

Harron Homes Ltd

**Proposed Residential Development
Goole Road, Snaith
Transport Assessment**

October 2015

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Client Commission			
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As part of our commitment to quality the following team of transport professionals was assembled specifically for the delivery of this project. Relevant qualifications are shown and CV's are available upon request to demonstrate our experience and credentials.

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PROPOSED RESIDENTIAL DEVELOPMENT GOOLE ROAD, SNAITH TRANSPORT ASSESSMENT

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EXECUTIVE SUMMARY

This Transport Assessment (TA) provides an appraisal of the transport impact associated with full proposals for a residential development of up to 92 dwellings at land located to the south of Goole Road (A1041), on the eastern edge of Snaith in the East Riding of Yorkshire. The proposed scheme is to be primarily accessed via a new simple priority T-junction connecting with Goole Road (A1041), with some dwellings accessed via a separate shared driveway.

The scope of this report has been agreed with the Local Highway Authority as part of pre-application discussions and has been produced in accordance with the relevant local and national guidance. A Travel Plan that provides a strategy for encouraging sustainable travel at the proposed development site has been produced in conjunction with this TA as a separate document.

The application site is well placed to generate trips by sustainable modes of transport with walking and cycling realistic travel modes for local journeys given that the entire built-up area of Snaith, East Cowick and West Cowick lie within 3km of the site, with a number of retail, education and health facilities. Bus services offer a realistic alternative to the private car for trips to and from Selby and Goole, with hourly services available within a short walk of the site on Butt Lane. Snaith Rail Station is located approximately 850m north-west of the Goole Road site access point, with trains at commuter times serving Knottingley, Pontefract, Castleford and Leeds.

A road casualty study has not revealed any identifiable existing collision issues associated with the expected movements of the proposed development, therefore it is considered that there are no existing road safety issues pertinent to the development of the site. If the proposed access junction and internal roads of the proposed development are designed with due consideration to road safety, then the proposals should not have a detrimental road safety impact on the local transport network and should not adversely affect the safety of pedestrians and cyclists.

The vehicle and person trip generation of the proposed development has been projected using the nationally recognised TRICS database. The traffic generation of the proposals would be split across the different routes, with an expected even split of traffic travelling to/from the east (Goole, Howden, Hull, the A614/M18 and the M62 east) and the west (Selby, Knottingley, Leeds, the A19/A1(M) and the M62 west) at the A1041 site access junction.

Based on these traffic generation projections, it is considered that the proposed development should not generate a significant amount of movement at local junctions. The relevant test is that development *“should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe”* (DCLG, 2012). The projections of this TA indicate that the proposed scheme will not have a severe transport impact, therefore the proposed development is in accordance with the *‘National Planning Policy Framework’* (DCLG, 2012).

The assessments of this TA demonstrate that the proposed development would not be expected to have a detrimental impact in road safety, traffic and highway terms.

1.0 INTRODUCTION

1.1 Background

1.1.1 Local Transport Projects Ltd (LTP) has been commissioned by Harron Homes Ltd to prepare a Transport Assessment (TA) in support of a full planning application which seeks to provide a residential development consisting of up to 92 dwellings at land located to the south of Goole Road (A1041), on the eastern edge of Snaith in the East Riding of Yorkshire.

1.1.2 LTP have also been commissioned to prepare a Travel Plan (TP) for the proposed development (LTP, 2015) which outlines the approach to encouraging travel by sustainable modes at the site. Although the TP has been prepared as a standalone document, both the TA and TP are linked and should be read in conjunction with each other.

1.2 Scope

1.2.1 The scope of this TA is based upon the Government's 'Planning Practice Guidance' (DCLG, 2014) and the Department for Transport's (DfT) 'Guidance on Transport Assessment' (DfT, 2007a). The scope has also been agreed with East Riding of Yorkshire Council (ERYC) Highways Development Management (Ref: Will Park), as summarised below:

- **Executive Summary:** A non-technical summary of the report outlining the key outcomes of the assessment.
- **Introduction & Description of Proposals:**
 - Description of the development site, including location and existing access arrangements;
 - Summary of relevant planning and allocation history for the site;
 - Description of the proposed development including site layout, pedestrian/cycle facilities and proposed access arrangements.
- **Site Assessment:**
 - Site assessments to determine existing traffic conditions, such as posted speed limits, road restrictions, highway geometry, on-street parking restrictions and any other relevant features of the local area;
 - Assessment of the sustainable transport infrastructure (pedestrian, cycle and public transport) local to the site;
- **Road Casualty Appraisal:** Examination of road collision records (5 year study period) and assessment of the road safety impact of the proposed development on the local highway network.

- **Traffic Impact:**
 - Calculation of the projected trip generation for the proposed development, utilising data from comparable sites within the latest TRICS database. These projections will include consideration of the trip generation potential of the site for all modes of travel, not just vehicular traffic;
 - Consideration of any relevant consented developments within the local area and any committed changes to the surrounding highway network, as advised by ERYC Highways;
 - Predicted distribution of the vehicle trips generated by the site onto the local highway network;
 - Assessment of the likely traffic impact of the proposed development on the operation of the local highway network. This will involve assessing the traffic generation of the proposals against the existing traffic flows on the local highway network and/or the typical threshold for assessment (30 two-way traffic flows).
- **Access, Parking & Internal Layout:** Description on the proposed access arrangements and internal layout of the site, including consideration of the proposed parking provision, access/servicing arrangements and suitability of proposed access junctions.
- **Conclusions:** Conclusions summarising the outcomes of the TA, including a commentary on the suitability of the proposals in terms of traffic impact and road safety.

1.2.2 The TA has been prepared in accordance with the agreed scope and reference has been made to the following documents wherever appropriate:

- ERYC Local Transport Plan (2015-2029) (ERYC, 2015a);
- ERYC Local Plan: Proposed Submission Allocations Document & Policies Map – Schedule of Modifications, March 2015 (ERYC, 2015b);
- Planning Practice Guidance (DCLG, 2014);
- ERYC Draft Sustainable Transport SPD (Supplementary Planning Document) (ERYC, 2014a)
- National Planning Policy Framework (DCLG, 2012);
- Guidance on Transport Assessment (DfT, 2007a); and
- Manual for Streets (DfT, 2007b).

1.3 Site Location, Existing Use & Allocation Status

1.3.1 The application site is located on the southern side of the A1041 on the eastern edge of the town of Snaith, which lies approximately 10km west of Goole in the East Riding of Yorkshire. The site is currently used as agricultural land and is bound by the A1041 to the north, Mill Lane to the east, agricultural land to the south, and by Butt Lane and residential dwellings (served from Brierley Close) to the west. The approximate extents of the site are shown within Figure 1:

