

Rose and Crown, Benington Road, Aston, Herts, SG2 7DX

Proposed residential development

TRANSPORT STATEMENT

Prepared by: Entran Ltd

DATE: October 2022







Entran is an independent environmental and transportation consultancy formed in 2005, with specific abilities and expertise in traffic engineering, transport planning, environmental impact assessment, air quality and noise assessment and monitoring. © Entran Ltd. All rights reserved.



Rose and Crown, Benington Road, Aston, Herts, SG2 7DX

Proposed residential development

TRANSPORT STATEMENT

Revision	Date	Notes	Author	Checked	Approved
V1	October 2022	Draft	RAF	RLF	RGW
V2	October 2022	Issue	RAF	RLF	RGW

Entran Limited 2nd & 3rd Floors Northgate House Upper Borough Walls Bath BA1 1RG

T: 0117 937 4077



CONTENTS

1.0	INTRODUCTION	Error! Bookmark not defined.
2.0	EXISTING SITE	4
3.0	LOCAL TRANSPORT NETWORK	5
4.0	REDEVELOPMENT PROPOSALS	8
5.0	RESIDENTS' TRAVEL INFORMATION	12
6.0	TRAFFIC GENERATION	14
7.0	SUMMARY AND CONCLUSIONS	15

FIGURES

2.1	Site	Location
Z.I	One	LUCATION

- 3.1 Pedestrian isochrones
- 3.2 Cycle isochrones

APPENDICES

- A Highway boundary
- B Architects' plans
- C Swept path analyses
- D TRICS data

TABLES

- 4.1 Schedule of accommodation
- 4.2 Updated parking standards (extract)
- 4.3 2011 Census data for all households
- 4.4 Average vehicle ownership per household (Houses and bungalows)
- 4.5 Allocated parking demand per household (Houses and bungalows)
- 6.1 TRICS vehicle trip rate per dwelling (Houses)
- 6.2 TRICS vehicle trips for 7 houses



1.0 INTRODUCTION

1.1. Background

- 1.1.1 This Transport Statement (TS) has been produced by Entran Ltd in support of a planning application for a residential development on land to the rear of the Rose and Crown public house in Aston, Hertfordshire. The proposed development comprises the construction of seven new dwellings with associated parking and amenity space. Means of access to the new homes will result in improvements to the public house's car park, and the construction of a new 2m footway on Benington Road. Full details are provided at Chapter 4.
- 1.1.2 Guidance published by the DfT and the DCLG in 2007 provided advice on the content and preparation of Transport Assessments and Transport Statements. It also assisted stakeholders to determine whether an assessment may be required and, if so, what the level and scope of the assessment should be.
- 1.1.3 Previous guidance on the assessment of traffic implications associated with development proposals was contained in the "Guidelines for Traffic Impact Assessment" published by the Institute of Highways and Transportation (IHT). Since the IHT guidelines were produced, there has been a significant change in Government policy and general guidance regarding improved sustainability in transport. The fundamental difference between TAs and the old TIAs is that TAs seek to influence modes of travel and assess person-trips rather than vehicle trips, whereas TIAs were based on the principles of "predict and provide" for the private car.
- 1.1.4 The 2007 document brought the guidance on transport assessment up to date with these changes in Government policy, and expanded it to address the assessment of the potential implications of development proposals on the entire transport system.
- 1.1.5 In 2014 DCLG published a suite of Planning Practice Guidance including advice entitled "Travel plans, transport assessments and statements in decision taking". The 2007 guidance has been superseded by the PPG as current government guidance on the transport related effects of development, but many highway authorities still refer to it as useful advice on detailed matters of transport assessment.
- 1.1.6 The local planning authority is East Herts District Council (EHDC), and the local highway authority is Hertfordshire Council (HCC).



2.0 EXISTING SITE

2.1 General

2.1.1 The Site is located in the centre of Aston and takes access from Benington Road. The village of Aston is located to the southeast of Stevenage. The general Site location is shown in Figure 2.1 below:

Figure 2.1 – Site location



- 2.1.2 The existing pub building is a two-storey structure with a ground floor footprint of approximately 200m² and ancillary accommodation above. The pub building does not form part of this application.
- 2.1.3 The remainder of the pub's existing curtilage is divided into a pub garden to the north, car parking to the south-west and a seating area in front of the pub to the south-east. The car park currently accommodates up to 20 cars via an irregular layout.
- 2.1.4 It should be noted that some of the area used for seating in front of the pub is in fact public highway. It is understood that this area was intended to serve as a layby for the bus stop, but the location of the pub sign currently precludes this. The highway boundary is illustrated in **Appendix A**.
- 2.1.5 The new residential access will require the pub car parking to be reconfigured; therefore, the pub car park is included within the red line.
- 2.1.6 The site is bounded to the south by Benington Road, to the north and east by adjacent residential properties and to the west by an existing right of way footpath.

C

3.0 LOCAL TRANSPORT NETWORK

3.1 General

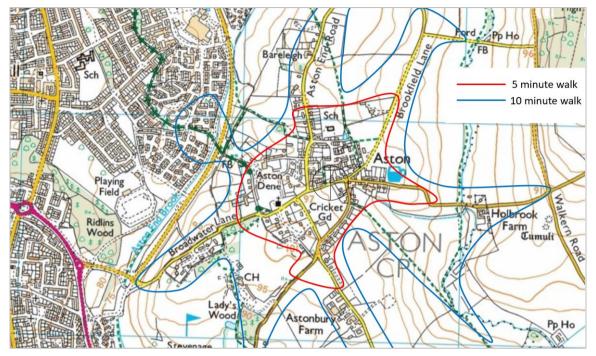
- 3.1.1 The Site takes access from Benington Road, a local distributor road which runs west to east from Benington to the A602. Benington road is semi-rural in nature; beyond the settlement boundaries it has verges on both sides whereas within the village it has single sided footways along some lengths, as well as direct frontage access. In the vicinity of the site there are no footways and the lanes act as a shared space for motorists, cyclists and pedestrians as is common in most rural villages. Local junctions have street lighting but otherwise there is no lighting within Aston.
- 3.1.2 Within the village the roads are subject to a 30mph speed limit.
- 3.1.3 To the west of the site at the junction with Aston End Road a local traffic calming scheme has been implemented giving priority to westbound traffic. During times when this length of road has two-way traffic, this will have the effect of slowing eastbound traffic as it approached the centre of the village.
- 3.1.4 Some 1.2km west of the site Benington Road / Broadwater Lane joins the A602. This is part of the Primary road network and leads south-east to Ware and the A10, and west into Stevenage and Junction 7 of the A1(M).

