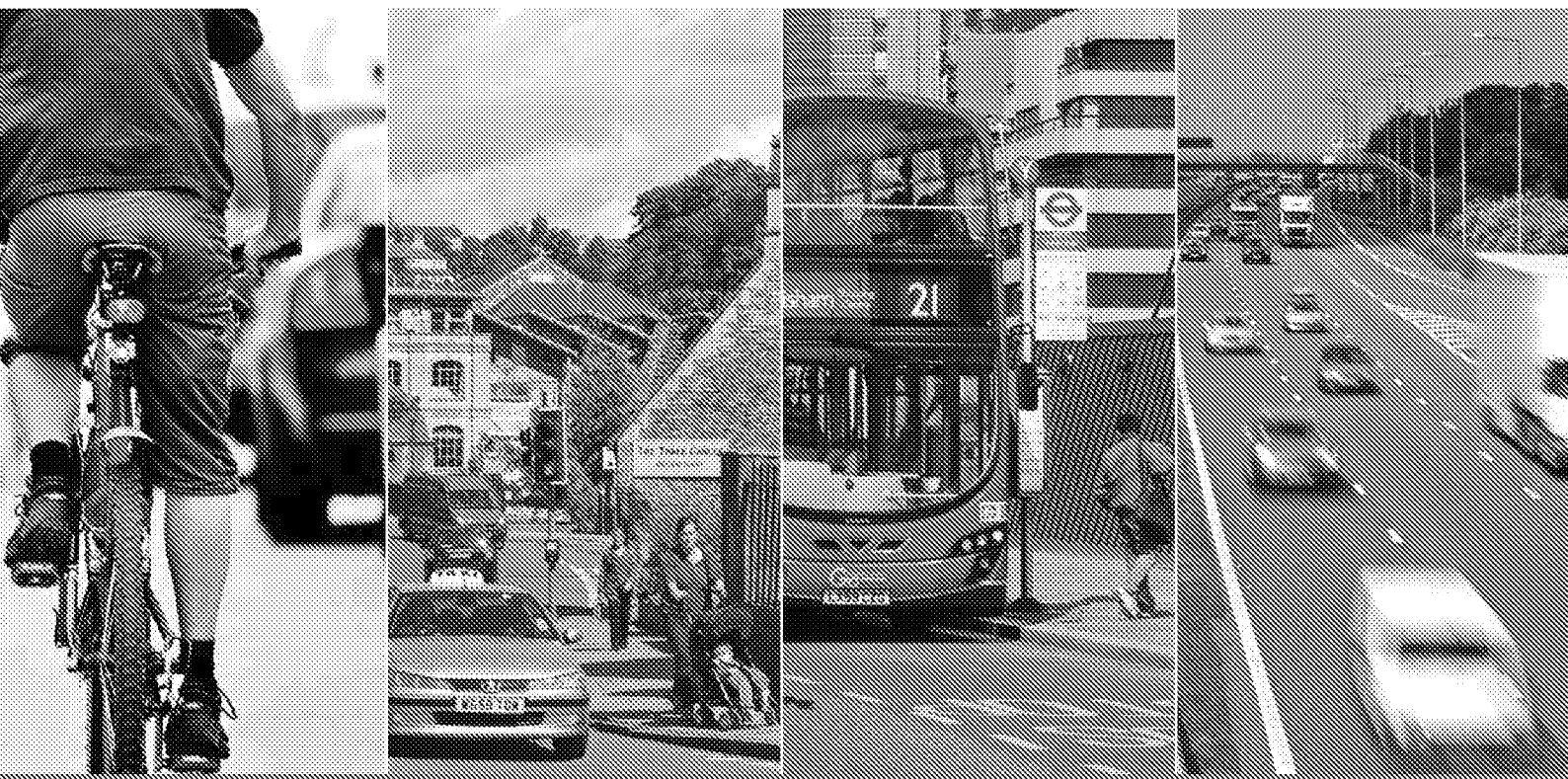


Transport Statement

Proposed Residential Development at: Land north of Stakers Farm, Yapton



Client: Granite Gate Ltd, Stakers Farm, North End Road, Yapton, West Sussex

Ref: 6678/2.3

Date: March 2017

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Issue	Issue date	Compiled	Checked
Preliminary Issue	21 st April 2017	RJW	LNS
Final Issue	5 th May 2017	RJW	LNS

Report by: Richard Wells BSc, MCIHT

Checked by: Lawrence Stringer CEng, MCIHT, MRTPI

Executive Summary

The site lies on the northern periphery of Yapton village, off the B2132 North End Road, adjacent to residential and employment areas and approximately 800metres from the village centre. The site is an open field and is occasionally used for the grazing of livestock.

The outline planning application is for 70 dwelling units as an extension to the approved scheme for 38 dwelling (Y/93/14/OUT) with access from North End Road. The additional development proposes use of the same access arrangements via a simple priority junction and this has been agreed with WSCC Development Planning officers.

Trip rates and distribution have been determined and the proposed development of 70 dwellings would generate 35 two-way vehicle trips in the AM peak hour and 32 two-way vehicle trips in the PM peak hour. This will have no material impact on the operation or safety of the local highway network. When distributed over the network, on the basis of the existing flows, the additional vehicle trips are less than the threshold of 30 vehicles, that would require junction capacity assessments as required by WSCC.

Consideration has been given to the impact on the Yapton level crossing. It was concluded that only an additional 22 vehicles will be likely to use the crossing at peak hours and in consultation with Network Rail, this is not considered to be a material impact.

Consideration was given to the impact on the strategic network routes of the A27 to the north of the site and the A259 to the south. No more than 15 vehicles were forecast to the A27 and A259 as a result of the proposed 70 dwellings. Taking the total development of 108 units, less than 25 additional vehicles will be expected during peak hours which does not represent a significant material impact.

There are many amenities within walking and cycling distance from the site. Within the village the residents of the proposed development will be able to access shopping, medical, community and education facilities, many within 950metres, and bus stops are located in North End Road, adjacent to the site.

Car parking will be provided on site to meet West Sussex County Council standards and comply with the WSCC Parking Demand Calculator. A total of 166 parking spaces are proposed which is estimated to accommodate the likely car parking demand. Cycle parking will be provided in accordance with the WSCC standards.

Refuse collection and emergency vehicles can access the residential dwellings via the internal streets and are able to turn and exit the site in forward gear using the turning heads. A swept path analysis has been undertaken to demonstrate the suitability of the layout for large vehicles. Bin carry distances do not exceed MfS guidelines of 25metres for refuse collectors or 30metres for residents.

Overall, there are no material highway or transport impacts as a result of the proposed residential development which is in a good location, close to the village centre and local primary school.

1 Introduction

- 1.1 This report has been prepared for Granite Gate Ltd in conjunction with the above development and no responsibility is accepted to any third party for all or part of this study in connection with this or any other development.
- 1.2 GTA Civils Ltd has been commissioned by Granite Gate Ltd to prepare a Transport Statement in support of an outline application for the proposed development at the land at Stakers Farm, North End Road, Yapton.
- 1.3 Specifically, the report has been prepared to investigate and advise on the impacts of the proposed additional development of up to 70 residential dwellings and the total development of 108 dwellings, on the local and nearby strategic highway networks.

Policy Context

- 1.4 This Highway Access Report has been written in accordance with the following frameworks:
 - ✦ Planning Practice Guidance 42 on Travel Plans and Transport Assessments, issued by the Department of Communities and Local Government, March 2014;
 - ✦ 2014 National Planning Policy Guidance (NPPG);
 - ✦ National Planning Policy Framework (NPPF);
 - ✦ WSCC's Local Transport Plan 2011-2026 (LTP3);
 - ✦ The Arun District Council Local Plan 2003;
 - ✦ WSCC Transport Assessment Methodology;
 - ✦ WSCC 'Revised County Parking Standards and Transport Contributions Methodology' (adopted 2003);
 - ✦ WSCC Guidance for Parking in New Residential Developments September 2010.

The Site

- 1.5 The site lies on the northern periphery of Yapton village, off the B2132 North End Road, adjacent to both rural and residential areas and approximately 800metres from the village centre. The site is an open field and is occasionally used for the grazing of livestock.
- 1.6 Outline planning consent was also received on 5th August 2015 (Ref: Y/93/14/OUT) for the erection of 38 dwellings with access off North End Road. It is proposed that the additional development of 70 dwellings would be served by the same vehicular access. A site location plan is included in **Appendix A**.

Scoping

- 1.7 Although the DfT Transport Assessment Guidance on Transport Assessments has been rescinded, it remains the best available guidance. The WSCC Transport Assessment Methodology refers to Appendix B of the DfT Guidance and indicates that residential developments of between 50 and 79 units require a Transport Statement. The proposed development falls below the threshold of 80 units when a full Transport Assessment is required. Therefore, a Transport Statement is sufficient.
- 1.8 Pre-application discussions have taken place with West Sussex Development Planning (WSCC) to establish the scope of the Transport Statement and the full correspondence note is attached in **Appendix B**. Through these discussions, WSCC confirmed the following:
- ✦ A Transport Statement is sufficient;
 - ✦ The principles of access as proposed within the existing outline application (Ref:Y/93/14/OUT) is acceptable for an additional (up to) 79 dwellings;
 - ✦ Visibility sightlines of 2.4m x 43m minimum remain adequate for the proposed junction of the site access road with North End Road;
 - ✦ No further speed survey or safety audit is required and the existing traffic survey and road safety audit in relation to the approved application is accepted;

2 Policy and Guidance

National Planning Policy Framework (NPPF)

- 2.1 The NPPF, published 27th March 2012, sets out the Governments planning policies for England and how these are expected to be applied. The NPPF provides a framework to allow local authorities to produce individual local plans reflecting the specific needs in their community.
- 2.2 NPPF supports sustainable development, with a 'presumption in favour of sustainable development' set out in paragraph 14:

*"14. At the heart of the National Planning Policy Framework is a **presumption in favour of sustainable development**, which should be seen as a golden thread running through both plan-making and decision-taking.*

*For **plan-making** this means that:*

- ✧ *Local planning authorities should positively seek opportunities to meet the development needs of their area;*
- ✧ *Local Plans should meet objectively assessed needs, with sufficient flexibility to adapt to rapid change, unless:*
 - *any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*
 - *specific policies in this Framework indicate development should be restricted.*

*For **decision-taking** this means:*

- ✧ *approving development proposals that accord with the development plan without delay; and*
- ✧ *where the development plan is absent, silent or relevant policies are out-of-date, granting permission unless:*
 - *any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*
 - *specific policies in this Framework indicate development should be restricted."*

- 2.3 In respect of transport the NPPF states at paragraph 32:

"32. All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- ❖ *the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- ❖ *safe and suitable access to the site can be achieved for all people; and*
- ❖ *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."*

2.4 Paragraph 34 reinforces the link between development and accessibility:

"Plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. However, this needs to take account of policies set out elsewhere in this Framework, particularly in rural areas."

National Planning Practice Guidance (NPPG)

2.5 NPPG is supplementary advice intended to expand on and support the principals and practices of the NPPF. It is managed and maintained by the Department of Communities & Local Government. Amongst other things, NPPG provides advice on the need for, and the preparation of, Travel Plans, Transport Statements and Transport Assessments.

2.6 NPPG states that Travel Plans, Transport Assessments and Transport Statements can positively contribute to:

- ❖ encouraging sustainable travel;
- ❖ lessening traffic generation and its detrimental impacts;
- ❖ reducing carbon emissions and climate impacts;
- ❖ creating accessible, connected, inclusive communities;
- ❖ improving health outcomes and quality of life;
- ❖ improving road safety; and
- ❖ reducing the need for new development to increase existing road capacity or provide new roads.

2.7 NPPG advises that the key transport issues to be considered in a transport evidence base should:

- ❖ assess the existing situation and likely generation of trips over time by all modes and the impact on the locality in economic, social and environmental terms; and
- ❖ consider the cumulative impacts of existing and proposed development on transport networks.

Manual for Streets (MfS)

- 2.8 MfS, published in 2007 is referred to within this TS. The 'Department for Transport' and 'Department for Communities and Local Government' have provided technical guidance in the manuals, however, they do not outline any new policies or legal requirements. Some of the key aims for streets in the introduction, are as follows:

- ✦ help build and strengthen the communities they serve
- ✦ meet the needs of all
- ✦ form part of a well-connected network

It also discourages designs that:

- ✦ primarily meet motor traffic needs
- ✦ are difficult to serve by public transport

WSCC Local Transport Plan 2011-26 (LTP3)

- 2.9 This document sets the strategy for guiding future investment in the county's highways and transport infrastructure. It also sets a framework for considering transport infrastructure requirements associated with future development across the county. The Plan includes four strategies that contribute towards meeting the main objective of improving the quality of life for the people of West Sussex. These are:

- ✦ Promoting economic growth
- ✦ Tackling climate change
- ✦ Providing access to services, employment and housing
- ✦ Improving safety, security and health.