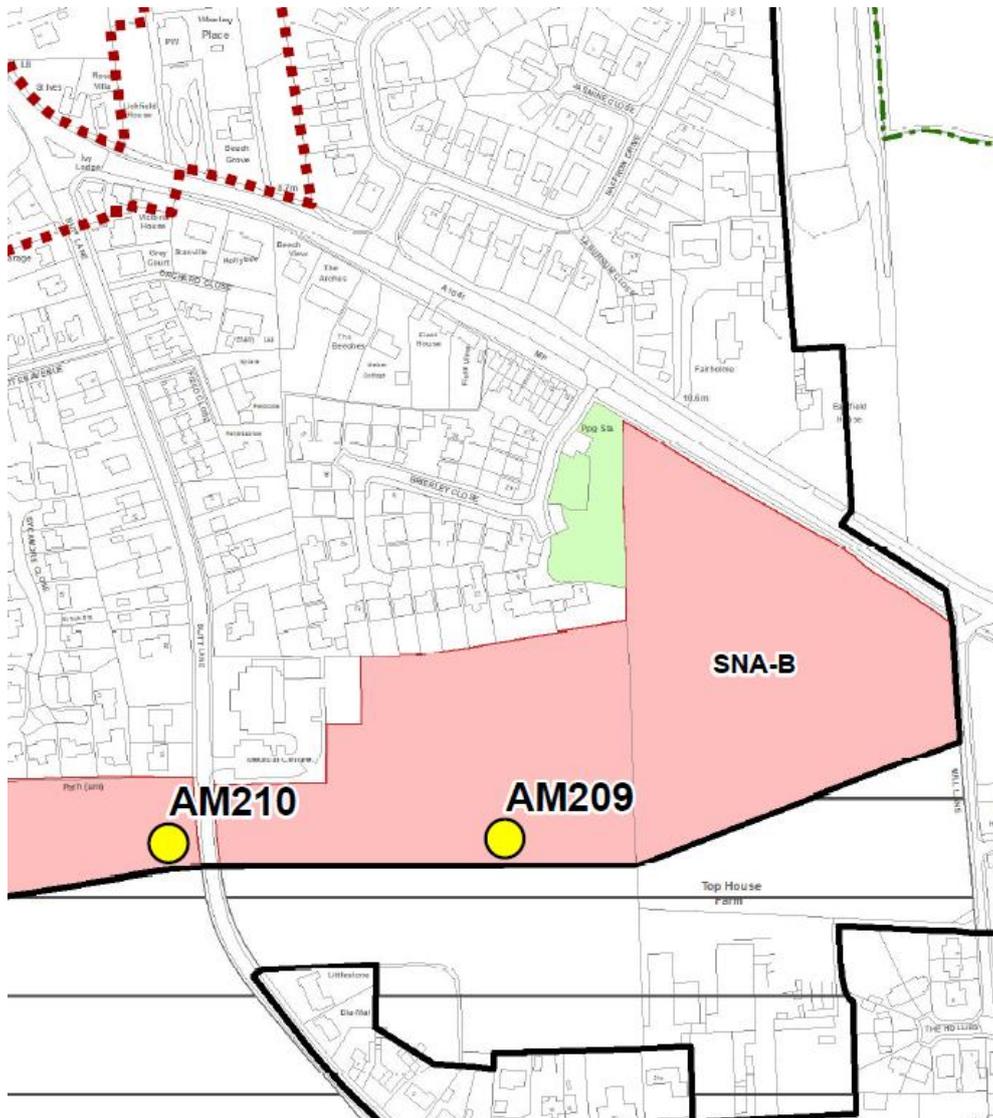
Figure 1 – Site Location Plan



Mapping Source: Google Earth Pro; License Key JCPMR5M58LXF2GE

1.3.2 The proposed site forms the ‘SNA-B’ site, which has been identified for residential development by ERYC. Within the ‘Proposed Submission Allocations Document’ (ERYC, 2014) of the emerging East Riding Local Plan, the site had a development area of 2.70 hectares with an indicative capacity of 57 dwellings. However, following a review of the residential development land allocated within the plan in March 2015, ERYC increased the size of the development land to 3.85 hectares with an indicative capacity of 98 dwellings. The boundary of the ‘SNA-B’ site as it appears on the ‘Proposed Modifications Policies Map’ (ERYC, 2015b) is shown in Figure 2, with a separate residential allocation (SNA-C) on the western side of Butt Lane:

Figure 2 – Proposed SNA-B Allocation



Source: ERYC Local Plan Proposed Modifications Policy Map (March 2015) – Snaith (ERYC, 2015b)

1.4 Development Proposals & Access Arrangements

1.4.1 The current proposals involve the development of the site to accommodate 92 residential dwellings, based on the following schedule:

- 9 two bedroom properties;
- 14 three bedroom properties; and
- 69 four bedroom properties.

1.4.2 The proposed site layout plan is attached as Appendix 1. It is expected that approximately 20% of dwellings at the site will be affordable housing with the remaining 80% open market dwellings.

- 1.4.3 As discussed with ERYC Highways during pre-application scoping, the proposed development site is to be primarily served via a single vehicular access point, connecting with the A1041 (Goole Road) to the north of the site in the form of a simple priority T-junction. A loop road arrangement will be provided internal to the site, which will serve a number of dwellings directly, with additional connecting culs-de-sac and driveways providing access to other properties. It is understood that a separate access point is also to be provided to the north-west of the primary site access, serving a limited number of dwellings via a shared driveway arrangement. An emergency access is also to be provided from Butt Lane to the west of the site.
- 1.4.4 It is understood that the internal highway network of the site has been designed to ensure that refuse vehicles can utilise the highway alignment to enter and exit the site in a forward gear.
- 1.4.5 It is understood that the proposed site access junction has been designed to provide visibility splays in accordance with the relevant *'Manual for Streets'* (MfS) guidance (DfT, 2007b). Based on the posted speed limit within the vicinity of the site access junction (30mph), MfS requires visibility splays of 2.4m x 43m, which appear to be achievable in both directions at the proposed site access, with no horizontal or vertical alignment constraints.
- 1.4.6 Footways of 2.0m width will be provided alongside the main site access road, connecting with the existing provision on the southern side of the A1041 and allowing for good pedestrian permeability within Snaith. Shared surfaces are to be provided on connecting culs-de-sac within the site, where road layouts are to be designed with the intention of controlling vehicle speeds to around 20mph, helping to encourage pedestrian and cycle activity.
- 1.4.7 MfS advises that *"cyclists should generally be accommodated on the carriageway. In areas with low traffic volumes and speeds, there should not be any need for dedicated cycle lanes on the street"* (DfT, 2007b). Cyclists are therefore to be accommodated on-street within the site and will benefit from a site layout that has been designed to control vehicle speeds to around 20mph. Cyclists will also benefit from a direct connection between the site and the shared-use foot/cycleway, which is provided on the southern side of the A1041.

1.5 Proposed Vehicle Parking Arrangements

- 1.5.1 In March 2014, ERYC published a draft version of the *'Sustainable Transport Supplementary Planning Document'* which was subject to a period of public consultation. The draft document included *"advice and guidance to developers on providing for car parking within new developments ... which are to be used as a starting point for considering the provision of vehicle parking for new development"* (ERYC, 2014a). It is understood that a number of consultation comments were received to the draft and the Council are in the process of considering these comments. It is understood that once the draft document is finalised, the Supplementary Planning Document (SPD) will form a material consideration in determining relevant planning applications.

- 1.5.2 The proposed site layout plan attached as Appendix 1 demonstrates that each two bedroom dwelling at the site is to be provided with at least 1 off-street car parking space, with an additional visitor space to be provided per every 2 dwellings. Each three and four bedroom dwelling is to be provided with at least 2 off-street car parking spaces, with garages also provided at the four bedroom dwellings. It is therefore considered that the proposed parking provision at the application site is generally consistent with the guidance provided within the draft SPD.

1.6 Committed Development & Highway Works

- 1.6.1 There are not understood to be any relevant committed developments or changes to the local highway network in the vicinity of the application site which should be taken into account within this TA.