3.2 Pedestrian and cycle facilities

- 3.2.1 Acceptable journey distances on foot vary depending on the purpose of the journey, the environment in which the journey is taking place and of course the individual walking. Prior to being superseded by the National Planning Policy Framework (NPPF) PPG13 suggested that walking offers the greatest potential to replace short car trips for journeys less than 2km. The IHT guide 'Providing for Journeys on Foot' suggests that for commuting a desirable walking distance would be 500m, an acceptable walking distance would be 1km and the preferred maximum walking distance would be 2km, in line with the PPG13 advice.
- 3.2.2 Figure 3.1 shows walking isochrones from the site. This demonstrates that the whole of Aston village is within easy walking distance of the site and that a small additional residential area in the Poplars district of Stevenage lies within a 10-minute walk of the site via the Dene Lane footbridge over Gresley Way and Aston End Brook.

3.2.3 Facilities such as Aston St Mary's Primary School, Aston Village Hall, and St Mary's church are all within 5 minutes' walk of the site, as are the cricket ground and bowls club. Astonbury Farm and Business Park are between 5- and 10-minutes' walk, to the south of Aston.

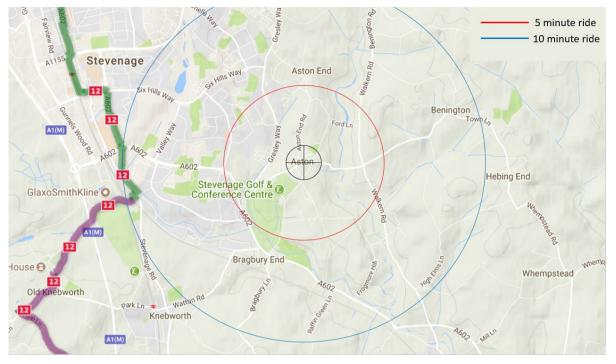
Figure 3.1 – Walking isochrones



- 3.2.4 There are no dedicated cycle facilities within Aston, but the lightly trafficked local roads are suitable for cyclists. It may be that the lack of street lighting may deter some cyclists during the winter months, but others would consider the rural nature of the local lanes ideal for cycling.
- 3.2.5 Figure 3.2 shows that a large area of eastern Stevenage lies within 10 minutes' cycling distance of the site. Knebworth rail station is slightly more than a 10-minute ride. In addition, National Cycle Network 12 (NCN12) is less than 10 minutes from the site and provides a direct link into Stevenage and Stevenage rail station.
- 3.2.6 NCN12 heads north to Lister Hospital and Letchworth Garden City, and south to GlaxoSmithKline, Knebworth House and onwards to Welwyn Garden City.



Figure 3.3 – Cycle isochrones



3.3 Public transport

- 3.3.1 The nearest bus stop is located immediately in front of the site on Benington Road. This serves the 383 bus routes which provide direct access to Stevenage and Hertford. It is noted, however, that these services only visit the Aston bus stops a few times each day. The times of day are not suitable to allow this bus stop to be used for journeys to and from work. However, 670m to the west (7 or 8 minutes' walk) two more bus stops on Gresley Way are easily accessible on foot via Dene Lane and benefit from a much higher frequency service.
- 3.3.2 Full timetables are available at the following websites: www.centrebus.info and www.traveline.info
- 3.3.3 The nearest railway station is Knebworth which is located 3.5km to the south-west of the Site. From Knebworth Station regular rail services link to Cambridge and London Kings Cross. Knebworth Station has covered, secure cycle parking facilities and parking for disabled drivers.
- 3.3.4 Stevenage Station is 4km from the site. It is a larger station than Knebworth but on the same line. Great Northern trains run to Cambridge and London Kings Cross, but Virgin trains also run to Leeds.

3.4 Section summary

3.4.1 The Site is well placed to promote travel by sustainable modes of transport. The residents in the new homes will have employment, leisure and education facilities within walking and cycling distance. These modes are an attractive and viable choice for residents on this site who would not be reliant on travel by car.



4.0 REDEVELOPMENT PROPOSALS

4.1 Development Composition

4.1.1 Planning permission is being sought for the construction of seven new residential dwellings. The mix of residential units is shown in Table 4.1 below:

Table 4.1 – Schedule of accommodation

Unit size	No.
2-bed houses	3
3-bed houses	2
4-bed houses	2
TOTAL	7

4.1.2 The proposed layout is shown in a set of Forge Architects' plans included here as **Appendix B**.

4.2 Parking

Parking standards

- 4.2.1 The East Herts Local Plan is supported by a suite of Supplementary Planning Documents (SPDs) including Vehicle Parking Standards, Zonal Maps and Updated Vehicle Parking Standards. The updated standards were agreed by the Council as part of the ongoing work on the District Plan and are being taken into account through the planning process alongside the adopted standards.
- 4.2.2 The adopted and updated standards are based on a zonal approach so that parking provision for new development in certain areas can reflect the site's accessibility to services, facilities or public transport. The zonal maps show the centres of Hertford, Ware and Bishop Stortford as being within zones 2 and 3 and therefore suitable for significant reductions in parking provision. Those zonal maps show the residential areas surrounding those towns as being Zone 4. Interestingly, as Stevenage falls within North Herts there is no zonal plan for the East Herts villages that surround it. Notwithstanding this the updated parking standards state that the remainder of the district is considered to be Zone 4 in any case.
- 4.2.3 Table 1 of the updated parking standards states that parking provision within Zone 4 should be 75-100% of the Car Parking Standards.



4.2.4 For the proposed development, the relevant parking standards are as follows:

Use class	Description	Car Parking Standards	Minimum Cycle Parking Standards
C3 residential	2-bedroom dwellings	2.0	1 l/t space per unit
	3-bedroom dwellings	2.5	
	4-bedroom dwellings	3.0	

- 4.2.5 For the proposed residential mix of 2, 3 and 4-bed dwellings the parking standard (Zone 4) requires between 13 and 17 car parking spaces.
- 4.2.6 In 2007 the (then) DGLG commissioned the research paper 'Residential Car Parking Research' which was used to inform PPS3. Whereas PPS3 has been superseded by NPPF this research document is very useful in providing an empirical background to increases or decreases in parking demand depending on proportions of allocated or unallocated spaces, or mixes of unit sizes and tenure. This is discussed below.
- 4.2.7 The 2011 census provides household vehicle ownership by wards. The development site is located in the Datchworth and Aston ward which is the best source of information for local vehicle ownership levels. The 2021 census data is not yet available for vehicle ownership. Table 4.3 below shows a summary of vehicle ownership by household in 2011.

	All house types	House or bungalow	Flat, maisonette or apartment	All house types	House or bungalow	Flat, maisonette or apartment
All households	975	902	73			
No vehicle	63	54	9	6%	6%	12%
1 vehicle	293	250	43	30%	28%	59%
2+ vehicles	619	598	21	63%	66%	29%

Table 4.3 – 2011 census data; accommodation type by car or van availability (LC4415EW)

- 4.2.8 This information indicates that in 2011 around a third of all households in this ward had either no vehicle or one vehicle. Two thirds of all households had two or more vehicles. This is equally valid for households living in houses but for households living in flats or maisonettes the proportions are reversed with two thirds having one vehicle or no vehicles, and less than one third having two or more vehicles.
- 4.2.9 As might be expected, this shows that car ownership levels for flats in this ward were lower than for all households.