Arun District Council Local Plan 2003

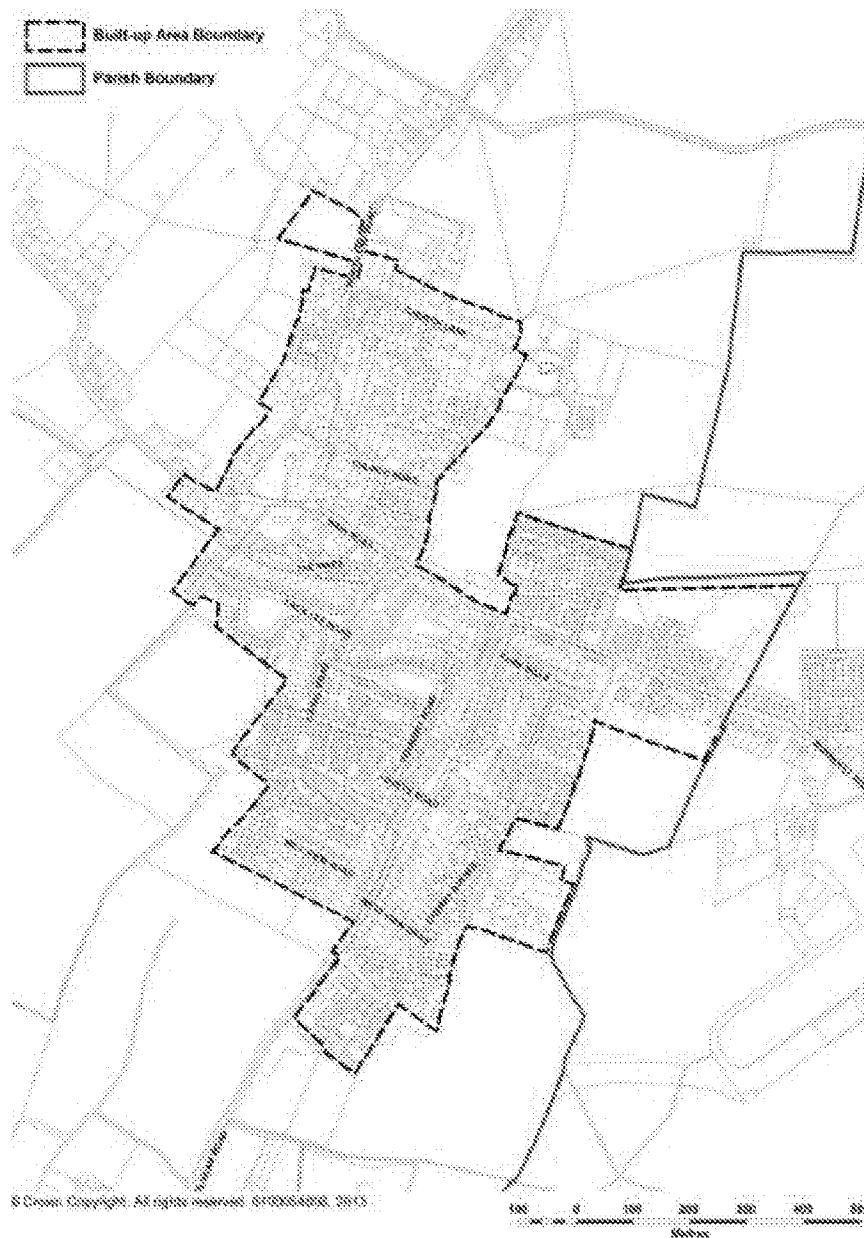
- 2.10 The Local Plan sets out the opportunities for development and clear policies on what will or will not be permitted and where. The current ADC Local Plan was created in 2003 and a new local plan is in the process of being written, to cover up to 2031.
- 2.11 Through the process of the Local Plan Examination in Public, including exercises on Objectively Assessed Need for market and affordable housing, it was concluded that more houses would be required than had been submitted within the Local Plan.
- 2.12 In February 2017, ADC produced, 'The Sustainability Appraisal of the Main Modifications to the Arun Local Plan (2011-2031) – Non-Technical Summary. It is noted within Table 7 'Final Housing

Trajectory figures' of this document, in relation to Yapton a site capacity of 400 dwellings is stated.

Yapton Neighbourhood Plan (YNP) 2014 – 2029

- 2.13 This document represents the Neighbourhood Plan for Yapton Parish, approved after a referendum in November 2014. It is one part of the development plan for the parish over the period 2014-2029, the other part being the Arun Local Plan.
- 2.14 The YNP refers to the Built-up Area Boundary and Policy SP2 of the emerging Arun Local Plan which permits neighbourhood plans to make appropriate changes to it. The policy states:
"Development will be permitted within the area defined as the Built-Up Area Boundary on the Policies Map, subject to all other policies in this Local Plan. Outside the Built-Up Area Boundaries, apart from the Strategic Allocations, development or redevelopment will not be permitted unless it is consistent with other Local Plan policies."
"The boundaries can be altered by a development plan document or a Neighbourhood Development Plan – providing these do not reduce the coverage of a Built-up Area Boundary."
- 2.15 The extent of the Built-up Area Boundary is shown below in **Figure 2.1**.

Figure 2.1 Yapton Built-up Area Boundary



2.16 Policy BB1 states:

Development proposals outside the built-up area boundary will not be permitted unless:

- ✦ They represent proposals to deliver the site allocations (policies SA1 and SA2);
- ✦ They relate to necessary utilities infrastructure and where no reasonable alternative location is available;
- ✦ They relate to additional allocations for housing land in accordance with policy H1;
- ✦ They propose new or relocated health or community facilities in accordance with policies KS1 and KS2.

3 Local Highway Network

- 3.1 The site is accessed from B2132 North End Road. To the north, North End Road connects to the A27 after just over 2miles from the site. To the south the A259 coastal road can be reached, in just under 2miles, either via Bilsham Road or Yapton Road.
- 3.2 North End Road passing the site has a carriageway width of 7.3m, has street lighting, and is subject to a speed restriction of 30mph.
- 3.3 There are no parking restrictions in the vicinity of the site frontage, however there are 'Keep Clear' zig-zag markings associated with the neighbouring Yapton Primary School.
- 3.4 A traffic count survey, in support of the approved application, was undertaken in the week commencing 20th September 2014. WSCC Highways have accepted that this survey can be applied within this application and a summary is provided in **Table 3.1** below. (TEMPRO traffic growth factors will be applied to these flows and carried into the relevant junction assessments).

Table 3.1 – Traffic Survey Data Summary

Time	Direction	Average traffic flow (veh/h/50)
AM Peak 8-9am	Northbound	120
	Southbound	377
PM Peak 5-6pm	Northbound	325
	Southbound	131

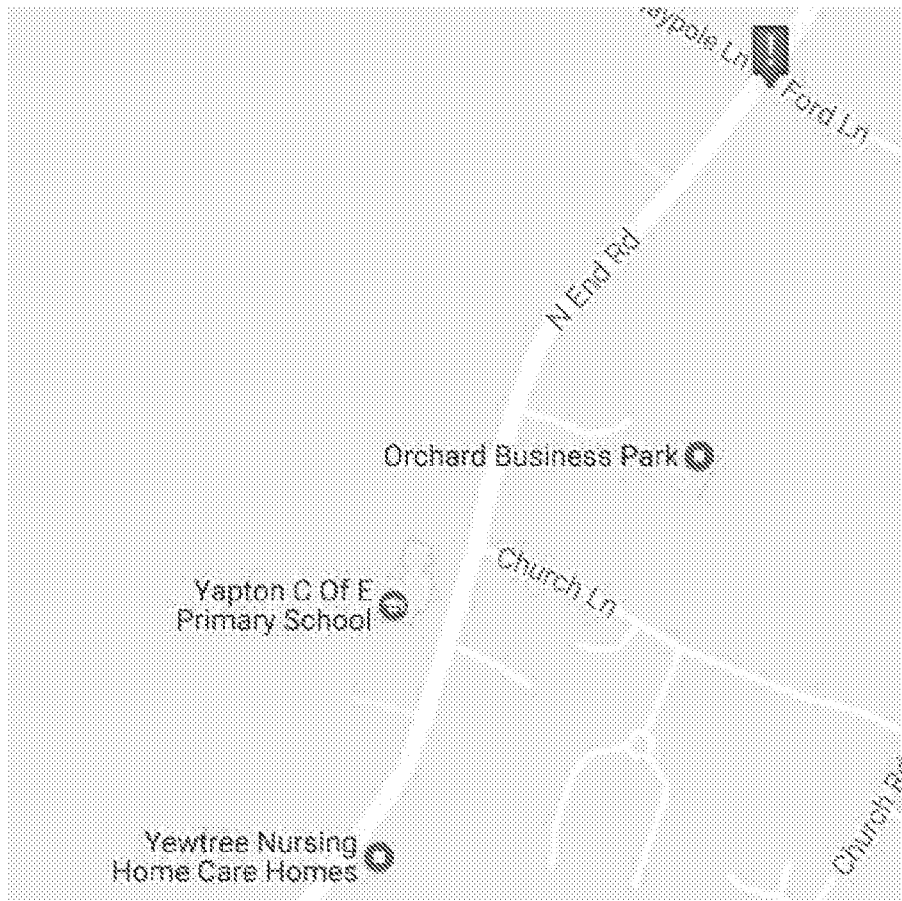
- 3.5 Traffic speed at the site (85thpercentiles) was recorded as 38.3mph southbound and 35.1mph northbound over the survey period.
- 3.6 In a 24hour period, the survey showed 2187 average vehicle movements northbound per weekday and 2177 southbound movements.

Road Accident Analysis

- 3.7 Crash records for North End Road in the site vicinity were reviewed for the years 2012-2016 using the Crashmap.co.uk website. There has only been 1 incident over the 5 year period which was classified as a serious incident. This incident occurred in 2013 at the junction with Ford Lane and North End Road, approximately 335metres north of the proposed site access and it is also noted within the transport statement for the approved application in 2014.

- 3.8 The search was also extended to the Yapton level crossing and no recorded personal injury accidents were found. A screenshot of the accident search within the vicinity of the site is shown below:

Figure 3.1 – Recorded PIAs in site vicinity



- 3.9 The local accident incidence rate is low and there is no evidence that the proposed development, accessed as proposed, would cause a material change.

4 Modal Choices

Bus

- 4.1 Bus services can be found on North End Road about 100m from the application site access (about 200m from the centre of the site) representing a maximum of a few minutes walk for most people and therefore very convenient to the site.
- 4.2 These stops are provided with timetable information and surfaced footways.
- 4.3 The existing bus services are summarised in **Table 4.1**:

Table 4.1 – Bus services serving the site

Service No./Route	Average Frequency		
	Monday to Friday	Saturdays	Sundays
66 – Bognor Regis – Yapton – Bognor Regis	8 per day	8 per day	No service
700* – Littlehampton - Bognor Regis - Chichester	Every 20minutes	Every 20minutes	Every 30minutes

*Note: Nearest bus stop on 700 is Bisham Road, approximately 10-12minutes walk

- 4.4 There is also service number 665 which runs past the site, though only once per day..

Rail

- 4.5 Barnham Station is located around 2.5km to the west of the site and is the nearest railway station. It is a mainline station and provides regular direct services to Brighton, Chichester, Southampton, Portsmouth, London and even a direct service to Bristol twice a day.
- 4.6 The station has 62 sheltered cycle parking spaces with CCTV and 142 car parking spaces with 2 accessible spaces. It has step-free access and ramps to platforms.
- 4.7 Service frequencies and journey times are set out in **Table 4.2**.

Table 4.2 – Rail services from Barnham Station

Destination	Frequency	Journey Time
Bognor Regis	4 per hour	6-8 minutes
Brighton	2 per hour	40-48 minutes
Portsmouth	4 per hour	36 – 48 minutes

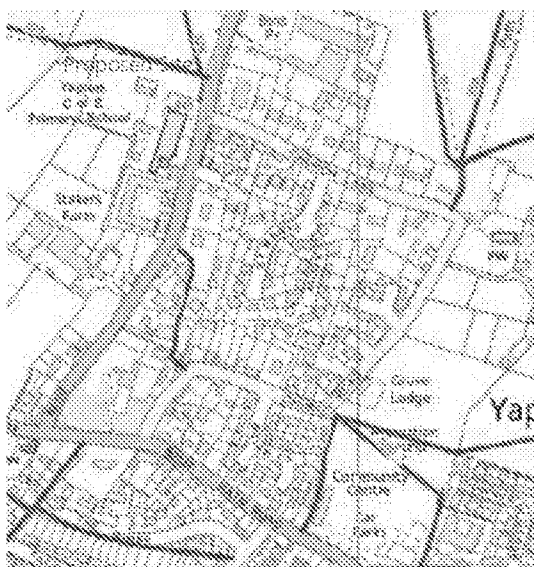
Southampton	2 per hour	64 – 69 minutes
London Victoria	4 per hour	80 – 85 minutes

- 4.8 Overall, there are various destination options available by rail for Yapton residents along with reasonable journey times to major destinations such as Portsmouth, Southampton and London. This is perhaps indicated in 2011 Census data by the 6% of residents in the Super Output Area of Yapton travelling to work by train whilst 5% for Arun District as a whole.

