	0.4	3.464	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	274	69	347	1601	0.171	274	321	0.3	0.2	2.840	A
2 - A39 Main Road	662	165	18	1730	0.382	663	604	1.0	0.7	3.707	A
3 - A39	357	89	312	1701	0.210	357	369	0.4	0.3	3.144	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	230	57	291	1637	0.140	230	269	0.2	0.2	2.677	A
2 - A39 Main Road	554	139	15	1732	0.320	555	506	0.7	0.5	3.362	A
3 - A39	299	75	261	1734	0.172	299	309	0.3	0.2	2.944	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.17	0.00	0.00	0.17	0.17			N/A	N/A
2 - A39 Main Road	0.51	0.00	0.00	0.51	0.51			N/A	N/A
3 - A39	0.24	0.00	0.00	0.24	0.24			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.22	0.00	0.00	0.22	0.22			N/A	N/A
2 - A39 Main Road	0.68	0.11	0.92	1.50	1.58			N/A	N/A
3 - A39	0.31	0.00	0.00	0.31	0.31			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.29	0.03	0.26	0.48	0.50			N/A	N/A
2 - A39 Main Road	0.96	0.03	0.28	0.96	0.96			N/A	N/A
3 - A39	0.42	0.03	0.30	0.53	0.56			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.29	0.03	0.30	0.81	1.19			N/A	N/A
2 - A39 Main Road	0.97	0.03	0.30	0.97	1.75			N/A	N/A
3 - A39	0.42	0.04	0.38	1.41	1.72			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.22	0.00	0.00	0.22	0.22			N/A	N/A
2 - A39 Main Road	0.68	0.60	1.10	1.54	1.59			N/A	N/A
3 - A39	0.31	0.00	0.00	0.31	0.31			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.17	0.00	0.00	0.17	0.17			N/A	N/A
2 - A39 Main Road	0.52	0.00	0.00	0.52	0.52			N/A	N/A
3 - A39	0.25	0.00	0.00	0.25	0.25			N/A	N/A

2018, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	3.77	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	107	2 - A39 Main Road

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	2018	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Main Road		ONE HOUR	✓	456	100.000
2 - A39 Main Road		ONE HOUR	✓	723	100.000
3 - A39		ONE HOUR	✓	467	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - Main Road	2 - A39 Main Road	3 - A39
From	1 - Main Road	0	452	4
	2 - A39 Main Road	343	0	380
	3 - A39	9	455	3

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Main Road	2 - A39 Main Road	3 - A39
From	1 - Main Road	0	2	25
	2 - A39 Main Road	2	0	7
	3 - A39	0	12	100

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Main Road	0.33	3.67	0.5	2.3	A	418	628
2 - A39 Main Road	0.46	3.99	0.9	1.8	A	663	995
3 - A39	0.31	3.54	0.5	2.1	A	429	643

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	343	86	344	1603	0.214	342	264	0.0	0.3	2.906	A
2 - A39 Main Road	544	136	5	1738	0.313	542	681	0.0	0.5	3.137	A
3 - A39	352	88	257	1737	0.202	350	290	0.0	0.3	2.915	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	410	102	411	1560	0.263	410	316	0.3	0.4	3.189	A
2 - A39 Main Road	650	162	6	1737	0.374	649	815	0.5	0.6	3.451	A
3 - A39	420	105	308	1703	0.246	419	348	0.3	0.4	3.150	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	502	126	504	1502	0.334	501	387	0.4	0.5	3.667	A
2 - A39 Main Road	796	199	8	1736	0.458	795	998	0.6	0.9	3.987	A
3 - A39	514	129	377	1658	0.310	514	426	0.4	0.5	3.532	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	502	126	504	1501	0.334	502	388	0.5	0.5	3.672	A
2 - A39 Main Road	796	199	8	1736	0.458	796	999	0.9	0.9	3.995	A
3 - A39	514	129	378	1658	0.310	514	426	0.5	0.5	3.535	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	410	102	412	1560	0.263	411	317	0.5	0.4	3.196	A
2 - A39 Main Road	650	162	6	1737	0.374	651	816	0.9	0.6	3.463	A
3 - A39	420	105	309	1703	0.247	420	348	0.5	0.4	3.154	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	343	86	345	1603	0.214	344	265	0.4	0.3	2.915	A
2 - A39 Main Road	544	136	5	1738	0.313	545	684	0.6	0.5	3.152	A
3 - A39	352	88	259	1736	0.203	352	292	0.4	0.3	2.925	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.28	0.00	0.00	0.28	0.28			N/A	N/A
2 - A39 Main Road	0.47	0.00	0.00	0.47	0.47			N/A	N/A
3 - A39	0.28	0.00	0.00	0.28	0.28			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.36	0.00	0.00	0.36	0.36			N/A	N/A
2 - A39 Main Road	0.62	0.10	0.86	1.42	1.50			N/A	N/A
3 - A39	0.37	0.00	0.00	0.37	0.37			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.51	0.03	0.26	0.51	0.51			N/A	N/A
2 - A39 Main Road	0.88	0.03	0.27	0.88	0.88			N/A	N/A
3 - A39	0.50	0.03	0.28	0.51	0.54			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.51	0.03	0.31	1.44	2.30			N/A	N/A
2 - A39 Main Road	0.88	0.03	0.28	0.88	1.79			N/A	N/A
3 - A39	0.50	0.04	0.35	1.55	2.07			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.37	0.00	0.00	0.37	0.37			N/A	N/A
2 - A39 Main Road	0.63	0.57	1.04	1.46	1.51			N/A	N/A
3 - A39	0.37	0.00	0.00	0.37	0.37			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.28	0.00	0.00	0.28	0.28			N/A	N/A
2 - A39 Main Road	0.48	0.00	0.00	0.48	0.48			N/A	N/A
3 - A39	0.29	0.00	0.00	0.29	0.29			N/A	N/A