4.2.10 The above figures relate to 2011. At present the predicted year of completion for the proposed development is 2023 but it would be prudent to allow for parking demand at least 5 years after occupation. If we assume 2023 as year of occupation, then the design year would be 2028. It is highly likely that external factors such as fuel prices, land-use policy or social attitudes are likely to affect car ownership levels by 2028, but for a robust assessment it would be appropriate to apply the same rate of growth from 2011 to 2023 and 2028 as was seen between 2001 and 2011, namely 1% per annum. If this growth is applied to the observed census data, the average car ownership per dwelling would be as shown in tables 4.4 and 4.5 below:

Whole house or bungalow		2011	2023	2028
0	6%	0.00		
1	28%	0.28		
2+	66%	1.33		
		1.60	1.81	1.90

Table 4.4 – Average vehicle ownership per household (House or bungalow)

- 4.2.11 The NPPF criteria suggest that the type, mix and use of the development are important considerations. This is reflected in the EHDC updated standards. With regard to residential development the difference between All Households and Flats has been shown above; however, tenure is also an important factor. All the above figures relate to a mix of self-owned and rented accommodation.
- 4.2.12 The DCLG research paper shows that if all parking spaces are allocated to individual dwellings, then demand for parking spaces increases. This is, in part, a result of spaces being allocated to households who do not own a vehicle. Under these circumstances, if every dwelling were allocated a parking space, irrespective of car ownership, but adequate provision was made to accommodate the extra parking for those households who have more than one vehicle the parking demand would rise as shown in tables 4.5 below.

Whole house	Whole house or bungalow		2023	2028
0	6%	0.00		
1	34%	0.34		
2	66%	1.33		
		1.66	1.87	1.97

Table 4.5 – Allocated parking demand per household (House or bungalow)

4.2.13 The lowest parking demand is achieved by having all spaces unallocated (i.e. first come, first served) but this is not possible where spaces are within the curtilage of a property. Even where parking is presented in a communal format unallocated spaces can be unpopular with some residents and is not accepted by some housing associations. The usual solution is to allocate some parking spaces but have some communal, unallocated spaces. Such a system requires a management company involvement, but this is usually possible where there are other areas of communal maintenance responsibility as in this case.



- 4.2.14 For a robust assessment, if *all* parking spaces were allocated, and the 2028 average parking demand figures from Tables 4.5 were applied to the schedule of accommodation in Table 4.1 the resultant parking demand would be for 14 car parking spaces.
- 4.2.15 On the basis of the above criteria, the evidence shows that the Zone 4 parking standard range of 13 to 17 spaces would make adequate provision for the projected future parking demand associated with this mix of dwellings in this location. The proposed development includes **16 residential parking spaces** for the seven dwellings. The total provision exceeds the projected future parking demand and complies with the permitted range of parking provision.
- 4.2.16 The existing pub has 20 car parking spaces. These are currently laid out poorly with five of the spaces being at 45 degrees to the access, making manoeuvring difficult, and six of the spaces require drivers to reverse onto or off the public highway. The existing parking layout produces a pinch-point close to Benington Road, which is not wide enough to allow one vehicle to enter and another to leave the car park. The proposed development increases the pub's parking provision to **21 car parking spaces** and provides them in a safer and more efficient manner. An improved access is formed onto Benington Road as described below which allows all cars to enter and leave the site in a forward gear.

4.3 Means of access

General

- 4.3.1 The existing site has a vehicle access at its eastern end, a short length of kerbing mid-way along its frontage and then a long open access into the parking area. The area of public highway, intended to make provision for the bus stop, is obstructed by the pub sign and raised kerb.
- 4.3.2 The proposed redevelopment will rationalise this arrangement by providing a well-defined access road into the residential area and serving the pub car park. This has been designed with junction radii able to accommodate a 7.5t box van. No dwellings will have direct frontage access onto Benington Road. The pub car park will be improved so that it too takes access from the new access road with no vehicles reversing onto or off Benington Road. The length of road in front of the existing pub building will be widened to 5.5m to allow a bus to wait without obstructing Benington Road. In addition, a new 2m footway will be provided along the entire frontage, linking to the public footpath which runs along the site's western border. This represents a significant improvement to current highway conditions.

Internal access roads

- 4.3.3 The internal access road comprises a shared surface within the site. Specific provision has been made for a 7.5t box van to turn within the site. This allows for daily residential deliveries such a groceries or parcels. The internal road has been designed as a shared surface road in accordance with the guidance in Manual for Streets and MfS2. Due to the relationship between the pub parking area and the residential accommodation, a set of gates has been introduced close to the houses for security purposes. These are set well back from the public highway and will have no effect on the operation of the internal private road.
- 4.3.4 Two cars can pass within the internal road, but a delivery van would use both sides of the road while negotiating the bends. This accords with the principles and guidance within MfS and MfS2. Full vehicle swept paths are included as **Appendix C.**

4.4 Servicing

4.4.1 The internal layout allows for a 7.5t box van to enter and leave in a forward gear. The widened carriageway to the front has been designed to accommodate a public service bus, brewery draywagon a large refuse vehicle or the occasional large service vehicle for the dwellings (e.g. removal van). Full swept paths are included as **Appendix C**.



5.0 RESIDENTS' TRAVEL INFORMATION

- 5.1.1 As stated in the introduction, this TS has been developed to seek to influence modes of travel to the proposed redevelopment rather than merely predicting travel patterns and providing mitigation.
- 5.1.2 The effects of travel choices on our environment, our health and our quality of life are well documented. Sources describe how increases in road traffic have produced unsustainable levels of congestion and pollution. The effects can be felt at a local level through poor air quality, noise and busier roads and at a global level through suggested linkages to climate change. Journeys by road are becoming slower and more unreliable causing problems for business and stress to drivers.
- 5.1.3 Prior to the Covid-19 pandemic, there had been a significant increase in the proportion of individuals travelling to work by car. In Hertfordshire, over 80% of car journeys to work were driver only. Even a small modal shift in home-work-home journeys away from the car would result in a considerable reduction in traffic congestion at peak times. Travel restrictions in 2020 and 2021 forced many people to re-evaluate their travel behaviour. Evidence suggests there has been a significant increase in those working from home full or part time, and a material increase in walking and cycling. However, some people who moved away from public transport during the pandemic have been 'lost' to the car and it will be necessary to reverse his trend through positive measures to encourage bus and rail trips.
- 5.1.4 Travel planning must be realistic and should not expect to remove car usage altogether. Instead, effective travel planning will maximise the use of sustainable travel to achieve more sensible and appropriate use of the private car. If every commuter who travelled by car each day used an alternative to the car on just one day a week, car usage levels for commuting would be reduced by as much as 20% immediately, with commuter parking requirements also reduced by up to 20%.
- 5.1.5 Unlike employment, retail or educational sites, it is not possible to dictate to residents how they should travel. For this reason residential travel planning is based on the provision of infrastructure and information rather than the imposition of management procedures.