Walking and Cycling

- 4.9 In the vicinity of the site a footway exists on the east side of North End Lane and on the west side from a point 15metres to the south of the proposed site access. The footway on the west side of North End Lane would be continued to the access road as part of the development proposals.
- 4.10 The footways on North End Road and wider infrastructure in Yapton provide a continuous link into the centre of Yapton where there are various shops and services
- 4.11 There are two public rights of way (PROW) crossing the approved application site and the local PROW network is shown in **Figure 4.1** below. It is part of the existing approved application that footpaths 326 and 329 would be integrated into the development layout and run through the site and this is proposed to continue. However, the site in relation to this proposal is not impacted by any public rights of way.

Figure 4.1 – Local PROW network



- 4.12 Although there are no dedicated cycle facilities in the vicinity of the site, the National Cycle Network (NCN) Route 2 is approximately 1km south of the site. The route is shown in **Figure 4.2** below.

Figure 4.2 – NCN Route 2 – Littlehampton to Bognor Regis



- 4.13 This provides a fairly direct route to the larger towns of Littlehampton (4.5km east) and Bognor Regis (5km southwest). Therefore within the threshold considered as accessible under the CIHT guidelines which identifies journeys of 5km or less to be accessible by bicycle.

Local Car Ownership and Use

- 4.14 A review of existing Census data of car ownership and journey to work provides an indication of the travel patterns of residents in the local area.
- 4.15 Data from the 2011 Census indicate that car ownership within the Arun District Ward is 1.27 vehicles per household, compared to 1.60 for the Super Output Area (SOA) lower level in which the site is located (Arun006C). This is not unexpected and reflects the location of Yapton, with good access to the A27 and the A259.
- 4.16 Additionally, the means of travel to work follows this trend in as indicated in **Table 4.3**. The SOA006C in which the site is located indicates 71% of residents choosing the car to travel to work whilst it is 65% for Arun as a whole.

Table 4.3 - Mode of Travel to Work (2011 Census)

Mode	SOA Lower 1000 (P3)	Arun District (P3)
Train	6	5
Bus, Minibus or Coach	1	2
Motorcycle, Scooter or Moped	1	1
Driving a Car or Van	71	65
Passenger in a Car or Van	5	6
Bicycle	3	4
On Foot	5	10
Other (inc. work at home)	8	7
Car Ownership (per household)	1.00	1.27

Source: Office for National Statistics (2013)

5 Site Accessibility

- 5.1 Within the village there are a number of local facilities and essential services that will be accessible for the residents of the new development. Whilst Manual for Streets suggests 800m as being the target distance to amenities in new developments, NPPF states that walk can be the most attractive alternative for short distance car trips up to 2km, and cycle for distances up to 5km.
- 5.2 Key destinations in the village and their proximity to the site are listed below in **Table 5.1 – 5.4**. Walk and cycle times are given where walk time is given on the basis of a walking speed of 1.4metres/second as provided by the guidance document by CIHT, 'Providing for Journeys on Foot' and a cycle speed of 15km/hour.

Table 5.1 – Schools: Accessibility of development site to local schools

Destination	Distance from site centre	Walk (cycle) time
Yapton Primary School	150metres	2 minutes
St Philip Howard Catholic High School	3.05km	35 (12) minutes

Table 5.2 - Shopping: Accessibility of development site to local shops

Destination	Distance from site centre	Walk (cycle) time
Supermarket (Co-operative)	950metres	12 (4) minutes
Post Office	950metres	12 (4) minutes

Table 5.3 –Health: Accessibility of development site to local health services

Destination	Distance from site centre	Walk time
Yew Tree Surgery	100metres	1 minute
Yapton Pharmacy	100metres	1 minute

Table 5.4 - Community: Accessibility of development site to community facilities

Destination	Distance from site centre	Walk time
Children and Family Centre	950metres	12 (4) minutes
Yapton Village Hall	950metres	12 (4) minutes
Yapton Recreation Green	950metres	12 (4) minutes

- 5.3 As seen from **Tables 5.1 – 5.4**, there are many amenities within walking and cycling distance from the site. Within the village the residents of the proposed development will be able to access

shopping, health and community facilities, and some education facilities, within a short walking or cycling distance from the site.

6 Proposed Development

- 6.1 The outline application proposes the development of 70 residential dwellings in mixed sizes of 1, 2, 3 and 4 bedroom units including a 30% provision of affordable dwellings, public open space and associated landscaping. All matters to be reserved apart from access (access to be achieved via permitted road (reference Y/93/14/OUT). An indicative development layout is shown in **Appendix C**.
- 6.2 The proposed development is for 70 dwelling units comprising of a mix of private and affordable flats and houses.
- 6.3 A schedule of residential accommodation is provided in **Table 6.1** below.

Table 6.1 - Schedule of Residential Accommodation

	1 bed flats	2 bed houses	3 bed houses	4 bed houses	Total
Affordable Units	4	11	5	1	21
Open Market	-	4	38	7	49
					70

Proposed Access

- 6.4 It is proposed to gain access to the site from a new simple priority access onto North End Road as shown on the proposed site layout plan (**Appendix C**). The access will be 5.5m wide with footways on both sides leading into the site.
- 6.5 The proposed access to the site has been agreed with WSCC Highways in relation to the approved application and the principle of the access junction being suitable to accommodate an additional (up to) 79 units was also established and agreed during the scoping discussions. Note, that 79 dwellings was used as a basis during design development though the proposed development is for only 70 units and therefore the highway impact is lower (for correspondence see **Appendix A** and summary in para 2.3.2). To confirm the suitability of the junction to serve the additional dwellings a capacity assessment has been undertaken and the results summarised in section 7.
- 6.6 As agreed with WSCC Highways, no further Road Safety Audit has been carried out for the proposed access junction with North End Road as this was undertaken in relation to the approved application and remains acceptable.

Proposed Site Layout

- 6.7 The indicative layout will expect to maintain road widths of at least 4.8metres in line with MfS guidance, allowing two-way vehicle movement.
- 6.8 As with the approved application, the proposals integrate the existing PROW, running east/west across the site, into the development layout along with provision of footways along the site frontage and connecting with existing footways to the south.
- 6.9 PROW329 on the site's southern boundary would keep its existing alignment, providing an attractive route to pedestrians accessing or passing through the site. The existing route of PROW326 would be slightly altered although the entry and exit points would be maintained.
- 6.10 As shown on the layout plan, a possible future pedestrian/cycle link to North End Road is shown running through the existing farm property which is also under the applicant's ownership.

Car Parking Provision

- 6.11 The principle of the indicative layout is such that parking is expected to be provided predominantly off-street in driveways and garages with laybys provided to provide for visitors or overspill.
- 6.12 The number of parking spaces are provided in line with the WSCC Residential Parking Demand Calculator which is determined on the basis of car ownership data from the local Census areas and unit size. The Parking Calculator spreadsheet is provided in **Appendix D**. The total parking demand calculated is 166 spaces for the development, including 14 unallocated spaces to meet a visitor demand.
- 6.13 On the basis of the proposed unit mix for the 70 dwellings, the following provision for car parking is given in the table below.

Table 6.2 - Proposed residential car parking provision

House type & number	Parking provision	Allocated/unallocated
4 No. x 1 bed flats	4x1 spaces per dwelling	Allocated (4)
15 No. x 2 bed houses	15x2 spaces per dwelling	Allocated (30)
43 No. x 3 bed houses	43x2 spaces per dwelling	Allocated (86)
8 No. x 4 bed houses	8x4 spaces per dwelling	Allocated (32)
Total spaces	+ 14 unallocated visitor spaces	Total spaces 152 + 14 = 166

- 6.14 As seen in the above table, 4 units are allocated 1 space each and 58 units have been allocated parking spaces of 2 spaces per dwelling. The remaining 11 four bedroom houses are provided with 4 spaces each. Visitor parking has also been considered and 14 unallocated spaces are provided across the development in on-street parking bays.

Cycle Parking Provision

- 6.15 Covered cycle parking will also be provided in accordance with WSCC's Parking Standards as set out below. For the flatted units a communal, secure storage unit should be provided to hold 1 bicycle per dwelling and rear garden storage is available for the house units.

Table 4.5 - WSCC Cycle Parking Guidance

Type	Size	Cycle Provision (per unit)
Houses	Up to 4 rooms (1 & 2 bed)	1 space
Houses	5+ rooms (3+ bed)	2 spaces
Flats	Up to 3 rooms (1 & 2 bed)	0.5 spaces (if communal storage otherwise same as 1 & 2 bed house)
Flats	4+ rooms (3+ bed)	1 space

Note: WSCC Guidance for Parking in New Residential Developments: September 2010

Emergency Access and Service Vehicles

- 6.16 The site is set out so that service vehicles can enter and turn, using appropriate turning heads within the site, to meet the WSCC and MfS requirements (paragraph 6.8.9). Swept path analysis for a refuse vehicle is shown in **Appendix E**.

MfS guidance for bin carry distances provides maximum distance thresholds from all properties as being 25metres for refuse collection operatives and 30metres for residents. Bin storage facilities would be conveniently located as appropriate to ensure the carry distance requirements are met within the detailed layout. Where possible the layout should minimise the need for refuse vehicles to undertake reversing manoeuvres, although maximum reversing distances of 12metres are generally considered acceptable.

- 6.17 Based on the indicative layout, a fire appliance is able to reach within 45metres of all dwelling entrances in accordance with Manual for Streets guidance.

7 Trip Generation, Distribution & Assignment

Existing Site Traffic Generation

- 7.1 The site is currently unoccupied and therefore no traffic generation is associated with the existing site. The approved application for 38 dwellings will be referenced along with an assessment on the basis of the additional impact of 70 dwellings.
- 7.2 It was agreed with WSCC, during the scoping discussions that whilst the previous trip rates within the approved application were acceptable it was worthwhile to take more recent trip rate data from the TRICS national trip generation database. It should be noted that the revised trip rates are slightly lower than the approved application, however the difference during peak travel hours is only a few vehicles and is of very minor consequence.

Methodology

- 7.3 The TRICS database has been examined for appropriate matches to the proposed uses with the following site selection parameters being applied, and as comparable with the previous approved application:
- ✦ Post 2008 surveys;
 - ✦ All regions in England with the exception of Greater London;
 - ✦ Sites on the edge of town;
 - ✦ Residential use - private housing sites with between 20 and 200 units;
 - ✦ Weekdays only;
 - ✦ Sites with car ownership of more than 1 car per household (reflecting the site location).
- 7.4 To provide the most robust assessment, the analysis is based on private houses only and takes no account of any proportion of affordable housing.
- 7.5 **Appendix F** holds details of the sites selected and provides a full TRICS output report.

Trip Rates

- 7.6 Vehicle trip rates and total person trip rates for this type of development in this type of location are set out in **Table 7.1** below:

Table 7.1 - Trip Rates (weekday)

Private Houses Only	AM Peak (8-9am)			PM Peak (5-6pm)			Daily (12hr)		
	In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
Vehicle Trip Rates	0.139	0.365	0.504	0.343	0.122	0.465	2.149	2.205	4.354
Total Person Trip Rate	0.204	0.655	0.859	0.547	0.21	0.757	3.491	3.508	6.999

7.7 Resultant trips to and from a total development of 108 dwellings are shown in **Table 7.2** below, split between the approved and the additional dwelling units.

Table 7.2 – Vehicle Trips (weekday)

Vehicle Trips	AM Peak			PM Peak			Daily (12hr)		
	In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
Approved 38 units	5.28	13.87	19.15	13.03	4.63	17.67	81.66	83.79	165.45
Additional 70 units	9.73	25.55	35.28	24.01	8.54	32.55	150.43	154.35	304.78
Total 108 Units	15.012	39.42	54.432	37.044	13.176	50.22	232.092	238.14	470.232

7.8 The assessment suggests the proposed development of 108 dwellings in its entirety would generate around 470 vehicle trips per day, with an additional 54 movements in the AM peak hour (8-9am) and 50 in the PM peak hour (5-6pm). This equates to just under 1 additional vehicle movement every minute and does not represent a severe impact on the highway, considering the development in its entirety.

7.9 Considering the additional 70 units alone, this would only generate an additional 35 vehicle movements in the AM peak hour and 32 in the PM peak hour. This represents just over 1 vehicle every two minutes and, again, is not considered a material impact.

Trip Distribution and Assignment

7.10 The distribution of development trips of 40% to the north and 60% towards the south was agreed within the approved application and provided within the 2014 TS by Russell Giles Partnership. WSCC Highways have agreed this principle remains acceptable and can be applied to the additional development and to the site as a whole. The basis of the flow profiles is derived from the existing traffic flows passing the site on North End Road.

7.11 The following traffic flow tables are derived for the AM and PM peak hours, for

- the 2014 base survey year;

- TEMPRO growth to 2022 (from 2017 assumed approval, traffic growth from 2014);
- development flows for a total of 117 dwellings;
- 2022 total with growth and development.

