



**ANGELS NURSERY SITE, YAPTON
ROAD, BARNHAM, WEST SUSSEX**

Proposed Residential Development

Transport Assessment

**Prepared on behalf of the land owners
West Sussex County Council**

PMR/WSCC/09/1067/TA01

November 2009

RGP TRANSPORT PLANNERS & CIVIL ENGINEERS

Primrose Place, Portsmouth Road, Godalming, Surrey GU2 2JN • Tel: 01483 861681 • Fax: 01483 861682 • www.russellgiles.com

Vat Registration No. 771 9821 04 • Registered in England No. 4237910. Registered office: 1 Horsham Gates, North Street, Horsham, West Sussex RH13 5PJ



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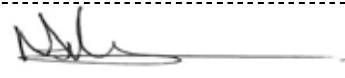
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1 INTRODUCTION

1.1 Background

- 1.1.1 Russell Giles Partnership (RGP) is instructed by the landowners, West Sussex County Council (WSCC) to advise on highway and transport planning matters in relation the proposed development of the Angels Nursery Site, Yapton Road, Barnham.
- 1.1.2 The proposed development site extends to 3.5 hectares in total area and is indicated edged red on Plan 01.
- 1.1.3 The developable area of the site (excluding proposed play areas & landscaped open space) is 3.3 hectares and the development of this area with up to 100 dwellings would produce a net residential density of 30 dph.
- 1.1.4 Plan 01 also indicates adjoining land in the ownership of WSCC which is leased to Barnham Parish Council.
- 1.1.5 This land is allocated for Public Open Space in the Arun District Local Plan 2003 and benefits from a detailed Planning permission for a replacement village Hall together with the erection of a terrace of 4 x 2 bed houses & 4 x 3 bed houses on the former village hall site and a relocation of the existing vehicular access onto Yapton Road (Council ref: BN/3/09).
- 1.1.6 This scheme is known as the "Barnham Community Scheme" and this report assumes that these proposals are to be implemented as approved as the residential proposals for the remainder of the WSCC owned land seek to maximise the potential for the two schemes to be delivered in a mutually beneficial and co-ordinated manner.
- 1.1.7 Vehicular access to the residential development forms part of the outline application and is to take the form of a new priority junction served by Yapton Road.
- 1.1.8 The proposed access would consolidate several existing access points that currently serve the existing uses on site to provide a single point of entry to the proposed development.
- 1.1.9 Since it is considered that there is a natural desire-line for pedestrians between Yapton Road and Church Lane, the development has been designed to facilitate that movement and to ensure that there would be maximum permeability through the development from both roads by way of footpaths and cycle-ways.



- 1.1.10 Safe and convenient crossing of pedestrians through the site access would be essential in order to maximise permeability so the proposal incorporates a pedestrian crossing point, with a central refuge island which would allow pedestrians to cross the Yapton Road carriageways in two stages, rather than both carriageways in one movement. This is particularly helpful for adults crossing with young children, or for the elderly.
- 1.1.11 The crossing refuge is proposed in the 'shadow' of the right-turn 'pocket', designed to facilitate turning of vehicles in to the site from the northwest, without impeding the ahead movements along Yapton Road. The design credentials of the proposed access are fully addressed under Section 5 of this report.

1.2 Report Scope and Structure

- 1.2.1 RGP has consulted with Highway Officers at WSCC to scope the extent of input required in preparing this TA. These consultations revealed that despite the relatively modest level of development proposed, a number of junctions would require detailed capacity assessment and appraisals as to safety.
- 1.2.2 At the request of WSCC, each of the junctions were surveyed by an independent survey company who undertook full classified turning counts at all junctions. Initial assessment work was undertaken by RGP to determine the base capacity of each of the junctions and the effects of the forthcoming Bognor Regis Relief Road (BRRR).
- 1.2.3 WSCC insisted that the results of the modelling associated with the BRRR be considered within this TA; this has been done and evidently the BRRR would enhance conditions on Yapton Road by diverting traffic from Yapton Road and its surrounding junctions on to the BRRR. Thus, consideration has been given to the alteration in distribution of traffic that would be brought by the completion of the BRRR, within this report.
- 1.2.4 RGP has agreed with WSCC a strategy for assessing the impact of the BRRR on the development proposals at Yapton Road. Details of the strategy are provided within this TA, which are essentially based on consideration of the Boreham flows for the 'base' scenario and the 'with development' (including BRRR) scenario. Factors demonstrating the difference in flows have therefore been applied to the data collected on behalf of RGP, in order to represent the change in traffic flow and distribution.



- 1.2.5 Following initial assessment undertaken by RGP, it was concluded that the location of the proposed development and the travel habits of residents of the local area is such that the proposed development would not significantly impact upon the majority of the junctions put forward for consideration by WSCC, and full consideration of the scope would not be warranted within this report. Further details of traffic impact are provided in Section 4 of this report, where RGP's assessment focuses principally on the junction of Barnham Road/Nyton Road/Fontwell Ave in Eastergate, known as the 'Eastergate Junction', which would be subjected to the greatest impact from the proposed development.
- 1.2.6 The other principal areas to be considered within this report, based on RGP's scoping discussions with WSCC, include the accessibility credentials (i.e. the sustainable alternative modes of travel available to prospective residents of the site), review of accident history for the local highway network, traffic generation and impact, and the proposed access arrangements and internal layout of the site.
- 1.2.7 Consideration is also given to any offsite works designed to mitigate traffic impact where the network is considered sensitive to the development traffic and includes the proposed improvements to the access arrangement for the site.
- 1.2.8 The remainder of this report comprises the following sections:
- (i) Section 2: Site Location and Accessibility Credentials;
 - (ii) Section 3: Review of Accident Records;
 - (iii) Section 4: Traffic Generation and Traffic Impact;
 - (iv) Section 5: Access Arrangement and Internal Layout;
 - (v) Section 6: Summary and Conclusions.

1.3 Transport Development Control Policy

- 1.3.1 This TA has been produced in accordance with the Department for Transport's (DfT) "Guidance on Transport Assessment" document. The DfT guidelines provide guidance on the content of TA's in relation to trip rates and traffic growth, for example.
- 1.3.2 This report has also been compiled with consideration of government Planning Policy Guidance in PPG13 'Transport', which highlights the Government's policies and targets for transportation. PPG13 sets out the framework for achieving sustainable development in relation to transport issues.
- 1.3.3 PPG13 states within Paragraphs 1-10 that when considering Planning Applications, local authorities should:



... "Actively manage the pattern of growth to make the fullest use of public transport, and focus major generators of travel demand in city, town and district centres and near to major public transport interchanges"....;

... "Ensure that development comprising jobs, shopping, leisure and services offers a realistic choice of access by public transport, walking and cycling, recognising that this may be less achievable in some rural areas"....;

... "Use parking policies, alongside other planning and transport measures, to promote sustainable transport choices and reduce reliance on the car for work and other journeys"....;

Give priority to people over ease of traffic movement and plan to provide more road space to pedestrians, cyclists and public transport in town centres, local neighbourhoods and other areas with a mixture of land uses;

- 1.3.4 To implement this, PPG 13 also advises that developers should submit a Transport Assessment alongside Planning Applications. Transport Assessments are technical documents designed to assess the transport impacts of the development. Paragraph 23 states that:

... "Where developments will have significant transport implications, Transport Assessments should be prepared and submitted alongside the relevant planning applications for development. Transport Assessments replace Traffic Impact Assessments, and the Department will issue good practice advice on their content and preparation. The coverage and detail of the Transport Assessment should reflect the scale of development and the extent of the transport implications of the proposal. For small schemes, the Transport Assessment should simply outline the transport aspects of the application. For major proposals, the assessment should illustrate accessibility to the site by all modes and the likely modal split of journeys to and from the site. It should also give details of proposed measures to improve access by public transport, walking and cycling, to reduce the need for parking associated with the proposal and to mitigate transport impacts. Where appropriate, a travel plan should be included"....

- 1.3.5 This TA has been compiled with consideration of these two documents following discussions with WSCC. A geographical scope of traffic assessment has been agreed between all parties, with full traffic surveys undertaken.



2 SITE LOCATION AND DESCRIPTION OF LOCALITY

2.1 Site Overview

- 2.1.1 Plan 01 appended hereto illustrates the location of the site in relation to the local highway network and nearby facilities.
- 2.1.2 B2233 Yapton Road is a District Distributor road, generally providing road links between the A259 to the south and the A27 to the north and passes through Barnham village centre to the west. Church Lane is a minor road, which together with other minor roads performs a local role for access, generally for residential and agricultural purposes.
- 2.1.3 The A259 district distributor provides links west with Bognor Regis and east with Littlehampton and beyond. Due to the nature of the strategic role of this coastal route, at peak times the A259 has areas of congestion and delay, particularly the local westbound stretch connecting with Bognor Regis. The proposed BRRR associated with the development of Site 6 would therefore help alleviate current congestion problems on parts of the A259.
- 2.1.4 The A27 Trunk Road to the north of Bognor Regis also has an important role in catering for longer distance travel along the south coast between Portsmouth in the west to Eastbourne in the east. The A27 is accessible to the site either via the A259 through Bognor Regis and linking with Chichester, or via the A29 for example, north via Fontwell. Another north route to the A27 (Crockerhill) is the B2233.
- 2.1.5 Yapton Road is subject to a 30 mph speed limit with many accesses for commercial and residential purposes local to the site; it could be described as semi-urban in character, with continuity of footways in the locality, mainly on the northern side of the carriageway. The highway is generally lit, and serves a number of local bus routes.
- 2.1.6 Yapton Road provides direct access to Barnham village centre, located approximately 500 metres west of the site, which provides a number of facilities and amenities within a short distance, including Barnham train station. Barnham has a variety of shops which meet the daily needs of the local community and these are generally in the vicinity of the train station.

2.2 Eastergate Junction

- 2.2.1 The 'Eastergate' junction is located approximately 2.5 kilometres to the north-west of the site at the point where Barnham Road forms a roundabout junction with the A29. The connecting arms of the A29 subsequently provide a direct link to the A27 in both directions.



- 2.2.2 The junction is subject to heavy traffic flows during each of the peak periods with vehicles travelling through the junction between the A27 and Bognor Regis.

2.3 Accessibility Credentials

Local Facilities

- 2.3.1 The location of the site is such that the development is well placed to take advantage of a good mix of services and facilities within a 2.0 kilometre walking distance, whilst public transport services are also within a short distance. The site is located approximately 500 metres (6 minutes walk) from Barnham village centre. The location of the site relative to its local facilities is illustrated on Plan 01 attached hereto.
- 2.3.2 Arun District Council's '*Settlement Sustainability Study*' produced in July 2007, provides guidance on the level of sustainability of the development site and the surrounding area. The study was produced for the Arun Local Development Framework. The guidance assesses the sustainability of the district's settlements to help inform decisions on the location of future residential and other development. Extracts from the Study are attached at **Appendix A**.
- 2.3.3 The Sustainability Study considers the location of settlements relative to facilities including, Educational, Local Health Services and a range of private and commercial services. The guidance provides a breakdown of the accessibility levels of site, and an accessibility score given, dependent upon the distance threshold to such services from the site.
- 2.3.4 The settlements are scored between 0.00–2.00+ ranging from Very Poor to Very Good accessibility. It is evident from the results of the assessment that the Barnham Settlement, within which the site lies, has a score of 1.63 and therefore is considered to have an overall 'good accessibility' level.
- 2.3.5 Table 7.4 of ADC's study provides a breakdown of the accessibility characteristics of the Barnham ward, within which the site lies, to a variety of important local facilities. Table 7.4 is summarised below:



Facility	Barnham Score	Barnham Accessibility Category	Eastergate Score	Eastergate Accessibility Category
Bank	2.33	Very Good Accessibility	1.00	Fair Accessibility
Bus	0.00	Very Poor Accessibility	3.00	Excellent Accessibility
Community Hall	0.78	Poor Accessibility	3.00	Excellent Accessibility
Food Store	2.56	Excellent Accessibility	2.50	Excellent Accessibility
Further Education	0.22	Poor Accessibility	2.00	Very Good Accessibility
G.P Surgery	0.78	Poor Accessibility	3.00	Excellent Accessibility
Petrol Station	0.22	Very Poor Accessibility	2.00	Very Good Accessibility
Pharmacy	2.56	Excellent Accessibility	1.00	Fair Accessibility
Place of Worship	1.00	Fair Accessibility	3.00	Excellent Accessibility
Post Office	2.56	Excellent Accessibility	2.50	Excellent Accessibility
Primary School	2.56	Excellent Accessibility	3.00	Excellent Accessibility
Secondary School	2.33	Very Good Accessibility	2.00	Very Good Accessibility
Train Station	2.22	Very Good Accessibility	0.50	Poor Accessibility

Table 2.1 – Summary of Accessibility Credentials – ‘Settlement Sustainability Study 2007’

2.3.6 The above Table 2.1 illustrates that Barnham provides a good level of essential facilities within the local vicinity of the site, with ‘Excellent’ accessibility to Food Stores, Pharmacy, Post Office, and Primary School, and ‘very good’ accessibility to Banks, Secondary Schools and stations. It is considered that the local facilities with an excellent and very good rating are the more frequent services that would be used by residents of the site to cater for their general day-to-day convenience and retail needs. The remaining facilities such as a Further Education Institutions, Community Hall, Petrol Station, Place of Worship and G.P Surgery would generally be used less frequently.

2.3.7 Eastergate village centre which provides further facilities, is located approximately 2.5 kilometres northwest of Barnham village centre, approximately 35 mins walk from the site, or a short cycle. Eastergate provides ‘Excellent Accessibility’ to the facilities that would be less frequently used by the development site, as well as further retail and educational needs. The Eastergate settlement would therefore provide an attractive trip for residents of the proposed development, who would find this slightly longer walk through Barnham to Eastergate a desirable alternative to the private car for the occasional visit to their, Place of Worship and Community Hall etc.



- 2.3.8 The proposed development of the western section of the site would provide further benefit to the accessibility score of the local area with the implementation of a recreation ground, picnic/park area and improved community hall facility.
- 2.3.9 Both of the settlement areas define the accessibility level for buses as 'very poor' within the sustainability statement. Yapton Road serves as a bus route with services passing the site in both directions between Bognor Regis and Yapton. The limited bus services are counteracted by the very good accessibility to rail facilities, with Barnham rail station located approximately 400 metres from the site. Based on Table 5.3 of the study, the site therefore benefits from a score of 1.11 and a fair level of accessibility to local public transport.
- 2.3.10 For needs further afield, whether for shopping, employment, education or leisure, residents of the new development, likely destinations include Brighton (east), Portsmouth/Southampton (west) or the Horsham area in the north. Local to the site, the principal settlements for such trips include Littlehampton and Worthing (east), Chichester (west) and Arundel in the north.

Walk/Cycle Provision

- 2.3.11 Walking links to and from the site are provided along Yapton Road, with good footway provision on both sides leading to Barnham village centre. Plan 01 illustrates the public pedestrian/cycle routes through Barnham and Eastergate village centres.
- 2.3.12 Several educational facilities are located close to the site, including Barnham Primary School and St Philip Howard Catholic High School. As reflected in the study, the existing education score is 2.56 (Excellent Accessibility). These facilities provide infant, junior, primary and secondary school education within a short walking distance. The locations of the local schools are illustrated on Plan 01.
- 2.3.13 Bognor Regis town centre is located approximately 9.5km to the south-west of Barnham. Bognor Regis is located within comfortable cycling distance from Barnham via a choice of designated cycle routes; these are shown on Plan 01.
- 2.3.14 Bognor Regis provides more significant employment opportunities within Bognor, including the industrial estates and retail parks close to the A29, for example the town centre itself provides a high concentration of employment needs with a wide range of shops and offices.



Bus Facilities

- 2.3.15 A section of Yapton Road to the south forms part of a bus route, with bus stops located on its both sides approximately 50 metres south of the site. The local bus service 66/66A operates in both directions offering a regular circuit to Bognor Regis town centre. All local services in the area are operated by Stagecoach. The routes of the local services are shown on **Plan 01**, with services summarised in **Table 2.2** below.

Service	Route	Frequency (Weekday)	
		Peak	Off-Peak
66/66A	Bognor Regis – Westergate – Barnham – Walberton – Yapton	Hourly	Hourly

Table 2.2 – Summary of Local Bus Services

- 2.3.16 Route 66/66A operates between Yapton and Bognor Regis high street, with an hourly frequency between 07:00 and 19:00 hours during Monday to Saturday.
- 2.3.17 The services commence in Bognor Regis High Street and travel north into Barnham following a circular route, via Yapton and Walberton before returning to the town centre via Barnham. The journey time from the site to Bognor Regis town centre is approximately 20 minutes.

Rail Facilities

- 2.3.18 Barnham railway station is located approximately 400 metres from the site. Direct services are provided north to London (Victoria) and east and west including Chichester, Brighton and Portsmouth.
- 2.3.19 These services operate regularly and provide access to further employment and retail services in alternative destinations. It is considered that the good transport facilities in the area along with the extensive retail and employment facilities provide potential for residents of the proposed development to travel by non-car means, particularly for regular commuting trips.

Summary

- 2.3.20 Based on the above, it is evident that a wide range of shopping and educational facilities are available by alternative modes to the private car. The site lies close to a village which provides a very good range of facilities and a main town centre (Bognor Regis) can be accessed realistically by cycle, or via regular and reliable public transport links nearby.



- 2.3.21 It is recognised by Arun District Council through local studies that the site has good accessibility to local facilities and very good links to public transport, thus reducing the reliance of the private vehicle.



3 REVIEW OF ACCIDENT RECORDS

3.1 Background

- 3.1.1 Accident records have been obtained from WSCC, for the period from July 2004 to June 2009 (5 years), for the stretch of Yapton Road adjacent to the site the junction of Yapton Road/Lake Lane and the stretch of highway leading to Barnham village centre to the west.
- 3.1.2 Accident data was also obtained for the Eastergate junction to the west of the site. A full copy of the accident information is attached hereto at **Appendix B**, including detailed description of all of the accidents obtained from Sussex Police. The accident data relates to Personal Injury Accidents (PIAs) of all categories during this period.
- 3.1.3 From the review of the accident records provided, the proposed development would seek to improve safety at in each of the areas discussed, particularly for non-car users. Details of the improvements that would be implemented are discussed further in Section 5 of this TA.

3.2 Yapton Road

- 3.2.1 When considering the summary plans for the 5 year period, it is apparent that the general area surrounding the site does not have any significant patterns in accidents. It is therefore considered by RGP that the estate road network does not have any shortcomings in highway safety, and thus it is unlikely that the proposed residential development of land to the South of Yapton Road would materially impact on the rate of such accidents.
- 3.2.2 When considering the most recent 5-year accident data, a total of 2 isolated accidents have occurred within vicinity of the site, resulting in only slight injury:
- (i) 0709049 Yapton Rd 100 metres east of Hill Lane – Vehicle turning right into Caravan Park (from west) was struck in the rear by the vehicle behind;
 - (ii) 0602976 Yapton Rd 225 metres west of Hill Lane – Vehicle travelling westbound on Yapton Road stopped as there was a car parked on the nearside kerb and a car was coming in the other direction. Vehicle behind failed to stop in time and collided with the rear of the vehicle in front.
- 3.2.3 One isolated accident (*ref: 079049*) occurred involving a vehicle turning right into an existing access. It is considered that this frequency of accidents during the 5 year period does not warrant concern for safety.



- 3.2.4 The proposed development would include construction of new access into the site, closing several existing access point served by Yapton Road. The proposed access would include the provision of a segregated right turn lane facility for the proposed residential access which would prevent any delay to eastbound through-traffic. It is therefore considered that the development proposals would provide an overall betterment in highway safety terms by reducing the potential for conflicting vehicle manoeuvres.

3.3 Barnham Road/Lake Lane junction

- 3.3.1 The accident records show that 2 slight PIA's have occurred at this junction during the last five years.
- 3.3.2 One accident occurred involving a vehicle failing to stop at the give-way line of Lake Lane and entering the junction into the path of oncoming traffic. The second accident involved a taxi parked illegally on the junction, whose passenger was struck on the arm as she stepped out of the vehicle onto the carriageway.
- 3.3.3 Based on the above results the junction layout does not currently suffer from any significant accident problems or trends, whilst the above accidents can be attributed to driver error.

3.4 Eastergate Junction

- 3.4.1 Accidents records identified that a total of 5 accidents occurred at the roundabout junction during the last 5 years, all of which resulted in slight injuries.
- 3.4.2 Two of the accidents involved pedestrians stepping out at inappropriate locations (i.e. not crossing at crossing points provided) and being struck by vehicles, whilst one accident involved a cyclist being struck by a vehicle on the roundabout.
- 3.4.3 The remaining two accidents were shunt type accidents of vehicles waiting at the give way prior to entering the roundabout.
- 3.4.4 It is considered that the existing junction does not suffer from any significant safety issues and research shows that the rate of accidents recorded is within the average PIA's for this type of junction. Based on 'Road Casualties Great Britain, the average rate of PIA's for 3-arm roundabouts is 0.75 – 1.2 per year.



4 TRAFFIC GENERATION AND TRAFFIC IMPACT

4.1 Traffic Generation

- 4.1.1 In order to understand the traffic generation associated with the proposed development of up to 100 residential units, since the traffic associated with the committed development of Site 6 has previously been agreed with WSCC, initially RGP proposed to apply the same trip rates that were derived by way of a survey of Summerhill Drive, as part of the Boreham TA. Summerhill Drive is a residential cul-de-sac comprising 151 dwellings accessed off the A259 Flansham Lane. However, due to the timescales that have now passed since this data was initially collected, WSCC have requested that trip rates should be derived by way of interrogation of the Trip Rate Information Computer System (TRICS).
- 4.1.2 RGP therefore commissioned the undertaking of a survey of a similar residential estate at Rollaston Park to the south east of the site along Burndell Road, which links to Yapton Road. The traffic survey was undertaken at Rollaston Park during September 2009 by an independent survey company, The Safety Forum Limited (TSF). Rollaston Park is located approximately 3.0 kilometres from the development site, approximately 1.2 kilometres from Yapton village centre. It is considered that this less accessible location to the proposed site would provide a robust assessment of traffic flows associated with the development proposals.
- 4.1.3 Rollaston Park comprises a residential estate of 272 dwellings and also serves a large industrial estate. The survey recorded the residential traffic flows for the 16 hour period between 06:00 and 22:00. The results of the traffic survey and the resultant trip rates derived from the recorded traffic flows are attached hereto at **Appendix C** and summarised in Table 4.1 below.

	Arrivals		Departures		Total	
	Traffic	Trip Rate	Traffic	Trip Rate	Traffic	Trip Rate
AM Peak Hour	33	0.121	117	0.430	150	0.551
PM Peak Hour	120	0.441	60	0.221	180	0.662
12hr (07:00 – 19:00)	680	2.500	690	2.537	1370	5.037
16hr (06:00 – 22:00)	823	3.026	787	2.893	1610	5.919

Table 4.1 – Summary of Residential Trip Rates

- 4.1.4 As summarised by Table 4.1 the 12 hour daily trip rate (i.e. comparable to the TRICS data) is 5.037 vehicle trips per dwelling per day. Over the survey duration (i.e. the 16 hour period) the trip rate derived was 5.919



- 4.1.5 Based on the determined residential trip rates from the survey results the predicted level of vehicle movements for the proposed development of up to 100 dwellings is summarised in Table 4.2.

	Arrivals		Departures		Total	
	Trip Rate	Traffic	Trip Rate	Traffic	Trip Rate	Traffic
AM Peak Hour	0.121	12	0.430	43	0.551	55
PM Peak Hour	0.441	44	0.221	22	0.662	66
12hr (07:00 – 19:00)	2.500	250	2.537	289	5.037	504
16hr (06:00 – 22:00)	3.026	303	2.893	254	5.919	592

Table 4.2 – Summary of Development Related Traffic Flows – 100 Dwellings

- 4.1.6 As summarised by Table 4.2 the proposed residential development would generate in the order of 55 and 66 two-way vehicle movements during the AM and PM peak hours respectively. When considering the worst case PM peak, the 66 two-way movements equates to 1 additional vehicle every 1 minute or so (either arriving or departing the site), which is not considered significant. Over the course of a day (when based on TRICS timescales) the development proposals would generate 504 two-way vehicle movements.
- 4.1.7 It is also worthy of note that the existing land use on the site has a traffic-generating characteristic by virtue of its use as a wholesale nursery. This existing land use would have generated a proportion of car traffic, for both staff and customers and would also generate a proportion of HGV journeys, which tend to have a greater impact on the safe and efficient operation of the highway network than private cars, which are typically associated with a residential land use.

4.2 Traffic Impact

- 4.2.1 As outlined, RGP has discussed the scope of assessment and junctions to be considered within this TA, including consideration of the impact the BRRR would have on the redistribution of base traffic flows and development related traffic flows. The full set of flow diagrams are appended hereto, which detail the derivation of RGP's assessment scenarios. The Scenarios that have been considered for assessment purposes are as follows:

- (i) Scenario 1: 2013 base (no development no BRRR)
- (ii) Scenario 2: 2013 base (no development with BRRR)



(iii) Scenario 3: 2013 base + Development (no BRRR)

(iv) Scenario 4: 2013 Base + Development (with BRRR)

4.2.2 It is considered that due to the location of the development site, the effect of the BRRR would be minimal. From the assessment of traffic distribution locally, that the majority of development traffic would travel alternative routes around and into Bognor Regis and journeys would not be improved or benefitted by redirecting their route across the BRRR. However consideration has been given to the redistribution of the base traffic flows across the wider network, based on discussions and agreements with WSCC.

4.2.3 The parameters applied in order to model the affect of the BRRR have been agreed with Officers at WSCC through a combination of factoring applied based on the Boreham TA flows (i.e. committed development) and assumptions made by RGP. In addition to modelling the affect of the BRRR, RGP has also agreed the appropriate growth rates to be applied to the base traffic flows.

4.2.4 It is important to considered that a number of reports have been published of late that demonstrate that over the past 12 to 18 months traffic flows in general have decreased as a result of the recession. In light of these factors, WSCC have agreed that in this instance it is appropriate to apply 'low' growth to the base traffic levels. Further factoring in light of the impact of the BRRR have been considered in isolation of background traffic growth on the A259, for example.

4.3 Assessment of Growth

4.3.1 In order to derive the appropriate low growth factors to be applied to the AM and PM peak hours, as agreed with WSCC, RGP have considered National Road Traffic Forecast (NRTF) 1997 and TEMPRO software.

4.3.2 Future year assessments have been undertaken for the year 2013, since this is likely to represent the opening year for completion of the development and would therefore be fully operational by this time (assuming planning consent is granted in the near future).

4.3.3 Growth has therefore been applied to the 2009 base traffic flows to represent the 2013 local highway network conditions. Growth factors have been determined based on TEMPRO software and adjusted to reflect NRTF. The growth calculation spreadsheet is appended hereto at **Appendix D**.



- 4.3.4 The result of the growth assessment indicates that growth rates for the Bognor Regis area are slightly higher than the Great Britain average, with growth rates of 1.040 and 1.037 applied for the AM and PM peak periods respectively between 2009 and 2013.
- 4.3.5 **Figures 3 and 4** illustrate the traffic flows for the anticipated year of opening (2013) assuming no development, for the AM and PM peak hours respectively, assuming a low level of growth.

4.4 Vehicle Trip Distribution and Assignment

- 4.4.1 Base development flows have been distributed to and from the development site by assessing the existing proportions of travel direction from the neighbouring residential estate, Garden Crescent, which is located opposite the proposed development. It was considered during discussions with WSCC that the traffic flows of the estate were not appropriate for traffic generation assessment purposes, due to the difference in housing type from the proposed development. However, is considered appropriate to review traffic flows at Garden Crescent to understand the distribution of traffic that is likely to occur on a site in this location.
- 4.4.2 Traffic flows were recorded at Garden Crescent during August 2009, representing a neutral weekday. The results of the survey are attached hereto at **Appendix E**. The Base distributions of the development traffic are shown in **Figures 5 and 6** appended hereto.
- 4.4.3 The recorded traffic flows indicate that the majority of traffic travels towards the west during the peak hours. In the AM peak hour, 75% of vehicles depart from the site travelling west and 25% depart to the east. Similarly, arrivals to the site comprise 66% of vehicles arriving from the west and 44% from the east during the AM peak hour.
- 4.4.4 During the PM peak hour, 75% of vehicles leave the site and travel west, with 25% of vehicles travelling east. A total of 58% of vehicles arrives to the site from the west during this period, with 42% of vehicles arriving from the east.
- 4.4.5 Traffic distribution of the site has also been considered with the implementation of the BRRR to the south of the development. It is considered that due to the current traffic patterns associated with the proposed development, with the majority of traffic travelling west out of the site, the affect of the BRRR on the development traffic would be minimal. However, basic assumptions have been considered to take into account the small amount of traffic that would redirect their standard route and use the BRRR upon its opening.



4.4.6 **Figures 7 and 8** attached hereto illustrate the assumed traffic distribution for the proposed development with the implementation of the BRRR. The resulting figures indicate that a slight redirection of westbound traffic would occur during both peak hours, travelling eastbound and using the BRRR.

