

Mr Clive Onslow

Transport Statement



**Proposed
Residential
Development,
Barrington
Road, Shepreth**

**November
2017**

Mr Clive Onslow

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Transport Statement

November 2017

the transportation consultancy

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Transport Statement

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1 INTRODUCTION

1.1 Introduction

This Transport Statement (TS) has been prepared by The Transportation Consultancy Ltd (ttc) on behalf of 'Mr Clive Onslow' in support of a planning application for a proposed residential development on a site at Barrington Road, Shepreth in Cambridgeshire.

1.2 Scope of the Report

The scope of the Transport Statement includes for the following elements;

- **Section 2** – describes the existing transport infrastructure and provides background information on: surrounding facilities and services, local highway network, highway safety, sustainable transport access, cycling and walking provision.
- **Section 3** – describes the proposed development and identifies the proposed vehicle and cycle parking levels in line with local standards.
- **Section 4** - establishes the anticipated vehicle trips generated by the proposed development and determines the impact on the local highway network.
- **Section 5** – summarises the findings presented in the Transport Statement and draws a conclusion from the report.

2 EXISTING SITUATION

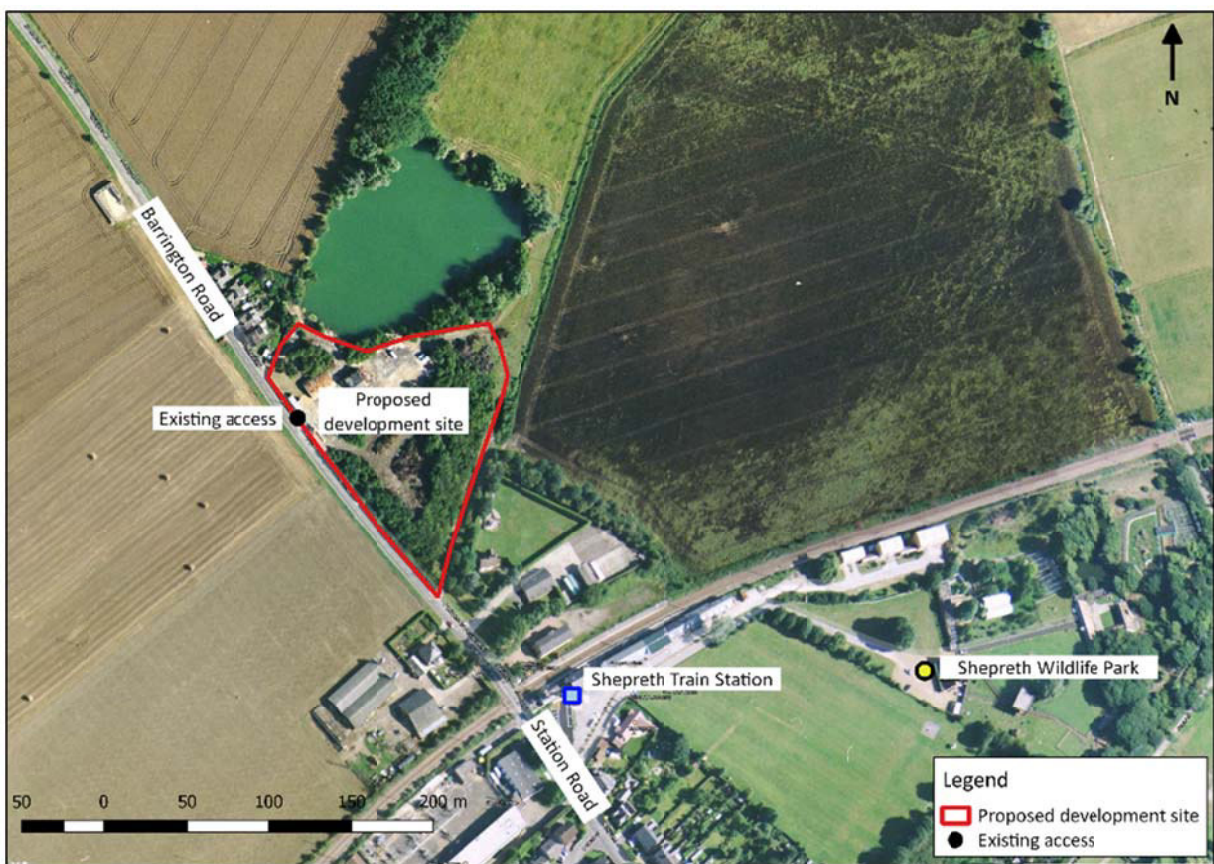
2.1 Introduction

This section of the Transport Statement describes the location of the site and provides a summary of the sustainable transport options and facilities that are within close proximity to the proposed development and can be accessed by foot and bicycle.

2.2 Site Description and Location

The proposed development site is situated approximately a quarter mile (440m) to the north of Shepreth Village Centre and is displayed in a local context in Figure 2.1.

Figure 2.1 - Location of Proposed Development



The proposed development site is currently in use and is occupied by several buildings which on initial inspection are used as a storage area for farm equipment, vehicles and building supplies.

The proposed development site is bordered by residential housing and a lake (Rhee Valley Coarse Fishing Lake) to the north. It is bounded by agricultural lands and a single residential dwelling to the east and south, and by Barrington Road to the west. The site has an existing vehicle access from Barrington Road which is illustrated below and has been in operation for a number of years.



Existing vehicle access to the site via Barrington Road

2.3 Local Highway Network

This section of the Transport Statement examines the local highway network within close proximity of the proposed development.

Barrington Road (Station Road)

Barrington Road (which becomes Station Road to the south of the site) is a single carriageway road and forms the western boundary of the site and runs on a south to north alignment, providing access between the villages of Shepreth and Barrington. At the location of the site, Barrington Road is subject to a 30mph speed limit; from a point approximately 140m north of the access to the site, and northwards, the national speed limit of 60mph applies.

Barrington Road is approximately 6 meters in width and has intermittent street lighting. There is a pedestrian footway on the east side of the road which varies in width from approximately 1m in some places, up to approximately 2m. There is an existing vehicle access to the site from Barrington Road which is in the form of a priority junction.

2.4 Traffic Surveys

A seven day, 24-hour traffic survey was undertaken on Barrington Road, within close proximity of the existing access, from Friday 19th May 2017 to Thursday 25th May 2017. The surveys recorded a northbound direction (out of Shepreth towards Barrington) and a southbound direction (into Shepreth from Barrington). The results demonstrated that the AM peak hour occurred between 08:00 – 09:00 and the PM peak hour between 17:00 – 18:00.

Traffic volumes in the peak hour period were recorded as an average of 269 vehicles over the weekdays in the AM peak hour and 328 vehicles in the PM peak hour. The traffic count revealed there is a dominant flow of traffic towards the A10 Royston Road in the AM peak hour and this trend reverses in the PM peak hour. Average weekday two way traffic flow was recorded as 2,849 over the survey period, the full results from the traffic survey are contained in Appendix A.

2.5 Proximity to Local Services and Facilities

The following section illustrates the site's proximity to key local services and facilities, as well as identifying the sustainability of the site in relation to sustainable transport, which will reduce the reliance on car usage from the site to access local services and facilities.

The existing site is located within close proximity of a number of local services and facilities, which is in line with those generally found in a semi-rural area of this nature. The distance and walking times to these services and facilities have been measured, and categorised by the criteria in the IHT document 'Providing for Journeys on Foot' which provides guidance on acceptable walking distances for pedestrians displayed in Table 2.1.

Table 2.1 - Acceptable Walking Distance for Pedestrians

	Village Centres (m)	Commuting / School / Sight Seeing (m)	Elsewhere (m)
Desirable	200	500	400
Acceptable	400	1000	800
Preferred Maximum	800	2000	1200

Source : IHT 'Providing for Journeys on Foot' 2000

Table 2.2 summarises the proximity of the proposed development to local services and public transport facilities. It can be seen from the table that the site benefits from some local facilities and services that are within a desirable or acceptable walking distance. It should be noted that the facilities and services have been measured from the proposed site entrance using pedestrian routes.

Table 2.2 - Local Services and Facilities

Facility/Service	Distance (m)	Journey Time (Minutes)	Definition
Shepreth Train Station	220	3 minute	Desirable
Shepreth Wildlife Park	500	6 minutes	Acceptable
Village Hall	410	5 minutes	Acceptable
Recreation Ground	450	6 minutes	Acceptable
Docwra's Manor Garden	510	6 minutes	Acceptable
Bus stops on Meldreth Road	510	6 minutes	Desirable
The Tea Cake Coffee Shop	550	7 minutes	Acceptable
The Plough Public House	640	8 minutes	Acceptable
Hair Salon	700	8 minutes	Acceptable

All distances measure on Google earth from entrance to site, using pedestrian routes.