Traffic Flows - AM PEAK 0800-0900

2014 Base Year (HGVs + Buses)

TO FROM (pcus)	B2132 south	Site Access	B2132 north	TOTAL
B2132 south	0 (0)	-	120 (5)	120 (5)
Site access	-	-	-	-
B2132 north	377 (10)	-	0 (0)	377 (10)
TOTAL	377 (10)	-	120 (5)	497 (15)

2022 Forecast Year (TEMPRO Growth, NTM adjusted rural all roads, Arun District, TEMPRO growth 2014-2022: 1.1304 AM)

TO FROM (pcus)	B2132 south	Site Access	B2132 north	TOTAL
B2132 south	0 (0)	-	16 (0)	16 (0)
Site access	-	-	-	-
B2132 north	49 (1)	-	0 (0)	49 (1)
TOTAL	49 (1)	-	16 (0)	65 (1)

Development Flows (108 dwellings trip rate: Arrivals 0.139 Departures 0.365 = 15 vehicles inbound, 54 vehicles outbound 40% North / 60%South)

TO FROM (pcus)	B2132 south	Site Access	B2132 north	TOTAL
B2132 south	0 (0)	9 (0)	0 (0)	9 (0)
Site access	24 (0)	0 (0)	15 (0)	39 (0)
B2132 north	0 (0)	6 (0)	0 (0)	6 (0)
TOTAL	24 (0)	15 (0)	15 (0)	54 (0)

2022 Forecast Year (Development + TEMPRO growth)

TO FROM (pcus)	B2132 south	Site Access	B2132 north	TOTAL
B2132 south	0 (0)	9 (0)	136 (5)	145 (5)
Site access	24 (0)	0 (0)	15 (0)	39 (0)

B2132 north	426 (11)	6 (0)	0 (0)	432 (11)
TOTAL	450 (11)	15 (0)	151 (5)	616 (16)

Traffic Flows - PM PEAK 1700-1800

2014 Base Year (HGVs + Buses)

TO FROM (pcus)	B2132 south	Site Access	B2132 north	TOTAL
B2132 south	0 (0)	-	325 (11)	325 (11)
Site access	-	-	-	-
B2132 north	131 (1)	-	0 (0)	131 (1)
TOTAL	377 (1)	-	325 (11)	456 (12)

2022 Forecast Year (TEMPRO Growth, NTM adjusted rural all roads, Arun District, TEMPRO growth 2014-2022: 1.1341 PM)

TO FROM (pcus)	B2132 south	Site Access	B2132 north	TOTAL
B2132 south	0 (0)	-	43 (0)	43 (0)
Site access	-	-	-	-
B2132 north	17 (0)	-	0 (0)	17 (0)
TOTAL	17 (0)	-	43 (0)	60 (0)

Development Flows (108 dwellings trip rate: Arrivals 0.343 Departures 0.122 = 37 vehicles inbound, 13 vehicles outbound 40% North / 60%South)

TO FROM (pcus)	B2132 south	Site Access	B2132 north	TOTAL
B2132 south	0 (0)	22 (0)	0 (0)	22 (0)
Site access	8 (0)	0 (0)	5 (0)	13 (0)
B2132 north	0 (0)	15 (0)	0 (0)	15 (0)
TOTAL	8 (0)	37 (0)	5 (0)	50 (0)

2022 Forecast Year (Development + TEMPRO growth)

TO FROM (pcus)	B2132 south	Site Access	B2132 north	TOTAL
B2132 south	0 (0)	22 (0)	368 (11)	390 (11)
Site access	8 (0)	0 (0)	5 (0)	13 (0)
B2132 north	148 (11)	15 (0)	0 (0)	163 (11)

TOTAL	156 (11)	37 (0)	373 (11)	576 (22)
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8 Assessment of Transport Impact

Highway Network Impacts

- 8.1 The additional vehicle trips generated by a total development of 108 units are around 54 in the AM peak hour and 50 in the PM peak hour. Excluding the approved development of 38 units, which would generate around 20 vehicle trips in the AM and PM peak hours, the net impact of an additional development of 70 units would be 35 and 32 two-way trips in the AM and PM peaks. This would not have a severe material impact on the operation or safety of the local highway network and, overall, the additional vehicles can be easily accommodated.
- 8.2 A capacity assessment of the development access with North End Road is undertaken to demonstrate a simple priority junction can accommodate the additional vehicle flows with no queueing expected.
- 8.3 The following table provides a summary of the junction assessment undertaken using the appropriate industry standard highway capacity software programme, PICADY. As shown, RFC figures are well below the indicative 0.85 of operational capacity. Therefore, the junction layout as proposed in relation to the approved application remains sufficient. Full PICADY output data is presented in **Appendix G**.

Table 8.1 PICADY junction assessment summary – North End Road/Site Access

	2022 Forecast Traffic Development	
	AM	PM
Max RFC		
Site access (B) to North End Road (A&C)	0.126	0.051
North End Road north (C) to North End Road south (A) and site access (B)	0.014	0.043
Max Q		
Site access (B) to North End Road (A&C)	0.1	0.1
North End Road north (C) to North End Road south (A) and site access (B)	0.1	0.1

Impact on Yapton level crossing

- 8.4 WSCC Highways requested consideration is given to the impact on the Yapton level crossing.
- 8.5 Based on the likely trip generation and distribution, when the total 108 dwellings are considered, around 22 AM and 20 PM vehicle trips will use the level crossing. This is not likely to result in a severe impact on the basis of around 1 additional vehicle every 3 minutes arriving at the crossing

in both directions. As advised, by Clive Robey, Level Crossing Manager Network Rail in an email dated 5th April 2017, *'the addition of these movements should not make too much difference at the crossing.'* A copy of the email is contained in **Appendix H**.

- 8.6 Mr Robey also advised that Red Light Safety Equipment cameras were being installed in the next couple of weeks (when a vehicle goes over the white stop line when the red lights are flashing, the incident is captured on film and a prosecution will result). In addition, National Rail is proposing to install full barriers at the crossing in June 2018 which will provide improved safety at the barriers.

North End Road/Main Road Mini-roundabout

- 8.7 Consideration is given to the mini-roundabout junction of North End Road with the B2233 Main Road to the south of the site. The Pre-application feedback states, *'a junction assessment is required where a development results in an increase of 30 or more movements during any hour. It is not anticipated that the development triggers this threshold at any other location than the site access.'*
- 8.8 The additional development flows assigned to this junction for the 70 dwellings, are estimated to be around 21 vehicles in the AM peak hour and 18 vehicles in the PM peak and therefore would not impact significantly on the operation of the junction or trigger the threshold to require a further junction assessment.

Effect of Development on A259

- 8.9 Consideration is given to the effect on the Bilsham Road junction (known locally as Comet Corner) and the Yapton Road junction (known as Oystercatcher junction).
- 8.10 The distribution of traffic onto the A259 from the development assumes a 60/40 split, with 60% assigned to the east and 40% to the west. Therefore, the additional 70 dwellings in the AM peak there are likely to be around 15 outbound vehicle trips in the AM peak, of which 9 would use the Oystercatcher junction and 6 would use the Comet Corner junction. This is therefore a very minor impact on both junctions.
- 8.11 Taking the total development of 108 units as a whole, in the AM peak there are 24 outbound movements to the south (15vehs east/9vehs west) which represents a very small additional impact on both Oystercatcher (15 east) and the Comet Corner (9 west) junctions. It is understood that both junctions will also benefit from road safety and capacity improvements in the near future.

Effect of Development on A27

- 8.12 Consideration is given to the impact on the A27 as requested by the WSCC pre-application advice.
- 8.13 It is likely that the forecast up to 15 vehicles generated by the additional 70 dwellings and assigned to the A27 (north of the site) in both peak hours, do not create a significant material impact. Therefore, Highways England (responsible for trunk roads in England) are unlikely to raise an objection. At the time of writing Highways England had not responded to confirm this.

Sustainable Network Impacts

- 8.14 The 2011 Census journey to work data gives the modal choices for trips generated by Yapton residents in the area of the site as shown in **Table 8.2**.

Table 8.2 – Mode Choice Yapton Employed Residents Journey to Work

Mode/%	All	Train	Bus	Motor cycle	Car Driver	Car Passenger	Cycle	Walk	Other
Arun SOA 006C	100%*	6%	1%	0%	71%	5%	3%	5%	8%

*Note: Totals to nearest whole number

- 8.15 The pattern exhibited is typical of a development of this type in this type of rural village location. Whilst car use is likely to be the dominant mode, rail trips will also provide for many work based trips, given the proximity of Barnham railway station. These are likely to originate as car or cycle based trips to the station in the first instance.
- 8.16 Local bus services also provide an alternative means of accessing facilities within the nearby towns of Bognor Regis and Littlehampton and the bus stops adjacent to the site access provide for these trips.
- 8.17 The existing PROW running through the site would expect to be continued and provided, as previously agreed within the approved application (Y/93/14).
- 8.18 Also as part of the permitted development of 38 dwellings, a financial contribution was required towards highway improvements associated with Yapton Primary School which would also benefit the pedestrian network in the site's vicinity. With reference to the pre-application advice it is acknowledged that a financial contribution be sought towards sustainable access in proportion with the scale of the additional development.

- 8.19 Overall the additional person trips generated by the site would not have a material impact on local bus services and on walk and cycle infrastructure serving the site.

9 Travel Plan Framework

Context

- 9.1 A housing development of 70 dwellings would normally require a Travel Plan Statement, in line with previous DfT guidance which is referred to by WSCC in their Transport Assessment Methodology, dated June 2007. Often this would involve the production of a Travel Plan Welcome Pack for first occupants of a dwelling.
- 9.2 However, WSCC advised within the Pre-application advice in **Appendix B** that a full Travel Plan would be required if the approved application of 38 dwellings was implemented (totalling 108 dwellings) including a Residential Travel Welcome Pack. This would usually require monitoring through annual travel surveys.
- 9.3 This section of the Transport Statement briefly sets out the draft form and content of a Travel Plan for this proposed development, which will be in the following general format:

Introduction

- ✦ Background (reason for report, relevant site history etc.)
- ✦ Policy Framework

Site Audit

(Transport Statement summary)

- ✦ Site Location
- ✦ Existing Site Use (Use Class, size, parking, access etc.)
- ✦ Proposed Site Use (Use Class, size, parking, access etc.)
- ✦ Site Transport Accessibility
- ✦ Site Access to Key and Local Amenities

Site Travel Characteristics

(Transport Statement summary)

- ✦ Site Proposals Trip Generations and mode choice
- ✦ Movement Impacts and Mitigation (public transport, walk, cycle, highways)
- ✦ Parking Provision (vehicle spaces, disabled spaces, PTW spaces, cycle spaces)
- ✦ Servicing / Emergency vehicle access

Travel Plan Components

(Considered in more detail overleaf)

- ❖ Objectives
- ❖ Targets
- ❖ Responsibilities
- ❖ Mechanisms and Measures
- ❖ Action Plan
- ❖ Monitoring and Review

Travel Plan Components

Objectives

- 9.4 The Transport Statement has demonstrated that there are no transport impacts as a result of this proposed development that require mitigation to make the proposed development acceptable. Nonetheless, the applicant supports the principles of travel planning and its wider benefits.
- 9.5 The broad overall objectives of the Travel Plan will be to reduce car dependency and to promote and support the use of non-car modes where and when possible. This will manage transport impacts and also improve the health and quality of life of new and existing residents in the village.

Targets

- 9.6 DfT and WSCC guidance states that targets should be SMART:

Specific: saying precisely what is to be achieved

Measurable: over the duration of the target. It must allow for regular evaluation of the effectiveness of the target. Thus the target must use data which is easily collected and updated over the duration of the target.

Appropriate: and linked to overall objectives and aims

Realistic: in terms of their potential for being achieved over the duration of the target

Timed: The target must define a date or series of dates by which it is expected to be achieved”.

- 9.7 Appropriate SMART targets will be set within the Final Travel Plan for the site based upon the initial resident travel surveys. The targets will be monitored and reviewed following the monitoring survey. Targets need to be realistic and respect the nature of the site, and the existing transport and other characteristics of Yapton, including existing modal use for the journey to work, through use of Census data as provided in this TS or similar data sources.

Responsibilities

- 9.8 The developer should appoint a Travel Plan Co-ordinator to implement and administer the Travel Plan. The Travel Plan Co-ordinator will be responsible for the administration of the Plan, including

overseeing arrangements for the implementation of the Plan mechanisms and measures, the initial travel surveys, and for organising and managing on-going monitoring and review of the Plan. The Co-ordinator will be the main point of contact and will liaise with key stakeholders such as the County Council.

- 9.9 The Travel Plan Co-ordinator will report to a Travel Plan Steering Group made up of representatives of the developer, management company, local councils and residents groups (as appropriate). The Steering Group will be responsible for ensuring funding for Travel Plan mechanisms and measures included in the Action Plan.

Mechanisms and Measures

- 9.10 Mechanisms and measures potentially suited to this site and the objectives of the Travel Plan include:

Walking

There is great potential for promoting walking as a means of accessing local facilities. To encourage this measures could include:

- ✦ Displaying information and advice concerning safe pedestrian routes to and from the site at a location accessible to residents.
- ✦ Displaying information on a new bespoke website;
- ✦ Distributing information to all new residents as part of the travel welcome packs.