2023, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	4.02	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	88	2 - A39 Main Road

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	2023	AM	ONE HOUR	07:45	09:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Main Road		ONE HOUR	✓	325	100.000
2 - A39 Main Road		ONE HOUR	✓	785	100.000
3 - A39		ONE HOUR	✓	424	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - Main Road	2 - A39 Main Road	3 - A39
From	1 - Main Road	3	305	17
	2 - A39 Main Road	366	0	419
	3 - A39	12	411	1

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Main Road	2 - A39 Main Road	3 - A39
From	1 - Main Road	0	5	0
	2 - A39 Main Road	4	0	16
	3 - A39	18	17	100

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Main Road	0.23	3.20	0.3	1.3	A	298	447
2 - A39 Main Road	0.50	4.58	1.1	1.6	A	720	1080
3 - A39	0.28	3.60	0.5	1.7	A	389	584

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	245	61	309	1625	0.151	244	286	0.0	0.2	2.724	A
2 - A39 Main Road	591	148	16	1731	0.341	589	537	0.0	0.6	3.452	A
3 - A39	319	80	277	1724	0.185	318	328	0.0	0.3	3.002	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	292	73	370	1587	0.184	292	342	0.2	0.2	2.907	A
2 - A39 Main Road	706	176	19	1730	0.408	705	643	0.6	0.8	3.856	A
3 - A39	381	95	331	1688	0.226	381	392	0.3	0.3	3.229	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	358	89	453	1534	0.233	358	419	0.2	0.3	3.201	A
2 - A39 Main Road	864	216	23	1727	0.500	863	788	0.8	1.1	4.568	A
3 - A39	467	117	406	1640	0.285	466	480	0.3	0.5	3.596	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	358	89	454	1533	0.233	358	419	0.3	0.3	3.201	A
2 - A39 Main Road	864	216	23	1727	0.500	864	788	1.1	1.1	4.582	A
3 - A39	467	117	406	1639	0.285	467	481	0.5	0.5	3.600	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	292	73	371	1586	0.184	292	343	0.3	0.2	2.910	A
2 - A39 Main Road	706	176	19	1730	0.408	707	644	1.1	0.8	3.871	A
3 - A39	381	95	332	1688	0.226	382	394	0.5	0.3	3.233	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	245	61	310	1625	0.151	245	287	0.2	0.2	2.728	A
2 - A39 Main Road	591	148	16	1731	0.341	592	540	0.8	0.6	3.473	A
3 - A39	319	80	278	1723	0.185	320	329	0.3	0.3	3.010	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.18	0.00	0.00	0.18	0.18			N/A	N/A
2 - A39 Main Road	0.57	0.57	1.10	1.54	1.59			N/A	N/A
3 - A39	0.27	0.00	0.00	0.27	0.27			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.24	0.00	0.00	0.24	0.24			N/A	N/A
2 - A39 Main Road	0.75	0.12	0.93	1.51	1.58			N/A	N/A
3 - A39	0.34	0.00	0.00	0.34	0.34			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.32	0.03	0.26	0.48	0.50			N/A	N/A
2 - A39 Main Road	1.09	0.03	0.28	1.09	1.09			N/A	N/A
3 - A39	0.46	0.03	0.30	0.53	0.56			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.32	0.03	0.32	1.05	1.33			N/A	N/A
2 - A39 Main Road	1.09	0.03	0.29	1.09	1.11			N/A	N/A
3 - A39	0.47	0.04	0.38	1.52	1.66			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.24	0.00	0.00	0.24	0.24			N/A	N/A
2 - A39 Main Road	0.76	0.60	1.10	1.54	1.59			N/A	N/A
3 - A39	0.34	0.00	0.00	0.34	0.34			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.19	0.00	0.00	0.19	0.19			N/A	N/A
2 - A39 Main Road	0.57	0.06	0.65	1.45	1.55			N/A	N/A
3 - A39	0.27	0.00	0.00	0.27	0.27			N/A	N/A