The services and facilities summarised in Table 2.2 are also illustrated in Figure 2.2. The location of the development in proximity to the local facilities and public transport services identified in Table 2.2 and illustrated in Figure 2.1 will reduce the dependency on car use to access work, shopping, recreation and personal services. Therefore the proposed development will actively promote sustainable modes of transport and reduce the level of car usage from the site.

Figure 2.2 - Local Facilities and Services



2.6 Pedestrian and Cycling Accessibility

Walking and cycling are two modes of transport which not only provide benefits to the user, but help to reduce the amount of congestion and pollution. Research has shown that approximately 80% of walk journeys and walk stages in urban areas are less than one mile; with the average length of a walk journey being 1km.

An average length for a cycle journey is 4km (2.4 miles), although journeys of up to three times these distances are not uncommon for regular commuters. Local Transport Note 2/08: Cycle Infrastructure Design states that “for commuter journeys, a trip distance of over five miles is not uncommon”.

2.6.1 Pedestrian Facilities

There is a pedestrian footway on the east side of Barrington Road which links the proposed site development to the village of Shepreth and its amenities. This footway is in good condition and is approximately 1.5m in width in most places, however it is reduced to approximately 1m in width at a location outside of the development, between its access and the southern boundary of the site.

At the level crossing (approximately 220m south of the proposed development access) there are pedestrian crossing lines on both sides of the road which aid pedestrians in crossing the tracks. The pedestrian crossing surface is sufficiently level and suitable for wheelchairs, prams and bicycles to cross. The pedestrian crossings over the railway tracks are illustrated below.



Pedestrian crossings at the train tracks.

2.6.2 Cycling Facilities

There are no National Cycle Network (NCN) routes located in the immediate vicinity of the proposed development. The nearest NCN route is located in Great Shelford approximately 10km (6.5 miles) from the proposed development site. Whilst the roads within Shepreth Village are conducive to cycling as the speed of traffic is low.

2.7 Public Transport Provision

This section highlights the sites access to public transport provision, which is one of the key component of the site’s sustainability. The public transport provision in relation to the proposed development is illustrated in Figure 2.2.

2.7.1 Bus Services

The site is well situated to benefit from bus stops located on Station Road and Meldreth Road which are situated approximately 270 metres and 510 metres, to the south of the site. The bus stops on Station Road are at a three (3) minute journey by foot, which is defined as a ‘desirable’ distance by the IHT guidance for ‘Providing for Journeys on Foot.’

The bus stops on Meldreth Road are situated a six (6) minute walk away which is defined as a ‘desirable’ distance by the IHT guidance. Figure 2.2 shows the above-mentioned bus stops in relation to the proposed development site and Table 2.3 provides a summary of the bus services which operate from the afore-mentioned bus stops.

Table 2.3 - Summary of Bus Service operating from Shepreth

Bus Stop	Distance (meters)	Service Number	Destination	Operator	Peak Frequency	First Bus	Last Bus
Station Road (Northbound)	270	27	The Mordens– Cambridge	Stagecoach	Once	07:37	07:37
Station Road (Southbound)	270	27	Cambridge –The Mordens	Stagecoach	Once	17:27	17:27
Meldreth Road (Westbound)	510	128	Royston Circular	Cozy Travel	None	10:45	10:45
Meldreth Road (Eastbound)	510	128	Royston Circular	Cozy Travel	None	12:55	12:55
A10 Royston Road (Northbound)	1350	26	Cambridge – Royston	Stagecoach	AM once PM twice	9:15	19:35

A10 Royston Road (Northbound)	1350	26	Royston – Cambridge	Stagecoach	AM twice PM twice	6:48	18:21
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Source: *Measured from site entrance

2.7.2 Rail Services

Shepreth Train Station is located 220 metres south of the proposed development site, and is a three (3) minute walk away, which is defined as a ‘desirable’ walking distance as per the IHT guidelines.

The station is on the Great Northern Route and provides regular and frequent services between Cambridge and London Kings Cross via the Cambridge local service. Trains from Shepreth Train Station run at roughly 30 minute intervals in the weekday peaks and hourly intervals during the weekday off-peaks, and roughly every hour on Saturdays and Sundays. A summary of the train services from Shepreth Train Station is shown in Table 2.4.

Table 2.4 - Summary of Rail Services from Shepreth Train Station

Operator	Routes	Typical Frequency	AM Peak Hour	PM Peak Hour
Great Northern	Cambridge-Hatfield-London Kings Cross	Every 30 Minutes	2 trains	2 trains
	London Kings Cross - Hatfield- Cambridge	Every 30 Minutes	2 trains	2 trains

The journey to Cambridge is approximately 14 minutes, and approximately 75 minutes to London Kings Cross. The train station car park has 13 parking spaces (including one disabled space) and 24 storage spaces for bicycles, including nine (9) which are sheltered. It is however likely that, due to the close proximity of the station to the proposed development, those wishing to access the train service will walk to the station as opposed to driving or cycling.

It can be seen from this information that the proposed development is situated in close proximity to frequent rail services to Cambridge and London; which will reduce the need for private vehicle use for those travelling for employment, shopping, education or entertainment purposes in these areas.

2.8 Travel Patterns

Reference has been made to the National Census Data for ‘travel to work’ data for the population of the ‘Shepreth’ ward in order to gauge an understanding of the local travel characteristics, a summary of the statistics is provided in Table 2.5

Table 2.5 - Baseline Modal Share (2011 Census)

Method of Travel to Work	Shepreth
Underground, Metro, Light Rail, Tram	0%
Train	11%
Bus, Minibus or Coach	1%
Taxi	0%
Motorcycle, Scooter or Moped	1%
Driving a Car or Van	67%
Passenger in a Car or Van	5%
Bicycle	5%
On Foot	10%

TOTAL	100%
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Source: Neighbourhood Statistics = Shepreth ward

It can be seen from Table 2.5 that the travel characteristics of the ward where the proposed development is situated are fairly sustainable. The majority of journeys to work are undertaken by car, although sustainable journeys such as walking and cycling account for approximately 15% of all journeys to work, whilst Public Transport journeys account for 12% of all journeys to work, with train travel fairly high at 11%, presumably due to the presence of Shepreth Train Stations within good accessibility. It is anticipated that the proposed development will have similar travel characteristics to the existing population of Shepreth.

2.9 Accident Analysis

A five year accident search has been undertaken on the local highway network within close proximity to the proposed development and no accidents have been recorded within 100 metres of the site development access.

Given that the development is not expected to impact on the level of traffic significantly as a result of the proposals, it is not expected to have a detrimental impact on highway safety on the local highway network.

2.10 Conclusion

It can be seen that the site is situated in a sustainable location, within close proximity to good rail services. In addition there are some local facilities which are accessible by foot which will reduce the dependence on car usage and make for a sustainable development. There are no outstanding highway safety issues.

3 PROPOSED DEVELOPMENT

3.1 Introduction

This section of the Transport Statement examines the proposed development and identifies the access arrangements and parking requirements associated with the site.

3.2 Site Description

It is proposed that the development site will consist of the following;

- 31 residential privately owned dwellings;
- Improved vehicle access from Barrington Road; and
- Associated vehicle and cycle parking.

The proposed site layout can be seen in Figure 3.1 and a full scale copy of the drawing is provided in Appendix B.