5.2 Infrastructure improvements

5.2.1 A key element of the proposed development is the introduction of appropriate infrastructure to encourage sustainable travel. This comes under the headings of slow mode (walk/cycle) and public transport.

Slow mode

- The site provides a new footway along the entire frontage, linking to the existing public footpath to minimise the walking route from the Site towards the school and bowls club;
- Secure, covered cycle parking will be provided for all residents as an integral part of the proposed housing.

Public Transport

• An improved bus stop will allow buses to wait, clear of the carriageway. The improved bus facilities will include a raised kerb to enhance step-fee access to public transport.

Highway layout

- The proposed development will improve the pub car park layout so that no vehicles reverse onto or off Benington Road.
- The development provides a unique opportunity to rationalise the highway boundary.



5.3 Residents' Travel Pack

- 5.3.1 It will be the responsibility of the developer to ensure that residents are provided with an information pack containing details of public transport timetables and maps, as well cycling and pedestrian infrastructure when they move into the dwellings.
- 5.3.2 Any communal areas will be maintained by a management company.
- 5.3.3 The information pack will include information and incentives for all occupiers of the new dwellings. The information will enable the new residents to make informed decisions about their modes of travel. The likely content of the Residential Travel Pack will be:
 - Electric Vehicle Charging Points (if practicable);
 - EHDC cycle route information;
 - Sustrans leaflets on the beneficial effects of walking and cycling ;
 - Free reflective clothing i.e. cycle bib, arm bands etc.;
 - Free bicycle locks/helmets;
 - Developer to negotiate local cycle shop discount;
 - Details of local cycle groups;
 - Details of BikeBUDi travel system ;
 - Bus route/timetable information;
 - Train timetable information;
 - Details of car-sharing website (e.g. www.herts.liftshare.com);
 - Taxi rank locations;
 - Taxi company information possible discount vouchers for a taxi company;
 - Details of TaxiBUDi travel system;
 - Supermarket home delivery details;
 - Existing school Travel Plans in the area;
 - Local internet availability;
 - Simple advice on working from home.
- 5.3.4 This list is not exhaustive or a prescriptive list of what will be in the travel pack but provides details of the likely content of the pack. Details of the final pack will be agreed in partnership with the Councils.



6.0 TRAFFIC GENERATION

6.1.1 The DfT Guidance on Transport Assessment (March 2007) advises at paragraph 4.7 that baseline traffic data should be derived as follows:

Baseline transport data

- The quantification of person trips generated from the existing site and their modal distribution, or, where the site is vacant or partially vacant, the person trips which might realistically be generated by any extant planning permission or permitted uses;"
- 6.1.2 The transport impact of the proposed development is therefore determined by comparing the potential journeys associated with the previous use of the site and those predicted for the proposed development. In this case, the traffic associated with the pub will not change; the pub itself falls outside the application and the proposals retain the same general level of pub car parking. The pub is therefore 'traffic-neutral'. The transport effects of development therefore relate to the additional traffic generated by seven new dwellings.
- 6.1.3 The potential traffic from the proposed dwellings has been determined by reference to the TRICS® database. Only sites in England (outside London) have been used for developments of a similar size. Only weekday surveys were selected, and no town centre sites were used. For the proposed dwellings the use classification 'Houses in private ownership' was used. Full TRICS data is included as **Appendix D**. The vehicle trip rates and resultant vehicle trips are as shown in tables 6.1 and 6.2 below.

Trip rates Arrive		Depart	Total	
AM peak	0.204	0.362	0.566	
PM peak	0.322	0.164	0.486	
Daily	2.403	2.564	4.967	

Table 6.1 – TRICS vehicle trip rates per dwelling

Table 6.2 – TRICS vehicle trips for 7 dwellings

Trips Arrive		Depart	Total
AM peak	1	3	4
PM peak	2	1	3
Daily	17	18	35

- 6.1.4 This data suggests that during the peak hours around half of the dwellings would generate a vehicle movement, and across the day they would each result in two or three vehicles leaving and then returning. This is a reasonable assumption.
- 6.1.5 The nominal change in peak hour vehicle trips would be less than daily variation on the local transport network and therefore imperceptible to other highway users.



7.0 SUMMARY AND CONCLUSIONS

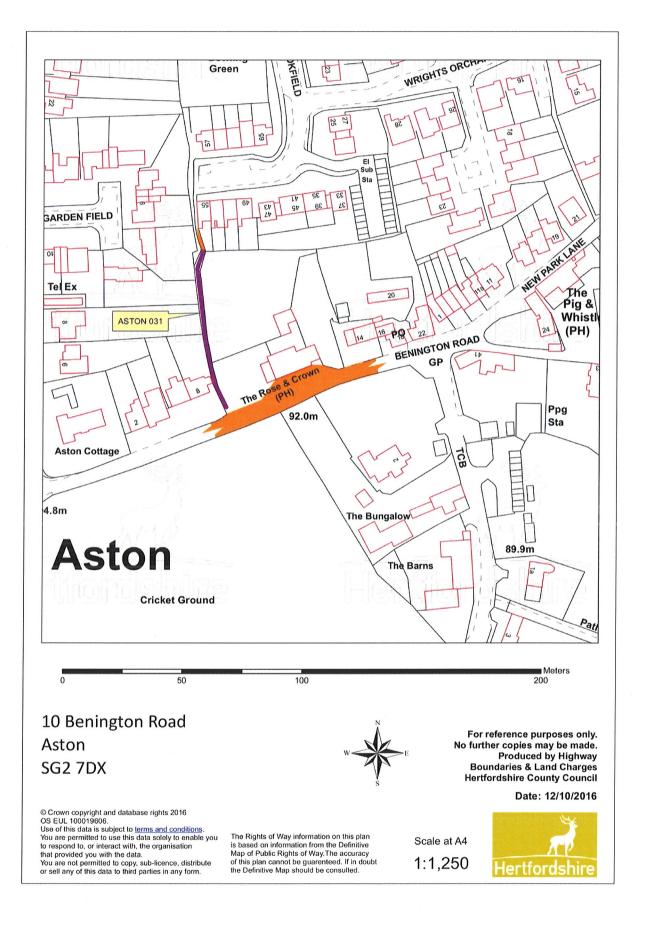
- 7.1.1 This TS has been prepared in a manner which seeks to positively influence travel to and from the proposed development site rather than merely assessing its impact.
- 7.1.2 Planning permission is being sought for the construction of seven new dwellings on land to the rear of the Rose and Crown pub in Aston.
- 7.1.3 The site has good access to bus facilities and has a range of services and facilities within walking and cycling distance.
- 7.1.4 The development includes a layout which makes good provision for pedestrians. The internal road layout makes suitable provision for servicing and deliveries. The development will deliver a widened carriageway, new footway and improvements to the local bus stop on Benington Road which will benefit new and existing residents alike.
- 7.1.5 The highway boundary will be rationalised in accordance with details agreed with the highway authority. This removes a historical anomaly that resulted in part of the highway being used for pub seating, and instead creates a clear and legible highway boundary.
- 7.1.6 Parking provision for the proposed new dwellings exceeds the projected vehicle ownership levels and complies with the District Plan standards PLS DOUBLE CHECK THIS REF 4.1.1. The level of car parking will be slightly increased for the pub in an improved layout which removes the need for vehicles to reverse onto and off the public highway.
- 7.1.7 The proposed development would result in a nominal increase in peak hour vehicle movements; however, the nominal change would be less than daily variation on the local transport network and therefore imperceptible to other highway users.
- 7.1.8 For the reasons set out in this Transport Statement there is no reason why the proposed development should be refused on grounds of highway capacity, highway safety, or impact on the wider transport network or sustainability.