2.0 SITE ASSESSMENT

2.1 Local Highway Network

- 2.1.1 The proposed residential development site is to be accessed by all modes via a junction with the A1041 (Goole Road) on the northern boundary of the site. The A1041 is a two-way single carriageway that is subject to a 30mph speed limit and measures approximately 7.7m wide within the site frontage. The speed limit changes to a derestricted speed limit (60mph) approximately 60m east of the eastern boundary of the site.
- 2.1.2 The A1041 extends towards East Cowick forming Snaith Road and meets the A614 at a mini-roundabout approximately 2.5km west of the site. The A614 continues east, providing access to Rawcliffe, Goole and the M62. The A1041 continues in to Snaith to the west of the site forming Goole Road, Cowick Road and Beast Fair, where it meets the A645 at a mini-roundabout (see Photo 1) before continuing north through the villages of Carlton and Camblesforth towards Selby.

Photo 1 – A1041/A645 Mini-Roundabout in Snaith



- 2.1.3 It was noted on-site that the A1041/A645 mini-roundabout is currently controlled on a part-time basis by traffic signals, understood to be provided in order to mitigate against higher traffic flows through the junction as a result of a temporary diversion associated with a road closure on Newland Bridge from 20 July to 20 December 2015.
- 2.1.4 Butt Lane is a two-way single carriageway that connects with the A1041 (Cowick Road) to the north and forms High Street to the south-east (serving the village of West Cowick). Butt Lane is subject to a 30mph speed limit and is approximately 5.5m wide within the vicinity of the site.

Photo 2 – Butt Lane



- 2.1.5 There are not any waiting or stopping restrictions in place on the A1041 or Butt Lane within the vicinity of the site.

2.2 Pedestrian Access

- 2.2.1 The Department for Transport (DfT) advise that the “*mean average length for walking journeys is approximately 1km (0.6miles)*”, but acknowledge that “*journeys of up to three times these distances are not uncommon for regular commuters*” (DfT, 2004). There are a number of factors determining the distance that people are prepared to walk, such as “*their fitness and physical ability, journey purpose, settlement size and walking conditions*” (DfT, 2004). Guidance from Chartered Institution of Highways & Transportation (CIHT) suggests a preferred maximum walking distance of 2km for a number of journeys, including commuting and school trips (IHT, 2000).
- 2.2.2 The application site is located within a 3km walking distance of the whole built-up area of Snaith along with the villages of East Cowick and West Cowick. This includes a number of key local trip attractors within a 2km walk, as outlined within Table 1:

Table 1 – Key Trip Attractors by Foot

Trip Attractor	Walking Route	Approximate Walking Distance*
Snaith & Rawcliffe Medical Group	Butt Lane	280m
Snaith Market Place (inc. local supermarket, post office, bank, public house, takeaways etc.)	Goole Road – Beast Fair – Selby Road – Market Place	750-900m
Snaith Rail Station	Goole Road – Buttle Lane – George Street	850m
Snaith Library	Goole Road – Beast Fair – Selby Road – Market Place	900m
Snaith Primary School	Goole Road – Beast Fair – Shearburn Terrace – Pontefract Road – Bourn Mill Balk Road	1.1km
The Snaith School	Goole Road – Beast Fair – Shearburn Terrace – Pontefract Road	1.3km
Cowick Church of England Primary School	Goole Road – Snaith Road	1.6km

*Walking distances are approximate (measured along footways, rather than as the crow flies) and have been measured from the centre of the site.

- 2.2.3 As demonstrated within Table 1, the application site is located within a suitable walking distance of a range of local amenities, including retail, education and health facilities. The proximity of these facilities are likely to have a positive impact on the number of regular journeys which can be made on foot from the site.
- 2.2.4 There is a shared-use foot/cycleway provided on the southern side of the A1041 within the site frontage that provides a key pedestrian route between the site and Snaith town centre. A footway is also provided on the eastern side of Butt Lane to the west of the site which provides an additional connection to the town centre.
- 2.2.5 There are a number of both formal and informal crossing facilities provided within the vicinity of the site, including a zebra crossing on Shearburn Terrace within Snaith town and a pedestrian refuge island to the west of the Saffron Drive junction. In addition, there are dropped kerbs and tactile paving at most pedestrian crossing points within the local area.

Photo 3 – Zebra Crossing on Shearburn Terrace



2.2.6 In addition, there is a good network of Public Rights of Way (PRoW) routes within Snaith and the surrounding area, including a number of footpaths to the south-west of the site. The PRoW network is shown in red on the plan within Figure 3:

Figure 3 – PRoW Network



Mapping Source: Google Earth Pro; License Key JCPMR5M58LXF2GE

2.3 Cycling

- 2.3.1 Cycling is a low cost and healthy alternative to car use, which can substitute for short car trips, or can form part of a longer journey by public transport. The DfT state that the average cycle journey is 4km (2.4 miles), with much longer distances cycled by regular commuters (DfT, 2004).
- 2.3.2 The proposed development site is located within a reasonable cycle ride, up to 5km (approximately 15 minutes at the average cycling speed of 12mph), of the villages of Snaith, West Cowick, East Cowick, Carlton, Gowdall, Camblesforth and Rawcliffe. As demonstrated within Table 1, there are also a number of local amenities within a short cycle ride of the application site.
- 2.3.3 A shared-use foot/cycleway (see Photo 4) runs along the southern side of the A1041 within the frontage of the proposed development site. It runs between the junction with Brierley Close on the western boundary of the site and the junction with Lidgate in East Cowick.

Photo 4 – Shared Use Foot/Cycleway on A1041



- 2.3.4 National Cycle Network (NCN) Route 62, which also forms part of the Trans-Pennine Trail (TPT), can be accessed from Selby Road/Gowdall Lane approximately 800m north-west of the proposed development site. Both NCN Route 62 and the TPT are long distance cycle routes which connect a number of local settlements including Carlton, Gowdall and Selby along with larger settlements including Hull and Doncaster.
- 2.3.5 Given the availability of a shared-use foot/cycleway, the proximity of the site to signed NCN routes and that most roads within Snaith are subject to a 30mph speed limit, it is considered that the local environment within the vicinity of the site is generally conducive to encouraging cycling trips.

2.4 Travel by Public Transport

2.4.1 Advice within 'Guidelines for Public Transport in Development' (IHT, 1999) states that the generally acceptable maximum distance that a bus stop should be located from a development site is 400m. There are bus stops located on Butt Lane in Snaith (see Photo 5) and on High Street in West Cowick within a 300m walk of the western boundary of the site. Although it is recognised that these stops will not be within 400m of all parts of the site, it is felt that residents would still have good access to bus services.

Photo 5 – Butt Lane Southbound Bus Stop



2.4.2 Table 2 provides details of the services that operate from the stops on Butt Lane and High Street:

Table 2 – Local Bus Services

Service	Route	Mon-Fri Daytime Frequency [^]	Weekend/Evening Frequency
400/401	Selby – Camblesforth – Snaith – West Cowick – Rawcliffe – Goole	Every 60 Minutes	Eve: No Service Sat: Every 60 Minutes Sun: No Service

[^] Refers to the general daytime service between 9am and 5pm

2.4.3 The nearest point of access to rail services is via Snaith Rail Station, approximately 850m north-west of the Goole Road site access point. On Monday to Saturdays, the station provides two services per day towards Leeds at 07:16 and 19:01, with one service per day towards Goole at 18:10. It is considered that travel by train may represent a suitable mode of travel for commuters travelling to and from Knottingley, Pontefract, Castleford and Leeds.