4.4.7 In the AM peak period, a total of 68% of traffic would depart west from the site, with 32% leaving to the east. 56% of traffic would arrive from the west, with 43% of traffic now arriving from the east during this period. During the PM peak hour, 65% of vehicles travel west from the site and 35% travel east. 51% of vehicles arrive at the site from the west and 49% from the east.

4.5 **Redistribution of base traffic following completion of the BRRR**

4.5.1 **Figures 9 to 12** attached hereto illustrate the redistribution of the base traffic following the implementation of the BRRR, as per RGP's previous discussions and agreement with WSCC. The attached figures provide an indication of the predicted base traffic flows following the opening of the BRRR along the A259 Worms Lane/Grevatts Lane to the south of the site. This assessment has been agreed with WSCC.

4.5.2 Owing to the traffic distribution it is considered that the proposed development would have no material impact on these junctions.

4.6 **Network Capacity Analysis**

4.6.1 The junctions agreed for assessment with WSCC have been assessed using standard software used by transport planning professionals for the four development scenarios identified in Section 4.2 above. The proposed 2013 'with development' traffic flows for the site with and without the BRRR are shown on **Figures 17 to 20** attached hereto.

Eastergate Junction

4.6.2 The existing roundabout junction has been tested to determine the current and future capacity characteristics of its operation. The junction has been assessed using ARCADY (Assessment of Roundabout Capacity And Delay) software, which models capacity queues and delays at roundabouts. The assessment is considered robust since it assumes that all vehicles travelling west from the site would visit this junction, when in reality a proportion of traffic may travel to the town centre or local schools, for example, as part of the school run.

4.6.3 A full copy of the ARCADY outputs for the junction are contained within **Appendix F**. The results of the analysis is summarised in the tables below.



Approach	2013 AM Peak		2013 PM Peak	
	% Sat	Max Q	% Sat	Max Q
A29 Fontwell Avenue	0.889	6.7	0.390	0.6
B2233 Barnham Road	0.775	3.1	0.526	1.1
A29 Nyton Road	0.450	0.8	0.492	1.0

Table 4.3 – Eastergate Junction ARCADY Summary – (Base 2013, No BRRR)

Approach	2013 AM Peak		2013 PM Peak	
	% Sat	Max Q	% Sat	Max Q
A29 Fontwell Avenue	0.889	6.7	0.390	0.6
B2233 Barnham Road	0.775	3.1	0.526	1.1
A29 Nyton Road	0.450	0.8	0.492	1.0

Table 4.4 – Eastergate Junction ARCADY Summary – (Base 2013, With BRRR)

Approach	2013 AM Peak		2013 PM Peak	
	% Sat	Max Q	% Sat	Max Q
A29 Fontwell Avenue	0.896	7.0	0.405	0.7
B2233 Barnham Road	0.810	4.0	0.541	1.2
A29 Nyton Road	0.454	0.8	0.505	1.0

Table 4.5 – Eastergate Junction – Base 2013 + Dev (No BRRR) Assessment

Approach	2013 AM Peak		2013 PM Peak	
	% Sat	Max Q	% Sat	Max Q
A29 Fontwell Avenue	0.896	7.1	0.404	0.7
B2233 Barnham Road	0.810	4.0	0.538	1.1
A29 Nyton Road	0.455	0.8	0.503	1.0

Table 4.6 – Eastergate Junction – Base 2013 + Dev (With BRRR) Assessment



- 4.6.4 The capacity assessment indicates that all approaches of the roundabout junction would operate within capacity during the 2013 morning and evening peak hours with and without the completion of the BRRR.
- 4.6.5 The results indicate that there would be negligible difference in the post-development performance operation of the junction during the assessed peak hours.



5 ACCESS ARRANGEMENT AND INTERNAL LAYOUT

5.1 Proposed Access Design

- 5.1.1 As illustrated on drawing number **2009/1067/001** (*Revision B*), attached hereto, the access proposals would provide a new priority junction and would take the form of a formal bell-mouth junction. The access has been designed with a 5.5 metre wide bell-mouth with kerb radii of 6.0 metres. The access would also offer an uncontrolled pedestrian crossing over the access. It is considered that the relatively generous 6.0 metre kerb radii would allow simultaneous vehicle movements to and from the site, without impacting on the free flow of traffic on Yapton Road.
- 5.1.2 Drawing number **2009/1067/001** appended hereto illustrates a refuse vehicle entering the site whilst a typical car is waiting to emerge from the site. It is considered this is a realistic scenario and one which is easily achievable without the access causing delay to westbound vehicles along Yapton Road.
- 5.1.3 The proposed access arrangement would also accommodate a right turn lane facility for the site along Yapton Road to allow for segregated right-turn movement into the site. The right turn lane has been designed in accordance with The Design Manual for Roads and Bridges Guidance 'TD 42/95' (*Geometric Design of Major/Minor Priority Junctions*) and also with the consideration of the adjacent right turn lane at Garden Crescent to the west.
- 5.1.4 The proposed right-turn lane would be created with widening of the carriageway on the site side of Yapton Road. A 35 metre long, 2.75 metre wide right-turn lane would be provided for the development suitable to allow all vehicles to turn into the site without blocking eastbound through-traffic. Carriageway lanes for through-traffic along Yapton Road would be maintained with a 3.0 metre carriageway width.
- 5.1.5 The proposed development is intended to provide links to the adjacent BPC site, in order to maximise permeability between the proposed residential dwellings and the proposed community facilities, as well as providing non-car links through the site for users of Yapton Road. A 3.5 metre wide shared pedestrian/cycle path is proposed along the western side of the access road, leading through the site from Yapton Road to the open space. A dropped kerb would be provided to the east of the access road to allow westbound cyclists to access the shared facility and travel through the site. A further pedestrian crossing is also proposed across Yapton Road for all pedestrian/cycle movements.
- 5.1.6 Visibility splays from the proposed access road would be 2.4 x 120 metres in both direction along Yapton Road, which is more than suitable for a design speed of 30mph.



- 5.1.7 Drawing **2009/1067/001** appended hereto illustrates the proposed level of visibility that would be retained for the consented recreation ground access to the west of the site, which forms part of the BPC scheme, following implementation of the proposed right turn lane.

5.2 Stage I Road Safety Audit and Designer's Response

- 5.2.1 A Stage I Road Safety Audit was undertaken by The Safety Forum (TSF) between 19th October 2009 and 30th October 2009 on the outline design illustrated on drawing number **2009/1067/001**, (*Revision A*). The full Audit report is attached hereto at **Appendix G**. This section considers the 'problems' identified within the Safety Audit Report and identifies RGP's Designer's Response as to how these problems have been addressed and incorporated into a revised design.
- 5.2.2 The latest outline design, which incorporates the comments made by the Road Safety Audit is indicated on drawing number **2009/1067/001**, *Revision B*, attached hereto.
- 5.2.3 **Problem 3.1** – Keep Left bollards and high level keep left signs would be provided on the pedestrian refuge. Full details to be provided during the detailed design stage.
- 5.2.4 **Problem 3.2** – The proposed development would provide all necessary corduroy tactile paving at the request of WSCC, which would be discussed and agreed during the detailed design stage. Appropriate signing would be provided on all interchanges between footway and shared surfaces. Full details of signing to be provided during the detailed design stage, and agreed with WSCC.
- 5.2.5 **Problem 3.3** – No details of the internal layout of the site have been issued to Audit team, which would be considered indicatively as part of the application. The internal layout of the site would provide pedestrian/cycle amenities to the residential dwellings throughout the site, together with specific links to the adjacent BPC site, which would be available to use by the general public. Full details of the internal layout of the site, pedestrian routes and crossing points would be considered and agreed during the detailed design process.

5.3 Internal Layout

- 5.3.1 The indicative internal layout of the site is illustrated on the Proposed Site/Block Plan with Indicative Layout (PPC Drawing No.07.2009/03), attached at **Appendix H**. The layout would consist of a main access road from the local highway network, linking to an internal circulatory route around the site, which would allow all vehicles, anticipated to enter and leave the site in a forward gear. The main access road would feed a number of smaller access roads which subsequently provides access to the residential units.



- 5.3.2 Drawings **2009/1067/002 & 003** illustrate the swept paths of a refuse vehicle travelling along the main access road and turning within the designated turning areas where provided. The refuse vehicle is considered to be the largest vehicle which would access the site, and is larger than normal household delivery vehicles and Fire Tenders, for example. Refuse stores would be located no less than 25 metres from the main access roads, to provide suitable access for refuse collection.
- 5.3.3 The drawings **2008/0896/004** illustrate that a Fire Tender can access within a 45 metre distance of all dwellings in accordance with design guidance Manual for Streets and 'Approved Document B (Fire safety) 2006 Edition: Volume 1: Dwelling houses'. A Fire Tender could access the each dwelling within this distance without the need to reverse over distances greater than 20 metres, therefore complying with WSCC Fire and Rescue interests and Building Regulation Requirement B5 (2000).

5.4 Parking Provision

- 5.4.1 The proposed development of up to 100 residential units would provide parking at a ratio of 1 space per dwelling for all 1 bedroom dwellings and 2 spaces per dwelling for the remaining. The proposed parking facilities would comprise a mixture of private car parks, private garages and driveways throughout the site.
- 5.4.2 RGP have considered the maximum parking standards to be applied to the proposed development, as set out within guidance by both Arun District Council (ADC) and West Sussex County Council (WSCC).
- 5.4.3 The WSCC guidance sets out a Zonal approach (i.e. Zone 1 to Zone 4) to parking based on the accessibility credentials of the site. Zone 1 relates to sites within town centre locations whereby accessibility credentials to sustainable modes of travel are relatively attractive, whilst Zone 4 is for rural areas whereby accessibility to sustainable modes is limited. WSCC's guidance stipulates that it is the responsibility of the District and Borough Councils to define their own zones.
- 5.4.4 When interpreting the standards set out by WSCC and ADC, it is considered that the site lies within Zone 3, whereby the maximum standard should be 85% of the full maximum standard (i.e. that for Zone 4). The ADC document defines the maximum provision for developments in Zone 4 as follows:
- (i) 1 bed units: 1 space per unit;
 - (ii) 2 & 3 bed units: 2 spaces per unit;
 - (iii) 4 bed units: 3 spaces per unit.



- 5.4.5 Based on the above maximum standards the site could demand 184 parking spaces if located in Zone 4, however since the site is located close to good train services, and its location on the edge of the urban area, i.e. within Zone 3, the standards dictate that the maximum parking provision of 85% of the maximum standard. Since the standards suggest a maximum of 75% of the Zone 4 standards for Zone 2, it is anticipated that an appropriate provision would be between 75% and 85% of the maximum standard.
- 5.4.6 The proposed development would therefore provide a sufficient level of parking on site in accordance with Council parking standards. It is considered that the level of parking is appropriate and is not set at a level which would result in excessive use of the private car since smaller households would be restricted from owning two cars, and neither would it result in parking on the local highway network.
- 5.4.7 Cycle parking would be provided on site for each dwelling, mainly in the form of private garages and cycle stores.



6 SUMMARY AND CONCLUSIONS

6.1.1 This TA has been prepared to review all highways and transportation matters with respect to the proposed re-development of the Angels Nursery Site, Yapton Road, Barnham.

6.1.2 This report provides background to the re-development of the site to provide up to 100 residential dwellings, with associated vehicle and bicycle parking on site. The TPS has been written in accordance with local and national development control policies, and follows pre-planning discussions with WSCC from both current and passed proposals. The principal conclusions of this report are as follows:

- (i) The site is located within a predominantly residential area. The site is close to many day-to-day facilities located within a short walk including shops and services, particularly within Barnham village centre. Local public transport facilities are available along with the convenient pedestrian links provide a realistic alternative for commuting journeys to the site;
- (ii) The traffic impact of the development proposals would be negligible on the condition of capacity and safety on the local highway network in its present condition. The size of the proposed development is such that it can be accommodated by the existing highway network without any discernable impact on the nearby local junctions, and is not reliant upon local highway improvements to be accommodated on the network. The proposed Site 6 development, which includes the implementation of local highway schemes in particular the Bognor North Relief Road, would further provide relief to the local traffic routes and further reduce the already minimal impact of the proposed development.
- (iii) The proposed parking provision generally accords with local policy and reflects the accessibility credentials of the site. The proposals would not increase on street parking demand and is not at a level which would result in reliance upon the private car from prospective residents;
- (iv) The access arrangements accord with general design guidance and have been modified to reflect the comments of an independent Road Safety Audit. The proposals also provide pedestrian improvements to the local area to link the site with the local facilities and further encourage travel by non-car modes.

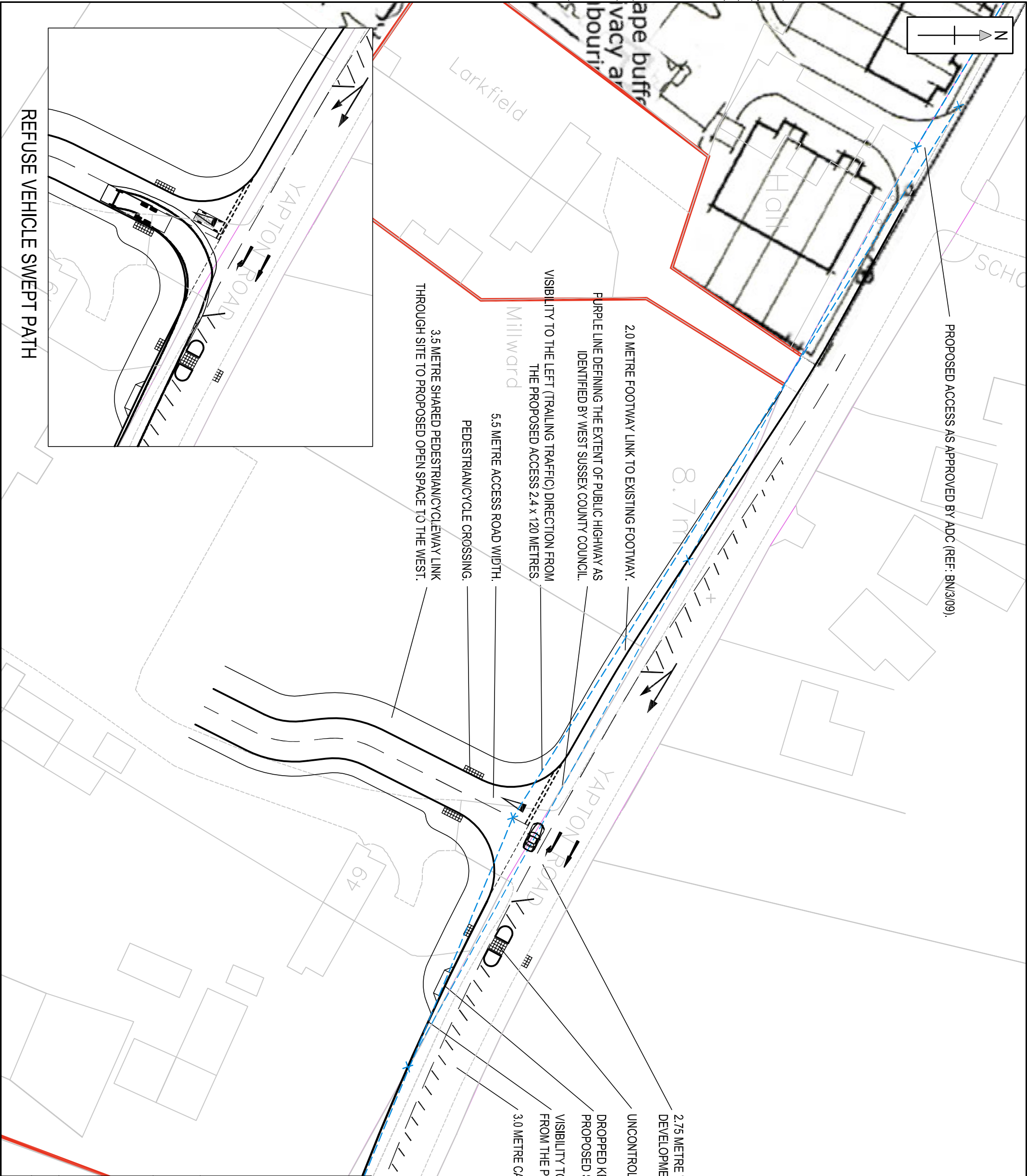
6.1.3 In light of the findings of this report, WSCC, as Highway Authority are respectfully urged to confirm that the proposed development is acceptable on highway grounds.



PLANS



DRAWINGS





Primrose Place, Portsmouth Road, Godalming, Surrey, GU7 2JN
Tel:01483 861681 Fax:01483 861682 www.russelljones.com

Client

West Sussex County Council

Project

Land at Yapton Road, Barnham

Drawing Title

Proposed Residential Development
Access Design

Scale	Drawn By	Checked By	Approved By
1:500	SAJ	CMB	PMR
Drawing No.	Date	Rev.	
2009/1067/001	November 2009	B	

X:\PROJECTS\2009 PROJECTS\1067 YAPTON ROAD, BARNHAM\DRAWINGS - CURRENT\2009-1067-002 REV - DWG (LAYOUT1) (Nov 10, 2009 - 11:29am) (Techmachine)



RG

Primrose Place, Portsmouth Road, Godalming, Surrey, GU7 2JN
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Drawing Title Refuse Vehicle Swept Path 1			
Scale 1:200	Drawn By SAJ	Checked By CMB	Approved By PMR
Drawing No. 2009/1067/002	Date November 2009	Rev. -	

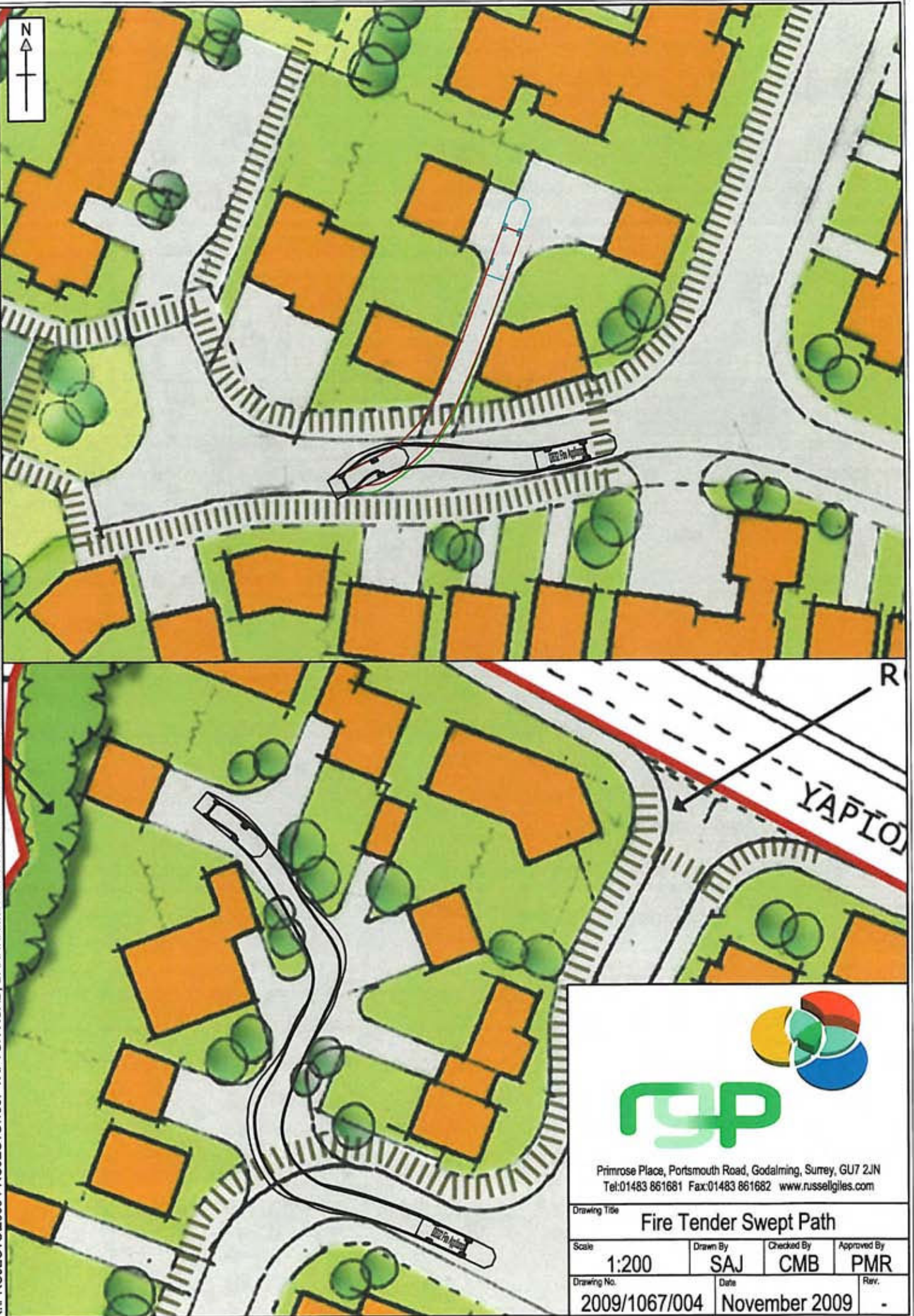
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Tel:01483 861681 Fax:01483 861682 www.russellgiles.com

Drawing Title Refuse Vehicle Swept Path 2			
Scale 1:200	Drawn By SAJ	Checked By CMB	Approved By PMR
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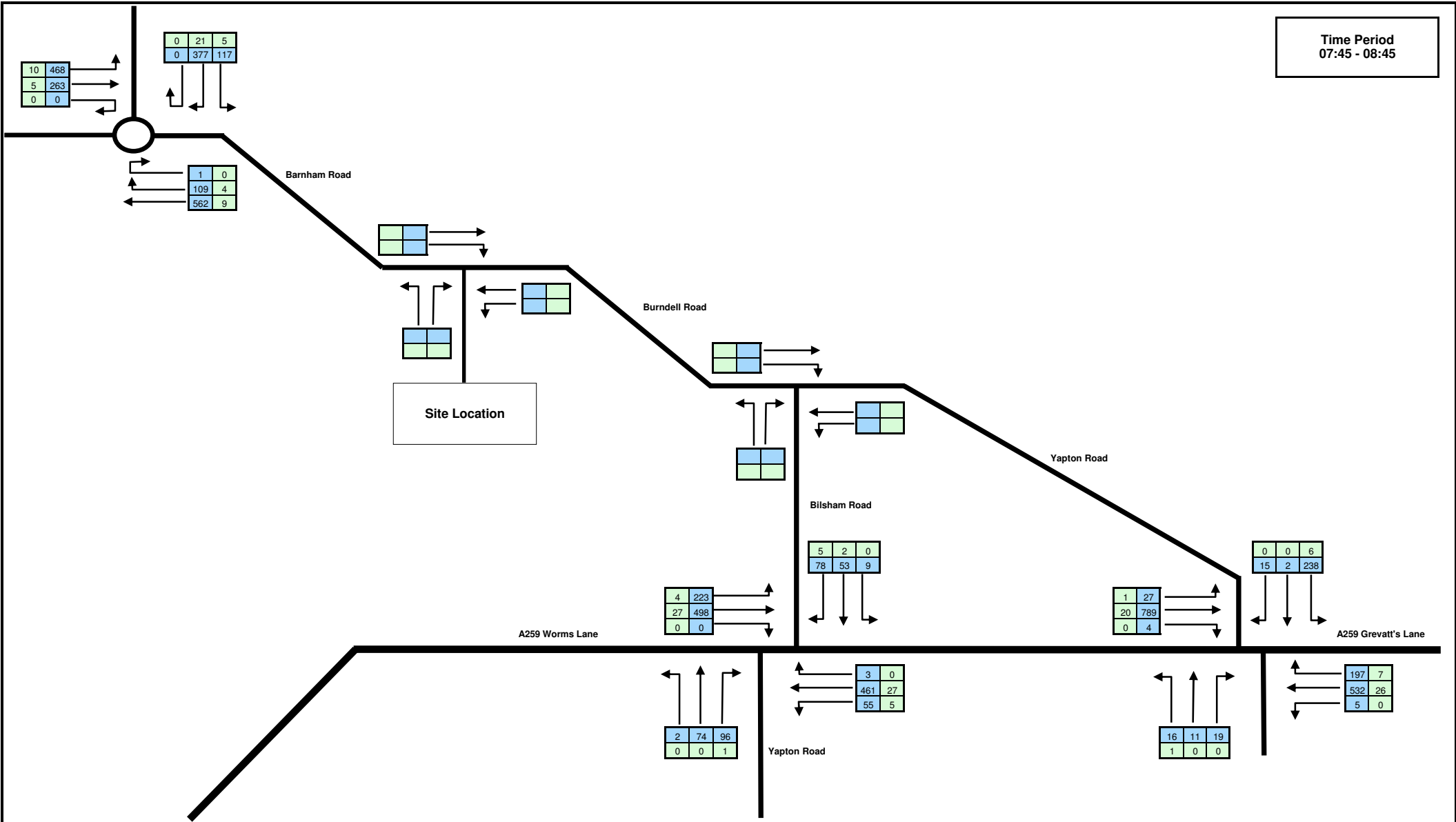
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FIGURES

Time Period
07:45 - 08:45



LEGEND

Total Traffic Flows
HGV Flows

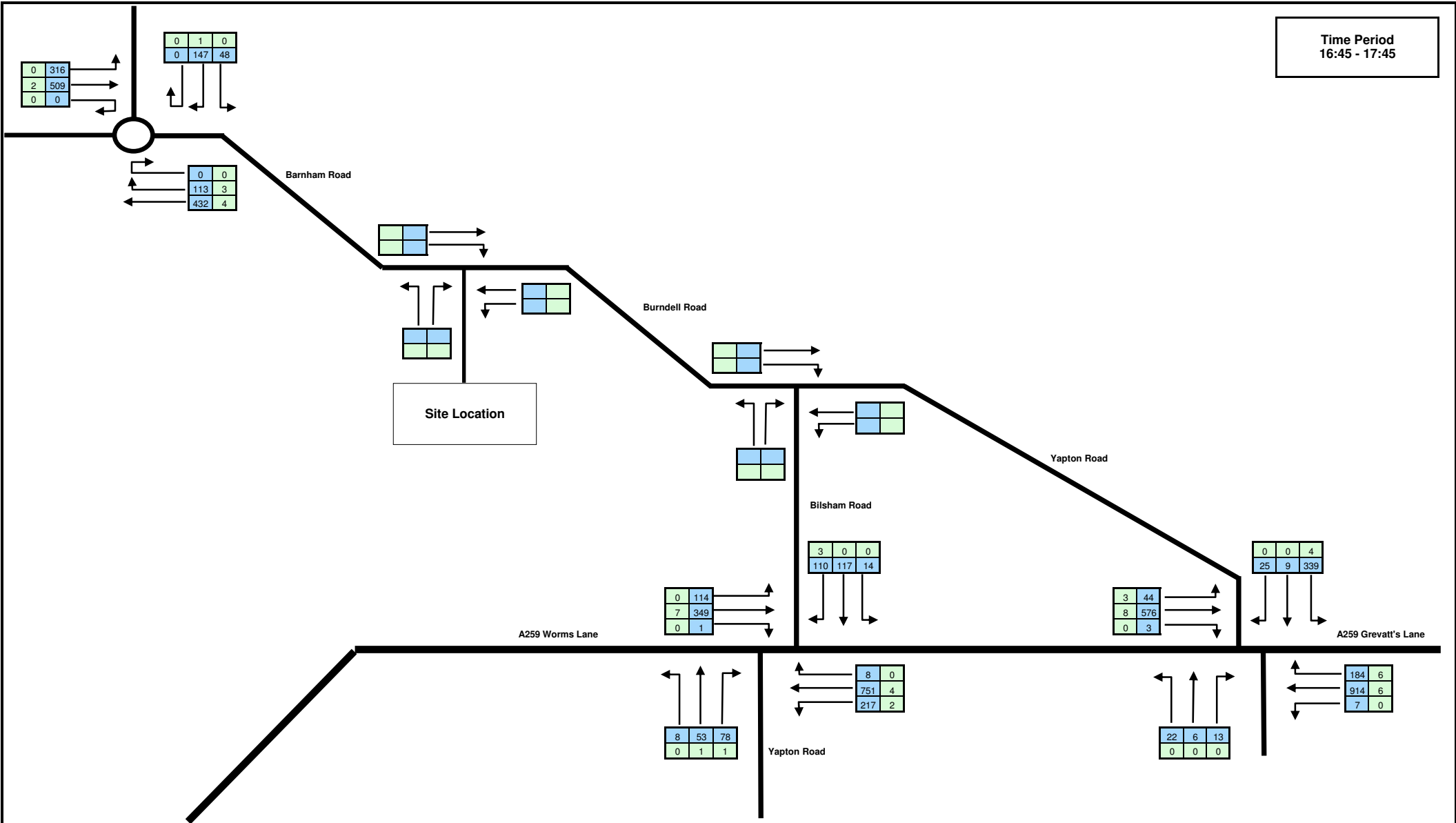
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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 1
TITLE: AM Base (2009)