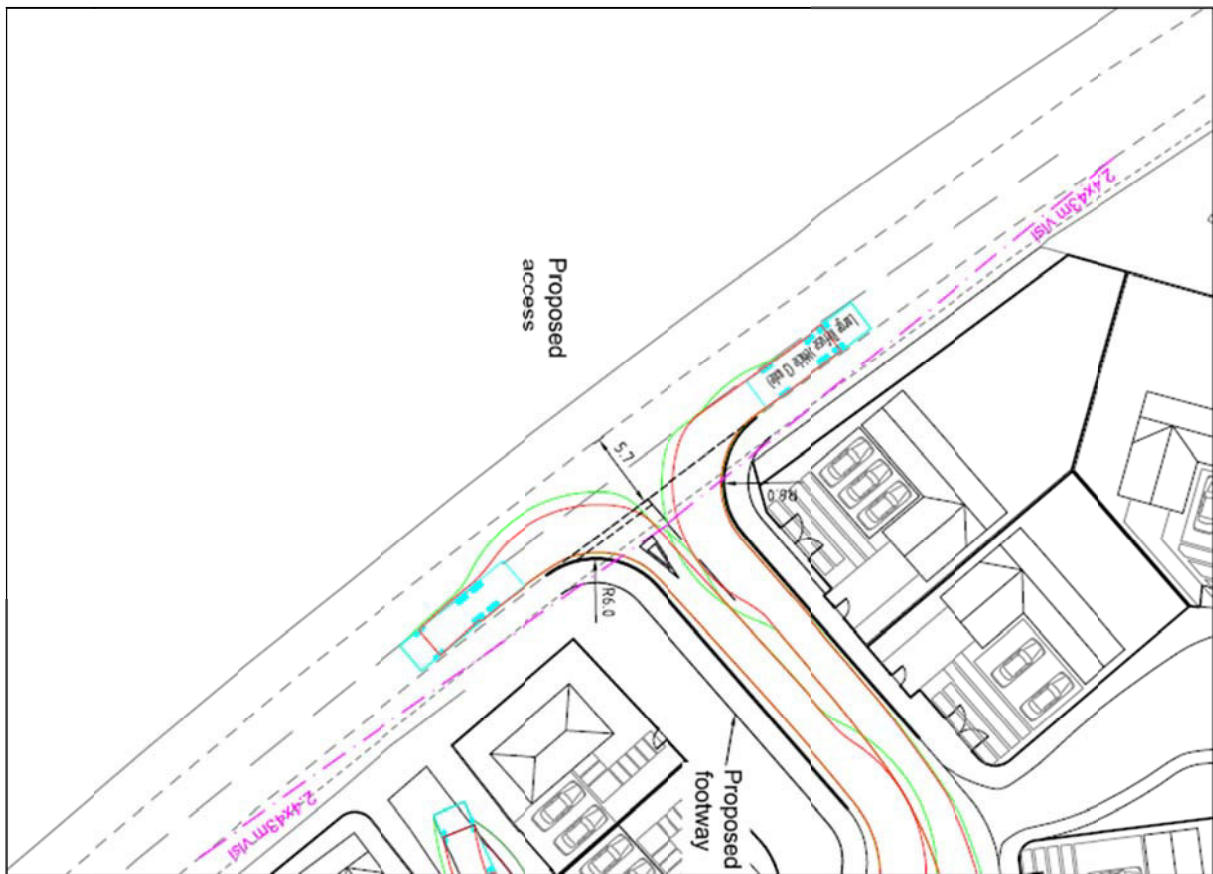
Figure 3.1 - Proposed Layout Drawing



3.3 Vehicle Access

There is an existing vehicle access to the development site on Barrington Road. It is proposed that this access will remain in this location and will operate as a simple priority junction as is currently the situation. Improvements will be made to the access point and these are outlined in Figure 3.2 below and a full copy is provided in Appendix B.

Figure 3.2 – Proposed Access Arrangement

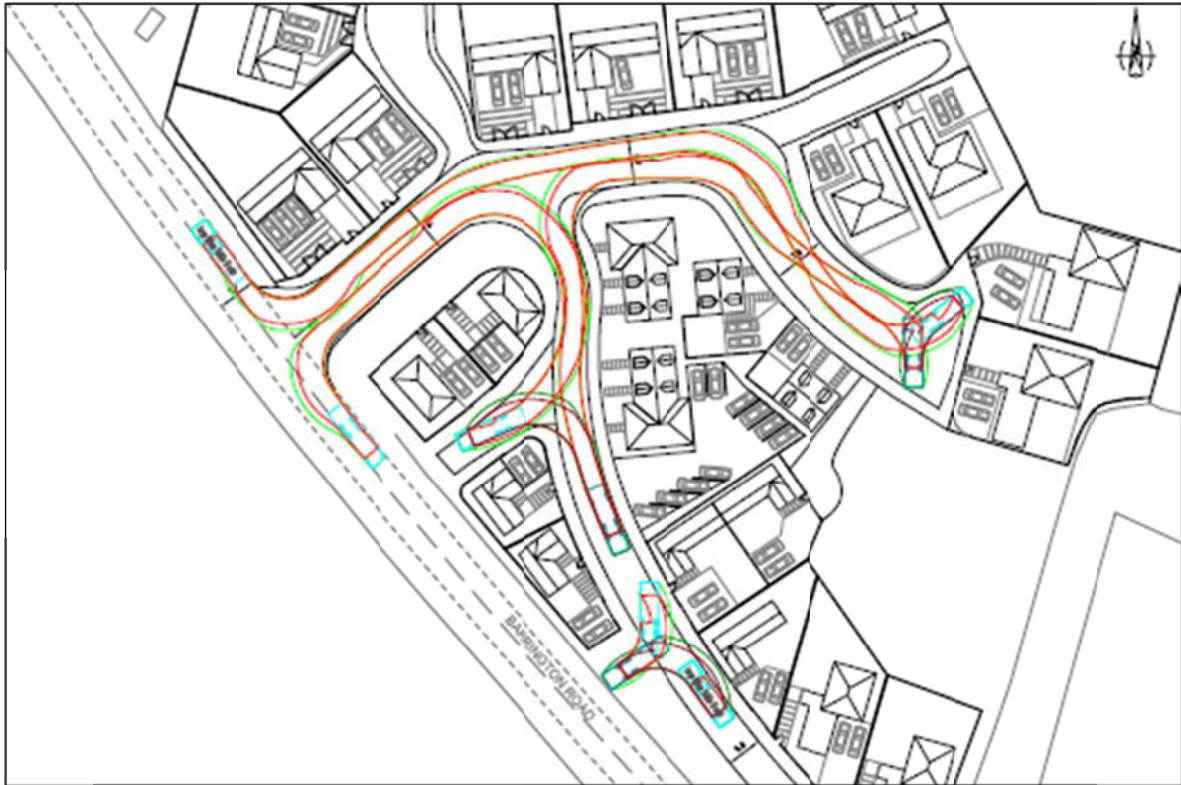


The proposed access has been designed to the appropriate standards and can achieve the required visibility in both directions.

3.4 Servicing Arrangements

It is proposed that a refuse vehicle will enter the site to service the proposed development. In order to determine if the new layout is suitable for a refuse vehicle to enter and exit in forward gear, a swept path analysis has been undertaken which demonstrates that the current refuse vehicle in operation can safely turn within the internal site layout. The swept path analysis is displayed below in Figure 3.3.

Figure 3.3 - Refuse Vehicle Swept Path Analysis



3.5 Parking Arrangements

Vehicle parking standards for new developments are set out in the adopted South Cambridgeshire District Council Development Control Policies (DCP) adopted in July 2007. The parking standards are outline that 1.5 spaces per dwellings should be provided.

As a result, it is proposed that the development will provide a total of 47 parking spaces for residents and visitors which is inline with the parking standards set out in the DCP. This provision will provide the appropriate balance between creating a sustainable development and ensure that the development does not provide any detrimental impact from parking overspill.

With regards cycle parking, it has been demonstrated on the master plan that each residential unit will have access to a rear garden. Therefore, no formal cycle parking will be provided.

3.6 Conclusions

It can be seen that safe and secure access can be achieved to the proposed development, the internal layout of the proposed development can be serviced by a refuse vehicle and the appropriate level of parking can be achieved inline with the appropriate guidance.

4 TRIP GENERATION & TRAFFIC IMPACT

4.1 Introduction

This section of the Transport Statement determines the anticipated vehicle traffic which will be generated by the proposals and the impact on the local highway network.

4.2 Trip Generation

In order to determine the likely impact of the proposed development on the adjacent highway network, a trip rate assessment has been derived from the industry standard TRICS database. TRICS (Trip Rate Information Computer System) is a nationally recognised database of traffic surveys covering a multitude of different development types.

Using the TRICS database, an assessment of similar sites to determine trip rates for the proposed development has been undertaken; sites were selected for “Residential – Houses Privately Owned”. Table 4.1 provides a summary of the trip rates and trip generations for the proposed development. The full TRICS report can be found in Appendix C.

Table 4.1 - Vehicle Trip Rates & Traffic Generation

Time Period	Trip Rates		Trip Generation		Total
	Arr	Dep	Arr	Dep	
AM Peak Hour 08:00 – 09:00	0.140	0.364	5	12	17
PM Peak Hour 17:00 – 18:00	0.301	0.154	10	5	15
Daily	2.128	2.016	66	63	129

*Calculations factor = 31 dwellings *numbers have been rounded up for robustness*

It can be seen from Table 4.1 that the proposed residential development is expected to generate five (5) arrivals and twelve (12) departures during the AM peak hour, whilst in the PM peak hour it is expected to generate ten (10) arrivals and five (5) departures and will generate a total of 129 vehicular trips during the day.

4.3 Impact of trip generation

The development traffic generated from the proposals has been identified and the new residential development will generate 17 vehicles in the AM peak and 15 vehicles in PM peak. Which when broken down equates to a total of 1 vehicle approximately every 4 minutes in the peak hours. As a result, the increase of traffic from the proposals can therefore not be considered severe.