2.5 Air Quality Management Area

- 2.5.1 The proposed development site is not within, or near, a region declared by ERYC as an Air Quality Management Area (AQMA).

3.0 ROAD CASUALTY APPRAISAL

3.1 Collision Record

3.1.1 Personal Injury Collision (PIC) data for the highway network local to the proposed development site for the most recent available 5 year study period (01/07/2010 to 30/06/2015) was obtained from ERYC for analysis. A total of 6 collisions occurred within the study area, which includes the A1041 between the junction with Lodge Lane to the east and the mini-roundabout junction with Selby Road (A645) to the west. The study area is shown in Figure 4 and the location of the collisions are indicated on the plan attached as Appendix 2.

Figure 4 - PIC Study Area



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3.1.2 A total of 10 casualties resulted from the 6 recorded injury collisions during the study period. Table 3 below outlines the collision history of the study area:

Table 3 - Collision History

Year	1	2	3	4	5	Total
From	01/07/2010	01/07/2011	01/07/2012	01/07/2013	01/07/2014	
To	30/06/2011	30/06/2012	30/06/2013	30/06/2014	30/06/2015	
Fatal	-	-	-	-	-	0
Serious	1	-	-	1	-	2
Slight	1	-	-	2	1	4
Total	2	0	0	3	1	6

3.1.3 The collision records show that 4 of the recorded collisions occurred during the most recent 2 years of the study period. There have been 2 KSI collisions (Killed or Seriously Injured) recorded during the study period, giving a severity ratio of 33%.

3.2 Casualties

3.2.1 Table 4 below provides a breakdown of the casualties according to the mode of travel and age group:

Table 4 - Casualty Road User Groups

Road User Group	Age (years)					Total	%
	0 to 15	16 to 19	20 to 29	30 to 59	60 +		
Car Driver	-	-	1	4	1	6	60%
LGV Driver	-	-	-	2	-	2	20%
P2W Rider	-	-	-	2	-	2	20%
Total	0	0	1	8	1	10	
%	0%	0%	10%	80%	10%		

3.2.2 Table 4 shows that the majority of casualties were vehicle drivers (80%), with the remaining 2 casualties P2W riders. Most of the recorded casualties were aged between 30 and 59 and it is noted that there have been no recorded pedestrian or cycle casualties, or casualties involving children.

3.3 Collision Conditions

3.3.1 Table 5 below summarises the collisions by road surface, weather and lighting conditions:

Table 5 - Collision Conditions

Road Surface	Collisions	%
Dry	4	66.7%
Wet	2	33.3%
Weather	Collisions	%
Fine	4	66.7%
Wind	2	33.3%
Rain	0	0%
Lighting Condition	Collisions	%
Daylight	5	83.3%
Dark (Lit)	1	16.7%

3.3.2 As illustrated in Table 5, the majority of collisions did not occur with adverse road surface, weather or lighting conditions.

3.4 Collision Times

3.4.1 Table 6 below summarises the collisions by time of year:

Table 6 - Collisions by Time of Year

Time of Year	Collisions	%
Winter (Dec-Feb)	2	33.3%
Spring (Mar-May)	2	33.3%
Summer (Jun-Aug)	2	33.3%
Autumn (Sep-Nov)	0	0%

3.4.2 Table 6 shows that no collisions were recorded during the autumn months, with an even spread of collisions recorded during other seasons.

3.4.3 Table 7 below summarises the collisions by day of week and also the time of day:

Table 7 - Collisions by Day and Time

Day	Morning (06:00-11:00)	Lunch (11:00-14:00)	Afternoon (14:00-19:00)	Evening (19:00-01:00)	Night (01:00-06:00)	Total	%
Monday						0	0%
Tuesday						0	0%
Wednesday				1		1	16.7%
Thursday	1		1			2	33.3%
Friday						0	0%
Saturday	1	1				2	33.3%
Sunday			1			1	16.7%
Total	2	1	2	1	0	6	
%	33.3%	16.7%	33.3%	16.7%	0%		

3.4.4 Table 7 highlights that half of collisions occurred on a weekend, with the other half occurring midweek (Wednesday or Thursday). Most recorded collisions occurred during the daytime period, with one collision occurring during the evening, and none occurring during the night (01:00-06:00).

3.5 Collision Locations

3.5.1 The locations of the 6 study collisions (shown on the plot attached as Appendix 2) can be summarised as follows:

- 2 occurred on the A1041 at the junction with Lodge Lane;
- 1 occurred on the A1041 at the junction with The Goddards Care Home;
- 1 occurred on the A1041 at the junction with The Arches (near to Saffron Drive);
- 1 occurred on the A1041 at the junction with Buttle Lane; and
- 1 occurred at the A1041/A645 mini-roundabout.

3.5.2 No collisions have been recorded within the immediate vicinity of the proposed site access location on the A1041.

3.6 Road Safety Impact

3.6.1 A total of 6 collisions, resulting in 10 casualties, have occurred within the study area during the 5-year study period. Analysis of the study collisions has not revealed any identifiable existing collision issues associated with the expected movements of the proposed development, therefore it is considered that there are no existing road safety issues pertinent to the development of the site.

- 3.6.2 If the proposed access junction and internal roads of the proposed development are designed with due consideration to road safety, with appropriate highway design features incorporated into the detailed design of any schemes affecting the highway, then the proposals should not have a detrimental road safety impact on the local transport network and should not adversely affect the safety of pedestrians and cyclists.

4.0 TRAFFIC IMPACT

4.1 Proposed Traffic Generation

4.1.1 The TRICS database is a nationally recognised collection of traffic counts and trip generation statistics for calculating trip rates at development sites. The latest TRICS database (v7.2.2) has been interrogated to find suitable data to assist in projecting the trip generation of the proposed residential development.

4.1.2 In order to derive reflective trip rates, vehicle trip generation statistics within the ‘Houses Privately Owned’ category (03-A) of the TRICS database have been interrogated. To ensure that only trip generation statistics for comparable sites were used in calculations, the TRICS sites were filtered to the following criteria:

- Survey type: Multi-modal sites;
- Size: 50 to 150 dwellings;
- Location type: Edge of Town and Suburban Area;
- Regions: England only, excluding Greater London sites;
- Weekday survey data only (exclusion of Saturday and Sunday surveys); and
- Recent survey data only (exclusion of surveys undertaken prior to 01/01/07).

4.1.3 As there were less than 20 comparable sites in the database after filtering (14 survey sites), mean trip rates (as weighted and calculated by the TRICS software) have been used to project the vehicle trip generation of the proposed development, in accordance with good practice guidelines (JMP, 2013). Details of the site selection and trip rates taken from the TRICS database are attached in full within Appendix 3, with the projected vehicle trip rates and generation shown in Table 8:

Table 8 - Projected Vehicle Trip Generation

Residential Development	AM Peak		PM Peak	
	Arrivals	Departures	Arrivals	Departures
Vehicle Trip Rates (per dwelling)	0.166	0.378	0.329	0.186
Vehicle Trips (92 dwellings)	15	35	30	17

4.1.4 The trip generation projections indicate that the proposed development could generate 50 two-way vehicle trip movements during the AM peak hour, with 47 during the PM peak hour.