2023, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	3.96	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	95	2 - A39 Main Road

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	2023	PM	ONE HOUR	16:45	18:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Main Road		ONE HOUR	✓	485	100.000
2 - A39 Main Road		ONE HOUR	✓	769	100.000
3 - A39		ONE HOUR	✓	497	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - Main Road	2 - A39 Main Road	3 - A39
From	1 - Main Road	0	481	4
	2 - A39 Main Road	365	0	404
	3 - A39	10	484	3

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Main Road	2 - A39 Main Road	3 - A39
From	1 - Main Road	0	2	24
	2 - A39 Main Road	2	0	6
	3 - A39	0	12	94

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Main Road	0.36	3.87	0.6	2.7	A	445	668
2 - A39 Main Road	0.49	4.21	1.0	1.5	A	706	1058
3 - A39	0.33	3.67	0.6	2.5	A	456	684

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	365	91	365	1590	0.230	364	281	0.0	0.3	2.987	A
2 - A39 Main Road	579	145	5	1738	0.333	577	724	0.0	0.5	3.222	A
3 - A39	374	94	274	1726	0.217	373	308	0.0	0.3	2.966	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	436	109	437	1544	0.282	436	337	0.3	0.4	3.307	A
2 - A39 Main Road	691	173	6	1737	0.398	691	867	0.5	0.7	3.579	A
3 - A39	447	112	328	1690	0.264	446	369	0.3	0.4	3.229	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	534	133	536	1481	0.361	533	412	0.4	0.6	3.864	A
2 - A39 Main Road	847	212	8	1736	0.488	845	1061	0.7	1.0	4.201	A
3 - A39	547	137	401	1642	0.333	547	452	0.4	0.6	3.664	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	534	133	536	1481	0.361	534	413	0.6	0.6	3.870	A
2 - A39 Main Road	847	212	8	1736	0.488	847	1062	1.0	1.0	4.211	A
3 - A39	547	137	402	1642	0.333	547	453	0.6	0.6	3.668	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	436	109	438	1543	0.283	437	338	0.6	0.4	3.313	A
2 - A39 Main Road	691	173	6	1737	0.398	692	869	1.0	0.7	3.593	A
3 - A39	447	112	329	1690	0.264	447	370	0.6	0.4	3.234	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	365	91	367	1589	0.230	366	283	0.4	0.3	2.996	A
2 - A39 Main Road	579	145	5	1738	0.333	580	727	0.7	0.5	3.239	A
3 - A39	374	94	275	1725	0.217	375	310	0.4	0.3	2.975	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.30	0.00	0.00	0.30	0.30			N/A	N/A
2 - A39 Main Road	0.52	0.00	0.00	0.52	0.52			N/A	N/A
3 - A39	0.31	0.00	0.00	0.31	0.31			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2 - A39 Main Road	0.68	0.11	0.87	1.43	1.49			N/A	N/A
3 - A39	0.40	0.00	0.00	0.40	0.40			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.57	0.03	0.26	0.57	0.57			N/A	N/A
2 - A39 Main Road	0.98	0.03	0.27	0.98	0.98			N/A	N/A
3 - A39	0.55	0.03	0.28	0.55	0.55			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.57	0.03	0.30	1.37	2.69			N/A	N/A
2 - A39 Main Road	0.99	0.03	0.28	0.99	1.20			N/A	N/A
3 - A39	0.56	0.03	0.34	1.56	2.50			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.40	0.00	0.00	0.40	0.40			N/A	N/A
2 - A39 Main Road	0.69	0.57	1.04	1.46	1.51			N/A	N/A
3 - A39	0.40	0.00	0.00	0.40	0.40			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.31	0.00	0.00	0.31	0.31			N/A	N/A
2 - A39 Main Road	0.52	0.52	1.04	1.46	1.51			N/A	N/A
3 - A39	0.31	0.00	0.00	0.31	0.31			N/A	N/A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947