Having identified the existing levels of traffic along Barrington Road it is possible to determine the impact from the proposed site. In the AM peak traffic generated by the proposals represents 6.4% of the total traffic along Barrington Road, whereas the increase is 4.6% of the total traffic on the Barrington Road in the PM peak and when distributed on to the local highway network, the level of traffic generated by the proposals will not be noticeable from the daily variations in traffic volumes on the Barrington Road.

As the proposals are for a change of use in order to form a robust assessment of the traffic impact, any assessment should take account of the existing vehicle generation from the site. It has been difficult to determine the existing level of traffic generations from the existing site and therefore the traffic volumes identified from the proposals are considered worst case, as in reality the impact from the proposals will be less as the existing traffic has not been taken into account.

It can therefore be concluded that the levels of vehicles generated by the proposed development are not anticipated to create cause for concern with regards to the operational capacity or safety of Barrington Road.

4.4 Conclusion

It can be seen that the proposals will increase vehicle trips from the site, however the increase is not anticipated to create a detrimental impact on the operation or safety of the local highway network, when broken down the increase in vehicle traffic will not be noticeable compared to the large volumes of daily traffic already on the surrounding local highway network.

5 SUMMARY AND CONCLUSIONS

5.1 Summary

This Transport Statement has been prepared for a proposed residential development of 31 privately owned residential houses situated on a brownfield site on Barrington Road, Shepreth. This Transport Statement has demonstrated the following key findings;

- The proposals are situated within a sustainable location, the close proximity of Shepreth Train station along with good walking and cycling facilities will encourage use of sustainable modes of transport.
- There are no outstanding highway safety issues within the vicinity of the proposals.
- A swept path analysis for the site has been undertaken and has demonstrated that the site can be accessed safely by a refuse vehicle.
- The vehicle access to the site has been identified and is deemed safe and appropriate.
- The anticipated trips from the site have been determined and as a result it has been demonstrated that the increase will not be significant to lead to the detriment of the safe operation of the existing local highway network.

5.2 Conclusions

On the basis of the above, it is considered that the proposals can be accommodated without detriment to the safe operation of the local highway network.

Appendix A
Traffic Survey Results

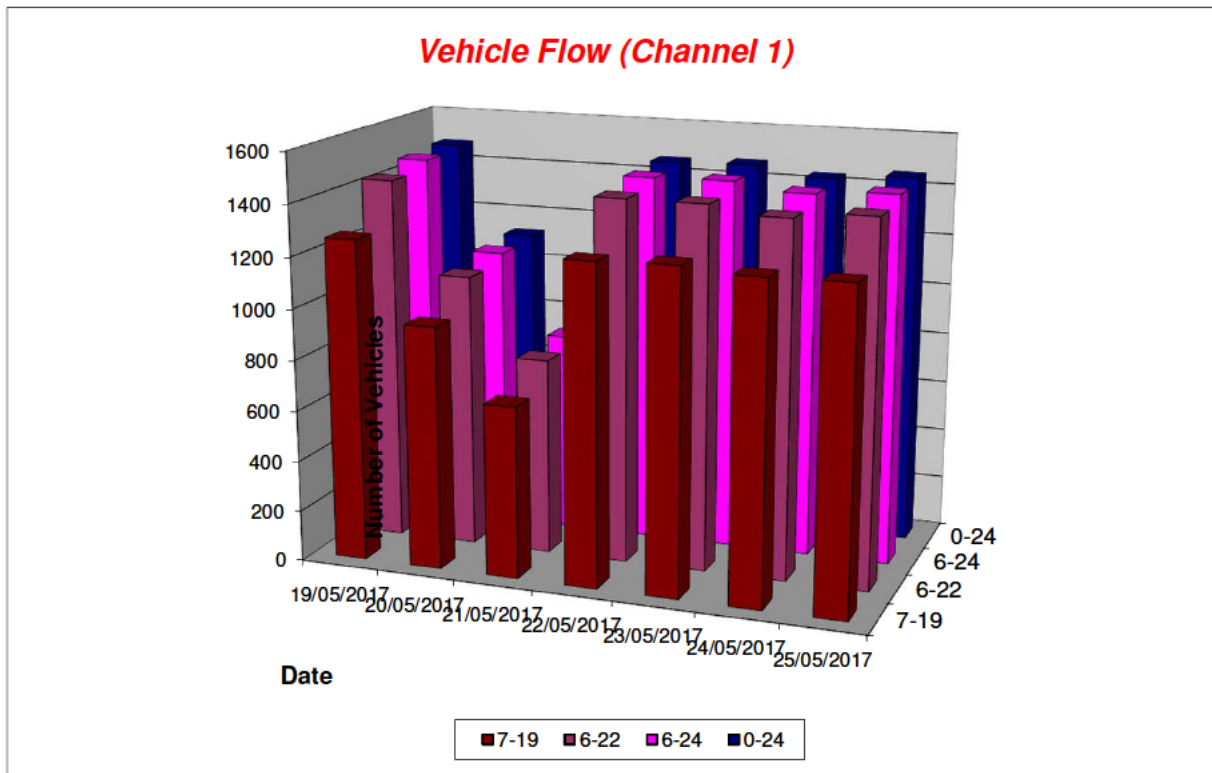
Barrington Road, Shepreth ATC

Channel 1 - Northbound

Vehicle Flow

Week 1

Hr Ending	19/05/2017 Friday	20/05/2017 Saturday	21/05/2017 Sunday	22/05/2017 Monday	23/05/2017 Tuesday	24/05/2017 Wednesday	25/05/2017 Thursday	5 Day Ave	7 Day Ave
1	2	3	3	1	3	2	1	2	2
2	2	2	3	2	1	0	1	1	2
3	0	2	3	2	0	0	2	1	1
4	0	0	0	0	0	0	0	0	0
5	2	1	1	0	2	0	0	1	1
6	8	3	2	4	6	4	6	6	5
7	23	10	2	26	23	20	22	23	18
8	110	37	13	117	112	104	121	113	88
9	130	51	24	119	124	139	112	125	100
10	88	65	35	99	88	75	110	92	80
11	78	72	53	76	72	57	65	70	68
12	66	80	71	71	74	72	79	72	73
13	97	114	91	99	97	112	106	102	102
14	76	81	55	72	72	71	65	71	70
15	69	76	60	80	71	64	90	75	73
16	101	86	62	108	109	96	100	103	95
17	123	87	63	110	130	134	105	120	107
18	196	119	87	184	182	187	176	185	162
19	128	85	61	114	127	129	115	123	108
20	93	66	50	81	82	83	94	87	78
21	36	28	26	39	39	29	31	35	33
22	19	20	20	28	20	19	27	23	22
23	26	21	12	17	25	27	18	23	21
24	6	11	4	10	8	8	8	8	8
7-19	1262	953	675	1249	1258	1240	1244	1251	1126
6-22	1433	1077	773	1423	1422	1391	1418	1417	1277
6-24	1465	1109	789	1450	1455	1426	1444	1448	1305
0-24	1479	1120	801	1459	1467	1432	1454	1458	1316



Barrington Road, Shepreth ATC

Channel 1 - Northbound

Average Speed

Week 1

Hr Ending	19/05/2017 Friday	20/05/2017 Saturday	21/05/2017 Sunday	22/05/2017 Monday	23/05/2017 Tuesday	24/05/2017 Wednesday	25/05/2017 Thursday
1	26.5	28.8	28.9	31.7	21.4	27.1	30.9
2	36.3	20.9	16.4	33.8	36.5	-	31.6
3	-	26.4	24.5	34.6	-	-	29.3
4	-	-	-	-	-	-	-
5	33.5	30.8	30.2	-	36.4	-	-
6	30.8	26.2	27.6	30.6	32.5	40.4	28.2
7	33.9	24.1	28.5	27.2	33.1	30.0	27.8
8	29.6	26.3	23.8	26.3	30.0	29.7	25.4
9	29.0	26.6	24.2	26.7	29.4	29.1	27.2
10	30.0	27.0	24.8	27.1	30.2	31.2	26.7
11	30.6	26.3	23.5	28.0	29.6	28.9	26.6
12	30.6	25.3	24.3	29.5	30.0	29.8	29.1
13	29.3	25.7	25.1	30.4	29.1	28.5	29.8
14	29.3	26.5	24.6	30.4	29.2	30.1	31.1
15	28.3	24.8	25.4	30.0	30.1	30.8	29.2
16	31.2	27.3	25.0	30.2	30.8	31.0	30.6
17	29.9	26.1	23.8	31.4	29.5	30.0	32.0
18	30.5	26.5	24.3	30.5	30.2	29.8	31.0
19	29.7	24.9	25.7	30.6	30.9	29.1	31.2
20	29.8	25.9	25.3	29.7	30.2	29.4	30.2
21	31.7	24.6	24.7	29.2	31.4	30.2	29.2
22	29.3	24.5	24.3	31.4	30.3	31.1	31.3
23	27.0	24.4	26.6	31.5	28.5	27.0	33.2
24	32.3	23.0	25.1	31.9	31.2	32.1	32.2