4.2 Modal Split & Person Trip Generation

4.2.1 The TRICS sites utilised to predict the traffic generation of the proposed development (see Section 4.1) contain multi-modal information, therefore the person trip generation of the site has been predicted based on the person trip rates derived from the comparable TRICS sites, summarised in Table 9 and shown in full as Appendix 3:

Table 9 - Projected Person Trip Generation

Residential Development	AM Peak		PM Peak	
	Arrivals	Departures	Arrivals	Departures
Person Trip Rates (per dwelling)	0.236	0.743	0.561	0.284
Person Trips (92 dwellings)	22	68	52	26

4.2.2 The modal split of the proposed development has been predicted based on travel pattern information from the comparable residential development sites in the TRICS database, with the number of trips generated by each mode projected utilising the total person trip generation for the site, as summarised Table 10:

Table 10 - Projected Modal Trip Generation

Person Trips	Modal Split	Daily (07:00-19:00) Two-Way Trips
Vehicle Drivers	60.6%	437
Vehicle Passengers	19.7%	141
Vehicle Occupants Sub-Total	80.3%	578
Pedestrians	15.3%	110
Cyclists	2.8%	20
Public Transport Users	1.6%	12
TOTAL	100%	717

* The total may not represent the sum of its parts due to rounding

4.2.3 These modal split predictions indicate that over a third of person trips (39.4%) generated by the development would be expected to be made by sustainable modes (pedestrian, cycle, public transport and car passenger).

4.2.4 It is noted that journey to work data from the 2011 National Census could be utilised to predict the modal split of trips generated by the site, however this dataset only represents commuting trips and does not account for journey purposes associated with other trips generated by residential sites, with varying modal splits across different journey purposes and time periods. It is therefore considered to be more representative to base the modal split projections for the proposed residential development on recorded trip generation data from comparable sites within the TRICS database.

4.3 Impact on the Highway Network

- 4.3.1 The DfT has previously issued guidance that transport assessment of development impacts could be based on a threshold of “30 two-way peak hour vehicle trips” (DfT, 2007a). This guidance acknowledged that this threshold was not to be applied rigidly, but rather that it provided “a useful point of reference from which to commence discussions”.
- 4.3.2 This national DfT guidance has now been superseded (although not officially cancelled) and replaced with the ‘National Planning Policy Framework’ (NPPF) (DCLG, 2012) and its accompanying ‘Planning Practice Guidance’ (PPG) (DCLG, 2014). NPPF and PPG require that transport assessment is undertaken for “developments that generate significant amounts of movement”, although this is not defined. It is therefore acknowledged that there is no set threshold for assessment within the current national planning policy. In determining whether the proposed development is expected to have a material impact on the local highway network, the traffic projections for the proposed development (see Section 4.1) have been compared against the current and previous Government guidance.
- 4.3.3 As discussed with ERYC Highways (Ref: Will Park) during pre-application scoping discussions, the traffic generation of the proposals would be split across the different routes, with an expected split of traffic travelling to/from the east (Goole, Howden, Hull, the A614/M18 and the M62 east) and the west (Selby, Knottingley, Leeds, the A19/A1(M) and the M62 west) at the A1041 site access junction. With an even 50/50 split of traffic, the maximum hourly traffic increase at any local junctions associated with the proposals would be 25 two-way vehicle trips (AM peak hour), which does not represent a significant amount of movement. It is therefore considered that the proposals should not have a material impact on the operation of the local highway network.
- 4.3.4 Based on the assessments detailed in this TA, it is considered that the proposed development should not have a detrimental impact on the operation of the local highway network. Therefore, as the impact of the proposals is not expected to be severe, the proposals are considered to be in accordance with the NPPF, which states that “development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe” (DCLG, 2012).
- 4.3.5 Furthermore, it is worth reiterating that the potential vehicle trip reducing benefits of a Travel Plan have not been taken into account within the trip generation projections, therefore the traffic impact conclusions above reflect a worst-case scenario.

5.0 CONCLUSIONS

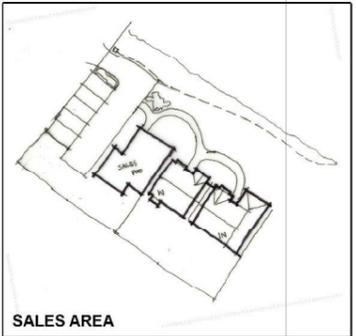
- 5.1.1 This TA provides an appraisal of the transport impact associated with full proposals for a residential development of up to 92 dwellings at land located to the south of Goole Road (A1041), on the eastern edge of Snaith in the East Riding of Yorkshire. The proposed scheme is to be primarily accessed via a new simple priority T-junction connecting with Goole Road (A1041), with some dwellings accessed via a separate shared driveway.
- 5.1.2 The scope of this report has been agreed with ERYC Highways as part of pre-application scoping and has been produced in accordance with the relevant local and national guidance. A Travel Plan that provides a strategy for encouraging sustainable travel at the proposed development site has been produced in conjunction with this TA as a separate document.
- 5.1.3 The application site is well placed to generate trips by sustainable modes of transport with walking and cycling realistic travel modes for local journeys given that the entire built-up area of Snaith, East Cowick and West Cowick lie within 3km of the site, with a number of retail, education and health facilities. Bus services offer a realistic alternative to the private car for trips to and from Selby and Goole, with hourly services available within a short walk of the site on Butt Lane. Snaith Rail Station is located approximately 850m north-west of the Goole Road site access point, with trains at commuter times serving Knottingley, Pontefract, Castleford and Leeds.
- 5.1.4 A road casualty study showed that 6 PICs occurred within the study area around the proposed development site during the 5-year study period. Analysis of the study collisions has not revealed any identifiable existing collision issues associated with the expected movements generated by the proposed development, therefore it is considered that there are no existing road safety issues pertinent to the development of the site. If the proposed access junction and internal roads of the proposed development are designed with due consideration to road safety, then the proposals should not have a detrimental road safety impact on the local transport network and should not adversely affect the safety of pedestrians and cyclists.
- 5.1.5 The vehicle and person trip generation of the proposed development has been projected using the nationally recognised TRICS database. These vehicle trip generation projection exercises have identified that when fully-built, the proposed residential development is expected to generate 50 two-way vehicle trips during the AM peak hour and 47 two-way vehicle trips during the PM peak hour.
- 5.1.6 The traffic generation of the proposals would be split across the different routes, with an expected split of traffic travelling to/from the east (Goole, Howden, Hull, the A614/M18 and the M62 east) and the west (Selby, Knottingley, Leeds, the A19/A1(M) and the M62 west) at the A1041 site access junction. With an even 50/50 split of traffic, the maximum hourly traffic increase at any local junctions associated with the proposals would be 25 two-way vehicle trips (AM peak hour). Based on these traffic generation projections, it is considered that the proposed development should not generate a significant amount of movement at local junctions.

- 5.1.7 The relevant test is that development “*should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe*” (DCLG, 2012). The projections of this TA indicate that the proposed scheme will not have a severe transport impact, therefore the proposed development is in accordance with the ‘*National Planning Policy Framework*’ (DCLG, 2012).
- 5.1.8 It is concluded from the assessments of this TA that the proposed development would not be expected to have a detrimental impact in road safety, traffic and highway terms.