Time Period
16:45 - 17:45



LEGEND

Total Traffic Flows
HGV Flows

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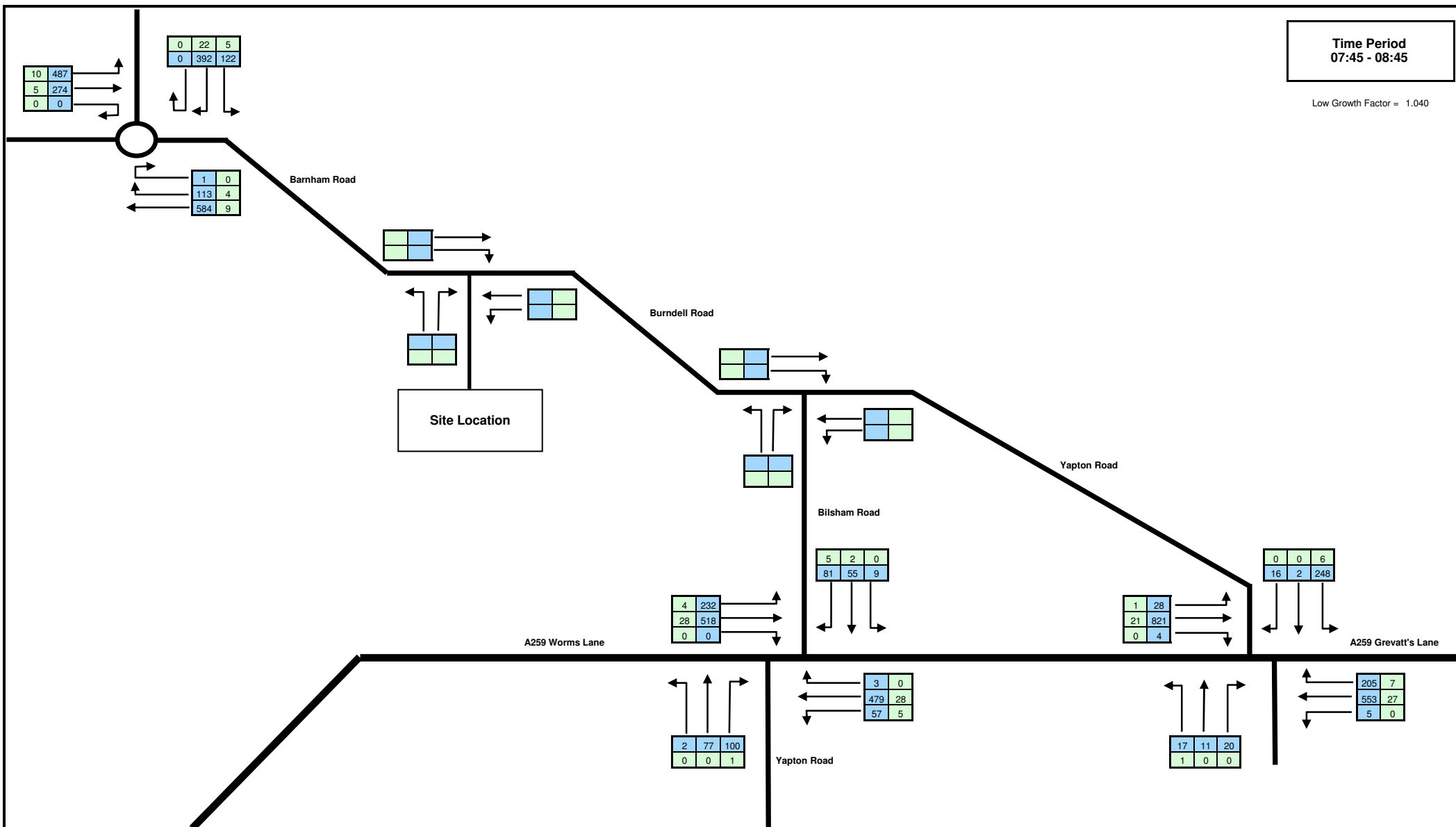
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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 2
TITLE: PM Base (2009)

Time Period
07:45 - 08:45

Low Growth Factor = 1.040



LEGEND

Total Traffic Flows
HGV Flows

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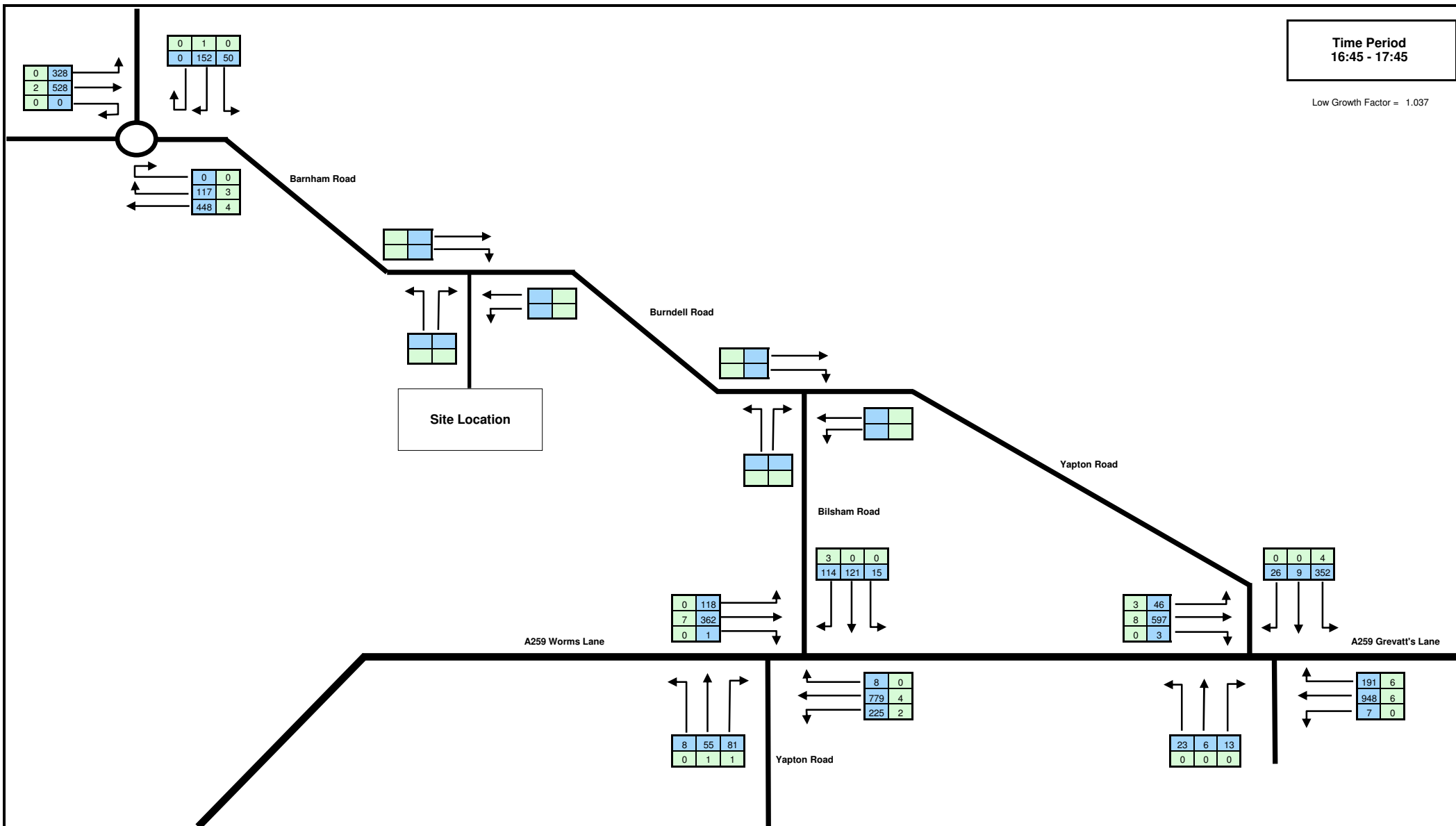
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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 3
TITLE: AM Base (2013)

Time Period
16:45 - 17:45

Low Growth Factor = 1.037



LEGEND

Total Traffic Flows
HGV Flows

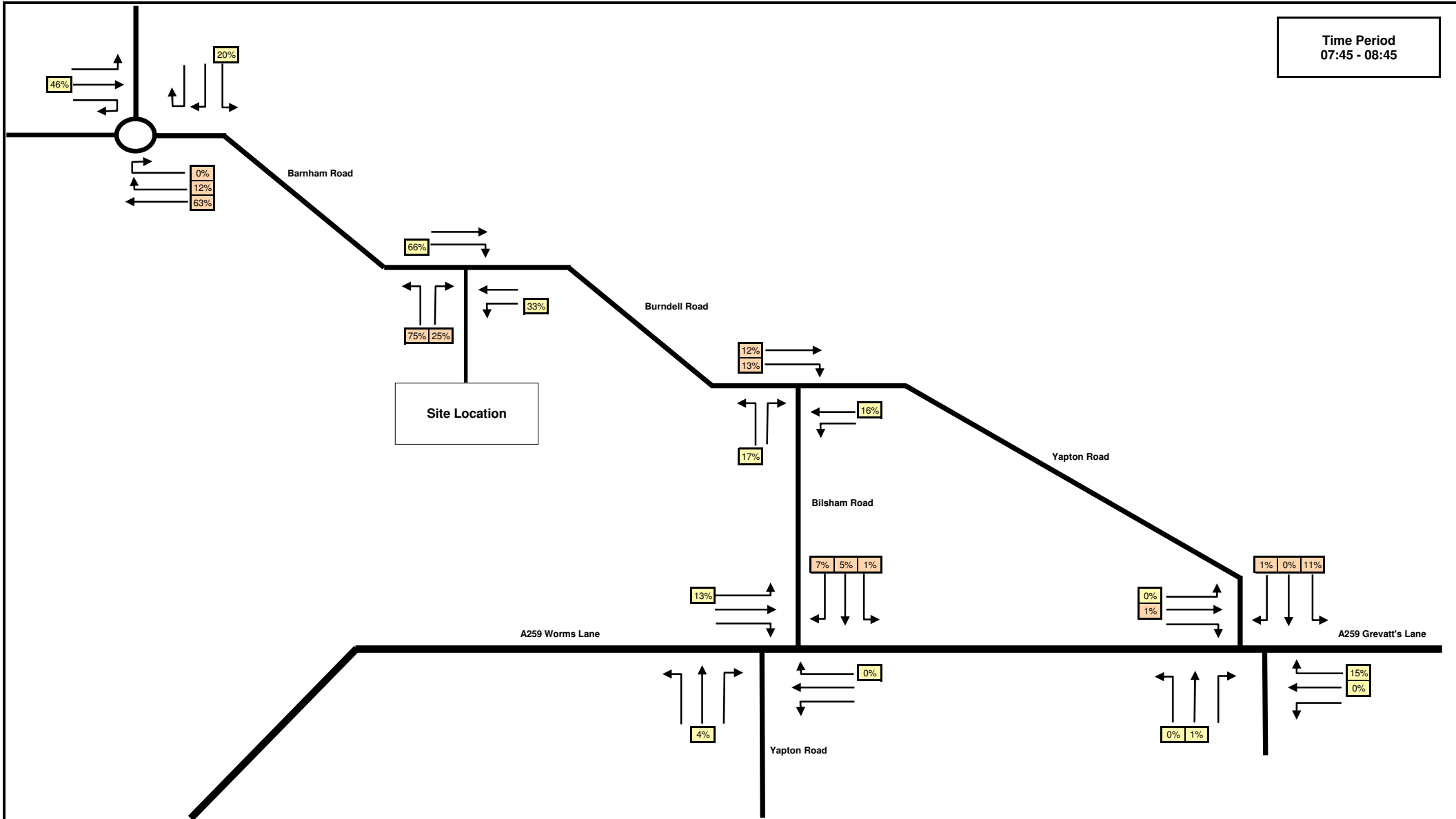
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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 4
TITLE: PM Base (2013)

Time Period
07:45 - 08:45



LEGEND

Arrivals
Departures

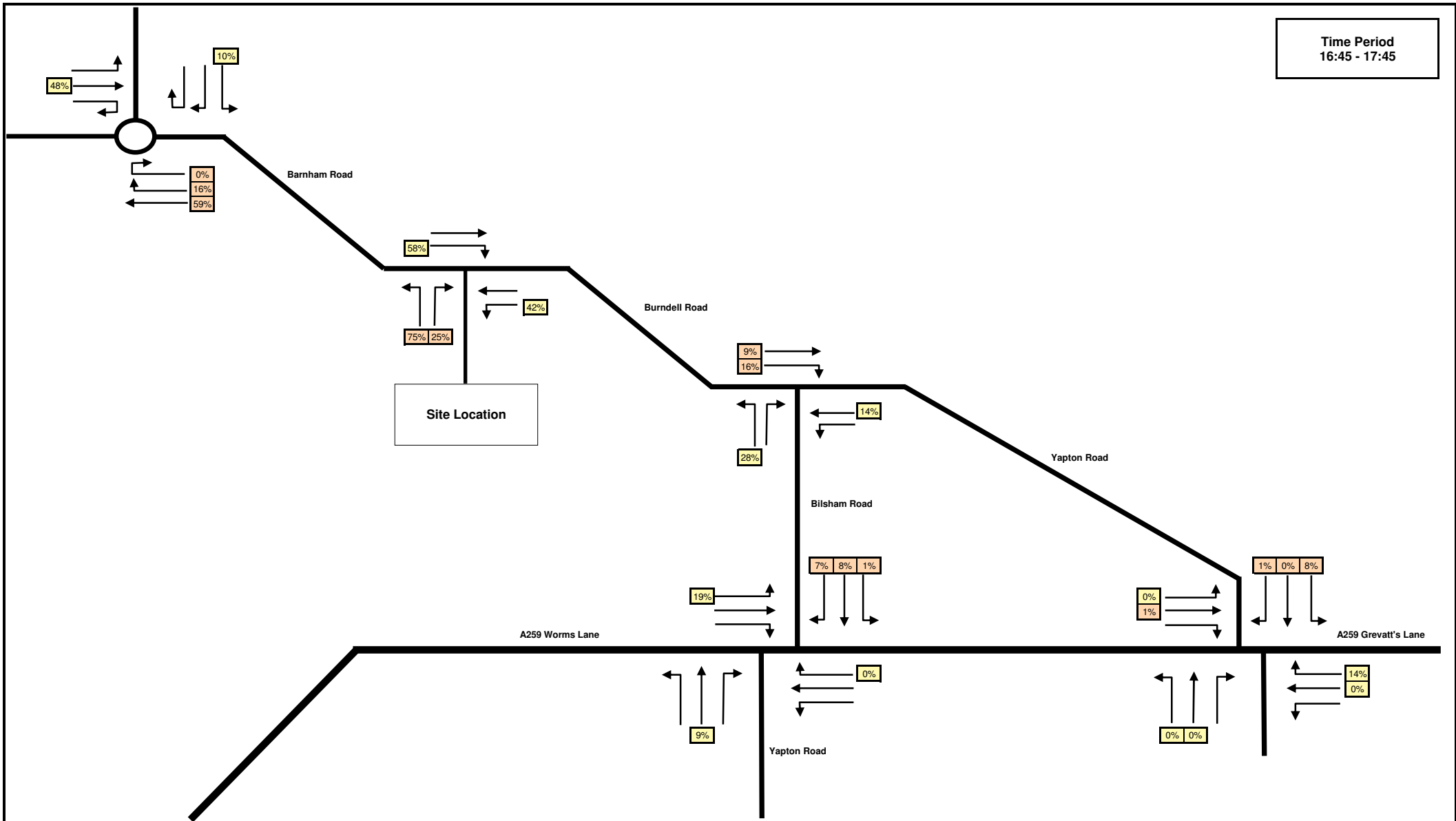


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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 5
TITLE: AM Dev Distribution (No BRRR)

Time Period
16:45 - 17:45



LEGEND

Arrivals
Departures

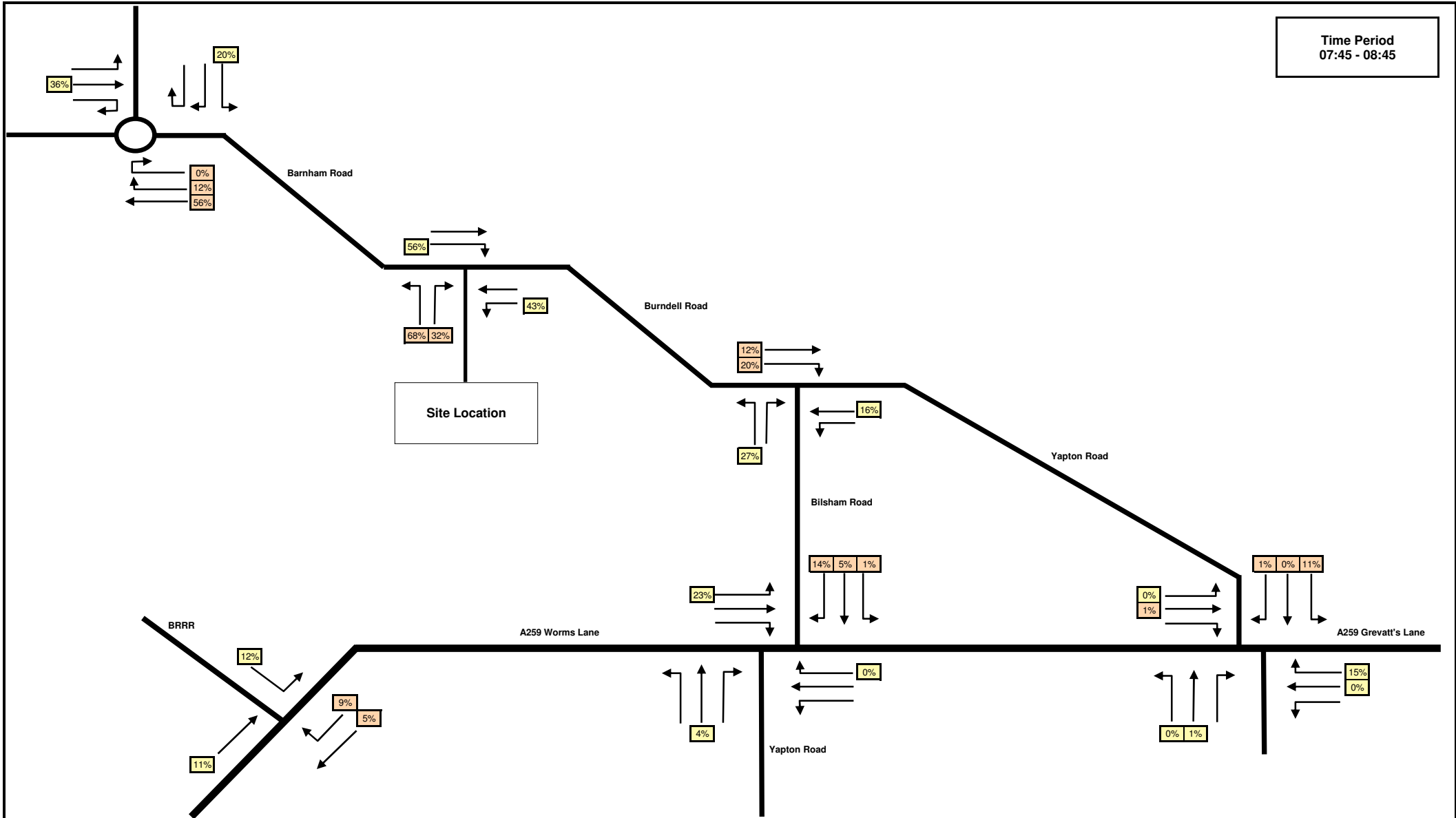


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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 6
TITLE: PM Dev Distribution (No BRRR)

Time Period
07:45 - 08:45



LEGEND

Arrivals
Departures

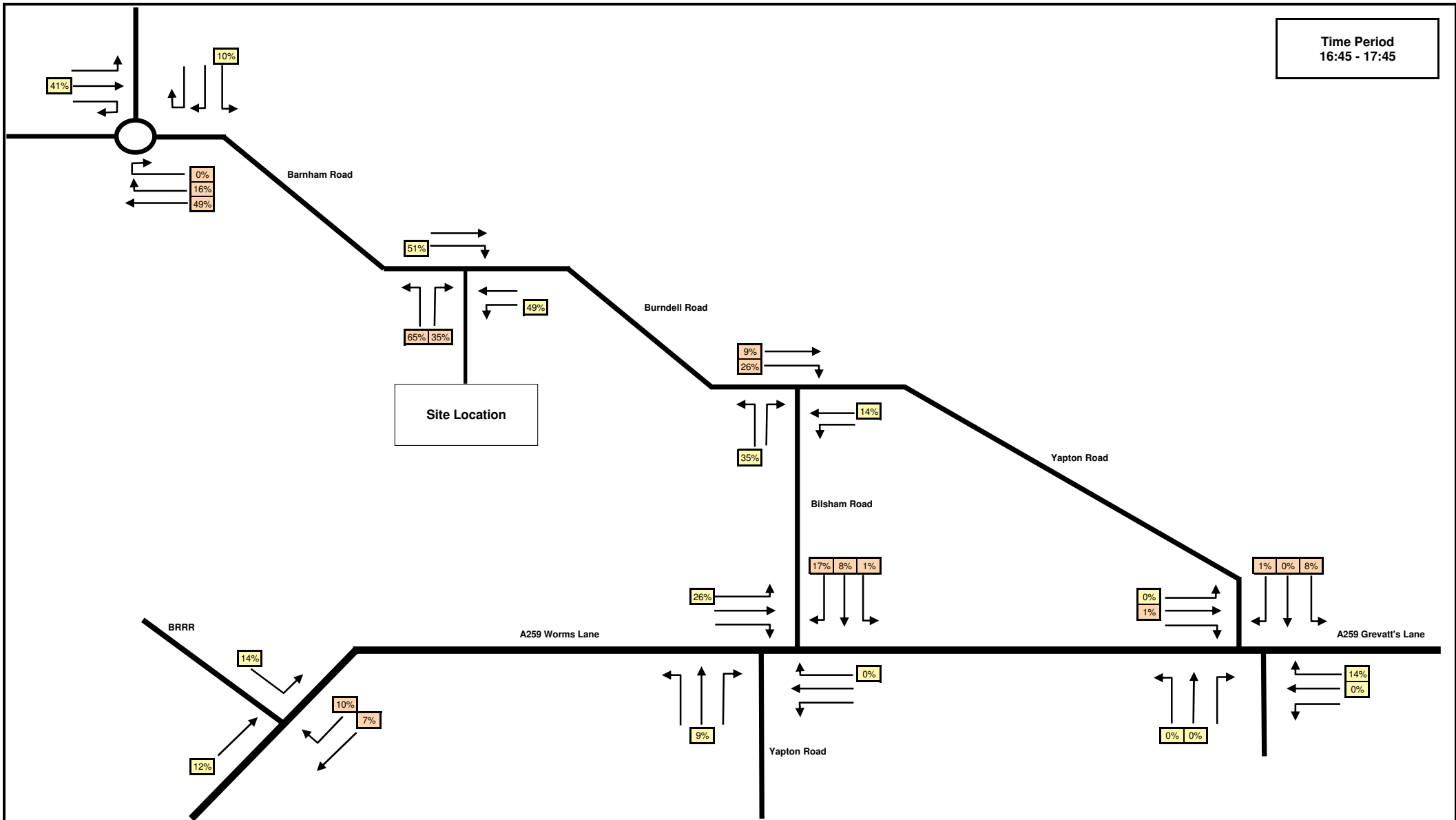
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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 7
TITLE: AM Dev Distribution (With BRRR)

Time Period
16:45 - 17:45



LEGEND

Arrivals
Departures

#

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PROJECT:

Land South of Yapton Road, Barnham

JOB REFERENCE NO:

WSCC/09/1067

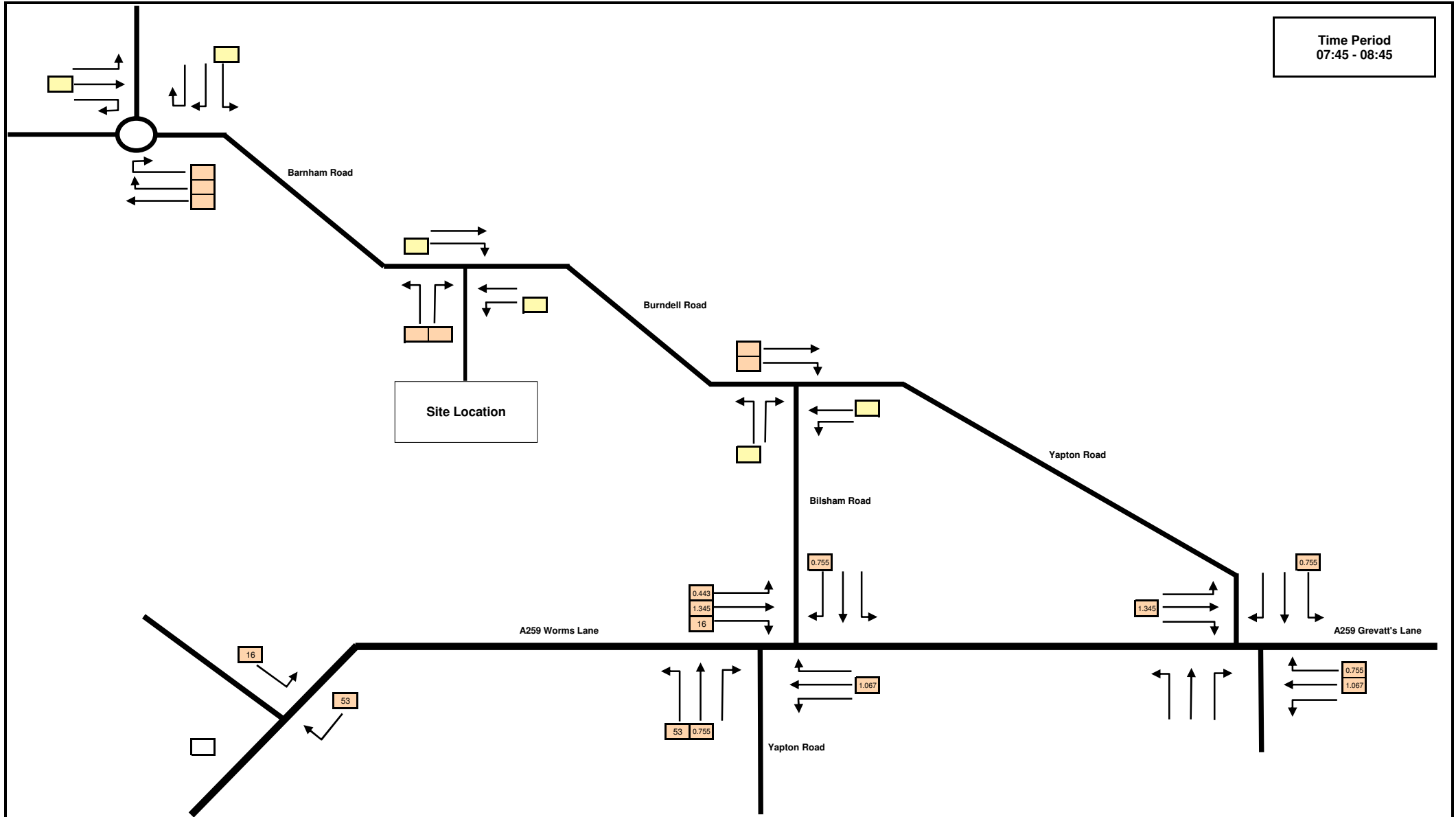
FIGURE NO:

8

TITLE:

PM Dev Distribution (With BRRR)