10-12	30.6	25.8	24.0	28.7	29.8	29.4	28.0
14-16	30.0	26.1	25.2	30.1	30.5	30.9	29.9
0-24	30.0	25.9	24.7	29.4	30.1	29.7	29.4

Average 28.8

Channel 1 - Northbound

85th Percentile

Hr Ending	19/05/2017 Friday	20/05/2017 Saturday	21/05/2017 Sunday	22/05/2017 Monday	23/05/2017 Tuesday	24/05/2017 Wednesday	25/05/2017 Thursday
1	35.5	29.9	33.1	-	30.5	30.2	-
2	37.0	21.0	20.0	35.2	-	-	-
3	-	27.8	27.4	37.8	-	-	33.6
4	-	-	-	-	-	-	-
5	34.3	-	-	-	38.2	-	-
6	33.6	28.6	29.6	36.0	36.2	43.5	35.9
7	36.9	33.3	29.4	33.5	37.8	36.6	33.6
8	36.1	32.8	30.0	30.9	35.3	35.0	31.2
9	34.2	32.8	30.6	31.8	35.2	34.4	32.8
10	35.8	36.2	33.5	33.1	35.8	36.6	31.9
11	35.7	34.4	33.9	33.5	35.4	35.7	32.4
12	38.0	33.7	31.4	36.5	36.8	35.0	33.8
13	34.9	35.8	35.8	36.6	35.7	35.1	36.3
14	37.3	34.4	33.1	36.0	36.0	36.9	37.1
15	34.0	34.4	34.7	36.4	35.8	35.2	34.3
16	36.8	38.4	31.4	36.2	35.5	36.4	36.8
17	34.9	35.6	31.3	37.7	35.3	34.5	38.0
18	38.2	35.9	32.8	36.4	36.8	36.6	35.9
19	36.9	33.7	34.0	38.3	37.9	35.4	38.6
20	34.8	36.5	34.0	37.1	36.7	34.9	36.5
21	35.9	32.7	31.1	36.1	36.3	33.6	36.8
22	36.9	34.8	34.8	38.3	37.1	40.7	40.3
23	32.5	32.6	34.2	36.4	34.9	31.0	37.4
24	39.0	29.3	29.5	38.3	39.3	37.3	37.1

10-12	36.8	33.8	32.8	34.4	36.3	35.2	33.4
14-16	35.8	36.7	32.4	36.2	35.6	36.2	36.1
0-24	36.3	35.4	33.1	35.8	36.3	35.7	35.8

85th %ile 35.8

Barrington Road, Shepreth ATC

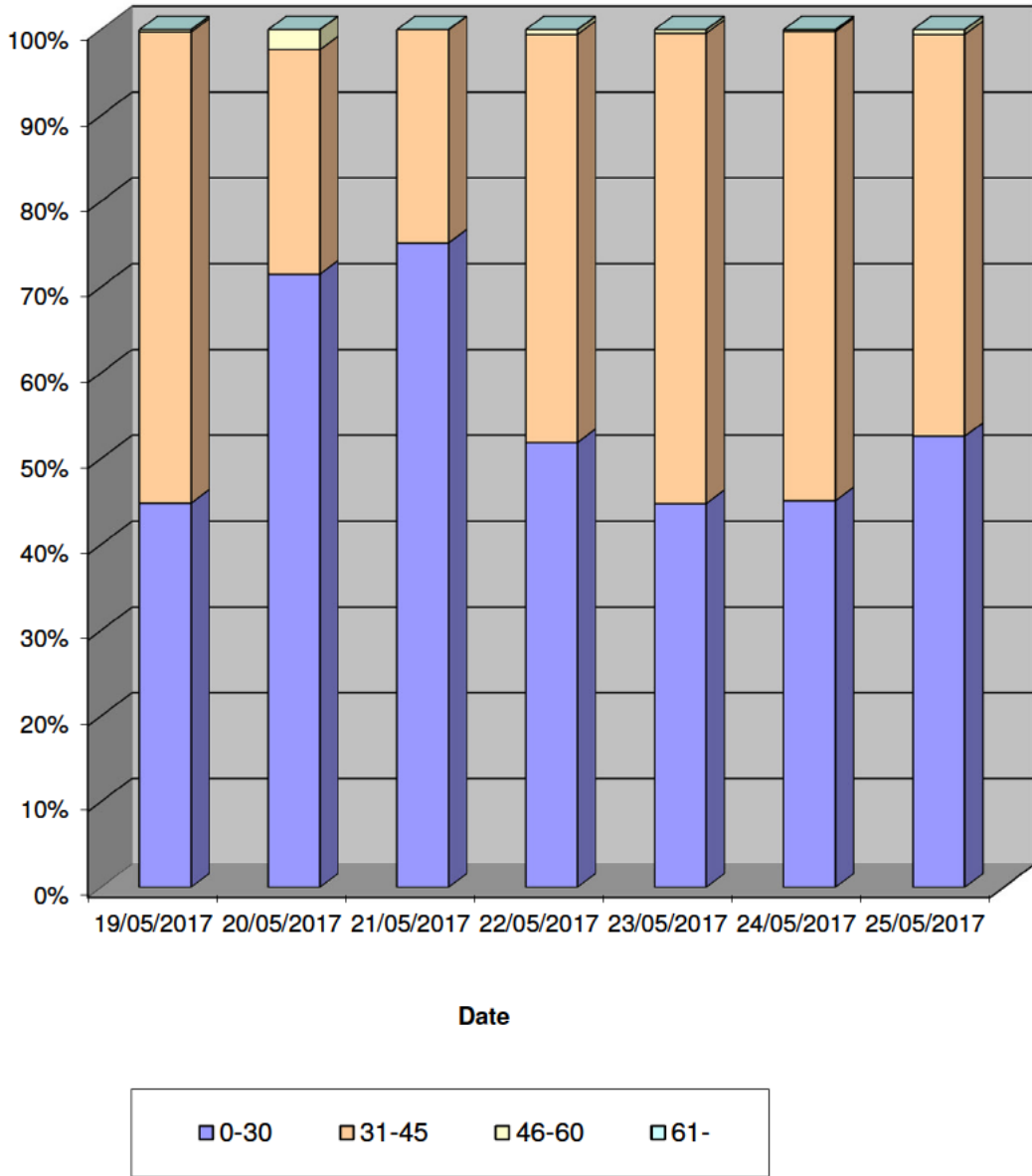
Channel 1 - Northbound

Speed Summary

Week 1

Speed (MPH)	19/05/2017 Friday	20/05/2017 Saturday	21/05/2017 Sunday	22/05/2017 Monday	23/05/2017 Tuesday	24/05/2017 Wednesday	25/05/2017 Thursday
0-30	663	801	602	757	657	646	765
31-45	812	293	199	694	804	783	681
46-60	4	26	0	8	6	3	8
61-	0	0	0	0	0	0	0
TOTAL	1479	1120	801	1459	1467	1432	1454

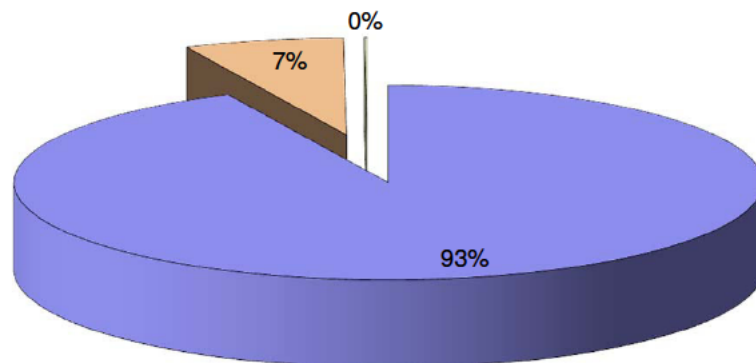
Speed Summary (MPH)