Cycling

The following measures to promote cycling as a means of accessing local facilities could also be promoted by measures including:

- ✦ Displaying information and advice concerning safe cycle routes in a location accessible to residents;
- ✦ Displaying information on a new bespoke website;
- ✦ Distributing information to all new residents as part of the travel welcome packs.

Public Transport

Promotion of the use of public transport for accessing facilities further from the site could be encouraged through measures such as:

- ✦ Displaying up-to-date details of bus services, including bus stop locations, route information and service frequencies, in a location accessible to residents;
- ✦ Displaying route disruption notices and alternative routes, when essential maintenance is in place;
- ✦ Providing details of ticketing options to residents;
- ✦ Provision of up to date bus timetables and rail maps;

- Displaying information on a new bespoke website;
- Distributing information to all new residents as part of the travel welcome packs.

Car Sharing

- Promotion of car sharing and a reduction in the proportion of single-occupancy car use;
- Car use could be promoted through an internet based car share scheme either site-bespoke or linking with wider area car sharing initiatives.

- 9.11 The welcome packs should show local footways, cycle routes, bus stops and bus services, together with information on the site Travel Plan contact details for the Travel Plan Co-ordinator, and links to the bespoke website.

10 Conclusions

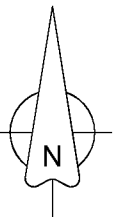
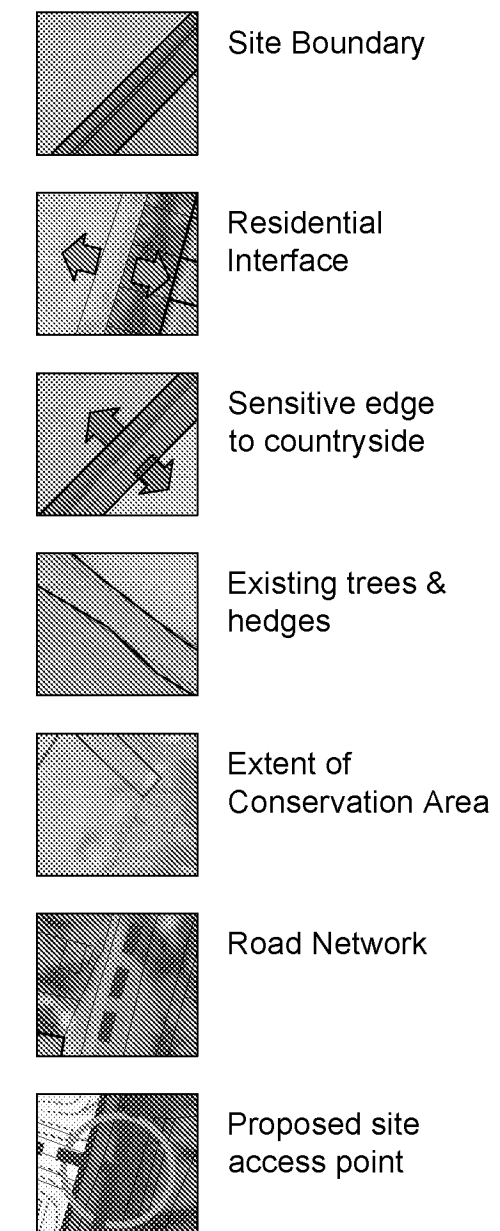
- 10.1 The site lies on the northern periphery of Yapton village, off the B2132 North End Road, adjacent to residential and employment areas and approximately 800metres from the village centre. The site is an open field and is occasionally used for the grazing of livestock.
- 10.2 Outline planning consent was also received on 5th August 2015 (Ref: Y/93/14/OUT) for the erection of 38 dwellings with access off North End Road. It is proposed that the additional development of 70 dwellings would be served by the same vehicular access, proposed as a simple priority junction. The form of access to the site has been agreed with West Sussex County Council Development Planning officers and a capacity assessment demonstrated the suitability of the junction.
- 10.3 Trip rates and distribution have been determined and the proposed development of 70 dwellings would generate 35 two-way vehicle trips in the AM peak hour and 32 two-way vehicle trips in the PM peak hour. This will have no material impact on the operation or safety of the local highway network. When distributed over the network, on the basis of the existing flows, the additional vehicle trips are less than the threshold of 30 vehicles, that would require junction capacity assessments as required by WSCC.
- 10.4 Consideration has been given to the impact on the Yapton level crossing. It was concluded that only an additional 22 vehicles will be likely to use the crossing at peak hours and in consultation with Network Rail, this is not considered to be a material impact.
- 10.5 Consideration was given to the impact on the strategic network routes of the A27 to the north of the site and the A259 to the south. No more than 15 vehicles were forecast to the A27 and A259 as a result of the proposed 70 dwellings. Taking the total development of 108 units, less than 25 additional vehicles will be expected during peak hours which does not represent a significant material impact.
- 10.6 Analysis of Personal Injury Accident data has shown that for the past 5 years there is no pattern of accidents in the vicinity of the site that require mitigation measures. 1 serious accident was recorded in 2013 approximately 335metres north of the proposed site access.
- 10.7 There are many amenities within walking and cycling distance from the site. Within the village the residents of the proposed development will be able to access shopping, medical, community and education facilities, many within 950metres, and bus stops are located in North End Road, adjacent to the site.

- 10.8 Car parking will be provided on site to meet West Sussex County Council standards and comply with the WSCC Parking Demand Calculator. A total of 166 parking spaces are proposed which is estimated to accommodate the likely car parking demand. Cycle parking will be provided in accordance with the WSCC standards.
- 10.9 Refuse collection and emergency vehicles can access the residential dwellings via the internal streets and are able to turn and exit the site in forward gear using the turning heads. A swept path analysis has been undertaken to demonstrate the suitability of the layout for large vehicles. Bin carry distances do not exceed MfS guidelines of 25metres for refuse collectors or 30metres for residents.
- 10.10 Overall, there are no material highway or transport impacts as a result of the proposed residential development which is in a good location, close to the village centre and local primary school.

Appendix A

Site Location Plan

This information relates only to 'Significant Hazards' identified on this drawing and is to be read in conjunction with the Designer's Risk Assessment Register.



Rev	Date	Revision Details	Dr	Ch
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ECE Architecture
www.ecearchitecture.com

Client's Name

Mr P Bucknell

Job Title

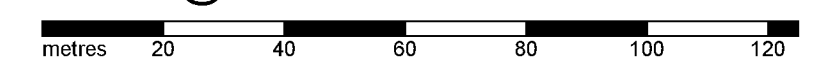
Land at Stakers Farm,
North End Road, Yapton

Drawing Title

Constraints Plan

Scale

1:1250 @ A2



Drawn	Checked	Date
KE	AK	22.03.17

Job No	Drawing No	Rev
6468	01	

Status

PRELIMINARY

CAD Plot date: 22/03/2017 - 14:08:33

6468 site.dwg

Appendix B

WSCC Development Planning Pre-application advice

**WEST SUSSEX COUNTY COUNCIL
STRATEGIC PLANNING CONSULTATION**

DATE: 13th April 2017

**FROM: Dominic Smith TO: GTA Civils
FAO: Richard Wells**

SUBJECT: PRE-011-17

With regards to submitting an outline planning application for 79 dwellings at Land north of Stakers Farm (see approved 38 unit application in 2015 Y/93/14).

Land north of Stakers Farm, North End Road, Yapton, BN18 0DU

RECOMMENDATION:

Advice	☐	Modification	☐	More Information	☐
Objection	☐	No Objection	☐	Refusal	☐

West Sussex County Council (WSSC), in its capacity as the Local Highway Authority (LHA), has been engaged for pre-application advice in relation to land north of Stakers Farm, Yapton. The proposed development is an extension to the development consented under Y/93/14. A further 79 dwellings are proposed.

Following the submission of a Scoping Note (March 2017), a meeting took place between Dominic Smith (WSSC) and Richard Wells (GTA). The following summarises the discussion and constitutes the pre-application advice of the LHA.

Trip Generation

It is acknowledged that trip rates have previously been agreed as part of consent Y/93/14. However, given the age of the data, it is recommended that a new trip rate calculation is undertaken. Mindful of the scale of development, it is unlikely that the trip generation will have a significant impact on the anticipated number of movements generated by the site.

The peak hours identified (0800-0900 and 1700-1800) are still considered to be acceptable.

PICADY Assessment

The assessment demonstrates that the previously consented junction arrangement is expected to work well within theoretical capacity. It is unlikely that any revision to the trip generation derived through a refresh of the TRICS assessment will materially affect the results.

There is no anticipated right hand queuing at the junction. A right hand turn provision is not required.

Capacity Assessment

Junction assessment is required where a development results in an increase of 30 or more movements during any hour. It is not anticipated that the development triggers this threshold at any other location than the site access.

The emerging Arun Local Plan has been subject of a transport study, which has now been formally approved by Arun District Council. Within this document, a number of junctions have been identified as being subject to a 'severe cumulative impact'. This includes the following.

- Junctions on the A27 – it is recommended that Highways England are engaged on the development proposals
- Yapton Level Crossing – it is recommended that Network Rail are engaged regarding impact upon this junction
- Comet Corner and Oystercatcher Junctions on the A259 – it is recommended that consideration be given to the volume of traffic generated by the development that will route through these junctions

Accessibility

Both the Yapton Neighbourhood Plan and the emerging Arun Local Plan places an emphasis on access by sustainable modes of transport. Given the scale of the development, combined with the existing consented development, it is considered that the quantum of development now has the critical mass required to encourage modal shift. The following is recommended:

- Options be explored to introduce a pedestrian connection towards the south of the site through to North End Lane, to minimise the journey distance for residents at the southern end of the development site
- Consideration is given as to whether any pedestrian or cycle improvements can be made along North End towards services and facilities to the south
- A Travel Plan be produced, that incorporates consent Y/93/14
- A financial contribution may be sought to enhance sustainable access, or to deliver improvements identified in the Arun Local Plan, in the locality of the site. Whilst TAD is not applied in the Arun District, the methodology could be utilised to determinate a contribution which is proportional to the scale of development.

Dominic Smith
Strategic Planning

Appendix C

Proposed Development Layout

INDICATIVE ONLY



Accommodation Schedule	
Affordable Dwellings (30%)	
Affordable Rent	
4no. 1-Bed Flats	
11no. 2-Bed House	
5no. 3-Bed House	
1no. 4-Bed House	
Open Market Dwellings	
4no. 2-Bed House	
38no. 3-Bed House	
7no. 4-Bed House	
70no. Total Dwellings	
Car Parking	1 space per 1-bedroom flat 2 spaces per 2 and 3 bedroom dwellings 4 spaces per 4-bedroom house 14 Visitors spaces throughout site
Cycle Parking	2 spaces per House in rear garden stores or garages
Gross Site Area	3.00Ha
Density	23dw/Ha



B	19.05.17	Revised following landscape proposal	FB	KE
A	10.04.17	Possible school land added shown hatched	KE	AK
Rev	Date	Revision Details	Dr	Ch

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ECE Architecture

Client's Name
Granite Gate Limited

Job Title
Land at Stakers Farm,
North End Road, Yapton

Drawing Title
Site Layout

Scale
1:500 @ A0 / 1:1000 @ A2

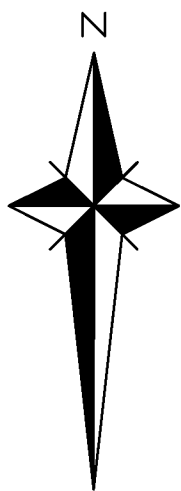
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Job No 6468 Drawing No 03 Rev B

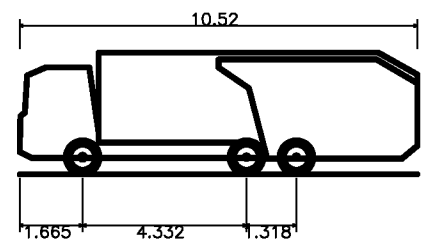
Status
APPROVAL

Appendix D

Swept Path Analysis



- GENERAL NOTES
1. The location, size, depth and identification of existing services that may be shown or referred to on this drawing have been assessed from non intrusive observations, record drawings or the like. The contractor shall safely carry out intrusive investigations, trial holes or soundings prior to commencing work to satisfy himself that it is safe to proceed and that the assessments are accurate. any discrepancies shall be notified to gta prior to works commencing.
 2. Tender or billing drawings shall not be used for construction or the ordering of materials.
 3. Do not scale. All dimensions and levels to be site confirmed.
 4. This drawing shall be read in conjunction with all relevant architects, consultants drawings and specifications, together with H&S plan requirements
 5. Copyright : This drawing must not be copied, amended nor reproduced without the prior written agreement of gta.
 6. All drawings specifications and recommendations made by gta are subject to Local Authority and other relevant Statutory Authorities approval. Any works or services made abortive due to the client proceeding prior to these approvals is considered wholly at the Clients risk. gta hold no responsibility for resulting abortive works or costs.