For sales and distribution information, program advice and maintenance, contact TRL:
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Filename: A39-Main Road Proposed Roundabout.j9
Path: P:\2018\IMA-18-040 Grange Farm, Cannington\Assessments
Report generation date: 11/07/2018 12:08:02

Summary of junction performance

	AM								PM							
	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (PCU)	95% Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	2023 + Dev															
1 - Main Road	0.3	1.3	3.22	0.24	A	4.10	A	85 % [3 - A39 Main Road]	0.6	2.8	3.97	0.37	A	4.10	A	79 % [2 - Site Access]
2 - Site Access	0.1	0.5	5.57	0.05	A				0.0	0.5	6.71	0.03	A			
3 - A39 Main Road	1.1	1.6	4.66	0.51	A				1.1	1.5	4.36	0.50	A			
4 - A39	0.5	1.7	3.63	0.29	A				0.6	2.6	3.77	0.34	A			

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

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	13/06/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	IMA-TP\TRL
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 + Dev	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023 + 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

2023 + Dev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.10	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	85	3 - A39 Main Road

Arms

Arms

Arm	Name	Description
1	Main Road	
2	Site Access	
3	A39 Main Road	
4	A39	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Main Road	4.34	7.11	17.2	25.0	47.0	40.0	
2 - Site Access	2.75	4.00	9.1	12.0	47.0	24.0	
3 - A39 Main Road	4.30	7.05	18.5	17.0	47.0	47.0	
4 - A39	4.54	7.66	15.2	20.0	47.0	36.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Main Road	0.637	1822
2 - Site Access	0.498	1084
3 - A39 Main Road	0.609	1741
4 - A39	0.654	1905

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	2023 + 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	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Main Road		ONE HOUR	✓	326	100.000
2 - Site Access		ONE HOUR	✓	30	100.000
3 - A39 Main Road		ONE HOUR	✓	794	100.000
4 - A39		ONE HOUR	✓	425	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Main Road	2 - Site Access	3 - A39 Main Road	4 - A39
From	1 - Main Road	3	1	305	17
	2 - Site Access	4	0	23	3
	3 - A39 Main Road	366	9	0	419
	4 - A39	12	1	411	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Main Road	2 - Site Access	3 - A39 Main Road	4 - A39
From	1 - Main Road	0	0	5	0
	2 - Site Access	0	0	0	0
	3 - A39 Main Road	4	0	0	16
	4 - A39	18	0	17	100

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Main Road	0.24	3.22	0.3	1.3	A	299	449
2 - Site Access	0.05	5.57	0.1	0.5	A	28	41
3 - A39 Main Road	0.51	4.66	1.1	1.6	A	729	1093
4 - A39	0.29	3.63	0.5	1.7	A	390	585

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	245	61	317	1621	0.151	245	289	0.0	0.2	2.734	A
2 - Site Access	23	6	553	808	0.028	22	8	0.0	0.0	4.583	A
3 - A39 Main Road	598	149	21	1728	0.346	595	555	0.0	0.6	3.478	A
4 - A39	320	80	286	1718	0.186	319	330	0.0	0.3	3.013	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	293	73	379	1581	0.185	293	346	0.2	0.2	2.922	A
2 - Site Access	27	7	662	754	0.036	27	10	0.0	0.0	4.953	A
3 - A39 Main Road	714	178	25	1726	0.414	713	664	0.6	0.8	3.897	A
4 - A39	382	96	343	1681	0.227	382	395	0.3	0.3	3.245	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	359	90	464	1527	0.235	359	423	0.2	0.3	3.222	A
2 - Site Access	33	8	811	680	0.049	33	12	0.0	0.1	5.566	A
3 - A39 Main Road	874	219	31	1722	0.508	873	813	0.8	1.1	4.641	A
4 - A39	468	117	420	1630	0.287	467	484	0.3	0.5	3.623	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	359	90	465	1526	0.235	359	424	0.3	0.3	3.223	A
2 - Site Access	33	8	811	679	0.049	33	12	0.1	0.1	5.570	A
3 - A39 Main Road	874	219	31	1722	0.508	874	814	1.1	1.1	4.655	A
4 - A39	468	117	421	1630	0.287	468	484	0.5	0.5	3.627	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	293	73	380	1580	0.185	293	347	0.3	0.2	2.927	A
2 - Site Access	27	7	663	753	0.036	27	10	0.1	0.0	4.960	A
3 - A39 Main Road	714	178	25	1726	0.414	715	665	1.1	0.8	3.912	A
4 - A39	382	96	344	1680	0.227	383	396	0.5	0.3	3.252	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	245	61	318	1620	0.152	246	290	0.2	0.2	2.741	A
2 - Site Access	23	6	555	807	0.028	23	8	0.0	0.0	4.590	A
3 - A39 Main Road	598	149	21	1728	0.346	599	557	0.8	0.6	3.499	A
4 - A39	320	80	288	1717	0.186	320	332	0.3	0.3	3.019	A