Barrington Road, Shepreth ATC

Channel 1 - Northbound		Vehicle Class			Week 1
Classes	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13	
Day / Time					
19/05/2017					
7-19	1168	92	2	1262	
6-22	1335	96	2	1433	
6-24	1366	97	2	1465	
0-24	1378	99	2	1479	
20/05/2017					
7-19	882	70	1	953	
6-22	1000	76	1	1077	
6-24	1030	78	1	1109	
0-24	1041	78	1	1120	
21/05/2017					
7-19	624	50	1	675	
6-22	720	52	1	773	
6-24	735	53	1	789	
0-24	747	53	1	801	
22/05/2017					
7-19	1148	100	1	1249	
6-22	1317	105	1	1423	
6-24	1344	105	1	1450	
0-24	1353	105	1	1459	
23/05/2017					
7-19	1170	87	1	1258	
6-22	1329	92	1	1422	
6-24	1361	93	1	1455	
0-24	1372	94	1	1467	
24/05/2017					
7-19	1130	106	4	1240	
6-22	1277	110	4	1391	
6-24	1311	111	4	1426	
0-24	1316	112	4	1432	
25/05/2017					
7-19	1153	89	2	1244	
6-22	1320	96	2	1418	
6-24	1346	96	2	1444	
0-24	1356	96	2	1454	
Average					
7-19	1039	85	2	1126	
6-22	1185	90	2	1277	
6-24	1213	90	2	1305	
0-24	1223	91	2	1316	

Total Vehicle Class Distribution



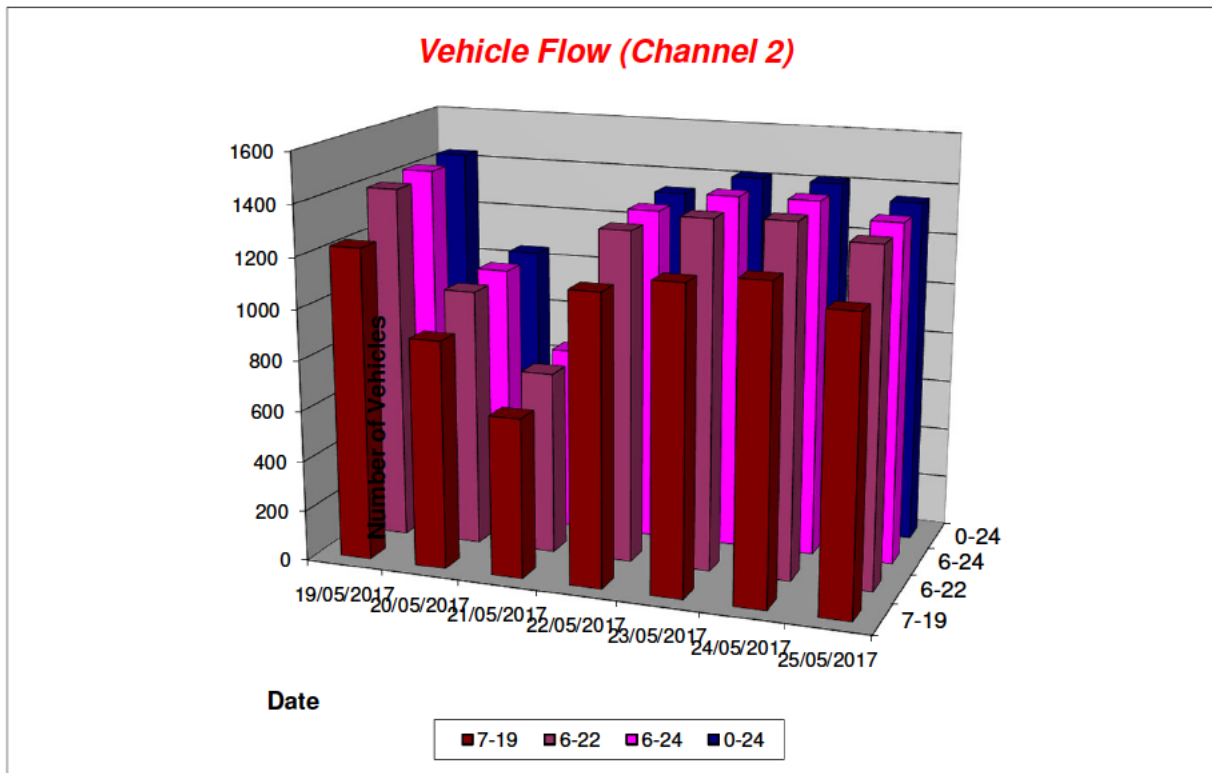
Barrington Road, Shepreth ATC

Channel 2 - Southbound

Vehicle Flow

Week 1

Hr Ending	19/05/2017 Friday	20/05/2017 Saturday	21/05/2017 Sunday	22/05/2017 Monday	23/05/2017 Tuesday	24/05/2017 Wednesday	25/05/2017 Thursday	5 Day Ave	7 Day Ave
1	3	5	7	2	4	3	2	3	4
2	2	0	0	0	1	0	0	1	0
3	0	0	0	0	0	1	0	0	0
4	1	0	0	0	0	0	0	0	0
5	0	0	0	2	0	0	2	1	1
6	10	5	4	11	12	8	13	11	9
7	47	19	4	44	43	40	41	43	34
8	112	34	13	110	110	113	113	112	86
9	160	58	28	141	154	135	133	145	116
10	113	82	45	106	121	107	112	112	98
11	92	87	61	75	79	93	79	84	81
12	72	75	66	69	71	67	62	68	69
13	64	76	61	69	61	67	74	67	67
14	75	82	56	75	68	80	77	75	73
15	84	87	69	81	87	87	88	85	83
16	103	78	56	74	92	118	71	92	85
17	127	89	64	111	125	123	115	120	108
18	145	91	67	139	143	151	135	143	124
19	84	60	43	87	85	87	84	85	76
20	48	41	31	58	55	41	64	53	48
21	36	32	29	38	35	38	45	38	36
22	38	27	27	25	40	33	25	32	31
23	19	17	10	15	24	18	18	19	17
24	2	2	1	3	4	2	2	3	2
7-19	1231	899	629	1137	1196	1228	1143	1187	1066
6-22	1400	1018	720	1302	1369	1380	1318	1354	1215
6-24	1421	1037	731	1320	1397	1400	1338	1375	1235
0-24	1437	1047	742	1335	1414	1412	1355	1391	1249



Barrington Road, Shepreth ATC

Channel 2 - Southbound

Average Speed

Week 1

Hr Ending	19/05/2017 Friday	20/05/2017 Saturday	21/05/2017 Sunday	22/05/2017 Monday	23/05/2017 Tuesday	24/05/2017 Wednesday	25/05/2017 Thursday
1	36.3	23.2	22.4	30.3	32.2	39.3	34.0
2	34.2	-	-	-	32.7	-	-
3	-	-	-	-	-	39.7	-
4	34.6	-	-	-	-	-	-
5	-	-	-	39.5	-	-	39.1
6	34.9	28.4	21.8	34.8	33.2	37.9	34.2
7	34.4	26.5	25.4	27.7	33.6	32.2	26.8
8	31.1	26.4	25.6	26.7	30.5	29.3	26.7
9	29.8	25.8	24.1	26.7	28.4	28.2	27.7
10	29.1	26.1	27.5	25.8	28.8	30.0	26.3
11	26.7	25.4	26.1	26.2	26.3	27.8	25.9
12	30.4	25.3	24.9	29.2	29.4	29.8	30.4
13	28.2	27.3	25.7	30.7	28.4	28.1	31.2
14	30.8	26.4	23.1	30.5	30.9	31.0	31.0
15	29.7	27.0	25.0	29.9	29.0	29.1	29.1
16	29.8	27.5	25.2	30.4	29.7	30.0	30.4
17	28.9	26.2	25.8	30.9	28.7	29.0	31.0
18	28.9	26.8	25.3	29.3	29.2	28.1	29.4
19	31.5	27.7	25.8	30.2	31.3	32.0	30.2
20	28.5	27.9	26.7	30.2	29.6	30.3	29.7
21	31.5	29.3	27.3	30.8	29.3	30.9	31.4
22	31.0	27.8	26.4	31.0	29.8	30.4	30.4
23	20.7	25.3	26.2	30.8	22.3	20.7	30.9
24	27.8	27.4	23.9	35.1	28.6	30.5	29.2

10-12	28.3	25.3	25.5	27.6	27.7	28.6	27.9
14-16	29.8	27.2	25.1	30.1	29.3	29.6	29.7
0-24	29.7	26.6	25.5	28.9	29.3	29.4	29.1

Average	28.6
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Channel 2 - Southbound