Phoenix 2-23W (with Elite 2 6x2 RS chassis)
Overall Length 10.520m
Overall Width 2.530m
Overall Body Height 3.211m
Min Body Ground Clearance 0.416m
Track Width 2.530m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 7.500m

Rev	INITIAL ISSUE	20.04.2017	JMW	LS	
	Amendments	Date	Des	CHK	
Status					
PRELIMINARY					
Client					
ECE PLANNING					
Architect					
Project					
LAND NORTH OF STAKERS FARM NORTH END ROAD, YAPTON					
Title					
VEHICLE TRACKING					
Date	April 2017	Scale @ A1	1:500		
Clients Ref.	Project Ref.		6678		
 Gloucester House, 66a Church Walk, Burgess Hill, West Sussex, RH15 9AS Tel:01444 871444 Web: www.gtacivils.co.uk					
Drawing Number			Rev.		
6678/100			-		



Appendix E

WSCC Parking Demand Calculator

This parking demand tool has been compiled by West Sussex County Council. If you have queries relating to the information provided or require additional information please contact darryl.hemmings@westsussex.gov.uk.

Please input the ward name for your development location below by double clicking in the box or click box and use the drop down menu to the right of the box. The spreadsheet will automatically show the District and Ward of this location. If the ward is not known please input postcode into the Ward Finder. The tool will allow input up to 3 wards in the boxes below. Please refer to notes for more details.

Ward 1	Yapton
District	Arun
Ward 2	Barnham
District	Arun
Ward 3	Walberton
District	Arun
Ward Tempro Factor 2009-2026	1.050624
District Tempro Factor 2009-2026	1.067644



west
sussex
county
council

Ward Finder

Postcode	BN180DU	Ward	Yapton Ward
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Note:

No special provision need be made for visitors where at least half of the total parking provision with a development is unallocated. In other circumstances, it may be appropriate to allow for a demand for visitor parking of up to 0.2 spaces per dwelling.

In areas of parking constraint, levels of provision below predicted demand may be applicable.

The tool is expressed as number of Rooms (Per Unit). If data is not available in this format and Bedrooms is used this will need to be converted. A general guide for conversion is as follows below in some cases.

Houses	Flats
1 bed = 3 rooms	Studio = 1 room
2 bed = 4 rooms	1 bed = 2 rooms
3 bed = 5 rooms	2 bed = 3 rooms
4 bed = 6 rooms	3 bed = 4 rooms
5 bed = 7 rooms	4 bed = 5 rooms

Garages will count as 1 space when allocating spaces.

Ward data used can be checked by the user by referring to the District-Ward Data Tables. The 'Tables highlight if the Census data does not include data for certain dwelling sizes. In such case ownership values have been obtained using the nearest sized dwelling with same tenure and vice example, if no data is available for a private house with 1 room then data for a private house with has been used. The Car Ownership Data is highlighted in purple where such an approach has been used. Where Census data contains small samples for certain sized dwellings this is highlighted in red green if <50 in the Total Demand column. In such cases, other wards should be selected to achieve sample size.

Report Summary Table

DEVELOPMENT MIX				
Ref.	Unit Type	Unit Tenure	Habitable Rooms (Per Unit)	No. of Units (Total)
A	Flats	Council/Housing Association (not including shared ownership)	2	4
B	Houses	Council/Housing Association (not including shared ownership)	4	11
C	Houses	Council/Housing Association (not including shared ownership)	5	5
D	Houses	Council/Housing Association (not including shared ownership)	6	1
E	Houses	Private	4	4
F	Houses	Private	5	38
G	Houses	Private	6	7
H				
I				
J				
K				
L				
M				
N				
O				
P				
Q				
R				
S				
Total				70

Spaces (Per Unit)
1
2
2
3+
2
2
3+

Appendix F

TRICS Analysis

Calculation Reference: AUDIT-349901-170407-0454

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

MULTI-MODAL VEHICLES

Selected regions and areas:

02 SOUTH EAST	
ES EAST SUSSEX	1 days
SC SURREY	1 days
WS WEST SUSSEX	1 days
03 SOUTH WEST	
SM SOMERSET	1 days
06 WEST MIDLANDS	
SH SHROPSHIRE	3 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
NY NORTH YORKSHIRE	2 days
08 NORTH WEST	
CH CHESHIRE	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: 10 to 151 (units:)
 Range Selected by User: 20 to 200 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 29/11/16

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Wednesday	1 days
Thursday	5 days
Friday	2 days

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

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	10
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This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	8
No Sub Category	2

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

Secondary Filtering selection:

Use Class:

C3 10 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	3 days
10,001 to 15,000	4 days
20,001 to 25,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	6 days
100,001 to 125,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5 10 days

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

Travel Plan:

Yes	2 days
No	8 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 10 days

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

LIST OF SITES relevant to selection parameters

1	CH-03-A-09	TERRACED HOUSES	CHESHI RE
	GREYSTOKE ROAD		
	HURDSFIELD		
	MACCLESFIELD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	24	
	Survey date: MONDAY	24/11/14	Survey Type: MANUAL
2	ES-03-A-02	PRIVATE HOUSING	EAST SUSSEX
	SOUTH COAST ROAD		
	PEACEHAVEN		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	37	
	Survey date: FRIDAY	18/11/11	Survey Type: MANUAL
3	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
4	NY-03-A-11	PRIVATE HOUSING	NORTH YORKSHIRE
	HORSEFAIR		
	BOROUGHBRIDGE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	23	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
5	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
6	SH-03-A-03	DETACHED	SHROPSHIRE
	SOMERBY DRIVE		
	BICTON HEATH		
	SHREWSBURY		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	10	
	Survey date: FRIDAY	26/06/09	Survey Type: MANUAL
7	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

LIST OF SITES relevant to selection parameters (Cont.)

8	SH-03-A-06	BUNGALOWS	SHROPSHIRE
	ELLESMERE ROAD		
	SHREWSBURY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	16	
	Survey date: THURSDAY	22/05/14	Survey Type: MANUAL
9	SM-03-A-01	DETACHED & SEMI	SOMERSET
	WEMBDON ROAD		
	NORTHFIELD		
	BRIDGWATER		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	33	
	Survey date: THURSDAY	24/09/15	Survey Type: MANUAL
10	WS-03-A-04	MIXED HOUSES	WEST SUSSEX
	HILLS FARM LANE		
	BROADBRIDGE HEATH		
	HORSHAM		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	151	
	Survey date: THURSDAY	11/12/14	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	10	49	0.098	10	49	0.322	10	49	0.420
08:00 - 09:00	10	49	0.139	10	49	0.365	10	49	0.504
09:00 - 10:00	10	49	0.141	10	49	0.173	10	49	0.314
10:00 - 11:00	10	49	0.122	10	49	0.157	10	49	0.279
11:00 - 12:00	10	49	0.139	10	49	0.159	10	49	0.298
12:00 - 13:00	10	49	0.133	10	49	0.131	10	49	0.264
13:00 - 14:00	10	49	0.165	10	49	0.147	10	49	0.312
14:00 - 15:00	10	49	0.151	10	49	0.167	10	49	0.318
15:00 - 16:00	10	49	0.255	10	49	0.182	10	49	0.437
16:00 - 17:00	10	49	0.267	10	49	0.151	10	49	0.418
17:00 - 18:00	10	49	0.343	10	49	0.122	10	49	0.465
18:00 - 19:00	10	49	0.196	10	49	0.129	10	49	0.325
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.149			2.205			4.354

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TAXIS

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	10	49	0.010	10	49	0.010	10	49	0.020
08:00 - 09:00	10	49	0.010	10	49	0.010	10	49	0.020
09:00 - 10:00	10	49	0.002	10	49	0.002	10	49	0.004
10:00 - 11:00	10	49	0.004	10	49	0.004	10	49	0.008
11:00 - 12:00	10	49	0.006	10	49	0.006	10	49	0.012
12:00 - 13:00	10	49	0.002	10	49	0.002	10	49	0.004
13:00 - 14:00	10	49	0.002	10	49	0.002	10	49	0.004
14:00 - 15:00	10	49	0.004	10	49	0.004	10	49	0.008
15:00 - 16:00	10	49	0.016	10	49	0.014	10	49	0.030
16:00 - 17:00	10	49	0.004	10	49	0.002	10	49	0.006
17:00 - 18:00	10	49	0.004	10	49	0.002	10	49	0.006
18:00 - 19:00	10	49	0.002	10	49	0.004	10	49	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.066			0.062			0.128

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL OGVS

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	10	49	0.000	10	49	0.000	10	49	0.000
08:00 - 09:00	10	49	0.002	10	49	0.002	10	49	0.004
09:00 - 10:00	10	49	0.002	10	49	0.000	10	49	0.002
10:00 - 11:00	10	49	0.004	10	49	0.004	10	49	0.008
11:00 - 12:00	10	49	0.002	10	49	0.002	10	49	0.004
12:00 - 13:00	10	49	0.002	10	49	0.002	10	49	0.004
13:00 - 14:00	10	49	0.004	10	49	0.000	10	49	0.004
14:00 - 15:00	10	49	0.000	10	49	0.004	10	49	0.004
15:00 - 16:00	10	49	0.002	10	49	0.000	10	49	0.002
16:00 - 17:00	10	49	0.000	10	49	0.002	10	49	0.002
17:00 - 18:00	10	49	0.000	10	49	0.000	10	49	0.000
18:00 - 19:00	10	49	0.000	10	49	0.000	10	49	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.018			0.016			0.034

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PSVS

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	10	49	0.000	10	49	0.000	10	49	0.000
08:00 - 09:00	10	49	0.000	10	49	0.000	10	49	0.000
09:00 - 10:00	10	49	0.000	10	49	0.000	10	49	0.000
10:00 - 11:00	10	49	0.000	10	49	0.000	10	49	0.000
11:00 - 12:00	10	49	0.004	10	49	0.004	10	49	0.008
12:00 - 13:00	10	49	0.000	10	49	0.000	10	49	0.000
13:00 - 14:00	10	49	0.000	10	49	0.000	10	49	0.000
14:00 - 15:00	10	49	0.000	10	49	0.000	10	49	0.000
15:00 - 16:00	10	49	0.000	10	49	0.000	10	49	0.000
16:00 - 17:00	10	49	0.000	10	49	0.000	10	49	0.000
17:00 - 18:00	10	49	0.000	10	49	0.000	10	49	0.000
18:00 - 19:00	10	49	0.000	10	49	0.000	10	49	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.004			0.004			0.008

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

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

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	49	0.008	10	49	0.016	10	49	0.024
08:00 - 09:00	10	49	0.002	10	49	0.029	10	49	0.031
09:00 - 10:00	10	49	0.000	10	49	0.008	10	49	0.008
10:00 - 11:00	10	49	0.004	10	49	0.014	10	49	0.018
11:00 - 12:00	10	49	0.002	10	49	0.002	10	49	0.004
12:00 - 13:00	10	49	0.006	10	49	0.004	10	49	0.010
13:00 - 14:00	10	49	0.012	10	49	0.006	10	49	0.018
14:00 - 15:00	10	49	0.006	10	49	0.002	10	49	0.008
15:00 - 16:00	10	49	0.010	10	49	0.004	10	49	0.014
16:00 - 17:00	10	49	0.020	10	49	0.008	10	49	0.028
17:00 - 18:00	10	49	0.029	10	49	0.006	10	49	0.035
18:00 - 19:00	10	49	0.004	10	49	0.002	10	49	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.103			0.101			0.204

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL VEHICLE OCCUPANTS

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	10	49	0.096	10	49	0.420	10	49	0.516
08:00 - 09:00	10	49	0.178	10	49	0.555	10	49	0.733
09:00 - 10:00	10	49	0.178	10	49	0.220	10	49	0.398
10:00 - 11:00	10	49	0.143	10	49	0.202	10	49	0.345
11:00 - 12:00	10	49	0.194	10	49	0.190	10	49	0.384
12:00 - 13:00	10	49	0.171	10	49	0.159	10	49	0.330
13:00 - 14:00	10	49	0.218	10	49	0.186	10	49	0.404
14:00 - 15:00	10	49	0.190	10	49	0.200	10	49	0.390
15:00 - 16:00	10	49	0.390	10	49	0.214	10	49	0.604
16:00 - 17:00	10	49	0.367	10	49	0.188	10	49	0.555
17:00 - 18:00	10	49	0.451	10	49	0.159	10	49	0.610
18:00 - 19:00	10	49	0.245	10	49	0.178	10	49	0.423
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.821			2.871			5.692

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PEDESTRIANS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	10	49	0.020	10	49	0.041	10	49	0.061
08:00 - 09:00	10	49	0.024	10	49	0.067	10	49	0.091
09:00 - 10:00	10	49	0.022	10	49	0.061	10	49	0.083
10:00 - 11:00	10	49	0.055	10	49	0.027	10	49	0.082
11:00 - 12:00	10	49	0.018	10	49	0.022	10	49	0.040
12:00 - 13:00	10	49	0.024	10	49	0.020	10	49	0.044
13:00 - 14:00	10	49	0.045	10	49	0.024	10	49	0.069
14:00 - 15:00	10	49	0.061	10	49	0.047	10	49	0.108
15:00 - 16:00	10	49	0.088	10	49	0.063	10	49	0.151
16:00 - 17:00	10	49	0.073	10	49	0.051	10	49	0.124
17:00 - 18:00	10	49	0.061	10	49	0.045	10	49	0.106
18:00 - 19:00	10	49	0.047	10	49	0.035	10	49	0.082
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.538			0.503			1.041