APPENDIX A

Highway boundary information

Highways Department Data Response



www.planval.com

Incorporating Data from the Highways Departments

Plan 2

Highways Search



APPENDIX B

Architects' plans



Land Adjoining the Rose and Crown, Aston, Stevenage

SCHEDULE:

Site area- 3144sqm / 0.31ha or 33842sqft / 0.78ac

RESIDENTIAL

House Type B1 (HT_B1) 2 storeys - 2no. 2 bed 3 person house GIFA- 80sqm / 807sqft

House Type B2 (HT_B2) 2 storeys- 1no. 3 bed 6 person house GIFA- 97.1sqm / 1045sqft

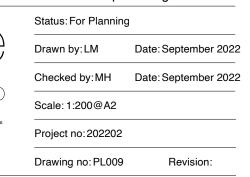
House Type B3 (HT_B3) 2 storeys - 1no. 3 bed 6 person house GIFA- 97.8sqm / 1053sqft

House Type C2 (HT_C2) 2.5 storeys - 2no. 4 bed 7 person house GIFA- 117.6sqm / 1266sqft

Conversion Type 3 (CON_3) 2 storeys- 1no. 2 bed 4 person house GIFA- 102.0sqm / 1098sqft

TOTAL- 6no. new build houses 1no. conversion

Note: refer to drawing PL020 for details of hard and soft landscape arrangements





www.forge-ds.co.uk

Forge Design Studio Cowesfield Whiteparish Salisbury SP5 2RB

info@forge-ds.co.uk studio 01794 885872

Forge Design Studio Copyright, Designs otherwise agreed in

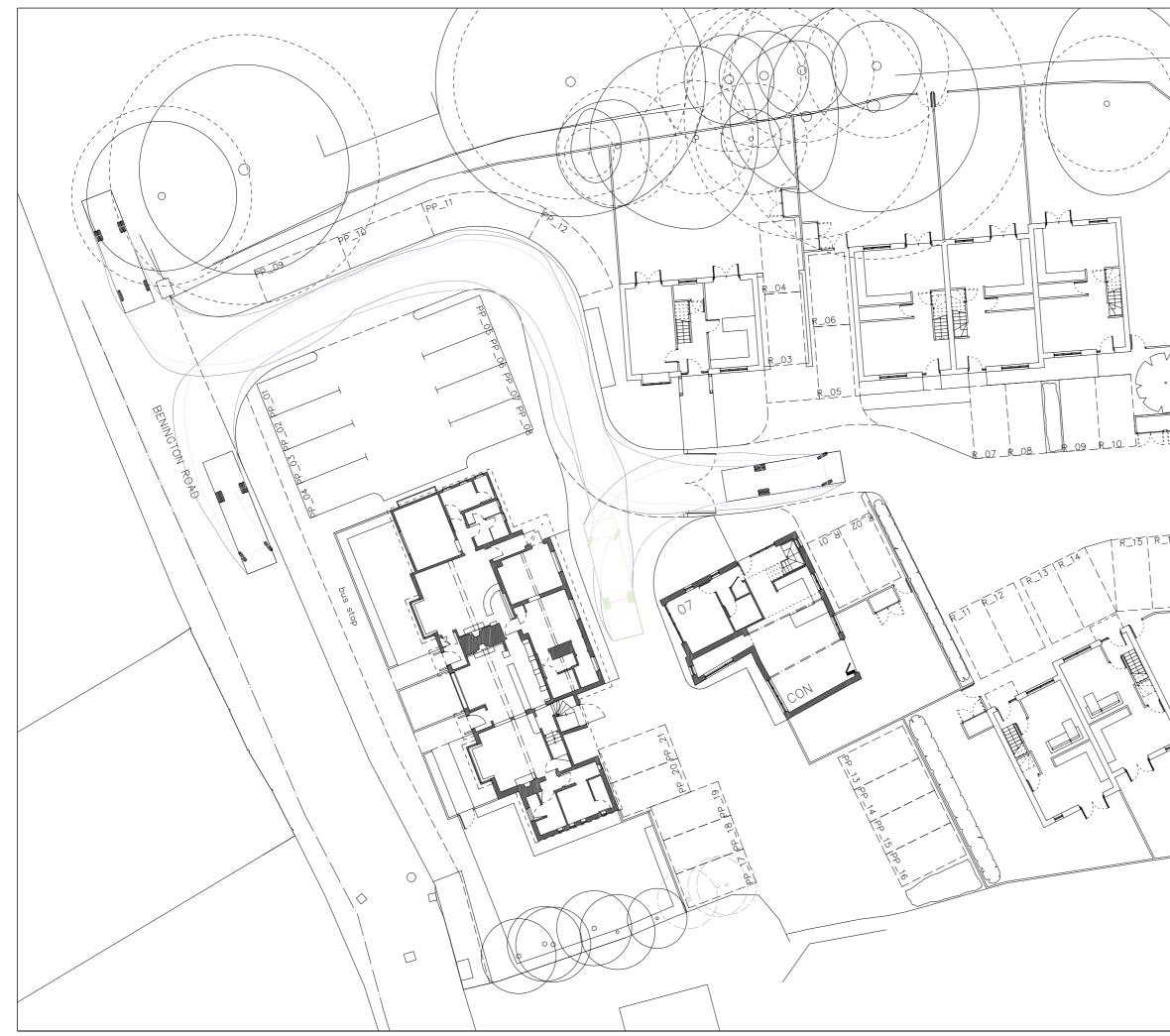
asserts its rights under the nd Patents Act 1988, unless writing All rights reserved