Time Period
07:45 - 08:45



LEGEND

Arrivals
Departures

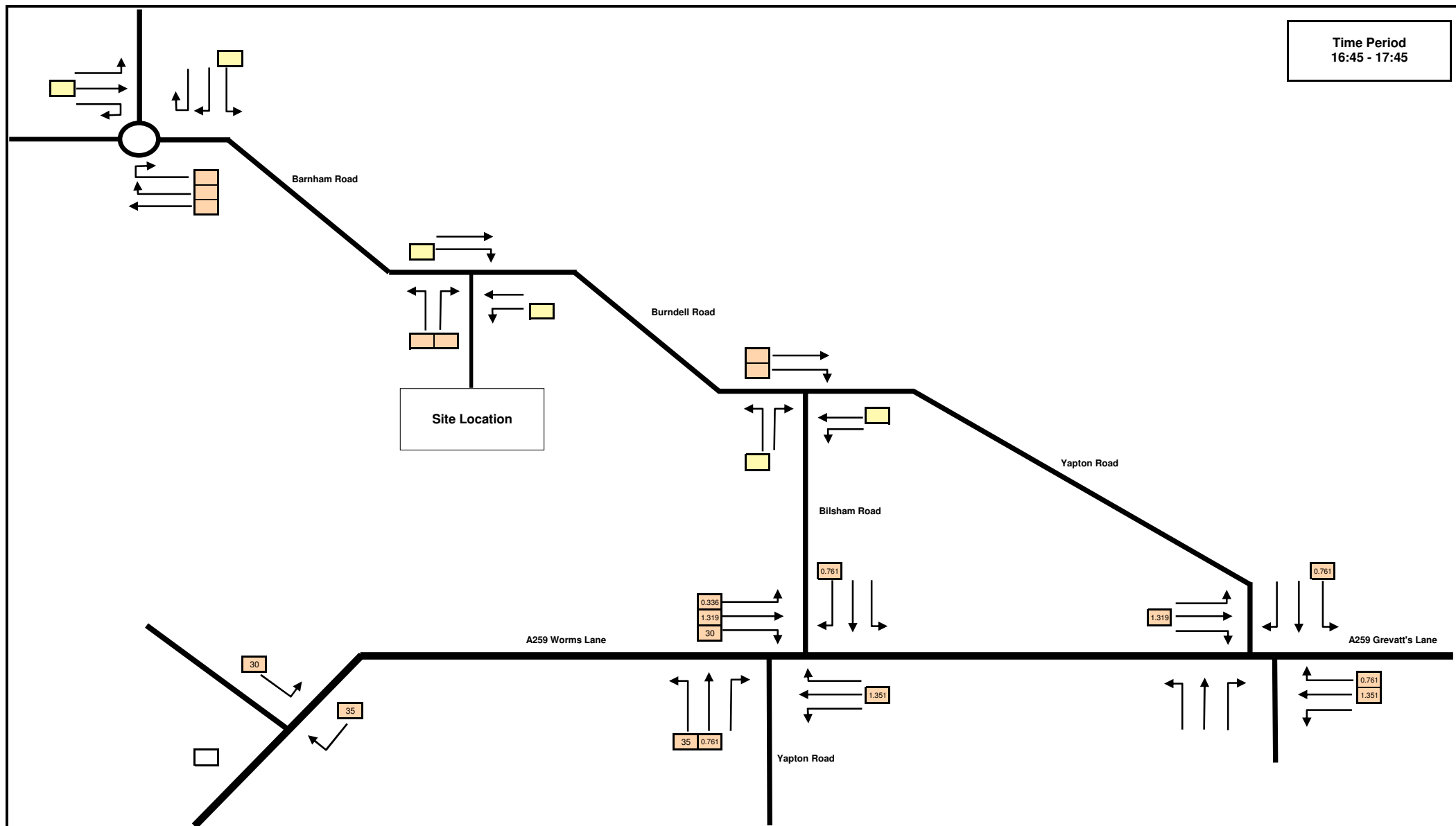


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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 9
TITLE: **AM Base Traffic Re-distribution
(With BRRR)**

Time Period
16:45 - 17:45



LEGEND

Arrivals
Departures



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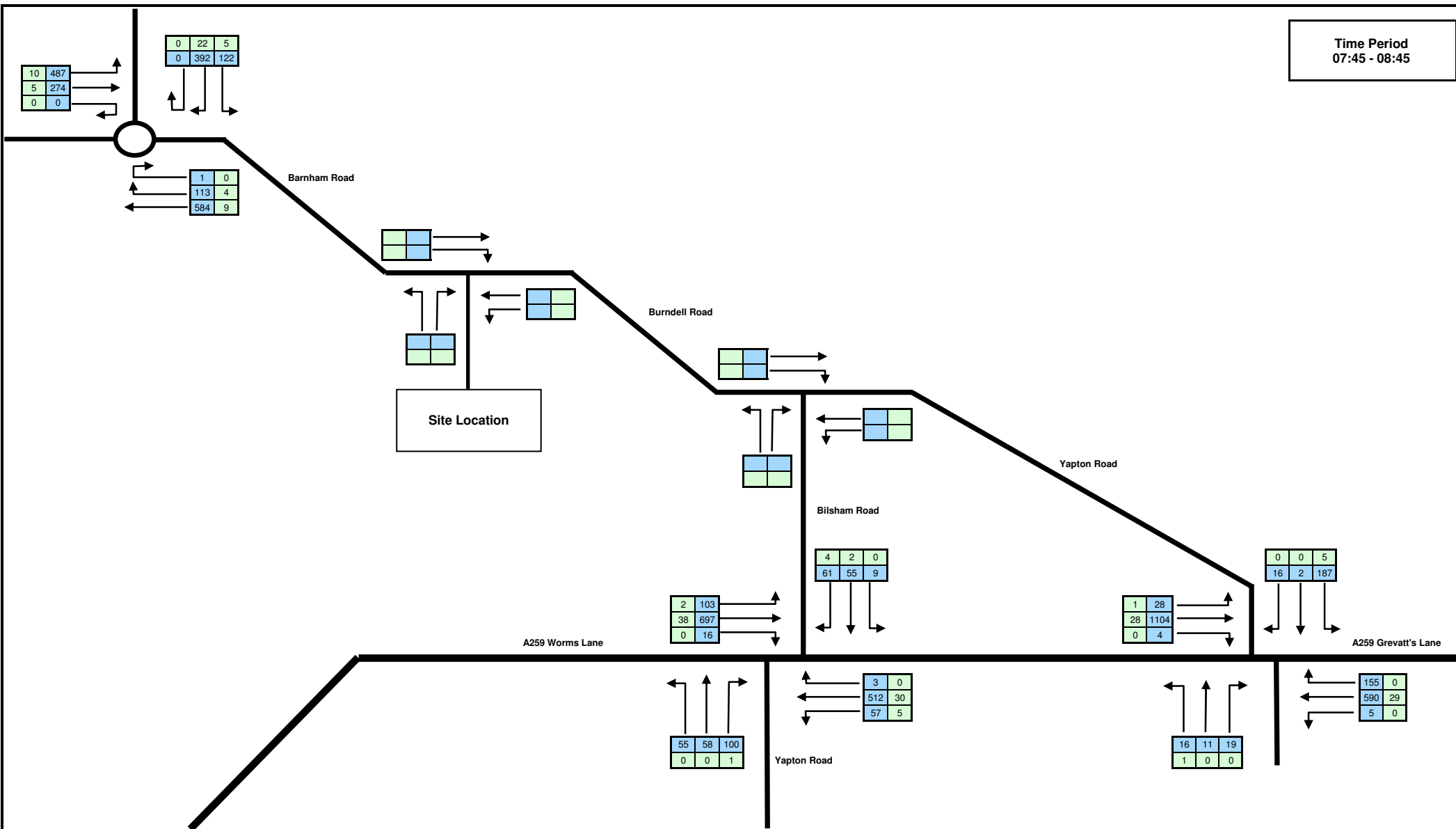
PROJECT: Land South of Yapton Road, Barnham

JOB REFERENCE NO: WSCC/09/1067

FIGURE NO: 10

TITLE: PM Base Traffic Re-distribution
(With BRRR)

Time Period
07:45 - 08:45



LEGEND

Total Traffic Flows
HGV Flows

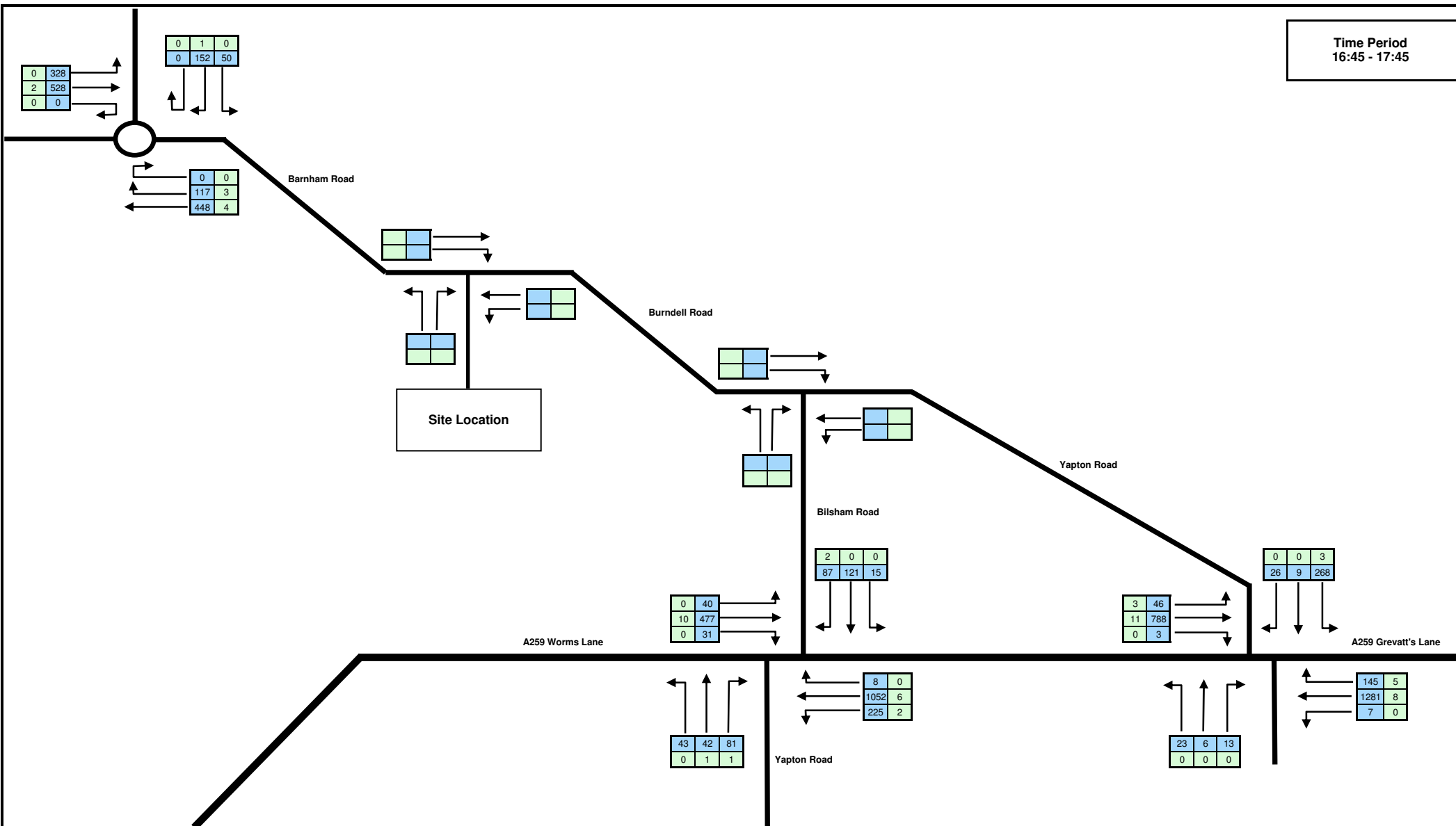
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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 11
TITLE: AM Base (2013) With BRRR

Time Period
16:45 - 17:45



LEGEND

Total Traffic Flows
HGV Flows

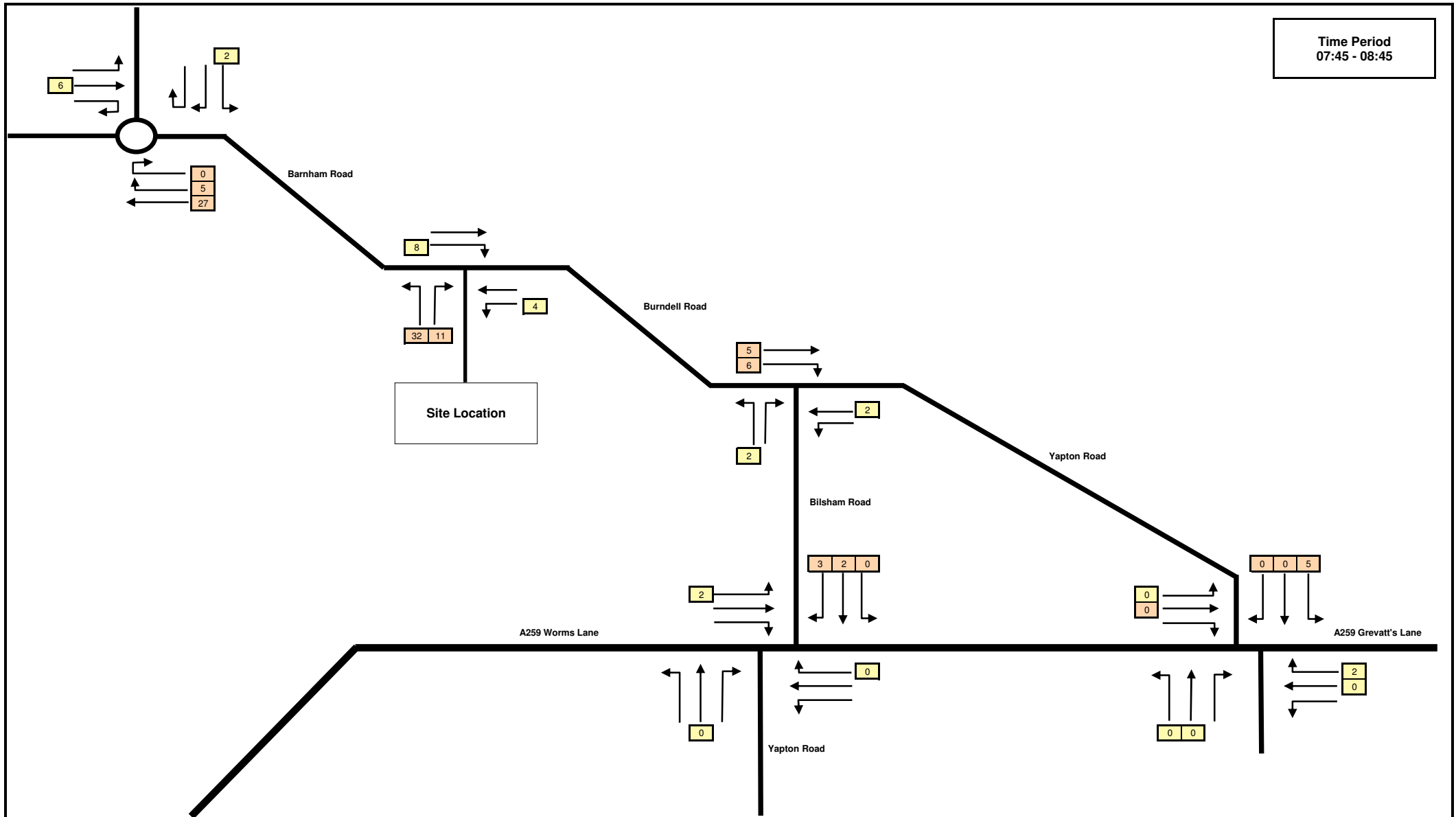
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PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 12
TITLE: PM Base (2013) With BRRR

Time Period
07:45 - 08:45



LEGEND

Arrivals
Departures

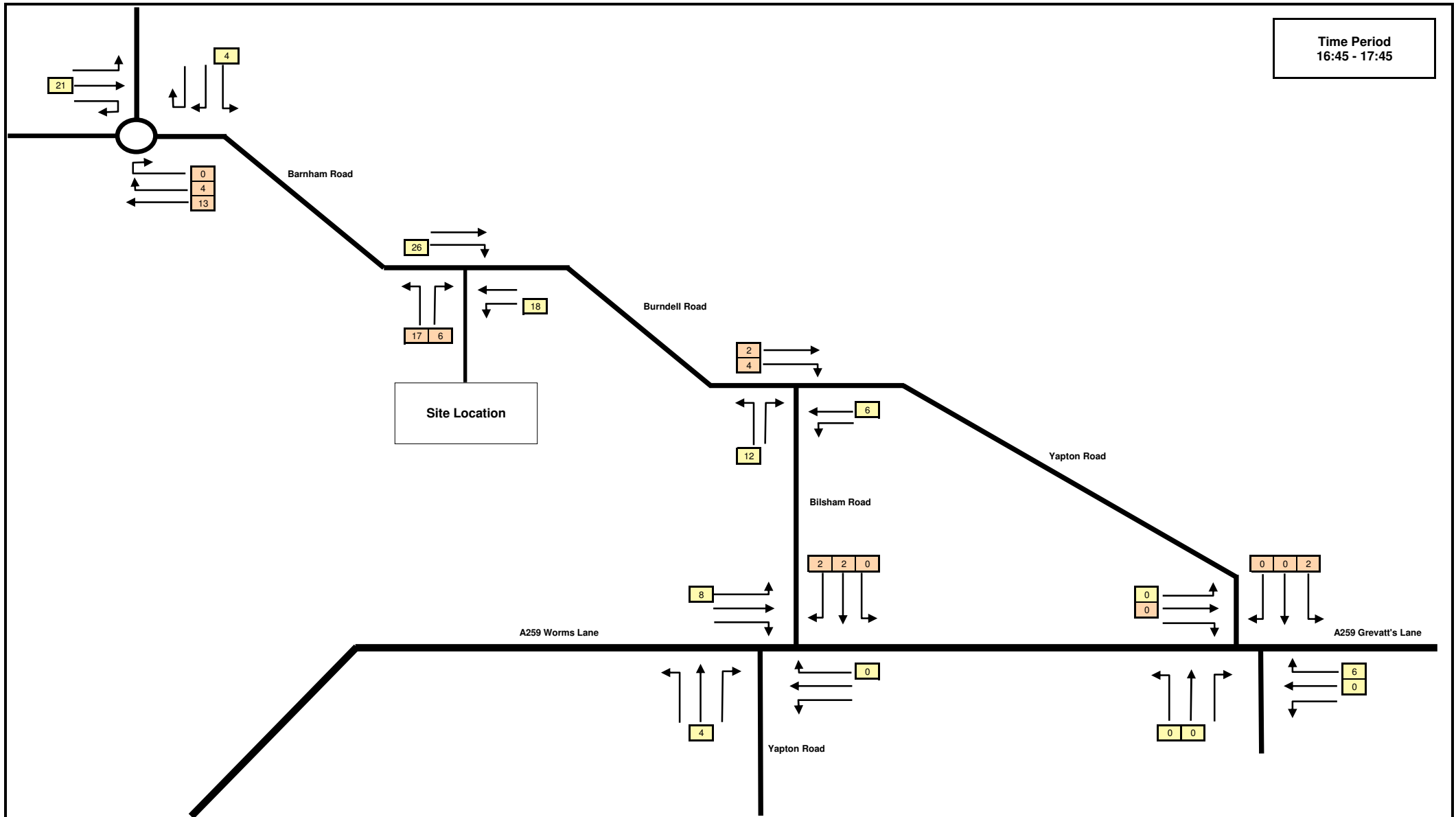
12
43

Transport Planners & Civil Engineers
Primrose Place
Portsmouth Road
Godalming
Surrey, GU7 2JN



PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 13
TITLE: AM Dev Flows (No BRRR)

Time Period
16:45 - 17:45



LEGEND

Arrivals
Departures

44
22

Transport Planners & Civil Engineers
Primrose Place
Portsmouth Road
Godalming
Surrey, GU7 2JN



PROJECT:

Land South of Yapton Road, Barnham

JOB REFERENCE NO:

WSCC/09/1067

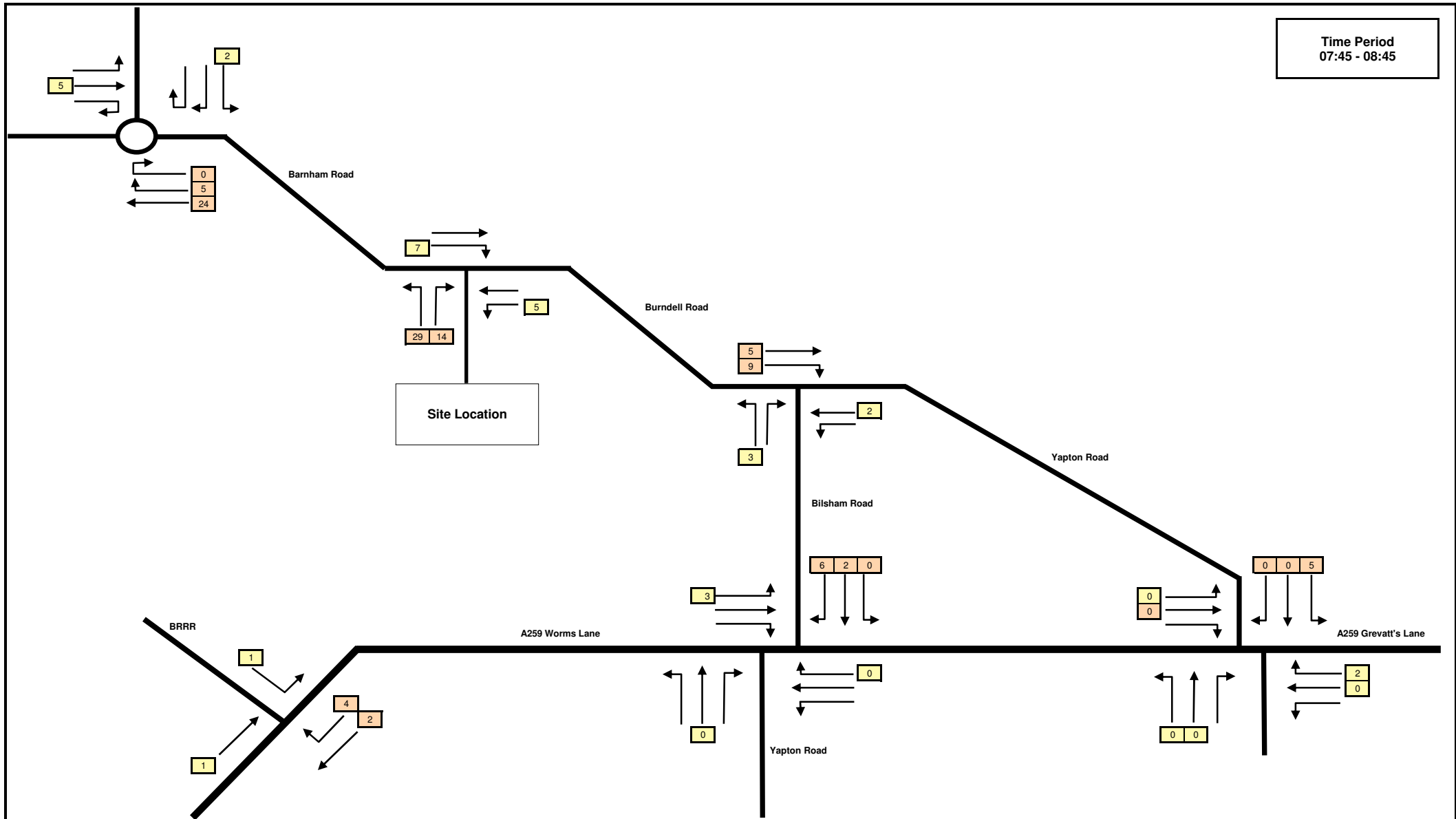
FIGURE NO:

14

TITLE:

PM Dev Flows (No BRRR)

Time Period
07:45 - 08:45



LEGEND

Arrivals
Departures

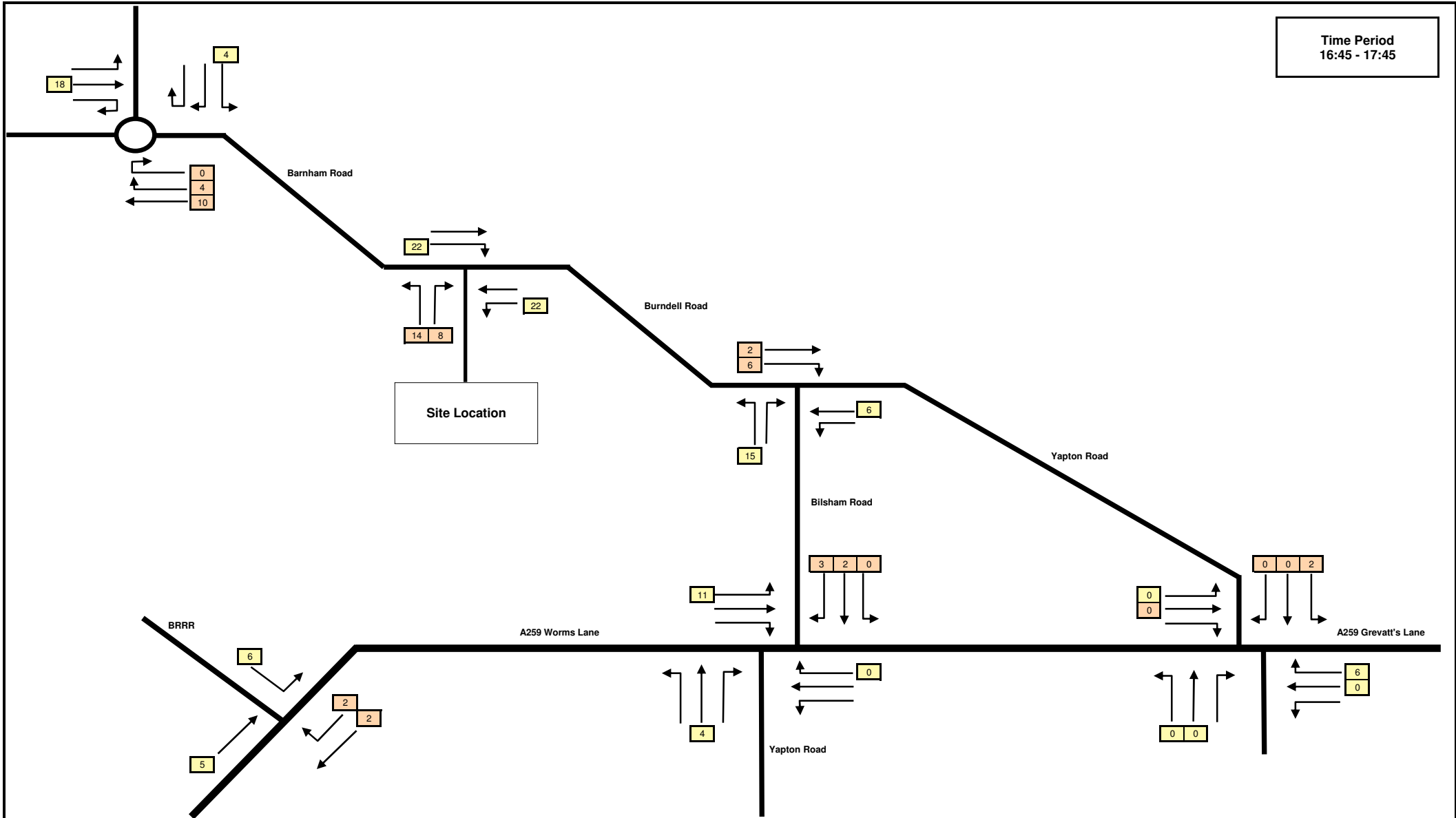
12
43

Transport Planners & Civil Engineers
Primrose Place
Portsmouth Road
Godalming
Surrey, GU7 2JN



PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 15
TITLE: AM Dev Flows (With BRRR)

Time Period
16:45 - 17:45



LEGEND

Arrivals
Departures

44
22

Transport Planners & Civil Engineers
Primrose Place
Portsmouth Road
Godalming
Surrey, GU7 2JN



PROJECT:

Land South of Yapton Road, Barnham

JOB REFERENCE NO:

WSCC/09/1067

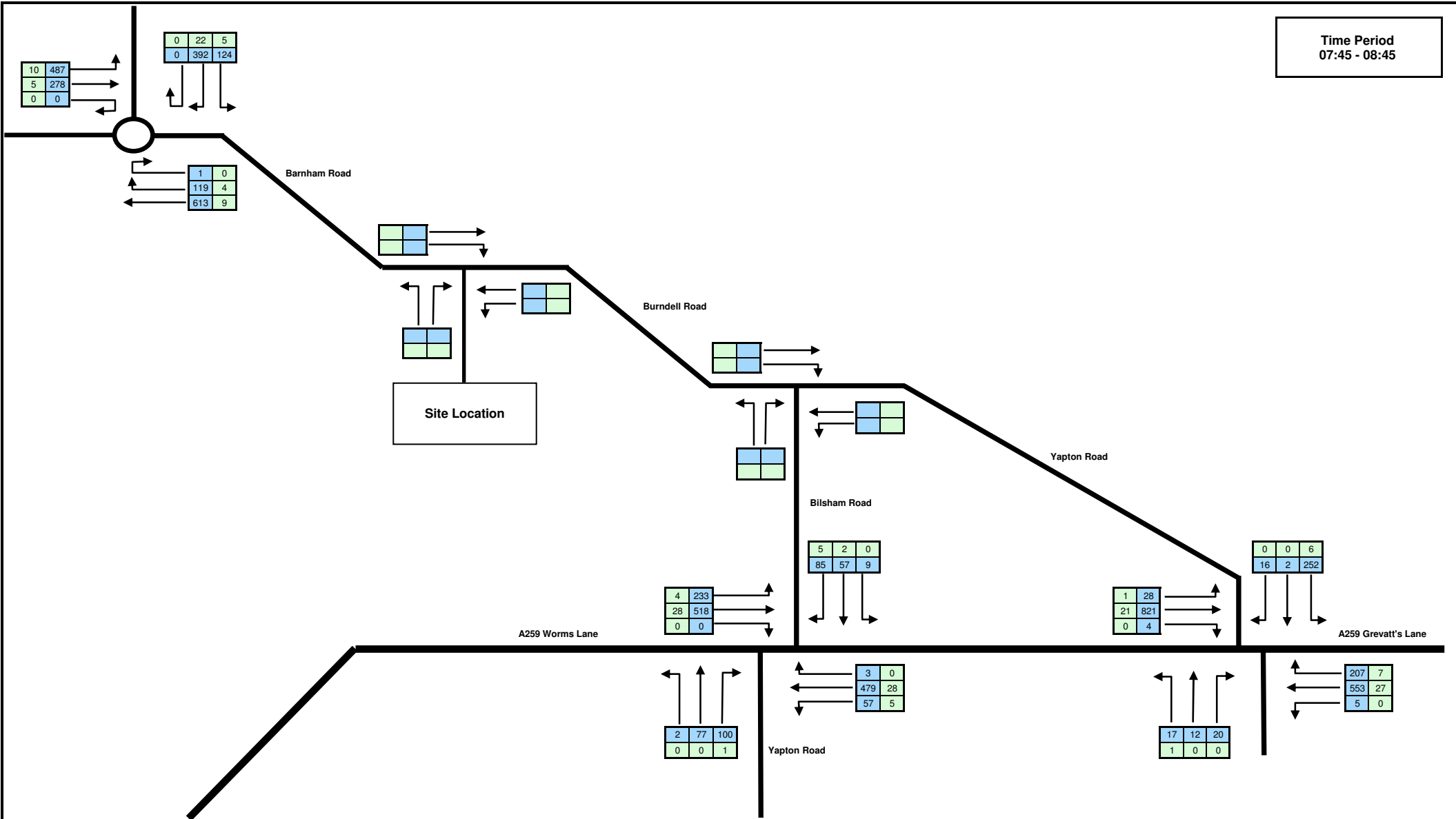
FIGURE NO:

16

TITLE:

PM Dev Flows (With BRRR)

Time Period
07:45 - 08:45



LEGEND

Total Traffic Flows
HGV Flows

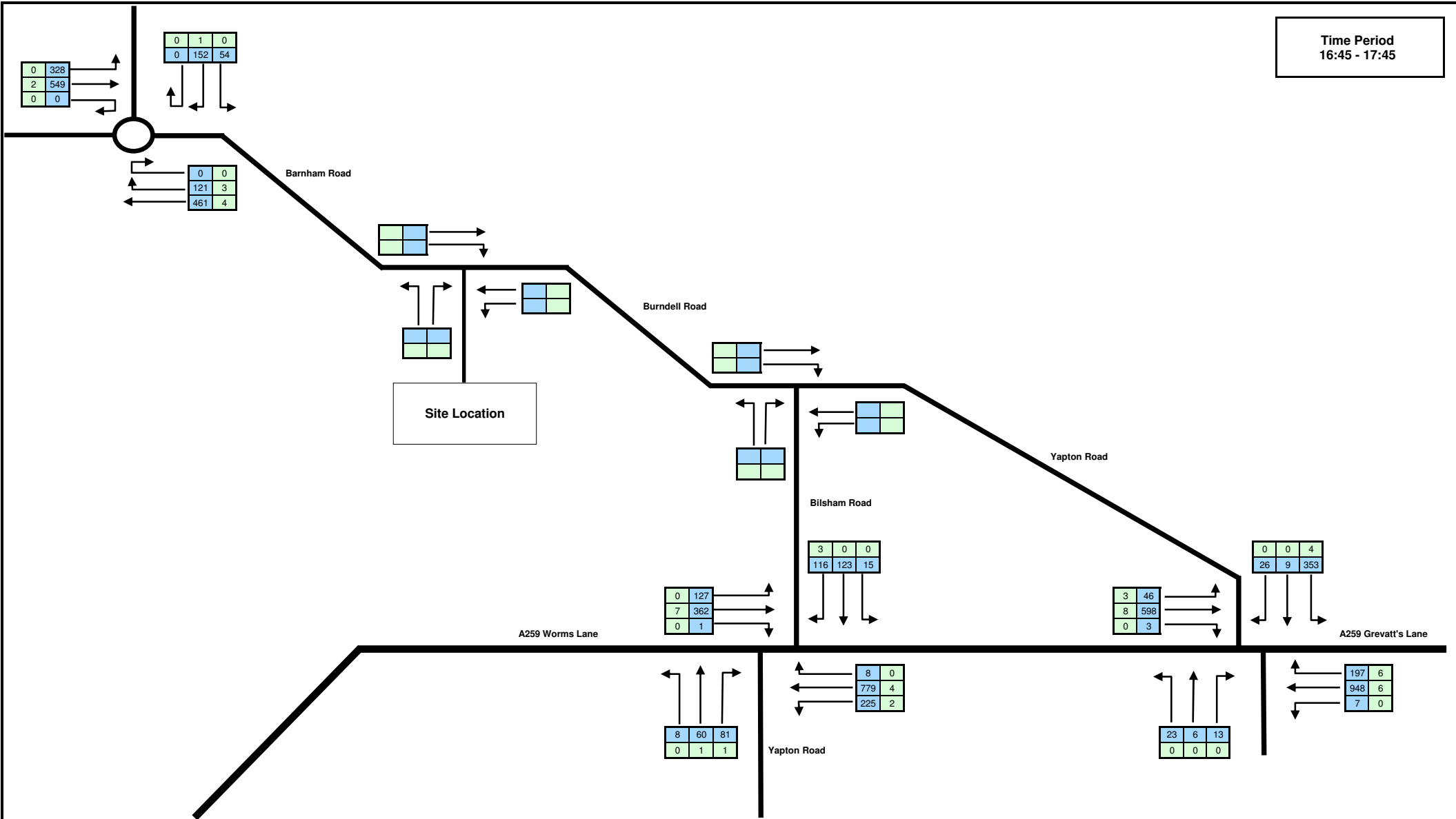
#

Transport Planners & Civil Engineers
Primrose Place
Portsmouth Road
Godalming
Surrey, GU7 2JN



PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 17
TITLE: AM Base (2013) + Dev (No BRRR)

Time Period
16:45 - 17:45



LEGEND

Total Traffic Flows
HGV Flows

#

Transport Planners & Civil Engineers
Primrose Place
Portsmouth Road
Godalming
Surrey, GU7 2JN



PROJECT:

Land South of Yapton Road, Barnham

JOB REFERENCE NO:

WSCC/09/1067

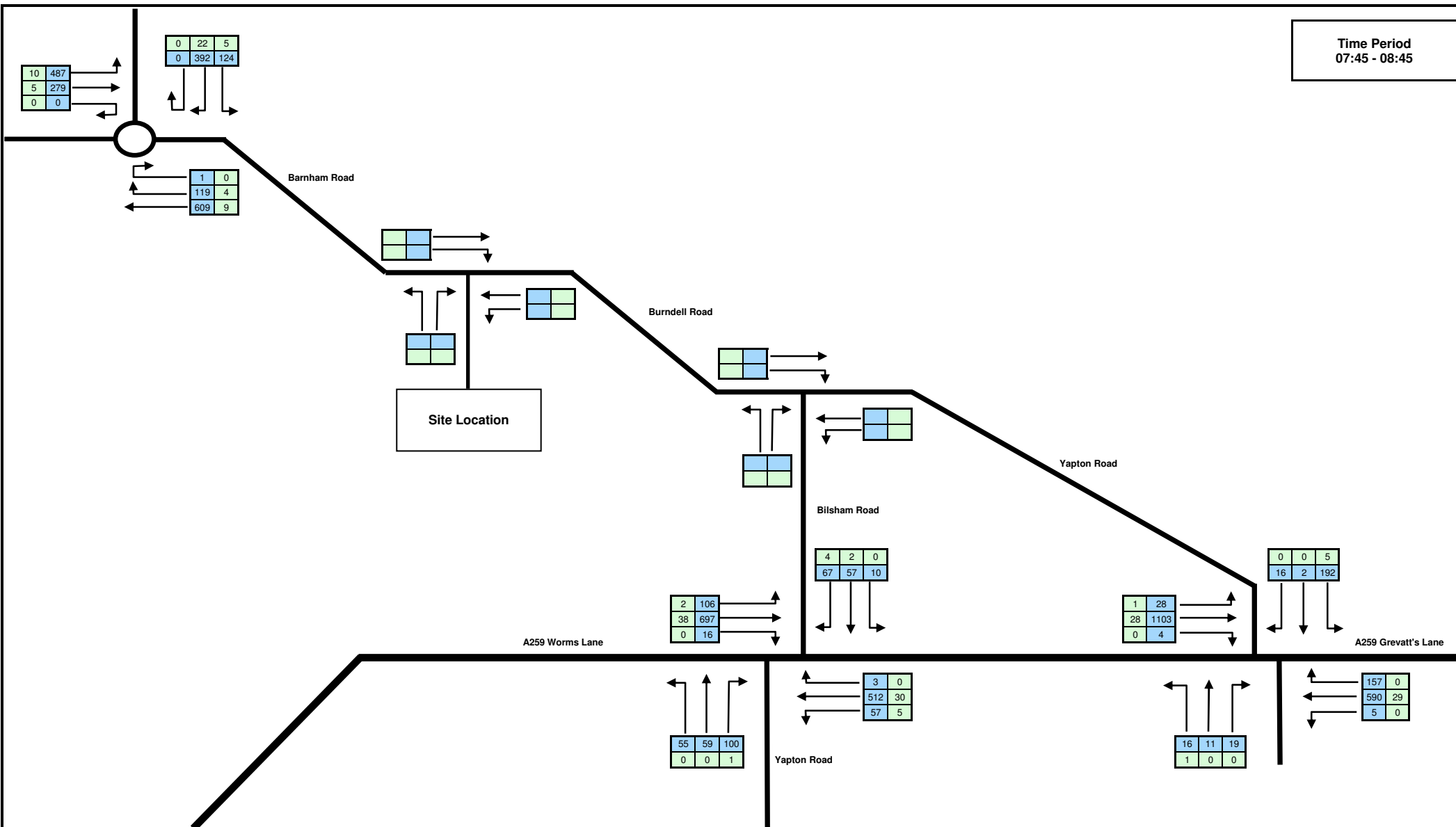
FIGURE NO:

18

TITLE:

PM Base (2013) + Dev (No BRRR)

Time Period
07:45 - 08:45



LEGEND

Total Traffic Flows
HGV Flows

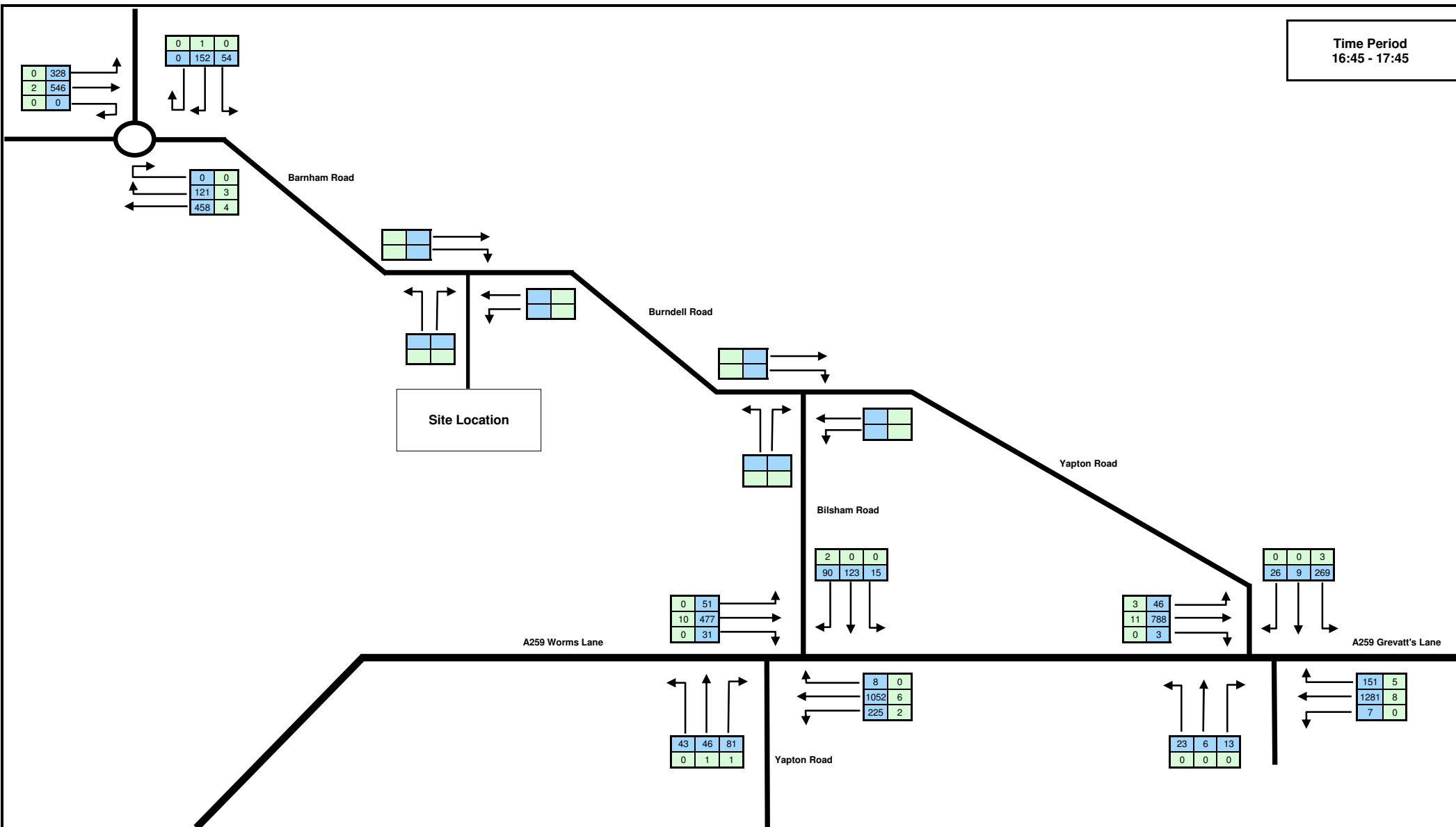
#

Transport Planners & Civil Engineers
Primrose Place
Portsmouth Road
Godalming
Surrey, GU7 2JN



PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 19
TITLE: AM Base (2013) + Dev (With BRRR)

Time Period
16:45 - 17:45



LEGEND

Total Traffic Flows
HGV Flows

#

Transport Planners & Civil Engineers
Primrose Place
Portsmouth Road
Godalming
Surrey, GU7 2JN



PROJECT: Land South of Yapton Road, Barnham
JOB REFERENCE NO: WSCC/09/1067
FIGURE NO: 20
TITLE: PM Base (2013) + Dev (With BRRR)



APPENDIX A



Settlement Sustainability Study

July 2007

1.0 Introduction

- 1.1 This study has been produced for the Arun Local Development Framework (LDF) under the provision of the Planning and Compulsory Purchase Act 2004. It is one of a number of background studies that have been carried out to inform the development of the LDF Core Strategy.
- 1.2 In July 2006, Arun District Council published an assessment of the sustainability of the district's main settlements. However, this assessment did not consider all settlements in the district. To ensure a robust evidence base, and in the interest of clarity, it was decided that an assessment of the settlements that were originally excluded should be carried out (this includes settlements without a Built-up Area Boundary).
- 1.3 Not only has the study been extended in this way, but it has also evolved from its original hierarchical nature. Previously, each settlement received scores based on their accessibility to facilities and the inflow / outflow of employees. The scores were then combined to create a settlement hierarchy, which was designed to give a clear, if rather simplified consideration of the most sustainable locations in the District.
- 1.4 However, the hierarchy method has since been modified for a number of reasons. Firstly, it was felt that combining an average facilities accessibility score with a score based on employee inflow / outflow was deemed too basic since it gave equal weight to employment and access to facilities. This approach is problematic since it assumes that all facilities within each settlement should be treated equally in terms of weighting (e.g. a train station and a food shop). By adding the facilities score to an employment score it also assumes that employment is as important as a whole range of facilities 'averaged out'. Secondly, it could potentially be misleading to aggregate scores relating to different issues into a simple hierarchy. Thirdly, and linked to the issue regarding the average facilities score, it was felt that more attention should be given to public transport provision (as will become apparent in the discussion that follows, infrastructure is a key factor of this study).
- 1.5 The manner in which the employment category has been calculated has also changed. Instead of using a net flow percentage score, the settlements have been ranked according to an indication of the total provision of employment in each settlement. Whilst the net flow percentage was useful for the larger settlements, it created a number of unrepresentative results for the smaller settlements. This was mainly due to the large geographical area covered by the Output Area (OA) in the smaller, more rural settlements which often included very small populations but, in some cases, large employment centres that weren't part of the settlement nucleation.
- 1.6 To overcome these issues, the original data has been disaggregated from the combined data in the hierarchy into three separate rankings: a basic facilities table, an employment table and a public transport table. This creates a less generalised view of the characteristics of each settlement thus allowing for a more detailed understanding of the situations in each settlement.

5.4 Stage 2: Categorisation of the settlements according to the average accessibility scores:

Score	Accessibility Category
2.00 +	Very Good Accessibility
1.50 – 1.99	Good Accessibility
1.00 – 1.49	Fair Accessibility
0.50 – 0.99	Poor Accessibility
0.00 – 0.49	Very Poor Accessibility

5.5 Having undertaken the above steps, the settlements have been categorised as follows:

Table 5.1 : a) : Facilities Accessibility for Larger Settlements (with Built-up Area Boundary)

Settlements	Facilities Accessibility Score	Facilities Accessibility Category
Eastergate	2.27	Very Good
Westergate	2.11	Very Good
Bognor	2.09	Very Good
Littlehampton	1.99	Good
Bersted	1.79	Good
Rustington	1.76	Good
Felpham	1.75	Good
Aldwick	1.68	Good
Arundel	1.66	Good
Barnham	1.63	Good
Angmering	1.59	Good
Ferring	1.56	Good
East Preston	1.38	Fair
Findon	1.35	Fair
Middleton	1.33	Fair
Pagham	1.26	Fair
Walberton	1.24	Fair
Yapton	1.20	Fair

Table 5.1 : b): Facilities Accessibility for Smaller Settlements (without a Built-up Area Boundary)

Settlements	Facilities Accessibility Score	Facilities Accessibility Category
Clapham	1.36	Fair
Bilsham	1.09	Fair
Patching	0.91	Poor
Slindon	0.91	Poor
Climping	0.77	Poor
Kingston	0.73	Poor
Tortington	0.64	Poor
Burpham & Wepham	0.55	Poor
Fontwell	0.55	Poor
Aldingbourne & Norton	0.50	Poor
Binsted	0.45	Very Poor
Crossbush & Lyminster	0.45	Very Poor
Ford	0.36	Very Poor
Madehurst	0.27	Very Poor
Lidsey	0.18	Very Poor
Hammerpot	0.09	Very Poor
Houghton, Offham & South Stoke	0.09	Very Poor
Poling	0.00	Very Poor
Shripney	0.00	Very Poor
Warningcamp	0.00	Very Poor

5.6 Stage 3: Categorise the settlements according to the employment availability:

Employment Availability (Count)	Category
5000 +	Very Good
2000 – 4999	Good
1000 – 1999	Fair
500 – 999	Limited
0 – 499	Poor

5.7 The settlements were then categorised for the purpose of employment availability as follows:

Table 5.2: a) : Employment Availability for Larger Settlements (with Built-up Area Boundary)

Settlements	Employment Availability Score	Employment Availability Category
Bognor	10572	Very Good
Littlehampton	8375	Very Good
Rustington	4579	Good
Bersted	3352	Good
Felpham	1761	Fair
Aldwick	1494	Fair
Arundel	1135	Fair
East Preston	1112	Fair
Angmering	990	Limited
Ferring	848	Limited
Yapton	839	Limited
Barnham	797	Limited
Pagham	763	Limited
Middleton	749	Limited
Findon	478	Poor
Westergate	448	Poor
Eastergate	142	Poor
Walberton	131	Poor

Table 5.2: b) : Employment Availability for Smaller Settlements (without a Built-up Area Boundary)

Settlements	Employment Availability Score	Employment Availability Category
Climping	928	Limited
Ford	857	Limited
Aldingbourne & Norton	312	Poor
Hammerpot	298	Poor
Tortington	238	Poor
Clapham	229	Poor
Fontwell	217	Poor
Binsted	203	Poor
Slindon	182	Poor
Crossbush & Lyminster	137	Poor
Kingston	89	Poor
Patching	82	Poor
Houghton, Offham & South Stoke	57	Poor
Shripney	57	Poor
Burpham & Wepham	55	Poor
Lidsey	46	Poor
Bilsham	42	Poor
Madehurst	31	Poor
Warningcamp	27	Poor
Poling	26	Poor

5.8 Stage 4: Categorise the settlements according to the public transport availability:

Score	Accessibility Category
2.00 +	Very Good Accessibility
1.50 – 1.99	Good Accessibility
1.00 – 1.49	Fair Accessibility
0.50 – 0.99	Poor Accessibility
0.00 – 0.49	Very Poor Accessibility

5.9 The settlements were categorised for the purpose of public transport availability as follows:

Table 5.3: a) : Transport Accessibility for Larger Settlements (with Built-up Area Boundary)

Settlements	Transport Accessibility Score	Transport Accessibility Category
East Preston	2.10	Very Good
Bognor	1.83	Good
Rustington	1.69	Good
Littlehampton	1.68	Good
Felpham	1.43	Fair
Ferring	1.41	Fair
Bersted	1.35	Fair
Barnham	1.11	Fair
Middleton	1.05	Fair
Angmering	0.69	Poor
Arundel	0.40	Poor
Eastergate	0.25	Poor
Yapton	0.17	Poor
Aldwick	0.13	Poor
Findon	0.00	Very Poor
Pagham	0.00	Very Poor
Walberton	0.00	Very Poor
Westergate	0.00	Very Poor

Settlements	Transport Accessibility Score	Transport Accessibility Category
Climping	1.25	Fair
Ford	1	Fair
Crossbush & Lymminster	0.5	Poor
Kingston	0.5	Poor
Warningcamp	0.5	Poor
Aldingbourne & Norton	0	Very Poor
Bilsham	0	Very Poor
Binsted	0	Very Poor
Burpham & Wepham	0	Very Poor
Clapham	0	Very Poor
Fontwell	0	Very Poor
Hammerpot	0	Very Poor
Houghton, Offham & South Stoke	0	Very Poor
Lidsey	0	Very Poor
Madehurst	0	Very Poor
Patching	0	Very Poor
Poling	0	Very Poor
Shripney	0	Very Poor
Slindon	0	Very Poor
Tortington	0	Very Poor

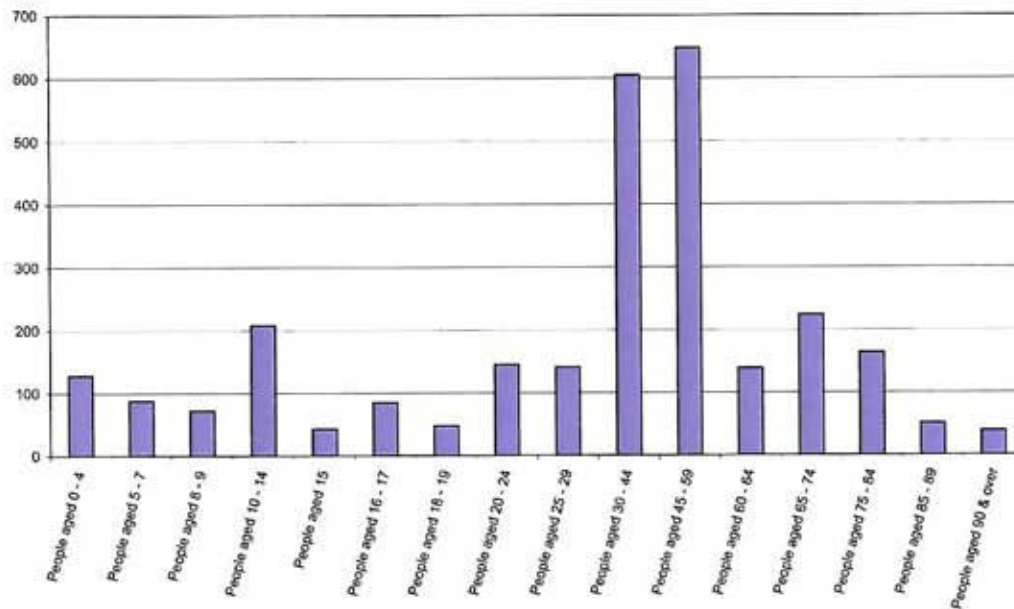
7.4 Barnham Settlement Results

Population Total: 2829 (2% of district total)

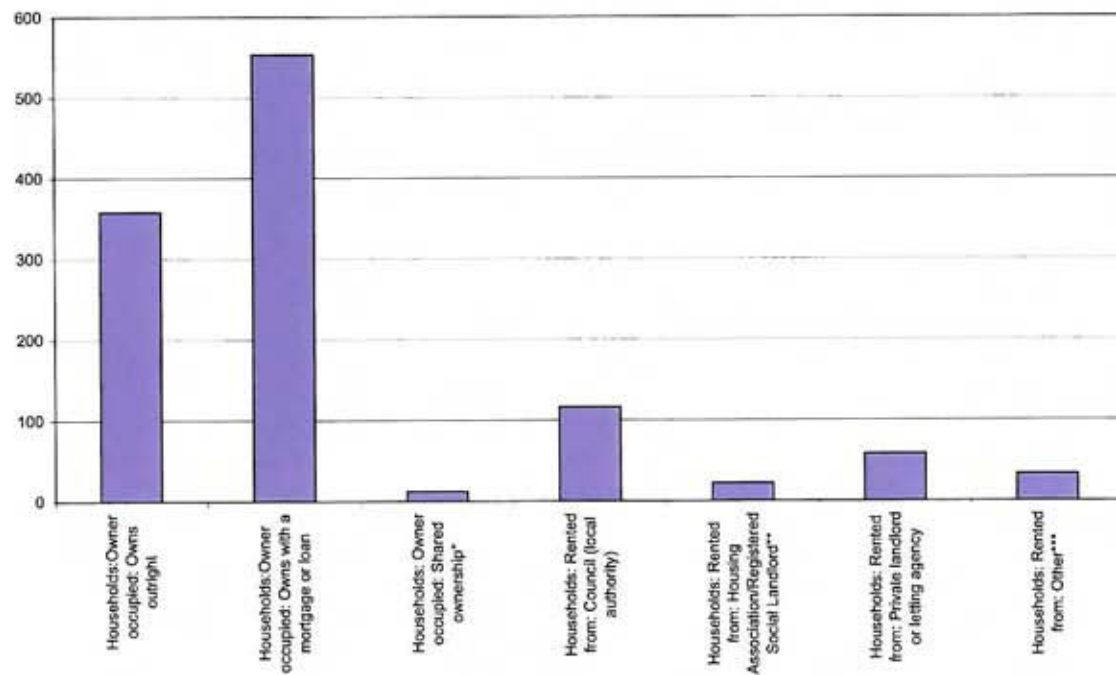
Population Male: 1392

Population Female: 1437

Graph 7.4 Barnham: Age



Graph 7.4 Barnham Tenure



Graph 7.4 Barnham Household Composition

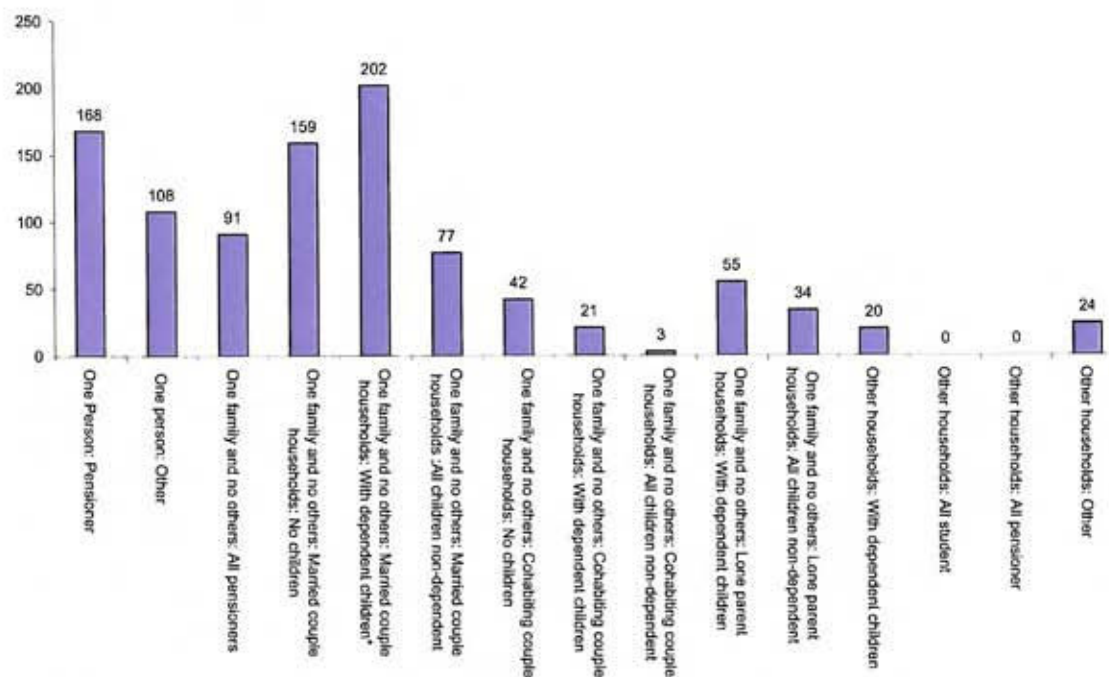


Table 7.4 Barnham Facilities Accessibility

Facility	Score	Accessibility Category
Bank	2.33	Very Good Accessibility
Bus	0.00	Very Poor Accessibility
Community Hall	0.78	Poor Accessibility
Food Store	2.56	Excellent Accessibility
Further Education Institution	0.22	Poor Accessibility
G.P. Surgery	0.78	Poor Accessibility
Petrol Station	0.22	Very Poor Accessibility
Pharmacy	2.56	Excellent Accessibility
Place of Worship	1.00	Fair Accessibility
Post Office	2.56	Excellent Accessibility
Primary School	2.56	Excellent Accessibility
Secondary School	2.33	Very Good Accessibility
Train Station	2.22	Very Good Accessibility