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL BUS/ TRAM PASSENGERS

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	10	49	0.000	10	49	0.012	10	49	0.012
08:00 - 09:00	10	49	0.000	10	49	0.002	10	49	0.002
09:00 - 10:00	10	49	0.000	10	49	0.002	10	49	0.002
10:00 - 11:00	10	49	0.000	10	49	0.004	10	49	0.004
11:00 - 12:00	10	49	0.000	10	49	0.000	10	49	0.000
12:00 - 13:00	10	49	0.000	10	49	0.000	10	49	0.000
13:00 - 14:00	10	49	0.000	10	49	0.000	10	49	0.000
14:00 - 15:00	10	49	0.002	10	49	0.000	10	49	0.002
15:00 - 16:00	10	49	0.002	10	49	0.002	10	49	0.004
16:00 - 17:00	10	49	0.008	10	49	0.002	10	49	0.010
17:00 - 18:00	10	49	0.004	10	49	0.000	10	49	0.004
18:00 - 19:00	10	49	0.006	10	49	0.000	10	49	0.006
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.022			0.024			0.046

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL TOTAL RAIL PASSENGERS

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	10	49	0.000	10	49	0.000	10	49	0.000
08:00 - 09:00	10	49	0.000	10	49	0.002	10	49	0.002
09:00 - 10:00	10	49	0.000	10	49	0.002	10	49	0.002
10:00 - 11:00	10	49	0.000	10	49	0.000	10	49	0.000
11:00 - 12:00	10	49	0.000	10	49	0.000	10	49	0.000
12:00 - 13:00	10	49	0.000	10	49	0.002	10	49	0.002
13:00 - 14:00	10	49	0.000	10	49	0.000	10	49	0.000
14:00 - 15:00	10	49	0.000	10	49	0.000	10	49	0.000
15:00 - 16:00	10	49	0.000	10	49	0.000	10	49	0.000
16:00 - 17:00	10	49	0.000	10	49	0.000	10	49	0.000
17:00 - 18:00	10	49	0.002	10	49	0.000	10	49	0.002
18:00 - 19:00	10	49	0.002	10	49	0.000	10	49	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.004			0.006			0.010

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

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL COACH PASSENGERS

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	10	49	0.000	10	49	0.000	10	49	0.000
08:00 - 09:00	10	49	0.000	10	49	0.000	10	49	0.000
09:00 - 10:00	10	49	0.000	10	49	0.000	10	49	0.000
10:00 - 11:00	10	49	0.000	10	49	0.000	10	49	0.000
11:00 - 12:00	10	49	0.000	10	49	0.000	10	49	0.000
12:00 - 13:00	10	49	0.000	10	49	0.000	10	49	0.000
13:00 - 14:00	10	49	0.000	10	49	0.000	10	49	0.000
14:00 - 15:00	10	49	0.000	10	49	0.000	10	49	0.000
15:00 - 16:00	10	49	0.000	10	49	0.000	10	49	0.000
16:00 - 17:00	10	49	0.000	10	49	0.000	10	49	0.000
17:00 - 18:00	10	49	0.000	10	49	0.000	10	49	0.000
18:00 - 19:00	10	49	0.000	10	49	0.000	10	49	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.000			0.000

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

MULTI-MODAL PUBLIC TRANSPORT USERS

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	10	49	0.000	10	49	0.012	10	49	0.012
08:00 - 09:00	10	49	0.000	10	49	0.004	10	49	0.004
09:00 - 10:00	10	49	0.000	10	49	0.004	10	49	0.004
10:00 - 11:00	10	49	0.000	10	49	0.004	10	49	0.004
11:00 - 12:00	10	49	0.000	10	49	0.000	10	49	0.000
12:00 - 13:00	10	49	0.000	10	49	0.002	10	49	0.002
13:00 - 14:00	10	49	0.000	10	49	0.000	10	49	0.000
14:00 - 15:00	10	49	0.002	10	49	0.000	10	49	0.002
15:00 - 16:00	10	49	0.002	10	49	0.002	10	49	0.004
16:00 - 17:00	10	49	0.008	10	49	0.002	10	49	0.010
17:00 - 18:00	10	49	0.006	10	49	0.000	10	49	0.006
18:00 - 19:00	10	49	0.008	10	49	0.000	10	49	0.008
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.026			0.030			0.056

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

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	10	49	0.124	10	49	0.490	10	49	0.614
08:00 - 09:00	10	49	0.204	10	49	0.655	10	49	0.859
09:00 - 10:00	10	49	0.200	10	49	0.294	10	49	0.494
10:00 - 11:00	10	49	0.202	10	49	0.247	10	49	0.449
11:00 - 12:00	10	49	0.214	10	49	0.214	10	49	0.428
12:00 - 13:00	10	49	0.202	10	49	0.186	10	49	0.388
13:00 - 14:00	10	49	0.276	10	49	0.216	10	49	0.492
14:00 - 15:00	10	49	0.259	10	49	0.249	10	49	0.508
15:00 - 16:00	10	49	0.490	10	49	0.284	10	49	0.774
16:00 - 17:00	10	49	0.469	10	49	0.249	10	49	0.718
17:00 - 18:00	10	49	0.547	10	49	0.210	10	49	0.757
18:00 - 19:00	10	49	0.304	10	49	0.214	10	49	0.518
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.491			3.508			6.999

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: 10 - 151 (units:)
 Survey date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

Calculation Reference: AUDIT-349901-170407-0454

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

MULTI-MODAL VEHICLES

Selected regions and areas:

02 SOUTH EAST	
ES EAST SUSSEX	1 days
SC SURREY	1 days
WS WEST SUSSEX	1 days
03 SOUTH WEST	
SM SOMERSET	1 days
06 WEST MIDLANDS	
SH SHROPSHIRE	3 days
07 YORKSHIRE & NORTH LINCOLNSHIRE	
NY NORTH YORKSHIRE	2 days
08 NORTH WEST	
CH CHESHIRE	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: 10 to 151 (units:)
 Range Selected by User: 20 to 200 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 29/11/16

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Wednesday	1 days
Thursday	5 days
Friday	2 days

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

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town	10
--------------	----

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

Selected Location Sub Categories:

Residential Zone	8
No Sub Category	2

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

Secondary Filtering selection:

Use Class:

C3 10 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	3 days
10,001 to 15,000	4 days
20,001 to 25,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	6 days
100,001 to 125,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5 10 days

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

Travel Plan:

Yes	2 days
No	8 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 10 days

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

LIST OF SITES relevant to selection parameters

1	CH-03-A-09	TERRACED HOUSES	CHESHI RE
	GREYSTOKE ROAD		
	HURDSFIELD		
	MACCLESFIELD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	24	
	Survey date: MONDAY	24/11/14	Survey Type: MANUAL
2	ES-03-A-02	PRIVATE HOUSING	EAST SUSSEX
	SOUTH COAST ROAD		
	PEACEHAVEN		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	37	
	Survey date: FRIDAY	18/11/11	Survey Type: MANUAL
3	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
4	NY-03-A-11	PRIVATE HOUSING	NORTH YORKSHIRE
	HORSEFAIR		
	BOROUGHBRIDGE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	23	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
5	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
6	SH-03-A-03	DETACHED	SHROPSHIRE
	SOMERBY DRIVE		
	BICTON HEATH		
	SHREWSBURY		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	10	
	Survey date: FRIDAY	26/06/09	Survey Type: MANUAL
7	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

LIST OF SITES relevant to selection parameters (Cont.)

8	SH-03-A-06	BUNGALOWS	SHROPSHIRE
	ELLESMERE ROAD		
	SHREWSBURY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	16	
	Survey date: THURSDAY	22/05/14	Survey Type: MANUAL
9	SM-03-A-01	DETACHED & SEMI	SOMERSET
	WEMBDON ROAD		
	NORTHFIELD		
	BRIDGWATER		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	33	
	Survey date: THURSDAY	24/09/15	Survey Type: MANUAL
10	WS-03-A-04	MIXED HOUSES	WEST SUSSEX
	HILLS FARM LANE		
	BROADBRIDGE HEATH		
	HORSHAM		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	151	
	Survey date: THURSDAY	11/12/14	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	10	49	0.098	10	49	0.322	10	49	0.420
08:00 - 09:00	10	49	0.139	10	49	0.365	10	49	0.504
09:00 - 10:00	10	49	0.141	10	49	0.173	10	49	0.314
10:00 - 11:00	10	49	0.122	10	49	0.157	10	49	0.279
11:00 - 12:00	10	49	0.139	10	49	0.159	10	49	0.298
12:00 - 13:00	10	49	0.133	10	49	0.131	10	49	0.264
13:00 - 14:00	10	49	0.165	10	49	0.147	10	49	0.312
14:00 - 15:00	10	49	0.151	10	49	0.167	10	49	0.318
15:00 - 16:00	10	49	0.255	10	49	0.182	10	49	0.437
16:00 - 17:00	10	49	0.267	10	49	0.151	10	49	0.418
17:00 - 18:00	10	49	0.343	10	49	0.122	10	49	0.465
18:00 - 19:00	10	49	0.196	10	49	0.129	10	49	0.325
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.149			2.205			4.354

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
 Survey date range: 01/01/09 - 29/11/16
 Number of weekdays (Monday-Friday): 10
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

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	10	49	0.124	10	49	0.490	10	49	0.614
08:00 - 09:00	10	49	0.204	10	49	0.655	10	49	0.859
09:00 - 10:00	10	49	0.200	10	49	0.294	10	49	0.494
10:00 - 11:00	10	49	0.202	10	49	0.247	10	49	0.449
11:00 - 12:00	10	49	0.214	10	49	0.214	10	49	0.428
12:00 - 13:00	10	49	0.202	10	49	0.186	10	49	0.388
13:00 - 14:00	10	49	0.276	10	49	0.216	10	49	0.492
14:00 - 15:00	10	49	0.259	10	49	0.249	10	49	0.508
15:00 - 16:00	10	49	0.490	10	49	0.284	10	49	0.774
16:00 - 17:00	10	49	0.469	10	49	0.249	10	49	0.718
17:00 - 18:00	10	49	0.547	10	49	0.210	10	49	0.757
18:00 - 19:00	10	49	0.304	10	49	0.214	10	49	0.518
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.491			3.508			6.999

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: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 10 - 151 (units:)
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 Number of Sundays: 0
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 Surveys manually removed from selection: 0

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

Appendix G

PICADY Junction Assessment Output Data

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.1 ANALYSIS PROGRAM
RELEASE 5.0 (JUNE 2010)

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TRL SOFTWARE SALES
TEL: CROWTHORNE (01344) 770758, FAX: 770356
EMAIL: software@trl.co.uk

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS/HER RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"C:\Program Files (x86)\PICADY 5\6678 STAKERS FARM YAPTON\6678 Stakers Farm 2022 PM+dev.vpi"
(drive-on-the-left) at 10:06:05 on Thursday, 30 March 2017

RUN INFORMATION

RUN TITLE : Stakers Farm Yapton 2022 PM+dev
LOCATION :
DATE : 21/03/17
CLIENT :
ENUMERATOR : rnew
JOB NUMBER : 6678
STATUS :
DESCRIPTION : Stakers Farm Yapton 2022 PM+dev

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS NORTH END ROAD south
ARM B IS SITE ACCESS
ARM C IS NORTH END ROAD north

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

Demand set: Stakers Farm Yapton 2022 PM+dev

I		I	TURNING PROPORTIONS								I			
I		I	TURNING COUNTS								I			
I		I	(PERCENTAGE OF H.V.S)								I			
I			-----											
I	TIME	I	FROM/TO	I	ARM	A	I	ARM	B	I	ARM	C	I	
I			-----											
I	16.45 - 18.15	I		I		I		I		I		I		
I		I	ARM	A	I	0.000	I	0.071	I	0.929	I			
I		I			I	0.0	I	28.0	I	368.0	I			
I		I			I	(0.0)	I	(0.0)	I	(0.3)	I			
I		I			I		I		I		I			
I		I	ARM	B	I	0.579	I	0.000	I	0.421	I			
I		I			I	11.0	I	0.0	I	8.0	I			
I		I			I	(0.0)	I	(0.0)	I	(0.0)	I			
I		I			I		I		I		I			
I		I	ARM	C	I	0.886	I	0.114	I	0.000	I			
I		I			I	148.0	I	19.0	I	0.0	I			
I		I			I	(0.7)	I	(0.0)	I	(0.0)	I			
I		I			I		I		I		I			