6.0 REFERENCES

- CIHT (Chartered Institution of Highways and Transportation), 2010. Manual for Streets 2: Wider Application of the Principles.
- DCLG (Department for Communities and Local Government), 2014. Planning Practice Guidance – Travel Plans, Transport Assessments and Statements in Decision-Taking (ID: 42-06/03/2014) [online: <http://planningguidance.planningportal.gov.uk>].
- DCLG, 2012. National Planning Policy Framework.
- DfT (Department for Transport), 2015. Road Safety Data [online: <http://data.gov.uk/dataset/road-accidents-safety-data>] (released 25/06/2015).
- DfT, 2007a. Guidance on Transport Assessment.
- DfT, 2007b. Manual for Streets.
- DfT, 2004. LTN 01/04 – Policy, Planning and Design for Walking and Cycling.
- DfT, 2002. Inclusive Mobility.
- ERYC (East Riding of Yorkshire Council), 2015a. ERYC Local Transport Plan 2015-2029.
- ERYC, 2015b. East Riding Proposed Submission Local Plan Allocations Document & Policies Map. Schedule of Modifications, March 2015.
- ERYC, 2014a. Sustainable Transport Supplementary Planning Document – DRAFT.
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- IHT (Institution of Highways and Transportation), 2000. Guidelines for Providing for Journeys on Foot.
- IHT, 1999. Guidelines for Public Transport in Development.
- JMP, 2013. TRICS Good Practice Guide 2013.
- LTP (Local Transport Projects Ltd), 2015. Proposed Residential Development, Goole Road, Snaith – Travel Plan.

Appendix I – Proposed Site Layout



EMERGENCY ACCESS

Medical Centre

POS

Littlestone

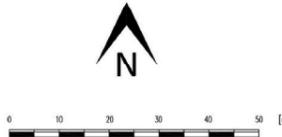
Dia-Mal

Top House Farm

MILL LANE

Mill House

THE HOLLIES



Site		STEN		Snaitth		Date	23rd March 2015	Estimated no of plots	Total sqft
UPPER MAINS 1	Net	Type	F+Z	%MIX	TOBARS	Notes		50	
TOWN HOUSES									
Harthigh	HA	385M	772			Semi/Mews Townhouses			
Barnburgh Mews	BA	385M	888			Semi/Mews Townhouses			
Harley	VM	385M	1,000			Semi/Mews Townhouses			
Kilgarran	KK	485M	1,050			Semi/Mews Townhouses			
Hedden	HE	485M	1,100			Semi/Mews Townhouses			
Shaboune	CS	485M	1,150			Semi/Mews Townhouses			
Jedburgh	J	485M	1,200			Semi/Mews Townhouses			
Konkardie	KS	485M	1,250			Semi/Mews Townhouses			
DETACHED HOUSES									
Alston	SA	380	865	5.4%		Integral Garage Straight Platter	5		4,325
Arbuckle	FA	380	980			Det Garage External Corner Turner Only	8		8,336
Embsay	EM	480	1,042	8.7%		Integral Garage Straight Platter	8		4,396
Birkneth	BR	480	1,099	4.3%		Integral Garage Straight Platter	4		
Reith	RE	480	1,099			Det Garage External Corner Turner Only	8		
Cowshill	CO	480	1,099			Det Garage External Corner & Straight	8		
Kingsdale	KA	480	1,134			External Corner Turner Integral Garage	8		
Hildonville	HA	480	1,158	8.7%		Integral Garage Straight Platter	8		9,264
Widdow	WI	480	1,223	14.1%		Integral Garage Straight Platter	13		16,989
Seths	SE	480	1,297	12.0%		Integral Garage Straight Platter	11		14,267
Grassington	GR	480	1,450	8.7%		Det Garage Straight & Corner Turners	8		11,600
Higgin	HI	480	1,486	8.7%		Integral Garage Straight Platter	8		11,880
Horsford	HO	480	1,495			Integral Corner Turner	8		
Salcombe	SA	480	1,618			Det Garage Straight & Corner Turner	8		
Wainwright	WA	480	1,685	9.8%		Integral Garage Straight Platter	9		14,265
Donhead	DO	480	1,690			Integral Corner Turner	8		
Kendalworth 2 S St	KA	580	1,619			Det Garage Straight & Corner Turner	8		
Dunstanburgh	DU	580	2,013			Integral Garage Straight Platter	8		
Edgworth	ED	480	2,362			Det Garage Straight & Corner Turners	8		
Wainick	WA	4880	2,088			Integral Garage Straight Platter	8		
Hedgham	HE	580	2,292			Integral Garage Straight Platter	8		
Donhead	DO	580	2,443			Detached Garage Straight Platter	8		
AFFORDABLES									
Jedburgh	JA	385M	772	10.0%		Semi/Mews	5		6,540
Barnburgh	BA	385M	888	10.0%		Semi/Mews	5		8,001
Harley	HA	385M	1,000		20%	Semi/Mews	5		
SHOWHOMES REQUIRED									
Widdow							1		
Higgin							1		
Site area 3.83 Ha 9.46 Ac									
Net area 3.16 Ha 7.8 Ac									
POS 0.49 Ha 1.21 Ac									
Coverage 29.6%									

Appendix 2 – Collision Plot

SCHEME				
Snaithe Area				
TITLE				
Injury Collisions 01/07/10 to 30/06/15				
Scale	Date	Drawn	Approved	Dwg.No.
N.T.S.	Sep 2015	SC	PC	T019/545