Graph 7.4 Barnham Industry of Employed Residents

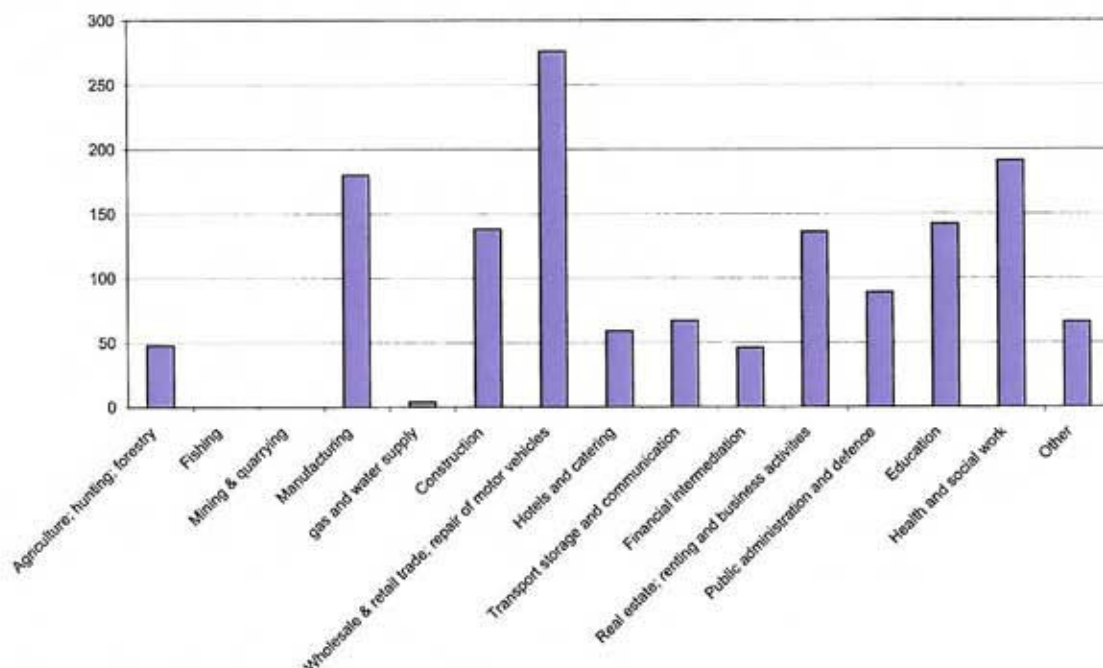


Table 7.4 Barnham Travel to Work Patterns

Trips originating from study settlement	1233 (44% of settlement population)
Trips starting and concluding in study settlement	286
Trips from study settlement to any other settlement	947
% of trips from settlement that are contained within the settlement	23.20%
Trips concluding in study settlement	797
Trips into settlement from external settlements	511
% of employees in the settlement who live in the settlement	35.88%
Net flow of employees*	-436



APPENDIX B



REPRODUCED FROM 2008 ORDNANCE SURVEY MASTER MAPPING WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. CROWN COPYRIGHT. UNAUTHORISED REPRODUCTION IN ANY FORM OR BY ANY MEANS, WITHOUT PERMISSION OR CIVIL PROCEEDINGS, IS PENAL IN LAW. (100023447)

AREA		DRAWN	EW
ROUTE No.		CHECKED	
FILE No.	09/190	DATE	22 July 2009
Rev			
Date		Amendment	Name



West
Sussex
County
Council

Barnham
5 years accident data from
1 July 2004 to 30 June 2009

Accident Severity			Casualty Severity			Casualty Class		
● Slight	14		● Slight	15		🚗 Driver	11	
■ Serious	1		■ Serious	1		🚲 P.Riders	1	
▲ Fatal	0		▲ Fatal	0		🚶 Pass.	0	
						👤 Ped.	4	

DRG No.

SCALE NTS

Tony Topham
Director of
Infrastructure Operations
County Hall, West Street
Chichester,
West Sussex, PO19 1RH
(Tel: 01243 642105)

AccsMap - Accident Analysis System

CONFIDENTIAL ACCIDENT DATABASE

Information on this system falls within the meaning of the Data Protection Act which requires that appropriate security measures are taken against unauthorised access, alteration, disclosure or destruction of personal data.

Accident Data is confidential to Sussex Police and MUST NOT be issued in any form to any other person or body except for employees of Sussex Safety Camera Partnership and their agents. Any other party receiving information from this system MUST be informed of the restrictions which apply to the data.

Printouts MUST be returned to the SSCP, PO Box 2094, Shoreham-by-Sea, BN43 6XT for destruction. They MUST NOT be filed or taken outside the office.

Accidents between dates **01/06/2004** and **31/05/2009** (60) months

Selection: _____ **Notes:** _____

Selected using Pre-defined Query : * Exclude damage only Barnham 2

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

K176475 04/07/2004 Sunday Time 0157 Vehicles 1 Casualties 1 Slight
 Grid Ref: 496025 104391 Road: B 2233 Junction with: Unclas Speed: 30

Parish:

Road Type: Single carriageway

Surface: Wet/Damp

Junction Detail: Using private drive or entrance

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Darkness: street lights present and lit

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported:

Caused by:

Police F 60

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	1			
2nd:	23			
3rd:	24			
4th:	27			
5th:				
6th:				

V1 A GO-PED TRAV E UNDERAGE RIDER WITH NO CRASH HELMET FOR UNKNOWN REASON FELL FROM VEHICLE
 CAUSING HEAD INJURY

Location: B2233 BARNHAM ROAD APPROX 30M W OF J/W BARNHAM LANE, BARNHAM

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0500718 18/01/2005 Tuesday Time 0805 Vehicles 2 Casualties 1 Slight
 Grid Ref: 495807 104445 Road: B 2233 Junction with: Unclas Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Other junction

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 001	Very Likely
2nd:	Poor turn or manoeuvre	Vehicle 001	Very Likely
3rd:	Careless/Reckless/In a hurry	Vehicle 001	
4th:			
5th:			
6th:			

V2 TRAV E TO W IN BARNHAM ROAD, JUST PASSED BARNHAM RAILWAY STATION WHEN V1 DROVE ACROSS CARRIAGEWAY TRAV N TO W WITHOUT WARNING AND DROVE INTO FOS OF V2

Location: B2233 BARNHAM ROAD M OF U0 THE SQUARE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0501186 28/01/2005 Friday Time 1857 Vehicles 2 Casualties 1 Slight
 Grid Ref: 496056 104374 Road: B 2233 Junction with: Unclas Speed: 30

Parish:

Road Type: Single carriageway

Surface: Wet/Damp

Junction Detail: T or staggered junction

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Darkness: street lights present and lit

Weather: Raining without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: At scene

Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

Causation			
	Factor:	Participant:	Confidence:
1st:	Slippery road (due to weather)	Vehicle 001	Possible
2nd:	Disobeyed Give Way or Stop sign or markings	Vehicle 001	Very Likely
3rd:	Junction overshoot	Vehicle 001	
4th:			
5th:			
6th:			

V1 ON BARNHAM LANE TRAV TOWARDS BARNHAM RD, FAILED TO GIVE WAY AT JUNCTION AND HIT FNS OF V2 WHICH WAS TRAV E ALONG BARNHAM RD, CAUSED V2 TO CROSS CARRIAGEWAY AND HIT BOLLARD, MINOR INJURY TO DV2

Location: B2233 BARNHAM ROAD M OF U0 BARNHAM LANE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0509505 09/11/2005 Wednesday Time 1745 Vehicles 2 Casualties 1 Slight
 Grid Ref: 495987 104387 Road: B 2233 Junction with: Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Not within 20m of junction

Control: 0

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Darkness: street lights present and lit

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: At scene

Caused by:

Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 001	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

APPARENTLY, VEHICLE 1 WAS EXITING THE CAR PARK OF BARNHAM TRADING POST, WITH THE INTENTION OF TURNING RIGHT ONTO BARNHAM ROAD. THE DRIVER OF VEHICLE 1'S VIEW TO THE RIGHT WAS OBSCURED BY A VEHICLE PARKED ON DOUBLE YELLOW LINES. VEHICLE 1 FAILED TO NOTICE

Location: B2233 BARNHAM ROAD 71M WEST OF BARNHAM LANE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0510075 23/11/2005 Wednesday Time 1529 Vehicles 2 Casualties 1 Slight
 Grid Ref: 496109 104434 Road: C Junction with: Unclas Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: T or staggered junction

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

Causation			
	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 001	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 001	Possible
3rd:	Distraction in vehicle	Vehicle 001	
4th:			
5th:			
6th:			

V2 TRAVELLING NE ALONG LAKE LANE, BARNHAM AWAY FROM BARNHAM CENTRE AND INTENDING TO TURN RIGHT INTO GOODACRES. DRIVER WAS TRAVELLING SLOWLY AND PUT RIGHT INDICATOR ON, THEN STOPPING TO ALLOW ONCOMING TRAFFIC TO PASS. SHE HAD BEEN STATIONARY FOR 5 TO 10 S

Location: C0 LAKE LANE, BARNHAM M OF U GOODACRES

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0602976 11/04/2006 Tuesday Time 1224 Vehicles 2 Casualties 1 Slight
 Grid Ref: 496321 104139 Road: B 2233 Junction with: Speed: 30
 Parish:
 Road Type: Single carriageway Surface: Dry
 Junction Detail: Not within 20m of junction Control: 0
 Crossing: Control None within 50 metres Facilities: No physical crossing facility within 50 metres
 Lighting: Daylight:street lights present Weather: Fine without high winds
 Carriageway Hazards: Other object in carriageway Special Conditions at Site: None
 DfT Special Projects: Police/LA Special Projects: Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory

Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to judge other persons path or speed		Vehicle 001	Very Likely
2nd:				
3rd:				
4th:				
5th:				
6th:				

VEHICLE 2 WAS TRAVELLING WESTBOUND ON YAPTON RD WITH VEHICLE 1 FOLLOWING. VEHICLE 2 STOPPED AS THERE WAS A CAR PARKED ON THE NEAR SIDE OF THE ROAD AND A CAR WAS COMING THE OTHER WAY. VEHICLE 1 FAILED TO STOP IN TIME AND COLLIDED WITH THE REAR OF VEHICLE 2

Location: B2233 YAPTON ROAD 225M WEST OF U HILL LANE

Vehicle Reference

Vehicle movement from: to

Manoeuvres:

Location at impact
 Hit object in road

First impact: Hit vehicle:
 Off road:
 Age of Driver

Parts damaged:
 Breath test

Driver Postcode: Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0607409 07/09/2006 Thursday Time 1605 Vehicles 1 Casualties 1 Slight
 Grid Ref: 496115 104453 Road: U Junction with: Unclas Speed: 30
 Parish:
 Road Type: Single carriageway Surface: Dry
 Junction Detail: Other junction Control: Give way or controlled
 Crossing: Control None within 50 metres Facilities: No physical crossing facility within 50 metres
 Lighting: Daylight: street lighting unknown Weather: Fine without high winds
 Carriageway Hazards: None Special Conditions at Site: None
 DfT Special Projects: Police/LA Special Projects: Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory

Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to look properly		Casualty 001	Very Likely
2nd:				
3rd:				
4th:				
5th:				
6th:				

V1 EXITED BARNHAM RAOD AT JUNCTION WITH BARNHAM LANE. WAS TRAVELING ALONG BARHAM LANE IN A NORTH DIRECTION. AS V1 WAS OPPOSITE GOOD ACRES A 14YRS OLD FEMALE STEPPED OFF THE KURB ON THE LEFT HAND SIDE. V1 WING MIRROR MADE CONTACT WITH FEMALE'S LEFT ARM CAU

Location: U BARNHAM LANE M OF U LAKE LANE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0702405 18/03/2007 Sunday Time 1552 Vehicles 1 Casualties 1 Slight
 Grid Ref: 496170 104655 Road: C 15 Junction with: Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Not within 20m of junction

Control: 0

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Dangerous action in carriageway		Casualty 001	Possible
2nd:				
3rd:				
4th:				
5th:				
6th:				

VEHICLE ONE NORTHBOUND ON BARNHAM LANE WHEN PEDESTRIAN SLIPPED FROM GRASS BANK AND COLLIDED WITH NEARSIDE OF VEHICLE.

Location: C15 BARNHAM LANE 50M NORTH OF U LAKE LANE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0703643 30/04/2007 Monday Time 1700 Vehicles 1 Casualties 1 Slight
 Grid Ref: 496005 104383 Road: B 2233 Junction with: Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Not within 20m of junction

Control: 0

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight: no street lighting

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory

Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Passing too close to cyclist, horse rider or pedestrian	Vehicle 001	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

INJURED PERSON PREPARING TO GET INTO TAXI - WAS JUST ABOUT TO OPEN TAXI DOOR WHEN VEHICLE PASSING HIT PERSONS RIGHT HAND CAUSED SWELLING AND BRUISING - IMPACT KNOCKED VEHICLES WING MIRROR OFF.

Location: B2233 BARNHAM ROAD 197m East of U SAXBY CLOSE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0704419 29/05/2007 Tuesday Time 1045 Vehicles 2 Casualties 1 Slight
 Grid Ref: 495982 104388 Road: B 2233 Junction with: Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Using private drive or entrance

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Vehicle 001	Possible
2nd:	Failed to look properly	Vehicle 001	Very Likely
3rd:			
4th:			
5th:			
6th:			

VEHICLE 2 TRAVELLING WEST BOUND STOPPED IN ORDER TO TURN RIGHT WAS STRUCK IN REAR BY VEHICLE 1 TRAVELLING IN SAME DIRECTION.

Location: B2233 BARNHAM ROAD M OF U ENTRANCE TO BARNHAM TRADING PO

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0709049 29/10/2007 Monday Time 1813 Vehicles 2 Casualties 2 Slight
 Grid Ref: 496644 104024 Road: B 2233 Junction with: Speed: 30

Parish:

Road Type: Unknown

Surface: Dry

Junction Detail: Not within 20m of junction

Control: 0

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Darkness: no street lighting

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory

Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Following too close	Vehicle 001	Very Likely
2nd:	Travelling too fast for conditions	Vehicle 001	Very Likely
3rd:	Failed to look properly	Vehicle 001	Very Likely
4th:	Failed to judge other persons path or speed	Vehicle 001	Very Likely
5th:			
6th:			

V1 WAS FOLLOWING V2 IN TRAFFIC. V2 INDICATED RIGHT TO TURN INTO THE WILLIES CARAVAN PARK. V1 FAILED TO STOP AND MADE CONTACT WITH THE REAR OF V2. V1 DRIVER HAD A ONE CARS DISTANCE BETWEEN V1 AND V2 AT A SPEED OF 20 TO 25 MPH, SAW BRAKE LIGHT OF V2 FOLLOW

Location: B2233 YAPTON ROAD 100M EAST OF U HILL LANE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0803579 07/05/2008 Wednesday Time 0747 Vehicles 3 Casualties 1 Slight
 Grid Ref: 495961 104387 Road: B 2233 Junction with: Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Not within 20m of junction

Control: 0

Crossing: Control None within 50 metres

Facilities: Pelican, puffin, toucan or similar non-junction

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Exceeding speed limit	Vehicle 001	Possible
2nd:	Failed to look properly	Vehicle 001	Possible
3rd:	Poor turn or manoeuvre	Vehicle 002	Possible
4th:	Failed to look properly	Vehicle 002	Possible
5th:			
6th:			

V1 TRAVELLING EAST. V2 PERFORMED U-TURN IN ROAD AFTER V3 HAD GIVEN WAY TO IT. V1 ACCELERATED HARSHLY FROM GREEN TRAFFIC LIGHT AND ATTEMPTED TO OVERTAKE TURNING V2.

Location: B2233 BARNHAM ROAD 100M WEST OF U LAKE LANE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0807627 26/09/2008 Friday Time 0815 Vehicles 2 Casualties 1 Slight
 Grid Ref: 495840 104434 Road: B 2233 Junction with: Unclas Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Other junction

Control: Stop sign

Crossing: Control None within 50 metres

Facilities: Pelican, puffin, toucan or similar non-junction

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to judge other persons path or speed		Vehicle 001	Very Likely
2nd:	Failed to look properly		Vehicle 001	Very Likely
3rd:				
4th:				
5th:				
6th:				

A MOPED RIDER WAS DRIVING ALONG BARNHAM ROAD, WHERE HE STOPPED AT A RED LIGHT AT A PEDESTRIAN CROSSING. THE VEHICLE BEHIND HIM DID NOT STOP AND KNOCKED THE MOPED RIDER OF HIS BIKE.

Location: B2233 BARNHAM ROAD 10M EAST OF U SAXBY CLOSE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0900789 29/01/2009 Thursday Time 0950 Vehicles 1 Casualties 1 Slight
 Grid Ref: 495789 104449 Road: B 2223 Junction with: Unclas Speed: 30
 Parish:
 Road Type: Single carriageway Surface: Dry
 Junction Detail: T or staggered junction Control: Give way or controlled
 Crossing: Control None within 50 metres Facilities: No physical crossing facility within 50 metres
 Lighting: Daylight:street lights present Weather: Fine without high winds
 Carriageway Hazards: None Special Conditions at Site: None
 DfT Special Projects: Police/LA Special Projects: Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Disability or illness, mental or physical		Casualty 001	Possible
2nd:				
3rd:				
4th:				
5th:				
6th:				

VEHICLE ONE TRAVELLING EAST TO WEST, WAITING TO TURN RIGHT TO OPPOSITE CARRAIGEWAY PARKING ,
 VEHICLE ONE STATIONARY AT CENTRE OF THE ROAD, MALE PEDESTRIAN CROSSING IN CENTRE OF JUNCTION
 WALKED TOWARDS VEHICLE ONE, CHANGED DIRECTION FOR UNKNOWN REASON FEL

Location: B2223 YAPTON ROAD M OF U THE SQUARE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

0902282 30/03/2009 Monday Time 1920 Vehicles 2 Casualties 1 Serious
 Grid Ref: 495808 104445 Road: B 2233 Junction with: Unclas Speed: 30
 Parish:
 Road Type: Single carriageway Surface: Dry
 Junction Detail: T or staggered junction Control: Give way or controlled
 Crossing: Control None within 50 metres Facilities: No physical crossing facility within 50 metres
 Lighting: Daylight:street lights present Weather: Fine without high winds
 Carriageway Hazards: None Special Conditions at Site: None
 DfT Special Projects: Police/LA Special Projects: Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory

Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to look properly		Vehicle 001	Very Likely
2nd:				
3rd:				
4th:				
5th:				
6th:				

V1 PARKED N/S TO KERB FACING EAST, V2 EASTBOUND & PASSING V1 WHEN IT MOVED OFF FROM KERB
 KNOCKING RIDER OFF PEDAL CYCLE CAUSING INJURY

Location: B2233 BARNHAM ROAD m of U THE SQUARE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Barnham 2

Accidents involving:

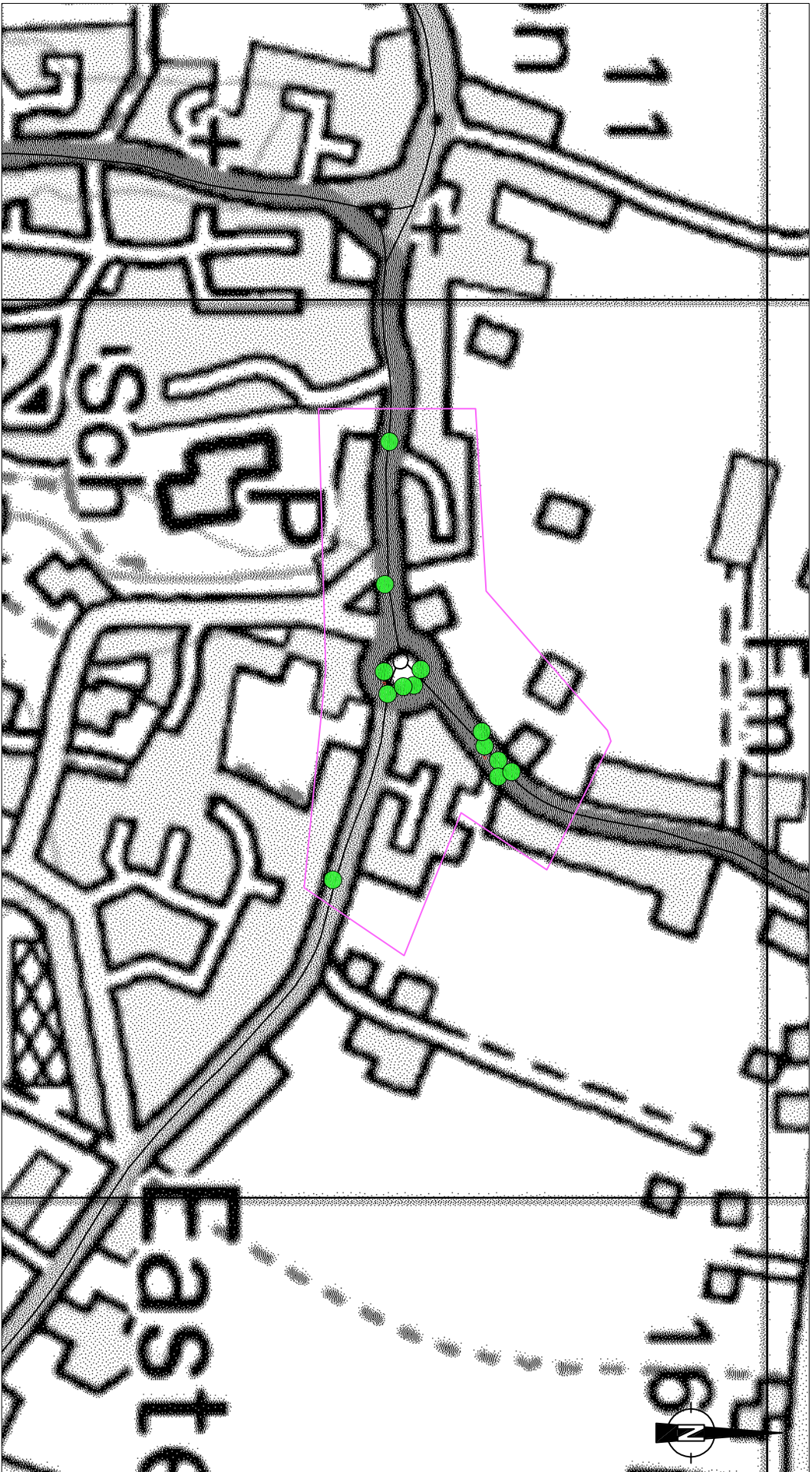
	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	1	14	15
2-wheeled motor vehicles	0	0	0	0
Pedal cycles	0	0	0	0
Horses & other	0	1	14	15
Total	0	1	14	15

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	0	0	0
Passenger	0	0	0	0
M/C rider	0	0	0	0
Cyclist	0	0	0	0
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	0	0	0

Accidents between dates 01/06/2004 and 31/05/2009 (60) months
Selection: Notes:
Selected using Pre-defined Query : * Exclude damage only Barnham 2

Police Ref.	Date	Cas.	Sev.	Cycs	Peds	Ch	OAPs	Vis.	Manv.	Road Cond.	Time	Location
K176475	04/07/2004	1	Slight	0	0	0	0	Dark	No turn	Wet/Damp	0157	B2233 BARNHAM ROAD APPROX 30M W OF J/W BARNHAM LANE, BA
0500718	18/01/2005	1	Slight	0	0	0	1	Light	No turn	Dry	0805	B2233 BARNHAM ROAD M OF U0 THE SQUARE
0501186	28/01/2005	1	Slight	0	0	0	0	Dark	Left	Wet/Damp	1857	B2233 BARNHAM ROAD M OF U0 BARNHAM LANE
0509505	09/11/2005	1	Slight	0	0	0	0	Dark	Right	Dry	1745	B2233 BARNHAM ROAD 71M WEST OF BARNHAM LANE
0510075	23/11/2005	1	Slight	0	0	0	0	Light	Right	Dry	1529	C0 LAKE LANE, BARNHAM M OF U GOODACRES
0602976	11/04/2006	1	Slight	0	0	0	0	Light	No turn	Dry	1224	B2233 YAPTON ROAD 225M WEST OF U HILL LANE
0607409	07/09/2006	1	Slight	0	1	1	0	Light	No turn	Dry	1605	U BARNHAM LANE M OF U LAKE LANE
0702405	18/03/2007	1	Slight	0	1	1	0	Light	No turn	Dry	1552	C15 BARNHAM LANE 50M NORTH OF U LAKE LANE
0703643	30/04/2007	1	Slight	0	1	0	0	Light	No turn	Dry	1700	B2233 BARNHAM ROAD 197m East of U SAXBY CLOSE
0704419	29/05/2007	1	Slight	0	0	0	0	Light	Right	Dry	1045	B2233 BARNHAM ROAD M OF U ENTRANCE TO BARNHAM TRADING
0709049	29/10/2007	2	Slight	0	0	0	1	Dark	No turn	Dry	1813	B2233 YAPTON ROAD 100M EAST OF U HILL LANE
0803579	07/05/2008	1	Slight	0	0	0	0	Light	Right	Dry	0747	B2233 BARNHAM ROAD 100M WEST OF U LAKE LANE
0807627	26/09/2008	1	Slight	0	0	0	0	Light	No turn	Dry	0815	B2233 BARNHAM ROAD 10M EAST OF U SAXBY CLOSE
0900789	29/01/2009	1	Slight	0	1	0	1	Light	Right	Dry	0950	B2223 YAPTON ROAD M OF U THE SQUARE
0902282	30/03/2009	1	Serious	1	0	0	0	Light	No turn	Dry	1920	B2233 BARNHAM ROAD m of U THE SQUARE
Column Totals		16		1	4	2	3					
No. of Accidents				1	4	2	3					
Total number of accidents listed:		15										



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100023447

AREA		DRAWN	EW
ROUTE No.		CHECKED	
FILE No.	09/190	DATE	22 July 2009
Rev	Date	Amendment	Name



West
Sussex
County
Council

Eastergate
5 years accident data from
1 July 2004 to 30 June 2009

Accident Severity		Casualty Severity		Casualty Class	
	Slight	13		Slight	14
	Serious	0		Serious	0
	Fatal	0		Fatal	0
				Driver	7
				P.Riders	2
				Pass.	3
				Ped.	2

DRG No.
SCALE NTS

Tony Topton
Director of
Infrastructure Operations
County Hall, West Street
Chichester,
West Sussex, PO19 1RH
(Tel: 01243 642105)

AccsMap - Accident Analysis System

CONFIDENTIAL ACCIDENT DATABASE

Information on this system falls within the meaning of the Data Protection Act which requires that appropriate security measures are taken against unauthorised access, alteration, disclosure or destruction of personal data.

Accident Data is confidential to Sussex Police and MUST NOT be issued in any form to any other person or body except for employees of Sussex Safety Camera Partnership and their agents. Any other party receiving information from this system MUST be informed of the restrictions which apply to the data.

Printouts MUST be returned to the SSCP, PO Box 2094, Shoreham-by-Sea, BN43 6XT for destruction. They MUST NOT be filed or taken outside the office.

Accidents between dates **01/06/2004** and **31/05/2009** (60) months

Selection: _____ **Notes:** _____

Selected using Pre-defined Query : * Exclude damage only Eastergate

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0502054 04/03/2005 Friday Time 1340 Vehicles 2 Casualties 1 Slight
 Grid Ref: 494419 105603 Road: A 29 Junction with: B 2233 Speed: 30

Parish:

Road Type: Roundabout

Surface: Wet/Damp

Junction Detail: Roundabout

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight: no street lighting

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry		Vehicle 001	Possible
2nd:				
3rd:				
4th:				
5th:				
6th:				

V2 WAS STATIONARY AT R/ABOUT, V1 DROVE INTO BACK OF V2. DRIVER OF V2 HAS INJURIES RECEIVED, V1 STATED HE SKIDDED ON WEST ROAD. DRIVERS EXCHANGED DETAILS AT SCENE.