Queue Variation Results for each time segment

07:45 - 08:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.19	0.00	0.00	0.19	0.19			N/A	N/A
2 - Site Access	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - A39 Main Road	0.58	0.58	1.10	1.54	1.59			N/A	N/A
4 - A39	0.27	0.00	0.00	0.27	0.27			N/A	N/A

08:00 - 08:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.24	0.00	0.00	0.24	0.24			N/A	N/A
2 - Site Access	0.04	0.03	0.25	0.45	0.48			N/A	N/A
3 - A39 Main Road	0.77	0.11	0.93	1.51	1.58			N/A	N/A
4 - A39	0.34	0.00	0.00	0.34	0.34			N/A	N/A

08:15 - 08:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.32	0.03	0.26	0.48	0.50			N/A	N/A
2 - Site Access	0.05	0.03	0.26	0.46	0.49			N/A	N/A
3 - A39 Main Road	1.12	0.03	0.28	1.12	1.12			N/A	N/A
4 - A39	0.47	0.03	0.30	0.53	0.56			N/A	N/A

08:30 - 08:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.32	0.03	0.33	1.06	1.34			N/A	N/A
2 - Site Access	0.05	0.00	0.00	0.05	0.05			N/A	N/A
3 - A39 Main Road	1.12	0.03	0.29	1.12	1.58			N/A	N/A
4 - A39	0.47	0.04	0.38	1.53	1.71			N/A	N/A

08:45 - 09:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.24	0.00	0.00	0.24	0.24			N/A	N/A
2 - Site Access	0.04	0.00	0.00	0.04	0.04			N/A	N/A
3 - A39 Main Road	0.78	0.56	1.07	1.53	1.59			N/A	N/A
4 - A39	0.35	0.00	0.00	0.35	0.35			N/A	N/A

09:00 - 09:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.19	0.00	0.00	0.19	0.19			N/A	N/A
2 - Site Access	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - A39 Main Road	0.58	0.07	0.70	1.46	1.55			N/A	N/A
4 - A39	0.27	0.00	0.00	0.27	0.27			N/A	N/A

2023 + Dev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.10	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	79	2 - Site Access

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	2023 + 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	Average Demand (PCU/hr)	Scaling Factor (%)
1 - Main Road		ONE HOUR	✓	489	100.000
2 - Site Access		ONE HOUR	✓	13	100.000
3 - A39 Main Road		ONE HOUR	✓	792	100.000
4 - A39		ONE HOUR	✓	500	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1 - Main Road	2 - Site Access	3 - A39 Main Road	4 - A39
From	1 - Main Road	0	4	481	4
	2 - Site Access	2	0	10	1
	3 - A39 Main Road	365	23	0	404
	4 - A39	10	3	484	3

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Main Road	2 - Site Access	3 - A39 Main Road	4 - A39
From	1 - Main Road	0	0	2	25
	2 - Site Access	0	0	0	0
	3 - A39 Main Road	2	0	16	7
	4 - A39	18	0	12	100

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max 95th percentile Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - Main Road	0.37	3.97	0.6	2.8	A	449	673
2 - Site Access	0.03	6.71	0.0	0.5	A	12	18
3 - A39 Main Road	0.50	4.36	1.1	1.5	A	727	1090
4 - A39	0.34	3.77	0.6	2.6	A	459	688