0 2 4 6 8 10 12 14 16 18 20m

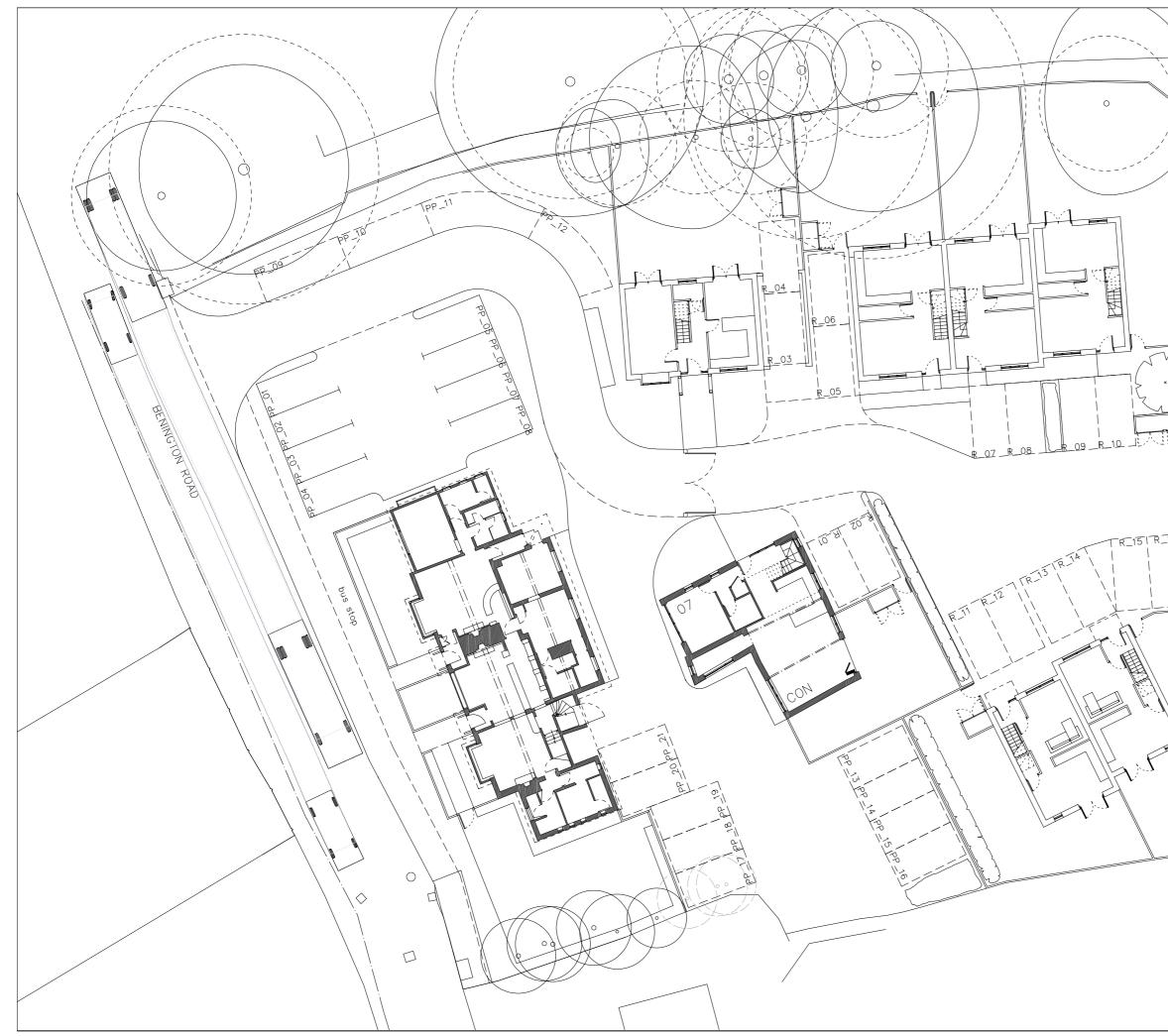


APPENDIX C

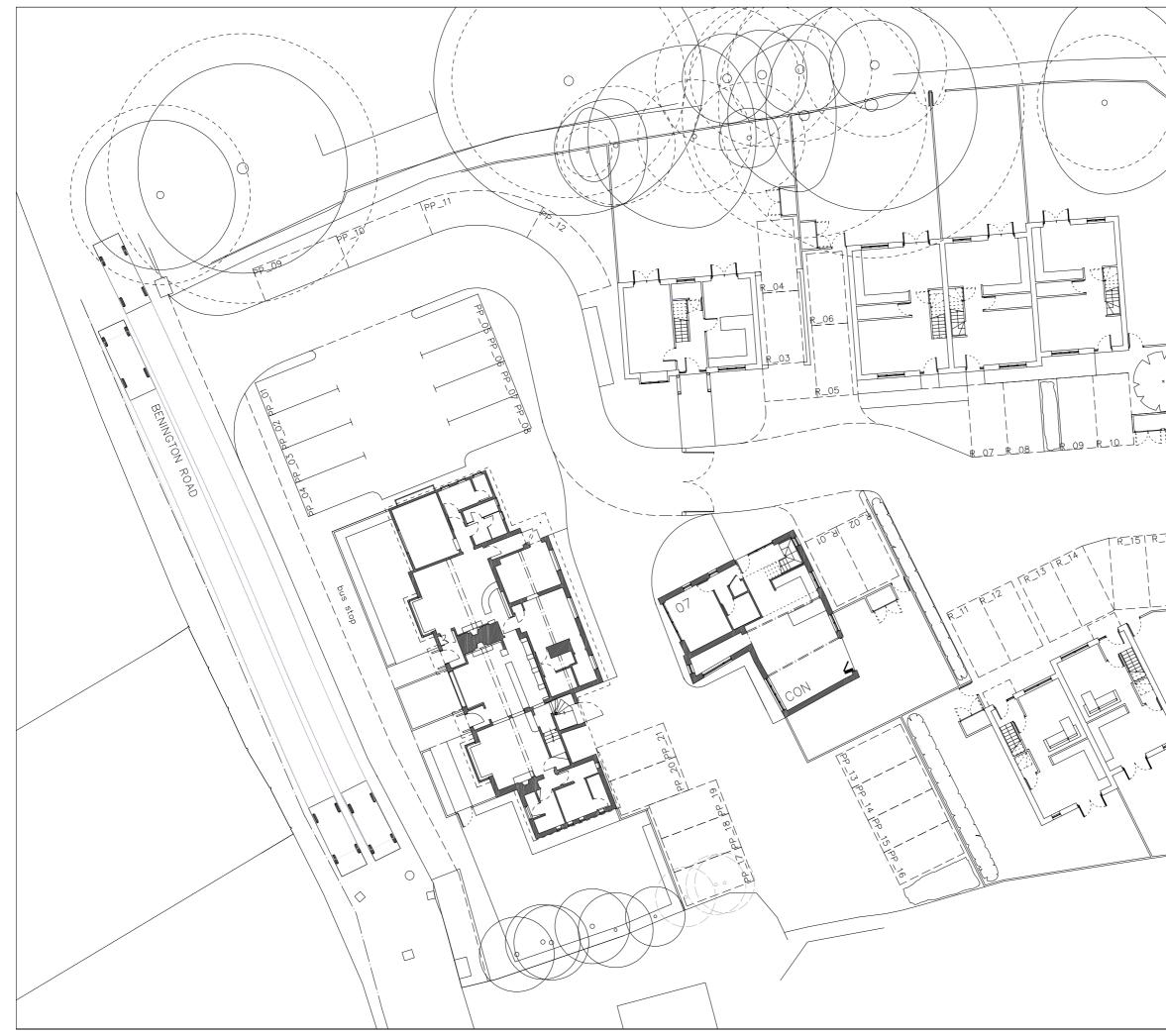
Swept path analyses



			4.25	th Heigy kithe	nt Clearance ning Radius	8.010m 3.551m 2.064m 4.005 7.400m	
	REV	DATE	F	REVIS	ION DETAILS	i	BY
			bors Northgate TELEPI	louse U	nmental & trans	sportation	1
	Ros Ben	e an ining	d Cro ton Ro				
(``,		ept P	ath Ai Van	naly	/sis		
	CLIENT	/ ARCHI	TECT				
	STATUS PRELIMINARY SCALE DRAWN						
	1:250 CHECKEL RAF		AT	A3	RG APPROVED RAF		
	DRG SIZE A3		2022		ING NUMBER SK120)1	rev A



	ا د	5.07					
		ange Iveral Iveral Iveral Veral Min Boi Max Tr Jock 1 Kerb 1		06) Height nd Cl th time Turr	t .earance ning Radius	5.079 1.872 1.525 0.310 1.831 4.005 5.900	m m ח ח ח
	Ī		9.795 6.25 Deck Bus			0.705-	
		Iverall Iverall Iverall In Bod rack ock t	Deck Bus Length Width Body He y Ground Width o lock ti o Kerb T	ight A Clei me urnir	arance ng Radius	9.795m 2.500m 3.070m 0.306m 2.322m 6.00s 10.111m	
167	REV	DATE	F	EVIS		8	BY
			e Nors Northgate H	nviro louse U	pper Borough Walls Bid 0117 937 4077	isportatio	1
	PROJEC						
			d Cro ton Ro				
, , , ,	DRAWING TITLE Swept Path Analysis Large Car and Single Deck Bus						
	CLIENT / ARCHITECT						
	status PRELIMINARY						
	SCALE DRAWN 1:250 AT A3 RG						
	CHECKED APPROVED RAF RAF DRG SIZE DATE DRAWING NUMBER REV						
	A3		2022	DICATA	SK12	02	A



	۲ ۽ آ	5.07					
,	Ĺ	arge Iveral	Car (20 Length	06) 1		5.079	'n
]veral]veral 1in Bo 1ax Tr .ock - Kerb -	l Width l Body H dy Grou hack Wid to lock to Kerb	leigh [:] nd Cl th time Turr	t learance ning Radius	5.079 1.872 1.525 0.310 1.831 4.005 5.900	ก ก บ บ ก
					C		
~							
161	REV I	DATE	F	EVIS	SION DETAILS		BY
		6			ntro		
		C		nviro		oortation	1
		2 nd & 3 nd Flo			pper Borough Walls Bath 0117 937 4077	BA1 1RG	
	PROJEC						
			d Cro ton Re				
	DRAWING TITLE						
	Swept Path Analysis Large Car						
	CLIENT / ARCHITECT						
	status PRELIMINARY						
	SCALE DRAWN 1:250 AT A3 RG						
	CHECKED RAF DRG SIZE			DRAW	APPROVED RAF ING NUMBER		REV
	A3		2022		SK1204	1	Α



APPENDIX D

TRICS data

Calculation Reference: AUDIT-337901-170627-0611

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

04	EAST	ANGLIA	
	CA	CAMBRIDGESHIRE	1 days
	NF	NORFOLK	1 days
	SF	SUFFOLK	2 days
06	WES	T MIDLANDS	-
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WK	WARWICKSHIRE	2 days
08	NOR	TH WEST	
	СН	CHESHIRE	1 days
	MS	MERSEYSIDE	1 days
09	NOR	TH	-
	ΤW	TYNE & WEAR	1 days

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

Secondary Filtering selection:

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