Location: A29 FONTWELL AVENUE M OF B2233 BARNHAM ROAD

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0506242 01/08/2005 Monday Time 1730 Vehicles 2 Casualties 1 Slight
 Grid Ref: 494523 105705 Road: A 29 Junction with: Unclas Speed: 40

Parish:

Road Type: Single carriageway

Surface: Wet/Damp

Junction Detail: T or staggered junction

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: Oil or Diesel

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Slippery road (due to weather)		Vehicle 001	Very Likely
2nd:	Deposit on road (eg oil, mud, chippings)		Vehicle 001	Possible
3rd:				
4th:				
5th:				
6th:				

APPARENTLY, VEHICLE 2 WAS STATIONARY, FACING NORTH IN FONTWELL AVENUE, WAITING TO TURN RIGHT INTO COLLINS CLOSE. VEHICLE 1 WAS TRAVELLING NORTH ALONG FONTWELL AVENUE AND COLLIDED WITH THE REAR OF VEHICLE 2.

Location: A29 FONTWELL AVENUE, EASTERGATE M OF U COLLINS CLOSE, EASTERGATE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0601179 08/02/2006 Wednesday Time 0858 Vehicles 1 Casualties 1 Slight
 Grid Ref: 494497 105685 Road: A 29 Junction with: Speed: 30
 Parish:
 Road Type: Single carriageway Surface: Dry
 Junction Detail: Not within 20m of junction Control: 0
 Crossing: Control None within 50 metres Facilities: No physical crossing facility within 50 metres
 Lighting: Daylight:street lights present Weather: Fine without high winds
 Carriageway Hazards: None Special Conditions at Site: None
 DfT Special Projects: Police/LA Special Projects: Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory

Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to look properly		Casualty 001	Very Likely
2nd:	Careless/Reckless/In a hurry		Casualty 001	Very Likely
3rd:				
4th:				
5th:				
6th:				

VEH 1,TRAVELLING NORTH IN LINE OF TRAFFIC. PEDESTRIAN WITH LEARNING DIFFICULTIES RAN FROM OFFSIDE PAVEMENT AREA ON EAST SIDE OF ROAD, CROSSING THE CARRIAGEWAY DIRECTLY INTO PATH OF VEH 1.WHICH COLLIDED WITH SAME. PEDESTRIAN WAS THROWN ONRTO BONNET OF VEH

Location: A29 FONTWELL AVENUE 120M NORTH OF B2233 BARNHAM ROAD, EASTERGATE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0601938 03/03/2006 Friday Time 0918 Vehicles 2 Casualties 1 Slight
 Grid Ref: 494526 105705 Road: A 29 Junction with: Unclas Speed: 30
 Parish:
 Road Type: Single carriageway Surface: Dry
 Junction Detail: T or staggered junction Control: Give way or controlled
 Crossing: Control None within 50 metres Facilities: No physical crossing facility within 50 metres
 Lighting: Daylight:street lights present Weather: Fine without high winds
 Carriageway Hazards: None Special Conditions at Site: None
 DfT Special Projects: Police/LA Special Projects: Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory

Factors:

1: 4:
 2: 5:
 3: 6:

Causation			
	Factor:	Participant:	Confidence:
1st:	Disobeyed double white line	Vehicle 001	Very Likely
2nd:	Failed to look properly	Vehicle 001	Very Likely
3rd:	Aggressive driving	Vehicle 001	Very Likely
4th:	Careless/Reckless/In a hurry	Vehicle 001	Very Likely
5th:			
6th:			

VEHICLE(1) TRAVELLING NORTH ON A29, WITHIN 30 LIMIT, COMES UP BEHIND LINE OF TRAFFIC WHICH IS SLOWING DOWN, OVERTAKES LINE OF TRAFFIC IN CONTRAVENTION OF SOLID WHITE LINE, FALING TO NOTICE THAT VEHICLE 2 AT HEAD OF LINE OF TRAFFIC IS TURNING RIGHT INTO J

Location: A29 FONTWELL AVENUE M OF U COLLINS CLOSE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0603262 20/04/2006 Thursday Time 2110 Vehicles 2 Casualties 1 Slight
 Grid Ref: 494205 105579 Road: A 29 Junction with: Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Not within 20m of junction

Control: 0

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Darkness: street lights present and lit

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory

Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Aggressive driving	Vehicle 001	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

V2 TRAVELLING EAST ON NYTON ROAD AT 30MPH, WHEN WAS BEING OVERTAKEN BY V1 WHICH WAS CONFRONTED BY ONCOMING VEH AND MOVED CLOSE TO V2 COMING INTO CONTACT ALONG THE OFFSIDE OF V2 V1 CONTINUED ON AT SPEED W/O STOPPING.

Location: A29 NYTON ROAD 30M WEST OF U BARNETT CLOSE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0603966 11/05/2006 Thursday Time 0800 Vehicles 1 Casualties 1 Slight
 Grid Ref: 494414 105573 Road: B 2233 Junction with: A 29 Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Using private drive or entrance

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Junction overshoot	Vehicle 001	Possible
2nd:	Failed to judge other persons path or speed	Vehicle 001	Very Likely
3rd:	Careless/Reckless/In a hurry	Vehicle 001	
4th:			
5th:			
6th:			

PEDESTRIAN WAS ON PAVEMENT WHEN V1 DRIVING OUT OF HIS DRIVEWAY, BECKONED PEDESTRIAN & FRIENDS TO PASS. V1 THEN PULLED OUT & CW LEG OF PEDESTRIAN. NO DETAILS EXCHANGED.

Location: B2233 BARNHAM RD M OF A29 FONTWELL AVE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0605646 11/07/2006 Tuesday Time 0841 Vehicles 5 Casualties 1 Slight
 Grid Ref: 494646 105516 Road: B 2233 Junction with: Speed: 30
 Parish:
 Road Type: Single carriageway Surface: Dry
 Junction Detail: Not within 20m of junction Control: 0
 Crossing: Control None within 50 metres Facilities: No physical crossing facility within 50 metres
 Lighting: Daylight:street lights present Weather: Fine without high winds
 Carriageway Hazards: None Special Conditions at Site: None
 DfT Special Projects: Police/LA Special Projects: Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory

Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to judge other persons path or speed		Vehicle 001	Very Likely
2nd:				
3rd:				
4th:				
5th:				
6th:				

VEH 5 LEGALLY PARKED AND UNATTENDED ON WESTBOUND LANE OF BARNHAM ROAD. VEH'S 2,3,4 SLOWING TO GO ROUND VEH 5. VEH 1 WESTBOUND TOWARDS THE A29, FAILED TO REACT TO SLOWING VEHICLES. VEH 1 CRASHED INTO REAR OF VEH 4 CAUSING REAR END SHUNT WITH VEH'S 2,3,4.

Location: B2233 BARNHAM ROAD 260M EAST OF A29 FONTWELL AVENUE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0606655 13/08/2006 Sunday Time 0131 Vehicles 2 Casualties 1 Slight
 Grid Ref: 494481 105682 Road: A 29 Junction with: Speed: 40

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Not within 20m of junction

Control: 0

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Darkness: no street lighting

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: At scene

Caused by:

Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Impaired by alcohol	Vehicle 001	Very Likely
2nd:	Exceeding speed limit	Vehicle 001	Possible
3rd:	Loss of control	Vehicle 001	Very Likely
4th:	Careless/Reckless/In a hurry	Vehicle 001	Very Likely
5th:	Inexperience with type of vehicle	Vehicle 001	Very Likely
6th:	Sudden braking	Vehicle 001	Possible

VEHICLE 1 TRAVELLING SOUTH ALONG FONTWELL AVENUE. IT HAS LOST CONTROL AND COLLIDED WITH VEH 2 WHICH IS PARKED ON GRASS VERGE AT THE EDGE OF THE ROAD OPP LYMINGTON ANNEX. VEH 1 HAS THEN MADE OFF FROM THE LOCATION NORTH UP FONTWELL AVE TURNED RIGHT INTO W

Location: A29 115M NORTH OF B2233

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0705671 28/06/2007 Thursday Time 1830 Vehicles 2 Casualties 1 Slight
 Grid Ref: 494439 105577 Road: B 2233 Junction with: A 29 Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: T or staggered junction

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight: no street lighting

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry		Vehicle 001	Very Likely
2nd:				
3rd:				
4th:				
5th:				
6th:				

(VEH 1) EXITING PLAYING FIELD, OFF THE HIGHWAY. (VEH 2) A PEDAL CYCLE WAS BEING RIDDEN ALONG THE PAVEMENT WHEN (VEH 1) DROVE INTO THE PATH OF (VEH 2) STRIKING THE CYCLIST BEFORE THEN DRIVING ONTO THE HIGHWAY.

Location: B2233 BARNHAM ROAD M OF A29 FONTWELL AVENUE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode: Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0707909 20/09/2007 Thursday Time 1510 Vehicles 2 Casualties 2 Slight
 Grid Ref: 494314 105580 Road: B 2233 Junction with: Unclas Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: T or staggered junction

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to judge other persons path or speed		Vehicle 001	Very Likely
2nd:				
3rd:				
4th:				
5th:				
6th:				

VEHICLE 2 EAST ALONG NYTON ROAD INDICATES, SLOWS AND STOPS IN PREPARATION TO TURN RIGHT INTO CHURCH LANE. VEHICLE 1 BEHIND VEHICLE 2 FAILS TO STOP IN TIME, COLLIDING WITH REAR OF VEHICLE 2.

Location: B2233 NYTON ROAD M OF U CHURCH LANE

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode:

Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0802414 25/03/2008 Tuesday Time 1645 Vehicles 2 Casualties 1 Slight
 Grid Ref: 494417 105601 Road: A 29 Junction with: B 2233 Speed: 30

Parish:

Road Type: Single carriageway

Surface: Dry

Junction Detail: Roundabout

Control: Give way or controlled

Crossing: Control None within 50 metres

Facilities: No physical crossing facility within 50 metres

Lighting: Daylight:street lights present

Weather: Fine without high winds

Carriageway Hazards: None

Special Conditions at Site: None

DfT Special Projects: Police/LA Special Projects:

Crash Cross Ref:

Causation Factors:

Place accident reported: Elsewhere Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 001	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEHICLE 2 TRAVELLING SOUTH STOPPED AT THE ROUNDABOUT WAS UNABLE TO PROCEED DUE TO TRAFFIC ON THE ROUNDABOUT. VEHICLE 2 HAD BEEN STATIONARY FOR GOOD MINUTE. VEHICLE 1 TRAVLING SAME DIRECTION RAN INTO THE REAR OF VEHICLE 2 CAUSING INJURY TO DRIVER VEHICLE

Location: A29 FONTWELL AVENUE M OF B2233 BARNHAM ROAD

Vehicle Reference

Manoeuvres:

Vehicle movement from: to

Location at impact

First impact:

Hit vehicle:

Hit object in road

Off road:

Age of Driver

Parts damaged:

Breath test

Driver Postcode: Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

0901432 23/02/2009 Monday Time 2117 Vehicles 3 Casualties 1 Slight
 Grid Ref: 494524 105706 Road: A 29 Junction with: Unclas Speed: 60
 Parish:
 Road Type: Single carriageway Surface: Dry
 Junction Detail: Other junction Control: Give way or controlled
 Crossing: Control None within 50 metres Facilities: No physical crossing facility within 50 metres
 Lighting: Darkness: street lights present and lit Weather: Fine without high winds
 Carriageway Hazards: None Special Conditions at Site: None
 DfT Special Projects: Police/LA Special Projects: Crash Cross Ref:

Causation Factors:

Place accident reported: At scene Caused by: Police F 47

Pre 2005 Contributory Factors:

1: 4:
 2: 5:
 3: 6:

	Factor:	Causation	Participant:	Confidence:
1st:	Failed to judge vehicles path or speed		Vehicle 003	Possible
2nd:				
3rd:				
4th:				
5th:				
6th:				

VEHICLE THREE IS STATIONARY INDICATING TO TURN RIGHT INTO JUNCTION COLLINS CLOSE BEFORE A LEFT BEND IN THE ROAD. VEHICLE ONE COLLIDES WITH THE REAR OF VEHICLE THREE. VEHICLE TWO COLIDED WITH THE REAR OF VEHICLE ONE.

Location: A29 EASTERGATE m of U COLLINS CLOSE

Vehicle Reference

Vehicle movement from: to

Manoeuvres:

Location at impact
 Hit object in road

First impact: Hit vehicle:
 Off road:
 Age of Driver

Parts damaged:
 Breath test

Driver Postcode: Town:

County:

Pedal Cycle Helmet:

Police/LA Special Projects:

DfT Special Projects:

AccsMap - Accident Analysis System

Accidents between dates 01/06/2004 and 31/05/2009 (60) months

Selection:

Selected using Pre-defined Query : * Exclude damage only

Notes:

Eastergate

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	0	12	12
2-wheeled motor vehicles	0	0	0	0
Pedal cycles	0	0	0	0
Horses & other	0	0	12	12
Total	0	0	12	12

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	0	0	0
Passenger	0	0	0	0
M/C rider	0	0	0	0
Cyclist	0	0	0	0
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	0	0	0

Accidents between dates 01/06/2004 and 31/05/2009 (60) months
Selection: Notes:
Selected using Pre-defined Query : * Exclude damage only Eastergate

Police Ref.	Date	Cas.	Sev.	Cycs	Peds	Ch	OAPs	Vis.	Manv.	Road Cond.	Time	Location
0502054	04/03/2005	1	Slight	0	0	0	0	Light	No turn	Wet/Damp	1340	A29 FONTWELL AVENUE M OF B2233 BARNHAM ROAD
0506242	01/08/2005	1	Slight	0	0	0	0	Light	Right	Wet/Damp	1730	A29 FONTWELL AVENUE, EASTERGATE M OF U COLLINS CLOSE, EA
0601179	08/02/2006	1	Slight	0	1	0	0	Light	No turn	Dry	0858	A29 FONTWELL AVENUE 120M NORTH OF B2233 BARNHAM ROAD, E
0601938	03/03/2006	1	Slight	0	0	0	0	Light	Right	Dry	0918	A29 FONTWELL AVENUE M OF U COLLINS CLOSE
0603262	20/04/2006	1	Slight	0	0	0	0	Dark	No turn	Dry	2110	A29 NYTON ROAD 30M WEST OF U BARNETT CLOSE
0603966	11/05/2006	1	Slight	0	1	1	0	Light	No turn	Dry	0800	B2233 BARNHAM RD M OF A29 FONTWELL AVE
0605646	11/07/2006	1	Slight	0	0	1	0	Light	No turn	Dry	0841	B2233 BARNHAM ROAD 260M EAST OF A29 FONTWELL AVENUE
0606655	13/08/2006	1	Slight	0	0	0	0	Dark	No turn	Dry	0131	A29 115M NORTH OF B2233
0705671	28/06/2007	1	Slight	1	0	1	0	Light	No turn	Dry	1830	B2233 BARNHAM ROAD M OF A29 FONTWELL AVENUE
0707909	20/09/2007	2	Slight	0	0	0	1	Light	No turn	Dry	1510	B2233 NYTON ROAD M OF U CHURCH LANE
0802414	25/03/2008	1	Slight	0	0	0	0	Light	No turn	Dry	1645	A29 FONTWELL AVENUE M OF B2233 BARNHAM ROAD
0901432	23/02/2009	1	Slight	0	0	0	0	Dark	No turn	Dry	2117	A29 EASTERGATE m of U COLLINS CLOSE
Column Totals		13		1	2	3	1					
No. of Accidents				1	2	3	1					
Total number of accidents listed:		12										



APPENDIX C



TIME	ARRIVALS			DEPARTURES			TOTAL		
	Traffic Counts	Trip Rate	Traffic Flows	Traffic Counts	Trip Rate	Traffic Flows	Traffic Counts	Trip Rate	Traffic Flows
06:00 - 06:15	1	0.004	0	4	0.015	1	5	0.018	2
06:15 - 06:30	0	0.000	0	9	0.033	3	9	0.033	3
06:30 - 06:45	2	0.007	1	8	0.029	3	10	0.037	4
06:45 - 07:00	2	0.007	1	11	0.040	4	13	0.048	5
07:00 - 07:15	2	0.007	1	14	0.051	5	16	0.059	6
07:15 - 07:30	0	0.000	0	31	0.114	11	31	0.114	11
07:30 - 07:45	5	0.018	2	27	0.099	10	32	0.118	12
07:45 - 08:00	8	0.029	3	24	0.088	9	32	0.118	12
08:00 - 08:15	9	0.033	3	27	0.099	10	36	0.132	13
08:15 - 08:30	10	0.037	4	30	0.110	11	40	0.147	15
08:30 - 08:45	7	0.026	3	35	0.129	13	42	0.154	15
08:45 - 09:00	7	0.026	3	25	0.092	9	32	0.118	12
09:00 - 09:15	21	0.077	8	13	0.048	5	34	0.125	13
09:15 - 09:30	3	0.011	1	7	0.026	3	10	0.037	4
09:30 - 09:45	8	0.029	3	12	0.044	4	20	0.074	7
09:45 - 10:00	9	0.033	3	8	0.029	3	17	0.063	6
10:00 - 10:15	4	0.015	1	8	0.029	3	12	0.044	4
10:15 - 10:30	3	0.011	1	16	0.059	6	19	0.070	7
10:30 - 10:45	18	0.066	7	17	0.063	6	35	0.129	13
10:45 - 11:00	9	0.033	3	13	0.048	5	22	0.081	8
11:00 - 11:15	11	0.040	4	11	0.040	4	22	0.081	8
11:15 - 11:30	11	0.040	4	7	0.026	3	18	0.066	7
11:30 - 11:45	8	0.029	3	5	0.018	2	13	0.048	5
11:45 - 12:00	13	0.048	5	10	0.037	4	23	0.085	8
12:00 - 12:15	12	0.044	4	9	0.033	3	21	0.077	8
12:15 - 12:30	18	0.066	7	11	0.040	4	29	0.107	11
12:30 - 12:45	11	0.040	4	6	0.022	2	17	0.063	6
12:45 - 13:00	14	0.051	5	9	0.033	3	23	0.085	8
13:00 - 13:15	14	0.051	5	16	0.059	6	30	0.110	11
13:15 - 13:30	4	0.015	1	17	0.063	6	21	0.077	8
13:30 - 13:45	11	0.040	4	5	0.018	2	16	0.059	6
13:45 - 14:00	19	0.070	7	6	0.022	2	25	0.092	9
14:00 - 14:15	10	0.037	4	6	0.022	2	16	0.059	6
14:15 - 14:30	16	0.059	6	15	0.055	6	31	0.114	11
14:30 - 14:45	20	0.074	7	10	0.037	4	30	0.110	11
14:45 - 15:00	14	0.051	5	17	0.063	6	31	0.114	11
15:00 - 15:15	16	0.059	6	14	0.051	5	30	0.110	11
15:15 - 15:30	12	0.044	4	9	0.033	3	21	0.077	8
15:30 - 15:45	22	0.081	8	21	0.077	8	43	0.158	16
15:45 - 16:00	17	0.063	6	9	0.033	3	26	0.096	10
16:00 - 16:15	31	0.114	11	17	0.063	6	48	0.176	18
16:15 - 16:30	19	0.070	7	9	0.033	3	28	0.103	10
16:30 - 16:45	12	0.044	4	16	0.059	6	28	0.103	10
16:45 - 17:00	21	0.077	8	18	0.066	7	39	0.143	14
17:00 - 17:15	38	0.140	14	17	0.063	6	55	0.202	20
17:15 - 17:30	27	0.099	10	22	0.081	8	49	0.180	18
17:30 - 17:45	25	0.092	9	6	0.022	2	31	0.114	11
17:45 - 18:00	30	0.110	11	15	0.055	6	45	0.165	17
18:00 - 18:15	21	0.077	8	7	0.026	3	28	0.103	10
18:15 - 18:30	30	0.110	11	19	0.070	7	49	0.180	18
18:30 - 18:45	16	0.059	6	14	0.051	5	30	0.110	11

18:45 - 19:00	14	0.051	5	10	0.037	4	24	0.088	9
19:00 - 19:15	16	0.059	6	11	0.040	4	27	0.099	10
19:15 - 19:30	13	0.048	5	12	0.044	4	25	0.092	9
19:30 - 19:45	19	0.070	7	7	0.026	3	26	0.096	10
19:45 - 20:00	13	0.048	5	5	0.018	2	18	0.066	7
20:00 - 20:15	13	0.048	5	5	0.018	2	18	0.066	7
20:15 - 20:30	14	0.051	5	1	0.004	0	15	0.055	6
20:30 - 20:45	11	0.040	4	6	0.022	2	17	0.063	6
20:45 - 21:00	10	0.037	4	4	0.015	1	14	0.051	5
21:00 - 21:15	10	0.037	4	6	0.022	2	16	0.059	6
21:15 - 21:30	6	0.022	2	3	0.011	1	9	0.033	3
21:30 - 21:45	7	0.026	3	3	0.011	1	10	0.037	4
21:45 - 22:00	6	0.022	2	2	0.007	1	8	0.029	3
TOTAL	823	3.026	303	787	2.893	289	1610	5.919	592

	Total Vehs	HGVS
Daily Trip Rate	3.026	0.004
AM Peak Hour	0.121	0.000
PM Peak Hour	0.441	0.000
12hr (07:00 - 19:00)	2.500	0.004

Total Vehs	HGVS
2.893	0.018
0.430	0.000
0.221	0.000
2.537	0.018

Total Vehs	HGVS
5.919	0.022
0.551	0.000
0.662	0.000
5.037	0.022

Proposed Development

100 Dwellings

	Arrivals		Departures		Total	
	Trip Rate	Traffic	Trip Rate	Traffic	Trip Rate	Traffic
AM Peak Hour	0.121	12	0.430	43	0.551	55
PM Peak Hour	0.441	44	0.221	22	0.662	66
16hr Daily Trip Rate	3.026	303	2.893	289	5.919	592
12hr Daily Trip Rate	2.500	250	2.537	254	5.037	504



APPENDIX D

09/1067 Yapton Road, Barnham

Growth Calculations



AM PEAK

Area Description		All purposes		
Level	Name	Production	Attraction	
GB	GB	1.045	1.045	1.0450
Region	SE	1.043	1.048	1.0455
County	West Sussex	1.047	1.046	1.0465
Authority	Arun	1.045	1.042	1.0435
Zone	Barnham	1.039	1.037	1.0380

PM PEAK

Area Description		All purposes		
Level	Name	Production	Attraction	
GB	GB	1.045	1.045	1.0450
Region	SE	1.043	1.046	1.0445
County	West Sussex	1.045	1.041	1.0430
Authority	Arun	1.045	1.039	1.0420
Zone	Barnham	1.037	1.034	1.0355

AM PEAK

TEMPRO Results			NRTF 2009-2013		
Area	2009-2013	Prop of UK	LOW	MEDIUM	HIGH
South East	1.0455	1.000	1.048	1.063	1.075
West Sussex	1.0465	1.001	1.049	1.064	1.076
Arun	1.0435	0.999	1.045	1.060	1.072
Barnham	1.0380	0.993	1.040	1.055	1.067
GB	1.0450		1.047	1.062	1.074

PM PEAK

TEMPRO Results			NRTF 2009-2013		
Area	2009-2013	Prop of UK	LOW	MEDIUM	HIGH
South East	1.0445	1.000	1.046	1.061	1.073
West Sussex	1.0430	0.998	1.045	1.060	1.072
Arun	1.0420	0.997	1.044	1.059	1.071
Barnham	1.0355	0.991	1.037	1.052	1.064
GB	1.0450		1.047	1.062	1.074



APPENDIX E



ARM A - Yapton Road (West)

ARM B - Garden Crescent

ARM C - Yapton Road (East)

09/9019 Garden Crescent, Yapton Road, Barnham
Multi-Modal Turning Counts
Tuesday 14/07/2009
AM Peak Period (07:00 - 10:00)



ARM	C - Yapton Road (East)				B - Garden Crescent								A - Yapton Road (West)			
	RIGHT IN (B)				LEFT OUT (C)				RIGHT OUT (A)				LEFT IN (B)			
	Vehicles	Cycles	Pedestrians		Vehicles	Cycles	Pedestrians		Vehicles	Cycles	Pedestrians		Vehicles	Cycles	Pedestrians	
TIME			Adults	School			Adults	School			Adults	School			Adults	School
07.00 - 07.15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
07.15 - 07.30	0	0	0	0	0	0	0	0	2	0	0	0	1	0	0	0
07.30 - 07.45	0	0	0	0	1	0	0	0	4	0	1	0	0	0	0	1
07.45 - 08.00	0	0	0	0	0	0	0	0	4	0	0	0	2	0	0	0
08.00 - 08.15	1	0	0	0	2	0	0	0	5	0	2	1	1	0	0	0
08.15 - 08.30	1	0	0	0	4	0	0	0	6	0	1	2	3	0	1	2
08.30 - 08.45	1	0	0	0	0	0	1	0	3	0	1	0	0	0	0	0
08.45 - 09.00	4	0	0	0	2	0	0	0	2	0	0	0	3	0	0	0
09.00 - 09.15	3	0	0	0	2	0	0	0	1	0	0	0	5	0	0	0
09.15 - 09.30	0	0	0	0	2	0	0	0	1	0	2	0	1	0	0	0
09.30 - 09.45	1	0	0	0	0	0	0	0	2	1	0	0	1	0	0	0
09.45 - 10.00	0	0	0	0	1	0	0	0	2	0	0	0	2	0	0	0
HOUR TOTALS																
07:00 - 08:00	0	0	0	0	1	0	0	0	12	0	1	0	3	0	0	1
07:15 - 08:15	1	0	0	0	3	0	0	0	15	0	3	1	4	0	0	1
07:30 - 08:30	2	0	0	0	7	0	0	0	19	0	4	3	6	0	1	3
07:45 - 08:45	3	0	0	0	6	0	1	0	18	0	4	3	6	0	1	2
08:00 - 09:00	7	0	0	0	8	0	1	0	16	0	4	3	7	0	1	2
08:15 - 09:15	9	0	0	0	8	0	1	0	12	0	2	2	11	0	1	2
08:30 - 09:30	8	0	0	0	6	0	1	0	7	0	3	0	9	0	0	0
08:45 - 09:45	8	0	0	0	6	0	0	0	6	1	2	0	10	0	0	0
09:00 - 10:00	4	0	0	0	5	0	0	0	6	1	2	0	9	0	0	0

09/9019 Garden Crescent, Yapton Road, Barnham
Multi-Modal Turning Counts
Tuesday 14/07/2009
PM Peak Period (14:30 - 19:00)



ARM	C - Yapton Road (East)				B - Garden Crescent								A - Yapton Road (West)			
	RIGHT IN (B)				LEFT OUT (C)				RIGHT OUT (A)				LEFT IN (B)			
TIME	Vehicles	Cycles	Pedestrians		Vehicles	Cycles	Pedestrians		Vehicles	Cycles	Pedestrians		Vehicles	Cycles	Pedestrians	
			Adults	School			Adults	School			Adults	School			Adults	School
14.30 - 14.45	0	0	0	0	1	0	0	0	5	0	0	0	4	0	0	0
14.45 - 15.00	3	0	0	0	3	0	0	0	3	0	0	0	2	0	0	0
15.00 - 15.15	2	0	0	0	1	0	0	0	6	0	0	0	0	0	0	0
15.15 - 15.30	3	0	0	0	1	0	0	0	3	0	0	0	3	0	0	0
15.30 - 15.45	5	0	0	0	0	0	0	0	1	0	0	0	3	0	0	2
15.45 - 16.00	0	0	0	0	0	0	0	0	0	0	0	0	6	0	1	3
16.00 - 16.15	0	0	0	0	0	0	0	0	3	0	0	0	6	0	2	0
16.15 - 16.30	1	0	0	0	1	0	0	0	3	0	2	0	1	0	2	0
16.30 - 16.45	2	0	0	0	2	0	0	0	2	0	0	0	1	0	1	0
16.45 - 17.00	3	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0
17.00 - 17.15	1	0	0	0	0	0	0	0	1	0	0	0	2	0	0	0
17.15 - 17.30	3	0	2	0	1	0	0	0	0	0	0	0	4	0	0	0
17.30 - 17.45	3	0	0	0	1	0	0	0	3	0	0	0	6	0	2	0
17.45 - 18.00	4	0	0	0	2	0	0	0	4	0	2	0	4	0	3	0
18.00 - 18.15	2	0	0	0	1	0	0	0	2	0	0	0	0	1	1	0
18.15 - 18.30	0	0	0	0	2	0	0	0	2	0	1	0	1	0	0	0
18.30 - 18.45	2	0	0	0	1	1	1	0	4	0	0	0	1	0	1	0
18.45 - 19.00	2	0	1	0	0	0	0	0	2	0	0	0	3	0	0	0
HOUR TOTALS																
14:30 - 15:30	8	0	0	0	6	0	0	0	17	0	0	0	9	0	0	0
14:45 - 15:45	13	0	0	0	5	0	0	0	13	0	0	0	8	0	0	2
15:00 - 16:00	10	0	0	0	2	0	0	0	10	0	0	0	12	0	1	5
15:15 - 16:15	8	0	0	0	1	0	0	0	7	0	0	0	18	0	3	5
15:30 - 16:30	6	0	0	0	1	0	0	0	7	0	2	0	16	0	5	5
15:45 - 16:45	3	0	0	0	3	0	0	0	8	0	2	0	14	0	6	3
16:00 - 17:00	6	0	0	0	3	0	0	0	10	0	2	0	10	0	5	0
16:15 - 17:15	7	0	0	0	3	0	0	0	8	0	2	0	6	0	3	0
16:30 - 17:30	9	0	2	0	3	0	0	0	5	0	0	0	9	0	1	0
16:45 - 17:45	10	0	2	0	2	0	0	0	6	0	0	0	14	0	2	0
17:00 - 18:00	11	0	2	0	4	0	0	0	8	0	2	0	16	0	5	0
17:15 - 18:15	12	0	2	0	5	0	0	0	9	0	2	0	14	1	6	0
17:30 - 18:30	9	0	0	0	6	0	0	0	11	0	3	0	11	1	6	0
17:45 - 18:45	8	0	0	0	6	1	1	0	12	0	3	0	6	1	5	0
18:00 - 19:00	6	0	1	0	4	1	1	0	10	0	1	0	5	1	2	0



APPENDIX F

Eastergate Junction - Am Base.vao
TRL LIMITED

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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EMAIL: SoftwareBureau@trl.co.uk

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Run with file:-
"p:\2009 Projects (1003-)\1067 Yapton Road, Barnham\Junction Assesements\SAJ
Models\
Barnham Road - Nyton Road - Am Base.vai"
(drive-on-the-left) at 12:36:02 on Thursday, 29 October 2009

.ROUNDABOUT CAPACITY AND DELAY

.RUN TITLE

Eastergate Junction - AM Base (07:45 - 08:45)

.INPUT DATA

ARM A - A29 Fontwell Avenue
ARM B - B2233 Barnham Road
ARM C - A29 Nyton Road

.GEOMETRIC DATA

I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI
(DEG) I SLOPE I INTERCEPT (PCU/MIN) I

I ARM A I 3.00 I 4.00 I 1.00 I 6.20 I 25.00 I
38.0 I 0.444 I 14.119 I
I ARM B I 4.00 I 4.00 I 0.00 I 999.00 I 25.00 I
15.0 I 0.618 I 22.219 I
I ARM C I 6.30 I 6.30 I 0.00 I 71.00 I 25.00 I
19.0 I 0.757 I 34.147 I

Eastergate Junction - Am Base.vao

V = approach half-width
inscribed circle diameter
E = entry width
angle

L = effective flare length

R = entry radius

D =

PHI = entry

.TRAFFIC DEMAND DATA

.TIME PERIOD BEGINS 07.30 AND ENDS 09.00

.LENGTH OF TIME PERIOD - 90 MINUTES.