85th Percentile

Hr Ending	19/05/2017 Friday	20/05/2017 Saturday	21/05/2017 Sunday	22/05/2017 Monday	23/05/2017 Tuesday	24/05/2017 Wednesday	25/05/2017 Thursday
1	46.1	28.0	30.1	31.9	39.1	43.9	34.8
2	34.6	-	-	-	-	-	-
3	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-
5	-	-	-	41.1	-	-	40.2
6	40.0	34.3	25.2	41.0	41.9	40.9	41.8
7	41.5	35.9	30.2	35.1	41.6	41.6	32.1
8	35.3	36.9	34.6	32.6	36.0	34.6	32.6
9	35.6	35.8	34.2	31.2	35.9	34.9	32.0
10	35.1	34.9	36.0	30.9	35.6	35.2	32.5
11	33.3	33.4	35.7	31.8	32.3	34.4	31.9
12	39.1	35.9	34.9	34.6	36.6	34.6	36.2
13	35.4	36.4	33.5	36.4	34.7	35.7	37.3
14	36.7	37.3	32.1	35.9	38.6	36.7	35.9
15	35.0	35.8	34.0	35.4	34.8	34.8	34.3
16	34.7	34.9	33.5	35.4	34.6	34.5	35.6
17	35.4	36.4	35.5	35.6	34.6	35.0	35.7
18	35.0	36.5	34.5	35.6	35.0	34.1	35.4
19	37.0	35.7	35.1	36.3	36.9	37.3	36.8
20	35.9	35.9	35.0	37.7	35.5	36.4	37.4
21	38.2	41.3	34.5	36.8	36.8	37.7	37.8
22	37.5	33.9	35.1	36.6	36.4	36.4	36.7
23	29.4	35.3	33.6	36.6	29.4	28.3	35.9
24	31.0	28.2	-	43.0	30.4	31.7	31.9

10-12	35.3	35.4	35.7	33.8	35.3	34.5	34.4
14-16	34.8	35.6	33.9	35.4	34.7	34.7	35.0
0-24	35.7	35.9	34.6	35.1	35.7	35.5	35.4

85th %ile	35.5
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Barrington Road, Shepreth ATC

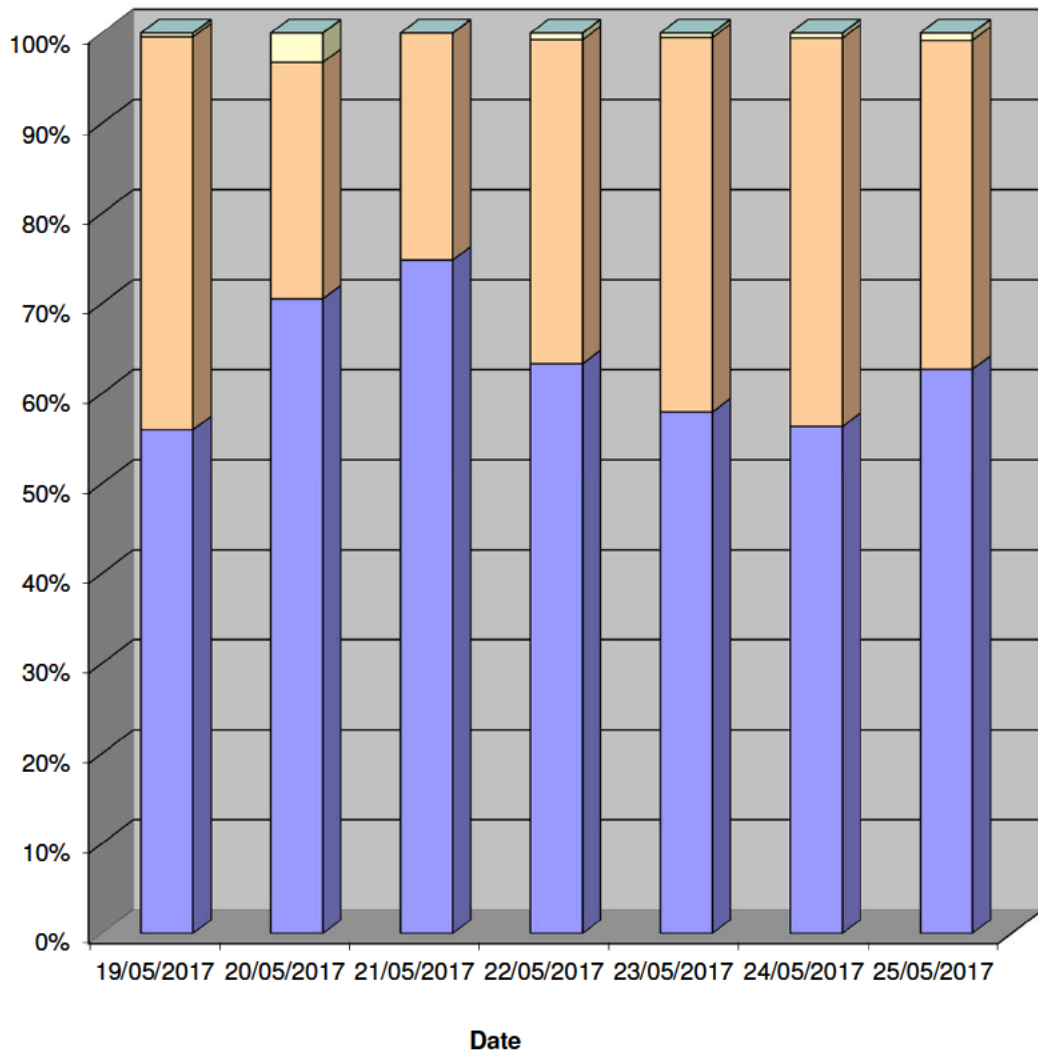
Channel 2 - Southbound

Speed Summary

Week 1

Speed (MPH)	19/05/2017 Friday	20/05/2017 Saturday	21/05/2017 Sunday	22/05/2017 Monday	23/05/2017 Tuesday	24/05/2017 Wednesday	25/05/2017 Thursday
0-30	804	738	555	845	819	795	849
31-45	627	275	187	480	588	609	495
46-60	6	34	0	10	7	8	11
61-	0	0	0	0	0	0	0
TOTAL	1437	1047	742	1335	1414	1412	1355

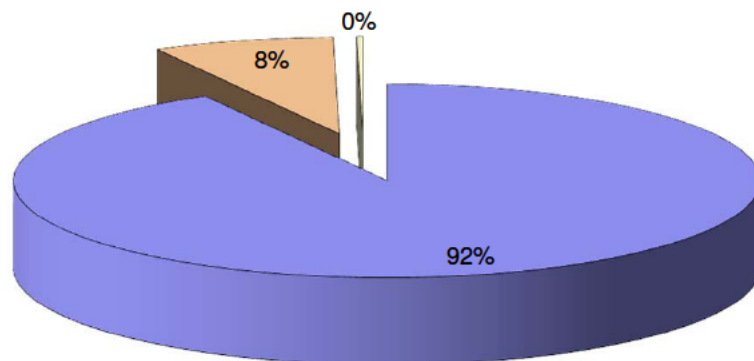
Speed Summary (MPH)



Barrington Road, Shepreth ATC

Channel 2 - Southbound		Vehicle Class			Week 1
Classes	Car / LGV / Caravan - 1	OGV1 / Bus - 2,3,5,6,7,12	OGV2 - 4,8,9,10,11,13	TOTAL - 1-13	
Day / Time					
19/05/2017					
7-19	1118	109	4	1231	
6-22	1277	119	4	1400	
6-24	1297	120	4	1421	
0-24	1309	123	5	1437	
20/05/2017					
7-19	825	73	1	899	
6-22	935	82	1	1018	
6-24	953	83	1	1037	
0-24	963	83	1	1047	
21/05/2017					
7-19	580	49	0	629	
6-22	668	52	0	720	
6-24	678	53	0	731	
0-24	689	53	0	742	
22/05/2017					
7-19	1050	85	2	1137	
6-22	1209	91	2	1302	
6-24	1226	92	2	1320	
0-24	1239	94	2	1335	
23/05/2017					
7-19	1100	96	0	1196	
6-22	1263	106	0	1369	
6-24	1290	107	0	1397	
0-24	1305	109	0	1414	
24/05/2017					
7-19	1099	117	12	1228	
6-22	1245	123	12	1380	
6-24	1264	124	12	1400	
0-24	1274	126	12	1412	
25/05/2017					
7-19	1053	87	3	1143	
6-22	1221	94	3	1318	
6-24	1240	95	3	1338	
0-24	1255	97	3	1355	
Average					
7-19	975	88	3	1066	
6-22	1117	95	3	1215	
6-24	1135	96	3	1235	
0-24	1148	98	3	1249	

Total Vehicle Class Distribution



Appendix B
Site Layout Drawing



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 NOTES:
 1. If in doubt ask
 2. Written dimensions to be used only
 3. This drawing is confidential and remains the exclusive property of ACORUS.
 4. Do not copy unless authorised.