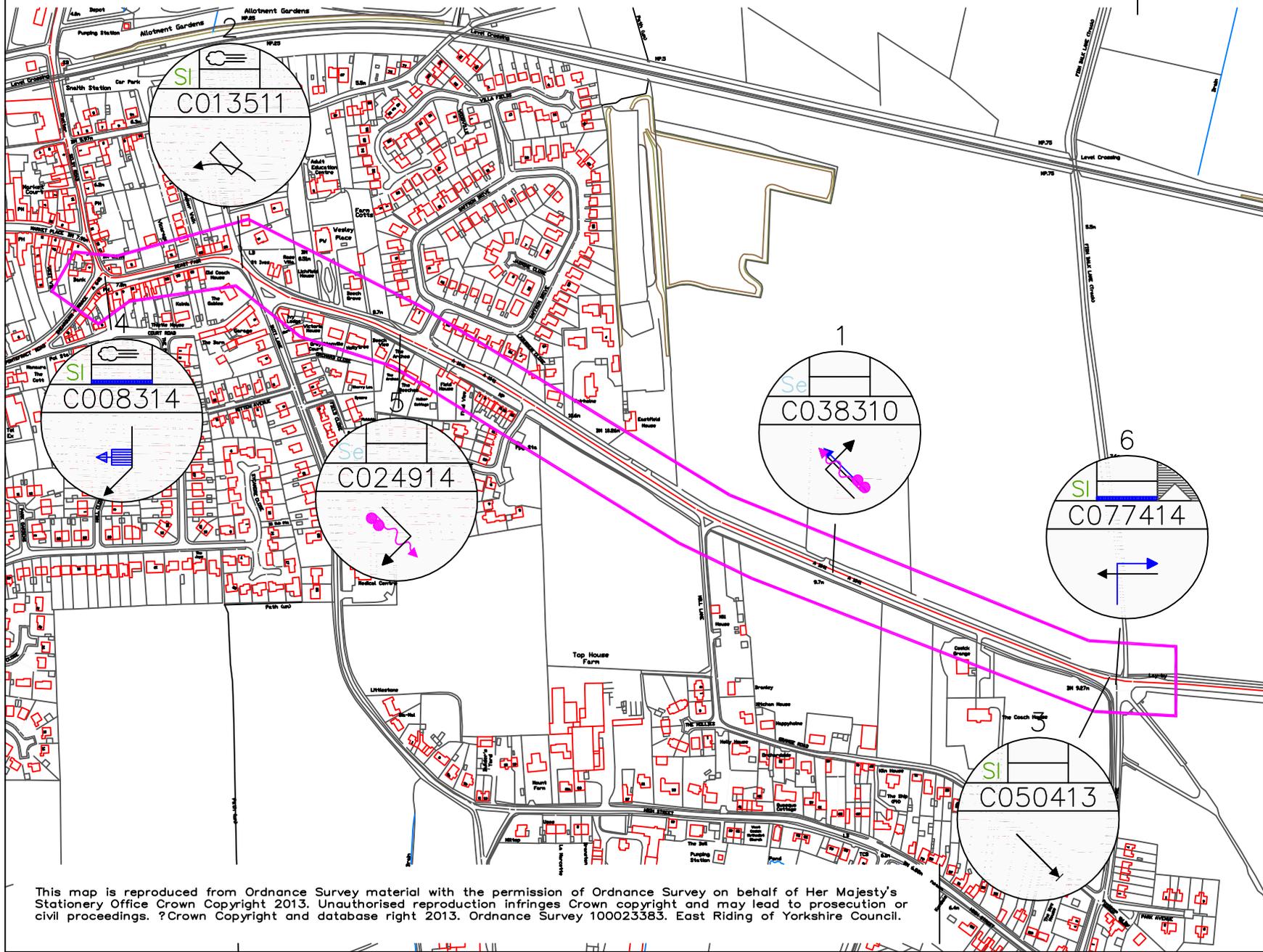


EAST RIDING

OF YORKSHIRE COUNCIL

Directorate of Environmental
and Neighbourhood Services

Director: Nigel Leighton



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Appendix 3 – Trip Generation Data

Projected Traffic Generation

92 dwellings

Vehicle Trip Rates (per dwelling)

Time	IN	OUT	TOTAL
07:00-08:00	0.066	0.275	0.341
08:00-09:00	0.166	0.378	0.544
09:00-10:00	0.161	0.212	0.373
10:00-11:00	0.137	0.181	0.318
11:00-12:00	0.195	0.161	0.356
12:00-13:00	0.181	0.162	0.343
13:00-14:00	0.169	0.163	0.332
14:00-15:00	0.164	0.173	0.337
15:00-16:00	0.254	0.194	0.448
16:00-17:00	0.271	0.158	0.429
17:00-18:00	0.329	0.186	0.515
18:00-19:00	0.226	0.158	0.384

TOTAL	2.319	2.401	4.720
--------------	--------------	--------------	--------------

Vehicle Trips

IN	OUT	TOTAL	
6	25	31	
15	35	50	AM Peak
15	20	35	
13	17	30	
18	15	33	
17	15	32	
16	15	31	
15	16	31	
23	18	41	
25	15	40	
30	17	47	PM Peak
21	15	36	

214	223	437
------------	------------	------------

MM, Mean 03-A, 50 to 150 dwells, England only (exc. GL), Edge of Town, Suburban Area, exc. Sat/Sun, 07+ TRICS v7.2.2

Projected Person Trip Generation

Person Trip Rates (per dwelling)

Time	IN	OUT	TOTAL
07:00-08:00	0.102	0.438	0.540
08:00-09:00	0.236	0.743	0.979
09:00-10:00	0.237	0.346	0.583
10:00-11:00	0.213	0.282	0.495
11:00-12:00	0.296	0.240	0.536
12:00-13:00	0.272	0.246	0.518
13:00-14:00	0.253	0.260	0.513
14:00-15:00	0.252	0.275	0.527
15:00-16:00	0.523	0.333	0.856
16:00-17:00	0.495	0.271	0.766
17:00-18:00	0.561	0.284	0.845
18:00-19:00	0.372	0.259	0.631

TOTAL	3.812	3.977	7.789
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Person Trips

IN	OUT	TOTAL
9	40	49
22	68	90
22	32	54
20	26	46
27	22	49
25	23	48
23	24	47
23	25	48
48	31	79
46	25	71
52	26	78
34	24	58

351	366	717
------------	------------	------------

MM, Mean 03-A, 50 to 150 dwells, England only (exc. GL), Edge of Town, Suburban Area, exc. Sat/Sun, 07+

Projected Modal Split

Proportion of Vehicle Trips

Time	IN	OUT	TOTAL
07:00-08:00	64.7%	62.8%	63.1%
08:00-09:00	70.3%	50.9%	55.6%
09:00-10:00	67.9%	61.3%	64.0%
10:00-11:00	64.3%	64.2%	64.2%
11:00-12:00	65.9%	67.1%	66.4%
12:00-13:00	66.5%	65.9%	66.2%
13:00-14:00	66.8%	62.7%	64.7%
14:00-15:00	65.1%	62.9%	63.9%
15:00-16:00	48.6%	58.3%	52.3%
16:00-17:00	54.7%	58.3%	56.0%
17:00-18:00	58.6%	65.5%	60.9%
18:00-19:00	60.8%	61.0%	60.9%

TOTAL	60.8%	60.4%	60.6%
--------------	--------------	--------------	--------------

Projected Modal Trip Generation

Mode	Split	12-Hour (07:00-19:00)		
		IN	OUT	TOTAL
Vehicle Drivers	60.6%	214	223	437
Vehicle Passengers	19.7%	69	72	141
Vehicle Occupants Sub-Total	80.3%	283	295	578
Pedestrian	15.3%	54	56	110
Pedal-cycle	2.8%	10	10	20
Public Transport	1.6%	6	6	12
	19.7%	70	72	142
Total Person Trips	100%	351	366	717

Calculation Reference: AUDIT-342901-150909-0905

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	SC SURREY	1 days
03	SOUTH WEST	
	CW CORNWALL	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	2 days
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	3 days
	SY SOUTH YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	1 days
09	NORTH	
	CB CUMBRIA	1 days

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

Filtering Stage 2 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: 52 to 150 (units:)
 Range Selected by User: 50 to 150 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 23/01/14

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	3 days
Tuesday	4 days
Wednesday	2 days
Thursday	3 days
Friday	2 days

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

Selected survey types:

Manual count	14 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	8
Edge of Town	6

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

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.

Filtering Stage 3 selection:

Use Class:

C3 14 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	5 days
10,001 to 15,000	1 days
15,001 to 20,000	4 days
20,001 to 25,000	2 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	3 days
75,001 to 100,000	3 days
100,001 to 125,000	3 days
125,001 to 250,000	2 days
250,001 to 500,000	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	2 days
1.1 to 1.5	12 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:

No 14 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.