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	368	92	385	1577	0.233	367	283	0.0	0.3	3.028	A
2 - Site Access	10	2	729	720	0.014	10	23	0.0	0.0	5.067	A
3 - A39 Main Road	596	149	7	1737	0.343	594	732	0.0	0.5	3.285	A
4 - A39	376	94	293	1714	0.220	375	309	0.0	0.3	3.018	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	440	110	461	1529	0.288	439	339	0.3	0.4	3.367	A
2 - Site Access	12	3	873	649	0.018	12	27	0.0	0.0	5.651	A
3 - A39 Main Road	712	178	9	1736	0.410	711	876	0.5	0.7	3.668	A
4 - A39	449	112	350	1676	0.268	449	370	0.3	0.4	3.296	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	538	135	564	1463	0.368	538	414	0.4	0.6	3.959	A
2 - Site Access	14	4	1069	551	0.026	14	33	0.0	0.0	6.706	A
3 - A39 Main Road	872	218	11	1734	0.503	871	1072	0.7	1.0	4.347	A
4 - A39	551	138	429	1624	0.339	550	453	0.4	0.6	3.761	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	538	135	565	1463	0.368	538	415	0.6	0.6	3.969	A
2 - Site Access	14	4	1070	550	0.026	14	33	0.0	0.0	6.715	A
3 - A39 Main Road	872	218	11	1734	0.503	872	1073	1.0	1.1	4.359	A
4 - A39	551	138	429	1624	0.339	551	454	0.6	0.6	3.765	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	440	110	462	1528	0.288	440	340	0.6	0.4	3.376	A
2 - Site Access	12	3	875	648	0.018	12	27	0.0	0.0	5.663	A
3 - A39 Main Road	712	178	9	1736	0.410	713	878	1.1	0.7	3.683	A
4 - A39	449	112	351	1675	0.268	450	371	0.6	0.4	3.301	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - Main Road	368	92	387	1576	0.234	369	284	0.4	0.3	3.040	A
2 - Site Access	10	2	733	719	0.014	10	23	0.0	0.0	5.078	A
3 - A39 Main Road	596	149	8	1736	0.343	597	735	0.7	0.5	3.300	A
4 - A39	376	94	294	1713	0.220	377	311	0.4	0.3	3.029	A

Queue Variation Results for each time segment

16:45 - 17:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.31	0.00	0.00	0.31	0.31			N/A	N/A
2 - Site Access	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3 - A39 Main Road	0.54	0.54	1.04	1.46	1.51			N/A	N/A
4 - A39	0.31	0.00	0.00	0.31	0.31			N/A	N/A

17:00 - 17:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2 - Site Access	0.02	0.02	0.25	0.45	0.48			N/A	N/A
3 - A39 Main Road	0.72	0.11	0.88	1.44	1.51			N/A	N/A
4 - A39	0.41	0.00	0.00	0.41	0.41			N/A	N/A

17:15 - 17:30

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.59	0.03	0.26	0.59	0.59			N/A	N/A
2 - Site Access	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - A39 Main Road	1.05	0.03	0.27	1.05	1.05			N/A	N/A
4 - A39	0.57	0.03	0.28	0.57	0.57			N/A	N/A

17:30 - 17:45

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.59	0.03	0.30	1.34	2.76			N/A	N/A
2 - Site Access	0.03	0.00	0.00	0.03	0.03			N/A	N/A
3 - A39 Main Road	1.05	0.03	0.28	1.05	1.49			N/A	N/A
4 - A39	0.57	0.03	0.34	1.57	2.62			N/A	N/A

17:45 - 18:00

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.41	0.00	0.00	0.41	0.41			N/A	N/A
2 - Site Access	0.02	0.00	0.00	0.02	0.02			N/A	N/A
3 - A39 Main Road	0.73	0.57	1.04	1.46	1.51			N/A	N/A
4 - A39	0.41	0.00	0.00	0.41	0.41			N/A	N/A

18:00 - 18:15

Arm	Mean (PCU)	Q05 (PCU)	Q50 (PCU)	Q90 (PCU)	Q95 (PCU)	Percentile message	Marker message	Probability of reaching or exceeding marker	Probability of exactly reaching marker
1 - Main Road	0.31	0.00	0.00	0.31	0.31			N/A	N/A
2 - Site Access	0.01	0.00	0.00	0.01	0.01			N/A	N/A
3 - A39 Main Road	0.55	0.06	0.66	1.38	1.48			N/A	N/A
4 - A39	0.32	0.00	0.00	0.32	0.32			N/A	N/A