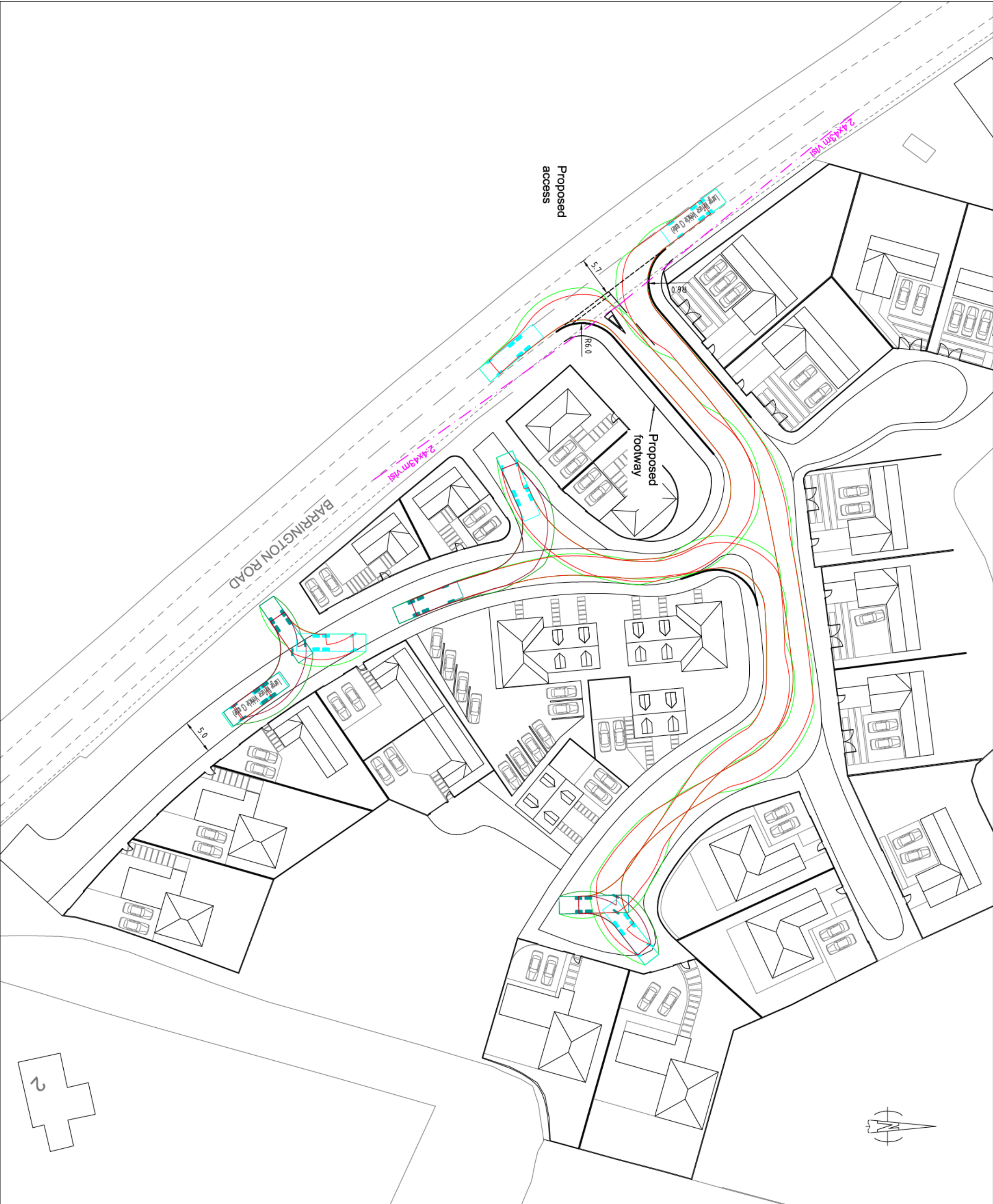
PLANNING ISSUE

Rev	Date	Description	Dwn	Chk
Rev.	Date.	Amendment.	Drawn	Checked
PROJECT				
Barrington Road Sherpeth, SGB 6QB				
TITLE Proposed Site Plan				
SCALE	DATE	DRAWN BY	CHECKED BY	
AS SHOWN @ A2	MTH/YR	C.G.	ABC	
JOB NO.	DRAWING NO.	REVISION		
	100-00			

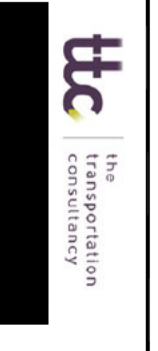


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Notes:
 Dimensions shown are in metres unless stated otherwise.
 Road markings & traffic signs are to be in accordance with 'The Traffic Signs Regulations and General Directions 2016'
 The design shown is aligned with Ordnance Survey Promap data and not topographical survey data.
 Dimensions will require verification on site.



Rev.
 Client
 Project
Shepreth

Drawn by
Site Access + Swept Path Analysis
 Checked by
 Date: Aug 17
 Scale: 1:500 @ A3
 Drawing No. 210-199-01
 Revision

Appendix C
TRICS Report

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLESSelected regions and areas:

02 SOUTH EAST	
HC HAMPSHIRE	1 days
06 WEST MIDLANDS	
WK WARWICKSHIRE	1 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
NY NORTH YORKSHIRE	2 days
10 WALES	
PS POWYS	2 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: 16 to 36 (units:)
 Range Selected by User: 5 to 50 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 27/09/16

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

Selected survey days:

Monday	2 days
Tuesday	1 days
Wednesday	1 days
Thursday	2 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 undertaken using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	3

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	5
No Sub Category	1

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

Secondary Filtering selection:Use Class:

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:

1,001 to 5,000	2 days
5,001 to 10,000	4 days

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

Population within 5 miles:

5,001 to 25,000	4 days
25,001 to 50,000	2 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	HC-03-A-17 CANADA WAY	HOUSES & FLATS	HAMPSHIRE
	LIPHOOK Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 36 Survey date: THURSDAY 12/11/15		Survey Type: MANUAL
2	NY-03-A-07 CRAVEN WAY	DETACHED & SEMI DET.	NORTH YORKSHIRE
	BOROUGHBRIDGE Edge of Town No Sub Category Total Number of dwellings: 23 Survey date: TUESDAY 18/10/11		Survey Type: MANUAL
3	NY-03-A-11 HORSEFAIR	PRIVATE HOUSING	NORTH YORKSHIRE
	BOROUGHBRIDGE Edge of Town Residential Zone Total Number of dwellings: 23 Survey date: WEDNESDAY 18/09/13		Survey Type: MANUAL
4	PS-03-A-01 BRYN GLAS	MIXED HOUSES	POWYS
	WELSHPOOL Edge of Town Centre Residential Zone Total Number of dwellings: 16 Survey date: MONDAY 11/05/15		Survey Type: MANUAL
5	PS-03-A-02 GUNROG ROAD	DETACHED/ SEMI-DETACHED	POWYS
	WELSHPOOL Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 28 Survey date: MONDAY 11/05/15		Survey Type: MANUAL
6	WK-03-A-02 NARBERTH WAY POTTERS GREEN COVENTRY	BUNGALOWS	WARWICKSHIRE
	Edge of Town Residential Zone Total Number of dwellings: 17 Survey date: THURSDAY 17/10/13		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****Estimated TRIP rate value per 25 DWELLS shown in shaded columns****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated 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	24	0.063	1.573	6	24	0.196	4.895	6	24	0.259	6.468
08:00 - 09:00	6	24	0.140	3.497	6	24	0.364	9.091	6	24	0.504	12.588
09:00 - 10:00	6	24	0.126	3.147	6	24	0.091	2.273	6	24	0.217	5.420
10:00 - 11:00	6	24	0.140	3.497	6	24	0.091	2.273	6	24	0.231	5.770
11:00 - 12:00	6	24	0.112	2.797	6	24	0.133	3.322	6	24	0.245	6.119
12:00 - 13:00	6	24	0.154	3.846	6	24	0.112	2.797	6	24	0.266	6.643
13:00 - 14:00	6	24	0.098	2.448	6	24	0.147	3.671	6	24	0.245	6.119
14:00 - 15:00	6	24	0.175	4.371	6	24	0.217	5.420	6	24	0.392	9.791
15:00 - 16:00	6	24	0.322	8.042	6	24	0.294	7.343	6	24	0.616	15.385
16:00 - 17:00	6	24	0.273	6.818	6	24	0.112	2.797	6	24	0.385	9.615
17:00 - 18:00	6	24	0.301	7.517	6	24	0.154	3.846	6	24	0.455	11.363
18:00 - 19:00	6	24	0.224	5.594	6	24	0.105	2.622	6	24	0.329	8.216
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			2.128	53.147			2.016	50.350			4.144	103.497

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:	16 - 36 (units:)
Survey date range:	01/01/09 - 27/09/16
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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.