Parameter:	Number of dwellings
Actual Range:	6 to 18 (units:)
Range Selected by User:	6 to 20 (units:)

Public Transport Provision: Selection by:

Include all surveys

Date Range: 01/01/09 to 16/09/15

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

Selected survey days:	
Monday	1 days
Tuesday	3 days
Wednesday	2 days
Thursday	2 days
Friday	4 days

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

Selected survey types:	
Manual count	12 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:	
Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	6
Edge of Town	5

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

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

Secondary Filtering selection:

Use Class: C3

11 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 1 days 5,001 to 10,000 3 days 10,001 to 15,000 3 days 10,001 to 20,000 1 days 20,001 to 25,000 1 days 25,001 to 50,000 3 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
50,001 to 75,000	1 days
75,001 to 100,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	3 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	8 days
1.1 to 1.5	4 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.

<u>Travel Plan:</u> No

12 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

12 days

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

Bristol

LIST OF SITES relevant to selection parameters

Entran Ltd Chapel Pill Lane

1	CA-03-A-04	DETACHED		CAMBRIDGESHIRE
2	THORPE PARK ROAD PETERBOROUGH Suburban Area (PPS6 Residential Zone Total Number of dwe Survey date: CH-03-A-08 WHITCHURCH ROAD BOUGHTON HEATH CHESTER Suburban Area (PPS6	6 Out of Centre) ellings: TUESDAY DETACHED)	9 18/10/11	Survey Type: MANUAL CHESHI RE
3	Residential Zone Total Number of dwe Survey date: MS-03-A-03 BEMPTON ROAD OTTERSPOOL		11 22/05/12	Survey Type: MANUAL MERSEYSIDE
4	LIVERPOOL Suburban Area (PPSe Residential Zone Total Number of dwe Survey date: NF-03-A-03 HALING WAY	ellings:	15 21/06/13	Survey Type: MANUAL NORFOLK
5	THETFORD Edge of Town Residential Zone Total Number of dwe Survey date: SF-03-A-04 NORMANSTON DRIV	WEDNESDAY DETACHED & BUNGAI	10 16/09/15 ∟OWS	Survey Type: MANUAL SUFFOLK
6	LOWESTOFT Suburban Area (PPS6 Residential Zone Total Number of dwe Survey date: SF-03-A-05 VALE LANE	ellings:	7 23/10/12	Survey Type: MANUAL SUFFOLK
7	BURY ST EDMUNDS Edge of Town Residential Zone Total Number of dwe Survey date: SH-03-A-03 SOMERBY DRIVE BICTON HEATH SHREWSBURY		18 09/09/15	Survey Type: MANUAL SHROPSHIRE
	Edge of Town No Sub Category Total Number of dwe Survey date:		10 26/06/09	Survey Type: MANUAL