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	16.45-17.00										I
I	B-AC	0.24	7.45	0.032		0.00	0.03	0.5		0.14	I
I	C-AB	0.29	10.76	0.027		0.00	0.03	0.5		0.10	I
I	C-A	1.81									I
I	A-B	0.35									I
I	A-C	4.62									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	17.00-17.15										I
I	B-AC	0.28	7.20	0.040		0.03	0.04	0.6		0.14	I
I	C-AB	0.36	10.78	0.033		0.03	0.04	0.7		0.10	I
I	C-A	2.15									I
I	A-B	0.42									I
I	A-C	5.51									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	17.15-17.30										I
I	B-AC	0.35	6.84	0.051		0.04	0.05	0.8		0.15	I
I	C-AB	0.46	10.82	0.043		0.04	0.06	0.9		0.10	I
I	C-A	2.60									I
I	A-B	0.51									I
I	A-C	6.75									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	17.30-17.45										I
I	B-AC	0.35	6.84	0.051		0.05	0.05	0.8		0.15	I
I	C-AB	0.46	10.82	0.043		0.06	0.06	0.9		0.10	I
I	C-A	2.60									I
I	A-B	0.51									I
I	A-C	6.75									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	17.45-18.00										I
I	B-AC	0.28	7.20	0.040		0.05	0.04	0.6		0.14	I
I	C-AB	0.36	10.78	0.033		0.06	0.04	0.7		0.10	I
I	C-A	2.15									I
I	A-B	0.42									I
I	A-C	5.51									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	18.00-18.15										I
I	B-AC	0.24	7.45	0.032		0.04	0.03	0.5		0.14	I
I	C-AB	0.29	10.76	0.027		0.04	0.03	0.5		0.10	I
I	C-A	1.81									I
I	A-B	0.35									I
I	A-C	4.62									I

WARNING NO MARGINAL ANALYSIS OF CAPACITIES AS MAJOR ROAD BLOCKING MAY OCCUR

QUEUE FOR STREAM B-AC

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

QUEUE FOR STREAM C-AB

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
17.00	0.0
17.15	0.0
17.30	0.1
17.45	0.1
18.00	0.0
18.15	0.0

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I	I	I	I	I	* DELAY *	I	* DELAY *	I
I	I	I	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
I	B-AC	I	26.2	I 17.4	I 3.8	I 0.15	I 3.8	I 0.15
I	C-AB	I	33.2	I 22.1	I 4.2	I 0.13	I 4.2	I 0.13
I	C-A	I	196.7	I 131.1	I	I	I	I
I	A-B	I	38.5	I 25.7	I	I	I	I
I	A-C	I	506.5	I 337.7	I	I	I	I
I	ALL	I	801.1	I 534.1	I 8.0	I 0.01	I 8.0	I 0.01

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD
 * INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES
 WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD
 * THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS
 A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

*****END OF RUN*****

===== end of file =====

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF HIS/HER RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"C:\Program Files (x86)\PICADY 5\6678 STAKERS FARM YAPTON\6678 Stakers Farm 2022 AM+dev.vpi"
(drive-on-the-left) at 10:03:09 on Thursday, 30 March 2017

RUN INFORMATION

RUN TITLE : Stakers Farm Yapton 2022 AM+dev
LOCATION :
DATE : 21/03/17
CLIENT :
ENUMERATOR : rnew
JOB NUMBER : 6678
STATUS :
DESCRIPTION : Stakers Farm Yapton 2022 AM+dev

MAJOR/MINOR JUNCTION CAPACITY AND DELAY

INPUT DATA

MAJOR ROAD (ARM C) ----- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS NORTH END ROAD south
ARM B IS SITE ACCESS
ARM C IS NORTH END ROAD north

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B
STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C
ETC.

GEOMETRIC DATA

I	DATA ITEM	I	MINOR ROAD B	I
I	TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	I	(W) 6.30 M.	I
I	CENTRAL RESERVE WIDTH	I	(WCR) 0.00 M.	I
I		I		I
I	MAJOR ROAD RIGHT TURN - WIDTH	I	(WC-B) 2.20 M.	I
I	- VISIBILITY	I	(VC-B) 120.00 M.	I
I	- BLOCKS TRAFFIC (SPACES)	I	YES (0)	I
I		I		I
I	MINOR ROAD - VISIBILITY TO LEFT	I	(VB-C) 12.0 M.	I
I	- VISIBILITY TO RIGHT	I	(VB-A) 13.0 M.	I
I	- LANE 1 WIDTH	I	(WB-C) 2.75 M.	I
I	- LANE 2 WIDTH	I	(WB-A) 0.00 M.	I

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity will be adjusted)

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM B-C	STREAM A-C	STREAM A-B	I
I	616.30	0.24	0.09	I

I	Intercept For	Slope For Opposing	Slope For Opposing	Slope For Opposing	Slope For Opposing	I
I	STREAM B-A	STREAM A-C	STREAM A-B	STREAM C-A	STREAM C-B	I
I	475.74	0.22	0.09	0.14	0.31	I

I	Intercept For	Slope For Opposing	Slope For Opposing	I
I	STREAM C-B	STREAM A-C	STREAM A-B	I
I	643.46	0.25	0.25	I

(NB These values do not allow for any site specific corrections)

TRAFFIC DEMAND DATA

I	ARM	I	FLOW SCALE (%)	I
I	A	I	100	I
I	B	I	100	I
I	C	I	100	I

Demand set: Stakers Farm Yapton 2022 AM+dev

TIME PERIOD BEGINS 07.45 AND ENDS 09.15

LENGTH OF TIME PERIOD - 90 MIN.
LENGTH OF TIME SEGMENT - 15 MIN.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	ARM	I	NUMBER OF MINUTES FROM START WHEN	I	RATE OF FLOW (VEH/MIN)	I
I		I	FLOW STARTS I TOP OF PEAK I FLOW STOPS	I	BEFORE I AT TOP I AFTER	I
I		I	TO RISE I IS REACHED I FALLING	I	PEAK I OF PEAK I PEAK	I
I		I	I	I	I	I
I	ARM A	I	15.00 I 45.00 I 75.00	I	1.81 I 2.72 I 1.81	I
I	ARM B	I	15.00 I 45.00 I 75.00	I	0.63 I 0.94 I 0.63	I
I	ARM C	I	15.00 I 45.00 I 75.00	I	5.40 I 8.10 I 5.40	I

Demand set: Stakers Farm Yapton 2022 AM+dev

I	I	I	TURNING PROPORTIONS						I					
I	I	I	TURNING COUNTS						I					
I	I	I	(PERCENTAGE OF H.V.S)						I					
I	I	I	-----						I					
I	TIME	I	FROM/TO	I	ARM	A	I	ARM	B	I	ARM	C	I	
I	I	I	-----											I
I	07.45 - 09.15	I	I	I	I	I	I	I	I	I	I	I	I	
I		I	ARM	A	I	0.000	I	0.062	I	0.938	I		I	
I		I			I	0.0	I	9.0	I	136.0	I		I	
I		I			I	(0.0)	I	(0.0)	I	(3.7)	I		I	
I		I			I		I		I		I		I	
I		I	ARM	B	I	0.600	I	0.000	I	0.400	I		I	
I		I			I	30.0	I	0.0	I	20.0	I		I	
I		I			I	(0.0)	I	(0.0)	I	(0.0)	I		I	
I		I			I		I		I		I		I	
I		I	ARM	C	I	0.986	I	0.014	I	0.000	I		I	
I		I			I	426.0	I	6.0	I	0.0	I		I	
I		I			I	(2.6)	I	(0.0)	I	(0.0)	I		I	
I		I			I		I		I		I		I	

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA
THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	07.45-08.00										I
I	B-AC	0.63	7.73	0.081		0.00	0.09	1.3		0.14	I
I	C-AB	0.12	13.64	0.009		0.00	0.01	0.1		0.07	I
I	C-A	5.30									I
I	A-B	0.11									I
I	A-C	1.71									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	08.00-08.15										I
I	B-AC	0.75	7.54	0.099		0.09	0.11	1.6		0.15	I
I	C-AB	0.15	14.19	0.011		0.01	0.01	0.2		0.07	I
I	C-A	6.32									I
I	A-B	0.13									I
I	A-C	2.04									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	08.15-08.30										I
I	B-AC	0.92	7.26	0.126		0.11	0.14	2.1		0.16	I
I	C-AB	0.21	14.92	0.014		0.01	0.02	0.2		0.07	I
I	C-A	7.72									I
I	A-B	0.17									I
I	A-C	2.50									I

I	TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)	I
I	08.30-08.45										I
I	B-AC	0.92	7.26	0.126		0.14	0.14	2.2		0.16	I
I	C-AB	0.21	14.92	0.014		0.02	0.02	0.2		0.07	I
I	C-A	7.72									I
I	A-B	0.17									I
I	A-C	2.50									I

TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN)
09.00-09.15									
B-AC	0.63	7.73	0.081		0.11	0.09	1.4		0.14
C-AB	0.12	13.64	0.009		0.01	0.01	0.1		0.07
C-A	5.30								
A-B	0.11								
A-C	1.71								

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.1
08.15	0.1
08.30	0.1
08.45	0.1
09.00	0.1
09.15	0.1

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
08.00	0.0
08.15	0.0
08.30	0.0
08.45	0.0
09.00	0.0
09.15	0.0

I	STREAM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I		
I		I		I	* DELAY *	I	* DELAY *	I		
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I		
I		I	(VEH)	(VEH/H)	I	(MIN)	(MIN/VEH)	I		
I	B-AC	I	68.8	I	45.9	I	10.2	I	0.15	I
I	C-AB	I	14.4	I	9.6	I	1.1	I	0.08	I
I	C-A	I	580.2	I	386.8	I		I		I
I	A-B	I	12.4	I	8.3	I		I		I
I	A-C	I	187.2	I	124.8	I		I		I
I	ALL	I	863.0	I	575.3	I	11.3	I	0.01	I

*****END OF RUN*****

Appendix H

Correspondence with Network Rail

Ulfkdug#Zhoov

Turp= Ureh|Fdyh#FdyhUreh|C qhwz runudbfr knA
Vhqw= 38#Dsub534 : #15-55
Wr= Ulfkdug#Z hov
Vxemhfw= UH#\dswrq#Jrdg2Q ruwk#Hgg#Jrdg#hyhd#furvbjj /#\dswrq/#Z hw#7xvvh{

Richard

Thank you for giving me the opportunity to comment.

The crossing is due to have RLSE (Red Light Safety Equipment) cameras installed in the next couple of weeks. Essentially this means that when a vehicle goes over the white stop line when the red lights are flashing, the incident is captured on film and a prosecution of at least 3 points and a fine (or worse) will take place. In addition, NR is proposing to install full barriers at the crossing in June of next year.

Therefore the addition of these movements shouldn't make too much difference at the crossing, however I should point out that if these movements do take place between 8-9am, it will bring the area at the school to a total standstill as many parents drop their children off by car. It's bad enough now, these movements will not be popular with the locals. Between 3-4pm is also not a good idea.

Kind regards,

Clive Robey
Level Crossing Manager
Barnham area
Network Rail South East Route



From: Richard Wells [REDACTED]
Sent: 05 April 2017 12:09
To: Robey Clive
Subject: Yapton Road/North End Road level crossing, Yapton, West Sussex

Hi Clive,

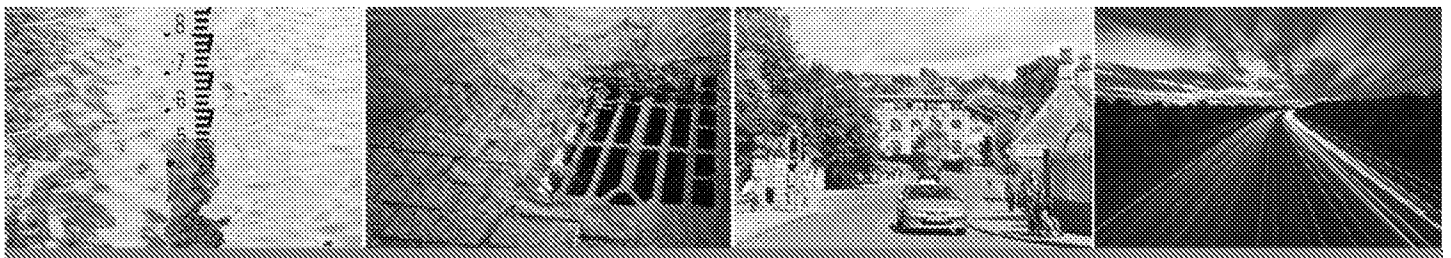
Dominic Smith of WSCC Highways gave me your contact details to inform you of a development of up to 79 dwellings units in Yapton, adjacent to Yapton Primary School, which will generate additional vehicle flows using the Yapton Road/North End Road level crossing.

There will be some additional vehicle movements of circa 20 two-way movements in the morning peak hour of 8-9am and similar in the PM peak. The presumption was that whilst this does not represent a material additional impact it is worth informing you.

Please advise if there is anything regards the level crossing that I should be aware of.

Regards

ARUN DISTRICT COUNCIL Y/44/17/OUT



Drainage - Flood Risk - Highways - Transport

GTA Civils, Gloucester House, 65a Church Walk, Burgess Hill, West Sussex, RH15 9AS