LIST OF SITES relevant to selection parameters

1	CB-03-A-04	SEMI DETACHED		CUMBRIA
	MOORCLOSE ROAD			
	SALTERBACK			
	WORKINGTON			
	Edge of Town			
	No Sub Category			
	Total Number of dwellings:	82		
	Survey date: FRIDAY	24/04/09		Survey Type: MANUAL
2	CH-03-A-06	SEMI-DET./BUNGALOWS		CHESHIRE
	CREWE ROAD			
	CREWE			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Number of dwellings:	129		
	Survey date: TUESDAY	14/10/08		Survey Type: MANUAL
3	CW-03-A-02	SEMI D./DETACHED		CORNWALL
	BOSVEAN GARDENS			
	TRURO			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	73		
	Survey date: TUESDAY	18/09/07		Survey Type: MANUAL
4	LN-03-A-01	MIXED HOUSES		LINCOLNSHIRE
	BRANT ROAD			
	BRACEBRIDGE			
	LINCOLN			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	150		
	Survey date: TUESDAY	15/05/07		Survey Type: MANUAL
5	NF-03-A-02	HOUSES & FLATS		NORFOLK
	DEREHAM ROAD			
	NORWICH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	98		
	Survey date: MONDAY	22/10/12		Survey Type: MANUAL
6	NY-03-A-06	BUNGALOWS & SEMI DET.		NORTH YORKSHIRE
	HORSEFAIR			
	BOROUGHBRIDGE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	115		
	Survey date: FRIDAY	14/10/11		Survey Type: MANUAL
7	NY-03-A-09	MIXED HOUSING		NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE			
	NORTHALLERTON			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	52		
	Survey date: MONDAY	16/09/13		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	NY-03-A-10	HOUSES AND FLATS		NORTH YORKSHIRE
		BOROUGHBRIDGE ROAD		
		RIPON		
		Edge of Town		
		No Sub Category		
		Total Number of dwellings:	71	
		Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
9	SC-03-A-04	DETACHED & TERRACED		SURREY
		HIGH ROAD		
		BYFLEET		
		Edge of Town		
		Residential Zone		
		Total Number of dwellings:	71	
		Survey date: THURSDAY	23/01/14	Survey Type: MANUAL
10	SF-03-A-01	SEMI DETACHED		SUFFOLK
		A1156 FELIXSTOWE ROAD		
		RACECOURSE		
		IPSWICH		
		Suburban Area (PPS6 Out of Centre)		
		Residential Zone		
		Total Number of dwellings:	77	
		Survey date: WEDNESDAY	23/05/07	Survey Type: MANUAL
11	SH-03-A-04	TERRACED		SHROPSHIRE
		ST MICHAEL'S STREET		
		SHREWSBURY		
		Suburban Area (PPS6 Out of Centre)		
		No Sub Category		
		Total Number of dwellings:	108	
		Survey date: THURSDAY	11/06/09	Survey Type: MANUAL
12	SH-03-A-05	SEMI -DETACHED/TERRACED		SHROPSHIRE
		SANDCROFT		
		SUTTON HILL		
		TELFORD		
		Edge of Town		
		Residential Zone		
		Total Number of dwellings:	54	
		Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
13	SY-03-A-01	SEMI DETACHED HOUSES		SOUTH YORKSHIRE
		A19 BENTLEY ROAD		
		BENTLEY RISE		
		DONCASTER		
		Suburban Area (PPS6 Out of Centre)		
		Residential Zone		
		Total Number of dwellings:	54	
		Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
14	WM-03-A-03	MIXED HOUSING		WEST MIDLANDS
		BASELEY WAY		
		ROWLEYS GREEN		
		COVENTRY		
		Edge of Town		
		Residential Zone		
		Total Number of dwellings:	84	
		Survey date: MONDAY	24/09/07	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
 MULTI-MODAL VEHICLES
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	87	0.066	14	87	0.275	14	87	0.341
08:00 - 09:00	14	87	0.166	14	87	0.378	14	87	0.544
09:00 - 10:00	14	87	0.161	14	87	0.212	14	87	0.373
10:00 - 11:00	14	87	0.137	14	87	0.181	14	87	0.318
11:00 - 12:00	14	87	0.195	14	87	0.161	14	87	0.356
12:00 - 13:00	14	87	0.181	14	87	0.162	14	87	0.343
13:00 - 14:00	14	87	0.169	14	87	0.163	14	87	0.332
14:00 - 15:00	14	87	0.164	14	87	0.173	14	87	0.337
15:00 - 16:00	14	87	0.254	14	87	0.194	14	87	0.448
16:00 - 17:00	14	87	0.271	14	87	0.158	14	87	0.429
17:00 - 18:00	14	87	0.329	14	87	0.186	14	87	0.515
18:00 - 19:00	14	87	0.226	14	87	0.158	14	87	0.384
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.319			2.401			4.720

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

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

Parameter summary

Trip rate parameter range selected: 52 - 150 (units:)
 Survey date date range: 01/01/07 - 23/01/14
 Number of weekdays (Monday-Friday): 14
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 2

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.

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	14	87	0.102	14	87	0.438	14	87	0.540
08:00 - 09:00	14	87	0.236	14	87	0.743	14	87	0.979
09:00 - 10:00	14	87	0.237	14	87	0.346	14	87	0.583
10:00 - 11:00	14	87	0.213	14	87	0.282	14	87	0.495
11:00 - 12:00	14	87	0.296	14	87	0.240	14	87	0.536
12:00 - 13:00	14	87	0.272	14	87	0.246	14	87	0.518
13:00 - 14:00	14	87	0.253	14	87	0.260	14	87	0.513
14:00 - 15:00	14	87	0.252	14	87	0.275	14	87	0.527
15:00 - 16:00	14	87	0.523	14	87	0.333	14	87	0.856
16:00 - 17:00	14	87	0.495	14	87	0.271	14	87	0.766
17:00 - 18:00	14	87	0.561	14	87	0.284	14	87	0.845
18:00 - 19:00	14	87	0.372	14	87	0.259	14	87	0.631
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.812			3.977			7.789

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

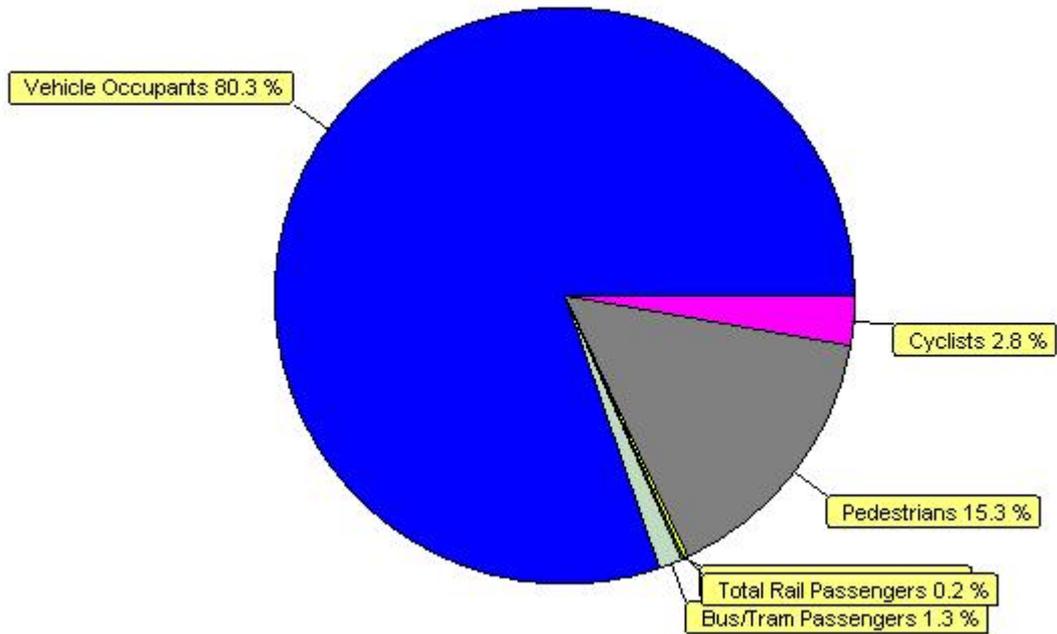
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Parameter summary

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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.

Modal Split Percentages



Time Range/Peak Period Selection
Direction: Totals / Use All Times