TRICS 7.4.1	050617 B17.52 (C) 2017 TRICS Consortiun	n Ltd		Tuesday 27/06/17 Page 4
Entran Ltd	Chapel Pill Lane Bristol			Licence No: 337901
LIST	OF SITES relevant to selection parameters (Con	<u>nt.)</u>		
8	SH-03-A-06 BUNGALOWS ELLESMERE ROAD		SHROPSHIRE	
	SHREWSBURY Edge of Town Residential Zone Total Number of dwellings: Survey date: THURSDAY	16 22/05/14	Survey Type: MANUAL	
9	ST-03-A-06 SEMI-DET. & TERRAC STANFORD ROAD BLAKENHALL WOLVERHAMPTON Edge of Town Centre No Sub Category Total Number of dwellings:	17	STAFFORDSHIRE	
10	Survey date: FRIDAY TW-03-A-02 SEMI-DETACHED WEST PARK ROAD	09/05/14	Survey Type: MANUAL TYNE & WEAR	
11	GATESHEAD Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: Survey date: MONDAY WK-03-A-01 TERRACED/SEMI/DE ARLINGTON AVENUE	16 07/10/13 T.	Survey Type: MANUAL WARWICKSHIRE	
	LEAMINGTON SPA Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: Survey date: FRIDAY	6 21/10/11	Survey Type: MANUAL	
12	WK-03-A-02 BUNGALOWS NARBERTH WAY POTTERS GREEN COVENTRY Edge of Town Residential Zone Total Number of dwellings:	17	WARWIČKŠHIRE	
	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 BOLD print indicates peak (busiest) period

	ARRIVALS		[DEPARTURES			TOTALS		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	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	12	13	0.079	12	13	0.250	12	13	0.329
08:00 - 09:00	12	13	0.204	12	13	0.362	12	13	0.566
09:00 - 10:00	12	13	0.086	12	13	0.197	12	13	0.283
10:00 - 11:00	12	13	0.224	12	13	0.164	12	13	0.388
11:00 - 12:00	12	13	0.158	12	13	0.237	12	13	0.395
12:00 - 13:00	12	13	0.230	12	13	0.237	12	13	0.467
13:00 - 14:00	12	13	0.211	12	13	0.171	12	13	0.382
14:00 - 15:00	12	13	0.138	12	13	0.151	12	13	0.289
15:00 - 16:00	12	13	0.270	12	13	0.276	12	13	0.546
16:00 - 17:00	12	13	0.224	12	13	0.151	12	13	0.375
17:00 - 18:00	12	13	0.322	12	13	0.164	12	13	0.486
18:00 - 19:00	12	13	0.257	12	13	0.204	12	13	0.461
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.403			2.564			4.967

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:	6 - 18 (units:)
Survey date date range:	01/01/09 - 16/09/15
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED TAXIS Calculation factor: 1 DWELLS BOLD print indicates peak (busiest) period

	ARRIVALS		[DEPARTURES	5	TOTALS			
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	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	12	13	0.000	12	13	0.000	12	13	0.000
08:00 - 09:00	12	13	0.013	12	13	0.013	12	13	0.026
09:00 - 10:00	12	13	0.000	12	13	0.000	12	13	0.000
10:00 - 11:00	12	13	0.013	12	13	0.013	12	13	0.026
11:00 - 12:00	12	13	0.007	12	13	0.007	12	13	0.014
12:00 - 13:00	12	13	0.007	12	13	0.007	12	13	0.014
13:00 - 14:00	12	13	0.007	12	13	0.007	12	13	0.014
14:00 - 15:00	12	13	0.007	12	13	0.000	12	13	0.007
15:00 - 16:00	12	13	0.007	12	13	0.013	12	13	0.020
16:00 - 17:00	12	13	0.000	12	13	0.000	12	13	0.000
17:00 - 18:00	12	13	0.000	12	13	0.000	12	13	0.000
18:00 - 19:00	12	13	0.007	12	13	0.007	12	13	0.014
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.068			0.067			0.135

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:	6 - 18 (units:)
Survey date date range:	01/01/09 - 16/09/15
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	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	12	13	0.000	12	13	0.000	12	13	0.000
08:00 - 09:00	12	13	0.033	12	13	0.033	12	13	0.066
09:00 - 10:00	12	13	0.007	12	13	0.007	12	13	0.014
10:00 - 11:00	12	13	0.013	12	13	0.000	12	13	0.013
11:00 - 12:00	12	13	0.000	12	13	0.007	12	13	0.007
12:00 - 13:00	12	13	0.000	12	13	0.000	12	13	0.000
13:00 - 14:00	12	13	0.000	12	13	0.000	12	13	0.000
14:00 - 15:00	12	13	0.000	12	13	0.000	12	13	0.000
15:00 - 16:00	12	13	0.000	12	13	0.000	12	13	0.000
16:00 - 17:00	12	13	0.000	12	13	0.000	12	13	0.000
17:00 - 18:00	12	13	0.013	12	13	0.013	12	13	0.026
18:00 - 19:00	12	13	0.000	12	13	0.000	12	13	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.066			0.060			0.126

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:	6 - 18 (units:)
Survey date date range:	01/01/09 - 16/09/15
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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		
	No.	Ave.	Trip	No.	Ave.	Trip	No.	Ave.	Trip
Time Range	Days	DWELLS	Rate	Days	DWELLS	Rate	Days	DWELLS	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	12	13	0.000	12	13	0.039	12	13	0.039
08:00 - 09:00	12	13	0.007	12	13	0.007	12	13	0.014
09:00 - 10:00	12	13	0.000	12	13	0.007	12	13	0.007
10:00 - 11:00	12	13	0.000	12	13	0.026	12	13	0.026
11:00 - 12:00	12	13	0.007	12	13	0.020	12	13	0.027
12:00 - 13:00	12	13	0.013	12	13	0.000	12	13	0.013
13:00 - 14:00	12	13	0.013	12	13	0.000	12	13	0.013
14:00 - 15:00	12	13	0.007	12	13	0.000	12	13	0.007
15:00 - 16:00	12	13	0.033	12	13	0.000	12	13	0.033
16:00 - 17:00	12	13	0.020	12	13	0.000	12	13	0.020
17:00 - 18:00	12	13	0.007	12	13	0.000	12	13	0.007
18:00 - 19:00	12	13	0.007	12	13	0.007	12	13	0.014
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.114			0.106			0.220

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:	6 - 18 (units:)
Survey date date range:	01/01/09 - 16/09/15
Number of weekdays (Monday-Friday):	12
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0