.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	I	I	I	I	I	I	I	I	I
ARM	NUMBER OF MINUTES FROM START WHEN	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN)	BEFORE	AT TOP	AFTER			
	TO RISE	IS REACHED	IF FALLING	PEAK	OF PEAK	PEAK				
ARM A	15.00	45.00	75.00	6.50	9.75	6.50				
ARM B	15.00	45.00	75.00	8.56	12.84	8.56				
ARM C	15.00	45.00	75.00	9.32	13.99	9.32				

I	I	I	I	I	I	I	I	I	I	I
TIME	FROM/TO	ARM A	ARM B	ARM C						
07.30 - 09.00	ARM A	0.000	0.235	0.765						
		0.0	122.0	398.0						
		(5.0)	(5.0)	(5.0)						
	ARM B	0.165	0.001	0.834						
		113.0	1.0	571.0						
		(1.8)	(1.8)	(1.8)						
	ARM C	0.641	0.359	0.000						
		478.0	268.0	0.0						
		(2.0)	(2.0)	(2.0)						

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY			
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/			
(VEH.MIN/			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME			
SEGMENT) TIME SEGMENT)										
I 07.30-07.45										
ARM A	6.50	12.00	0.542		0.0	1.2	16.1			
ARM B	8.56	18.69	0.458		0.0	0.8	12.0			

Eastergate Junction - Am Base.vao

I ARM C	9.32	32.41	0.288	0.0	0.4	5.9
I	I					
I	I					

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME SEGMENT)	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME
I 07.45-08.00	I						
I ARM A	7.76	11.72	0.662		1.2	1.9	26.2
I ARM B	10.22	18.07	0.566		0.8	1.3	18.4
I ARM C	11.13	32.20	0.346		0.4	0.5	7.8
I	I						

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME SEGMENT)	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME
I 08.00-08.15	I						
I ARM A	9.51	11.33	0.839		1.9	4.4	56.1
I ARM B	12.52	17.27	0.725		1.3	2.5	34.8
I ARM C	13.64	31.91	0.427		0.5	0.7	10.9
I	I						

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME SEGMENT)	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME
I 08.15-08.30	I						
I ARM A	9.51	11.33	0.839		4.4	4.7	68.9
I ARM B	12.52	17.20	0.728		2.5	2.6	38.5
I ARM C	13.64	31.90	0.427		0.7	0.7	11.1
I	I						

Eastergate Junction - Am Base.vao

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY							
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	
I	(VEH.MIN/	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME	SEGMENT)	I					
I	08.30-08.45							
I	ARM A	7.76	11.71	0.663		4.7	2.1	34.5
I	ARM B	10.22	17.96	0.569		2.6	1.3	21.3
I	ARM C	11.13	32.18	0.346		0.7	0.5	8.1
I								

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY							
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	
I	(VEH.MIN/	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME	SEGMENT)	I					
I	08.45-09.00							
I	ARM A	6.50	12.00	0.542		2.1	1.2	19.3
I	ARM B	8.56	18.63	0.460		1.3	0.9	13.4
I	ARM C	9.32	32.40	0.288		0.5	0.4	6.2
I								

.QUEUE AT ARM A

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	1.2	*
08.00	1.9	**
08.15	4.4	****
08.30	4.7	*****
08.45	2.1	**
09.00	1.2	*

.QUEUE AT ARM B

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	0.8	*

Eastergate Junction - Am Base.vao

08.00	1.3	*
08.15	2.5	***
08.30	2.6	***
08.45	1.3	*
09.00	0.9	*

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.4
08.00	0.5 *
08.15	0.7 *
08.30	0.7 *
08.45	0.5 *
09.00	0.4

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I		I		I		I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	713.0	I	475.4	I	221.1	I
I	B	I	939.3	I	626.2	I	0.31	I
I	C	I	1022.9	I	138.5	I	0.15	I
I		I	681.9	I	50.0	I	50.1	I
I	ALL	I	2675.2	I	1783.5	I	409.7	I
I		I		I	409.7	I	0.15	I

* 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 JOB

***** ARCADY 5 run completed.

Eastergate Junction - PM Base.vao
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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

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Run with file:-
"p:\2009 Projects (1003-)\1067 Yapton Road, Barnham\Junction Assesements\SAJ
Models\
Eastergate Junction - PM Base.vai"
(drive-on-the-left) at 12:41:57 on Thursday, 29 October 2009

.ROUNDABOUT CAPACITY AND DELAY

.RUN TITLE

Eastergate Junction - PM Base (16:45 - 17:45)

.INPUT DATA

ARM A - A29 Fontwell Avenue
ARM B - B2233 Barnham Road
ARM C - A29 Nyton Road

.GEOMETRIC DATA

I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI
(DEG) I SLOPE I INTERCEPT (PCU/MIN) I

I ARM A I 3.00 I 4.00 I 1.00 I 6.20 I 25.00 I
38.0 I 0.444 I 14.119 I
I ARM B I 4.00 I 4.00 I 0.00 I 999.00 I 25.00 I
15.0 I 0.618 I 22.219 I
I ARM C I 6.30 I 6.30 I 0.00 I 71.00 I 25.00 I
19.0 I 0.757 I 34.147 I

Eastergate Junction - PM Base.vao

V = approach half-width
inscribed circle diameter
E = entry width
angle

L = effective flare length

R = entry radius

D =

PHI = entry

.TRAFFIC DEMAND DATA

.TIME PERIOD BEGINS 16.30 AND ENDS 18.00

.LENGTH OF TIME PERIOD - 90 MINUTES.

.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	I	I	I	I	I	I	I	I	I
ARM	NUMBER OF MINUTES FROM START WHEN	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN)	BEFORE	AT TOP	AFTER			
	TO RISE	IS REACHED	IF FALLING	PEAK	OF PEAK	PEAK				
ARM A	15.00	45.00	75.00	2.45	3.68	2.45				
ARM B	15.00	45.00	75.00	6.90	10.35	6.90				
ARM C	15.00	45.00	75.00	10.34	15.51	10.34				

I	I	I	I	I	I	I	I	I	I	I
TIME	FROM/TO	ARM A	ARM B	ARM C						
16.30 - 18.00	ARM A	0.000	0.245	0.755						
		0.0	48.0	148.0						
		(0.5)	(0.5)	(0.5)						
	ARM B	0.210	0.000	0.790						
		116.0	0.0	436.0						
		(1.2)	(1.2)	(1.2)						
	ARM C	0.382	0.618	0.000						
		316.0	511.0	0.0						
		(0.2)	(0.2)	(0.2)						

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY			
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/			
(VEH.MIN/			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME			
SEGMENT) TIME	SEGMENT)									
16.30-16.45										
ARM A	2.45	11.23	0.218		0.0	0.3	4.0			
ARM B	6.90	20.83	0.331		0.0	0.5	7.2			

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I ARM C	10.34	32.98	0.313	0.0	0.5	6.7
I	I					
I	I					

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME I 16.45-17.00	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY I (RFC)	PEDESTRIAN FLOW I (PEDS/MIN)	START QUEUE I (VEHS)	END QUEUE I (VEHS)	DELAY (VEH.MIN/ TIME
I ARM A	2.93	10.68	0.274		0.3	0.4	5.5
I ARM B	8.24	20.60	0.400		0.5	0.7	9.7
I ARM C	12.34	32.76	0.377		0.5	0.6	8.9
I	I						

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME I 17.00-17.15	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY I (RFC)	PEDESTRIAN FLOW I (PEDS/MIN)	START QUEUE I (VEHS)	END QUEUE I (VEHS)	DELAY (VEH.MIN/ TIME
I ARM A	3.58	9.92	0.361		0.4	0.6	8.1
I ARM B	10.09	20.30	0.497		0.7	1.0	14.2
I ARM C	15.12	32.46	0.466		0.6	0.9	12.7
I	I						

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME I 17.15-17.30	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY I (RFC)	PEDESTRIAN FLOW I (PEDS/MIN)	START QUEUE I (VEHS)	END QUEUE I (VEHS)	DELAY (VEH.MIN/ TIME
I ARM A	3.58	9.92	0.361		0.6	0.6	8.4
I ARM B	10.09	20.30	0.497		1.0	1.0	14.7
I ARM C	15.12	32.46	0.466		0.9	0.9	13.0
I	I						

Eastergate Junction - PM Base.vao

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY	I						
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	
I	(VEH.MIN/	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME	SEGMENT)	I					
I	17.30-17.45	I						
I	ARM A	2.93	10.67	0.274		0.6	0.4	5.9
I	ARM B	8.24	20.60	0.400		1.0	0.7	10.4
I	ARM C	12.34	32.75	0.377		0.9	0.6	9.3
I		I						
I		I						

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY	I						
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	
I	(VEH.MIN/	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME	SEGMENT)	I					
I	17.45-18.00	I						
I	ARM A	2.45	11.22	0.218		0.4	0.3	4.3
I	ARM B	6.90	20.82	0.331		0.7	0.5	7.6
I	ARM C	10.34	32.97	0.314		0.6	0.5	7.0
I		I						
I		I						

.QUEUE AT ARM A

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.3
17.00	0.4
17.15	0.6 *
17.30	0.6 *
17.45	0.4
18.00	0.3

.QUEUE AT ARM B

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.5

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17.00	0.7	*
17.15	1.0	*
17.30	1.0	*
17.45	0.7	*
18.00	0.5	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.45	0.5	
17.00	0.6	*
17.15	0.9	*
17.30	0.9	*
17.45	0.6	*
18.00	0.5	

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND (VEH)	VEH/H	QUEUEING (MIN)	MIN/VEH	INCLUSIVE QUEUEING (MIN)	MIN/VEH
A	268.8	179.2	36.2	0.13	36.2	0.13
B	756.9	504.6	63.8	0.08	63.8	0.08
C	1134.0	756.0	57.6	0.05	57.6	0.05
ALL	2159.7	1439.8	157.5	0.07	157.5	0.07

* 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 JOB

***** ARCADY 5 run completed.

Eastergate Junction - AM Base 2013.vao
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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

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Run with file:-
"p:\2009 Projects (1003-)\1067 Yapton Road, Barnham\Junction Assesements\SAJ
Models\
Eastergate Junction - AM Base 2013.vai"
(drive-on-the-left) at 12:39:48 on Thursday, 29 October 2009

.ROUNDABOUT CAPACITY AND DELAY

.RUN TITLE

Eastergate Junction - AM Base (07:45 - 08:45)

.INPUT DATA

ARM A - A29 Fontwell Avenue
ARM B - B2233 Barnham Road
ARM C - A29 Nyton Road

.GEOMETRIC DATA

I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI
(DEG) I SLOPE I INTERCEPT (PCU/MIN) I

I ARM A I 3.00 I 4.00 I 1.00 I 6.20 I 25.00 I
38.0 I 0.444 I 14.119 I
I ARM B I 4.00 I 4.00 I 0.00 I 999.00 I 25.00 I
15.0 I 0.618 I 22.219 I
I ARM C I 6.30 I 6.30 I 0.00 I 71.00 I 25.00 I
19.0 I 0.757 I 34.147 I

Eastergate Junction - AM Base 2013.vao

V = approach half-width
inscribed circle diameter
E = entry width
angle

L = effective flare length
R = entry radius

D =
PHI = entry

.TRAFFIC DEMAND DATA

.TIME PERIOD BEGINS 07.30 AND ENDS 09.00
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	I	I	I	I	I	I	I	I	I
ARM	NUMBER OF MINUTES FROM START WHEN	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN)	BEFORE	AT TOP	AFTER			
	TO RISE	IS REACHED	IF FALLING	PEAK	OF PEAK	PEAK				
ARM A	15.00	45.00	75.00	6.82	10.24	6.82				
ARM B	15.00	45.00	75.00	9.00	13.50	9.00				
ARM C	15.00	45.00	75.00	9.80	14.70	9.80				

I	I	I	I	I	I	I	I	I	I	I
TIME	FROM/TO	ARM A	ARM B	ARM C						
07.30 - 09.00	ARM A	0.000	0.234	0.766						
		0.0	128.0	418.0						
		(5.0)	(5.0)	(5.0)						
	ARM B	0.165	0.001	0.833						
		119.0	1.0	600.0						
		(1.8)	(1.8)	(1.8)						
	ARM C	0.642	0.358	0.000						
		503.0	281.0	0.0						
		(2.0)	(2.0)	(2.0)						

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY			
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/			
(VEH.MIN/			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME			
SEGMENT) TIME SEGMENT)										
07.30-07.45										
ARM A	6.82	11.93	0.572		0.0	1.3	18.1			
ARM B	9.00	18.54	0.485		0.0	0.9	13.4			

Eastergate Junction - AM Base 2013.vao

I ARM C	9.80	32.35	0.303	0.0	0.4	6.4
I	I					
I	I					

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I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I SEGMENT)	TIME SEGMENT)	I					
I 07.45-08.00	I						
I ARM A	8.15	11.63	0.701		1.3	2.2	30.6
I ARM B	10.75	17.88	0.601		0.9	1.5	21.1
I ARM C	11.70	32.13	0.364		0.4	0.6	8.4
I	I						

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I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I SEGMENT)	TIME SEGMENT)	I					
I 08.00-08.15	I						
I ARM A	9.98	11.23	0.889		2.2	5.9	72.3
I ARM B	13.16	17.08	0.771		1.5	3.1	42.7
I ARM C	14.33	31.84	0.450		0.6	0.8	12.0
I	I						

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I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I SEGMENT)	TIME SEGMENT)	I					
I 08.15-08.30	I						
I ARM A	9.98	11.22	0.889		5.9	6.7	95.6
I ARM B	13.16	16.98	0.775		3.1	3.3	48.6
I ARM C	14.33	31.82	0.450		0.8	0.8	12.2
I	I						

Eastergate Junction - AM Base 2013.vao

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY	I	I	I	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	(VEH.MIN/	I	(VEH/MIN)	CAPACITY	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	SEGMENT)	TIME	SEGMENT)	I				
I	08.30-08.45							
I	ARM A	8.15	11.63	0.701		6.7	2.5	44.0
I	ARM B	10.75	17.72	0.607		3.3	1.6	25.2
I	ARM C	11.70	32.11	0.364		0.8	0.6	8.8
I								
I								

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY	I	I	I	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	(VEH.MIN/	I	(VEH/MIN)	CAPACITY	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	SEGMENT)	TIME	SEGMENT)	I				
I	08.45-09.00							
I	ARM A	6.82	11.93	0.572		2.5	1.4	22.0
I	ARM B	9.00	18.46	0.487		1.6	1.0	15.0
I	ARM C	9.80	32.34	0.303		0.6	0.4	6.6
I								
I								

.QUEUE AT ARM A

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	1.3	*
08.00	2.2	**
08.15	5.9	*****
08.30	6.7	*****
08.45	2.5	**
09.00	1.4	*

.QUEUE AT ARM B

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	0.9	*

Eastergate Junction - AM Base 2013.vao

08.00	1.5	*
08.15	3.1	***
08.30	3.3	***
08.45	1.6	**
09.00	1.0	*

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.4
08.00	0.6 *
08.15	0.8 *
08.30	0.8 *
08.45	0.6 *
09.00	0.4

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I		I		I		I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	748.7	I	282.5	I	282.6	I
I	B	I	987.3	I	166.0	I	166.1	I
I	C	I	1075.0	I	54.4	I	54.4	I
I	ALL	I	2811.0	I	503.0	I	503.1	I

* 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 JOB

***** ARCADY 5 run completed.

Eastergate Junction - PM Base 2013.vao
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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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EMAIL: SoftwareBureau@trl.co.uk

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Run with file:-
"p:\2009 Projects (1003-)\1067 Yapton Road, Barnham\Junction Assesements\SAJ
Models\
Eastergate Junction - PM Base 2013.vai"
(drive-on-the-left) at 12:44:52 on Thursday, 29 october 2009

.ROUNDABOUT CAPACITY AND DELAY

.RUN TITLE

Eastergate Junction - PM Base (16:45 - 17:45)

.INPUT DATA

ARM A - A29 Fontwell Avenue
ARM B - B2233 Barnham Road
ARM C - A29 Nyton Road

.GEOMETRIC DATA

I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI
(DEG) I SLOPE I INTERCEPT (PCU/MIN) I

I ARM A I 3.00 I 4.00 I 1.00 I 6.20 I 25.00 I
38.0 I 0.444 I 14.119 I
I ARM B I 4.00 I 4.00 I 0.00 I 999.00 I 25.00 I
15.0 I 0.618 I 22.219 I
I ARM C I 6.30 I 6.30 I 0.00 I 71.00 I 25.00 I
19.0 I 0.757 I 34.147 I

Eastergate Junction - PM Base 2013.vao

V = approach half-width
inscribed circle diameter
E = entry width
angle

L = effective flare length
R = entry radius

D =
PHI = entry

.TRAFFIC DEMAND DATA

.TIME PERIOD BEGINS 16.30 AND ENDS 18.00
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	I	I	I	I	I	I	I	I	I
ARM	NUMBER OF MINUTES FROM START WHEN	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN)	BEFORE	AT TOP	AFTER			
	TO RISE	IS REACHED	IF FALLING	PEAK	OF PEAK	PEAK				
ARM A	15.00	45.00	75.00	2.59	3.88	2.59				
ARM B	15.00	45.00	75.00	7.26	10.89	7.26				
ARM C	15.00	45.00	75.00	10.89	16.33	10.89				

I	I	I	I	I	I	I	I	I	I	I
TIME	FROM/TO	ARM A	ARM B	ARM C						
16.30 - 18.00	ARM A	0.000	0.246	0.754						
		0.0	51.0	156.0						
		(0.5)	(0.5)	(0.5)						
	ARM B	0.210	0.000	0.790						
		122.0	0.0	459.0						
		(1.2)	(1.2)	(1.2)						
	ARM C	0.382	0.618	0.000						
		333.0	538.0	0.0						
		(0.2)	(0.2)	(0.2)						

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY			
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/			
(VEH.MIN/			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME			
SEGMENT) TIME SEGMENT)										
I 16.30-16.45										
ARM A	2.59	11.08	0.233		0.0	0.3	4.4			
ARM B	7.26	20.77	0.350		0.0	0.5	7.8			

Eastergate Junction - PM Base 2013.vao

I ARM C	10.89	32.92	0.331	0.0	0.5	7.2
I	I					
I	I					

I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I SEGMENT)	TIME	SEGMENT)	I				
I 16.45-17.00	I						
I ARM A	3.09	10.50	0.294		0.3	0.4	6.0
I ARM B	8.67	20.53	0.422		0.5	0.7	10.6
I ARM C	13.00	32.69	0.398		0.5	0.7	9.7
I	I						
I	I						

I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I SEGMENT)	TIME	SEGMENT)	I				
I 17.00-17.15	I						
I ARM A	3.78	9.70	0.390		0.4	0.6	9.1
I ARM B	10.62	20.21	0.525		0.7	1.1	15.8
I ARM C	15.92	32.38	0.492		0.7	1.0	14.1
I	I						
I	I						

I TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I SEGMENT)	TIME	SEGMENT)	I				
I 17.15-17.30	I						
I ARM A	3.78	9.70	0.390		0.6	0.6	9.5
I ARM B	10.62	20.21	0.526		1.1	1.1	16.5
I ARM C	15.92	32.37	0.492		1.0	1.0	14.4
I	I						
I	I						

Eastergate Junction - PM Base 2013.vao

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY	I						
I	(VEH/MIN)	(VEH/MIN)	CAPACITY		FLOW	QUEUE	QUEUE	(VEH.MIN/
I	(VEH.MIN/	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME	SEGMENT)	I					
I	17.30-17.45							
I	ARM A	3.09	10.49	0.295		0.6	0.4	6.6
I	ARM B	8.67	20.52	0.423		1.1	0.7	11.4
I	ARM C	13.00	32.68	0.398		1.0	0.7	10.2
I								
I								

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY	I						
I	(VEH/MIN)	(VEH/MIN)	CAPACITY		FLOW	QUEUE	QUEUE	(VEH.MIN/
I	(VEH.MIN/	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME	SEGMENT)	I					
I	17.45-18.00							
I	ARM A	2.59	11.07	0.234		0.4	0.3	4.7
I	ARM B	7.26	20.76	0.350		0.7	0.5	8.3
I	ARM C	10.89	32.91	0.331		0.7	0.5	7.6
I								
I								

.QUEUE AT ARM A

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.3
17.00	0.4
17.15	0.6 *
17.30	0.6 *
17.45	0.4
18.00	0.3

.QUEUE AT ARM B

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.5 *

Eastergate Junction - PM Base 2013.vao

17.00	0.7	*
17.15	1.1	*
17.30	1.1	*
17.45	0.7	*
18.00	0.5	*

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
16.45	0.5
17.00	0.7 *
17.15	1.0 *
17.30	1.0 *
17.45	0.7 *
18.00	0.5

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I		I		I		I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	283.8	I	189.2	I	40.2	I
I	B	I	796.7	I	531.1	I	70.4	I
I	C	I	1194.3	I	796.2	I	63.2	I
I	ALL	I	2274.8	I	1516.6	I	173.8	I

* 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 JOB

***** ARCADY 5 run completed.

Eastergate Junction - AM Base 2013 + Dev (No BRRR).vao
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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"p:\2009 Projects (1003-)\1067 Yapton Road, Barnham\Junction Assesements\SAJ
Models\
Eastergate Junction - AM Base 2013 + Dev (No BRRR).vai"
(drive-on-the-left) at 12:52:59 on Thursday, 29 October 2009

.ROUNDAABOUT CAPACITY AND DELAY

.RUN TITLE

Eastergate Junction - AM Base (07:45 - 08:45)

.INPUT DATA

ARM A - A29 Fontwell Avenue
ARM B - B2233 Barnham Road
ARM C - A29 Nyton Road

.GEOMETRIC DATA

I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI
(DEG) I SLOPE I INTERCEPT (PCU/MIN) I

I ARM A I 3.00 I 4.00 I 1.00 I 6.20 I 25.00 I
38.0 I 0.444 I 14.119 I
I ARM B I 4.00 I 4.00 I 0.00 I 999.00 I 25.00 I
15.0 I 0.618 I 22.219 I
I ARM C I 6.30 I 6.30 I 0.00 I 71.00 I 25.00 I
19.0 I 0.757 I 34.147 I

Eastergate Junction - AM Base 2013 + Dev (No BRRR).vao

V = approach half-width L = effective flare length D =
inscribed circle diameter
E = entry width R = entry radius PHI = entry
angle

.TRAFFIC DEMAND DATA

.TIME PERIOD BEGINS 07.30 AND ENDS 09.00

.LENGTH OF TIME PERIOD - 90 MINUTES.

.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	NUMBER OF MINUTES FROM START WHEN			I	RATE OF FLOW (VEH/MIN)			I
I	ARM	I	FLOW STARTS	I	TOP OF PEAK	I	BEFORE	I	AT TOP
I	I	I	TO RISE	I	IS REACHED	I	PEAK	I	OF PEAK
I	I	I	I	I	IF FALLING	I	I	I	I
I	ARM A	I	15.00	I	45.00	I	6.85	I	10.27
I	ARM B	I	15.00	I	45.00	I	9.41	I	14.12
I	ARM C	I	15.00	I	45.00	I	9.86	I	14.79

		TURNING PROPORTIONS				
		TURNING COUNTS (VEH/HR)				
		(PERCENTAGE OF H.V.S)				
I	TIME	I	FROM/TO	I	ARM A	I
I	I	I	I	I	ARM B	I
I	I	I	I	I	ARM C	I
I	07.30 - 09.00	I		I		I
I		I	ARM A	I	0.000	I
I		I		I	0.237	I
I		I		I	0.763	I
I		I		I	0.0	I
I		I		I	130.0	I
I		I		I	418.0	I
I		I		I	(5.0)	I
I		I		I	(5.0)	I
I		I		I	(5.0)	I
I		I	ARM B	I	0.165	I
I		I		I	0.001	I
I		I		I	0.834	I
I		I		I	124.0	I
I		I		I	1.0	I
I		I		I	628.0	I
I		I		I	(1.8)	I
I		I		I	(1.8)	I
I		I		I	(1.8)	I
I		I	ARM C	I	0.638	I
I		I		I	0.362	I
I		I		I	0.000	I
I		I		I	503.0	I
I		I		I	286.0	I
I		I		I	0.0	I
I		I		I	(2.0)	I
I		I		I	(2.0)	I
I		I		I	(2.0)	I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC DELAY	I	I	I	I	I	I	I
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	07.30-07.45	I		I				
I	ARM A	I	6.85	I	11.90	I	0.575	I
I		I		I		I	0.0	I
I	ARM B	I	9.41	I	18.54	I	0.508	I
I		I		I		I	0.0	I
I		I		I		I	1.3	I
I		I		I		I	1.0	I
I		I		I		I		I
I		I		I		I		I

Eastergate Junction - AM Base 2013 + Dev (No BRRR).vao

I ARM C	9.86	32.31	0.305	0.0	0.4	6.4
I	I					
I	I					

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME SEGMENT)	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME
I 07.45-08.00	I						
I ARM A	8.18	11.60	0.705		1.3	2.3	31.1
I ARM B	11.24	17.88	0.629		1.0	1.6	23.5
I ARM C	11.78	32.07	0.367		0.4	0.6	8.5
I	I						

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME SEGMENT)	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME
I 08.00-08.15	I						
I ARM A	10.02	11.19	0.895		2.3	6.2	74.7
I ARM B	13.77	17.09	0.806		1.6	3.8	50.5
I ARM C	14.42	31.77	0.454		0.6	0.8	12.1
I	I						

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME SEGMENT)	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME
I 08.15-08.30	I						
I ARM A	10.02	11.18	0.896		6.2	7.0	100.0
I ARM B	13.77	16.99	0.810		3.8	4.0	59.1
I ARM C	14.42	31.76	0.454		0.8	0.8	12.4
I	I						

Eastergate Junction - AM Base 2013 + Dev (No BRRR).vao

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY	I	I	I	I	I	I
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	08.30-08.45							
I	ARM A	8.18	11.60	0.705		7.0	2.5	45.6
I	ARM B	11.24	17.71	0.635		4.0	1.8	28.9
I	ARM C	11.78	32.05	0.367		0.8	0.6	8.9
I								

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY	I	I	I	I	I	I
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	08.45-09.00							
I	ARM A	6.85	11.90	0.576		2.5	1.4	22.4
I	ARM B	9.41	18.46	0.510		1.8	1.1	16.5
I	ARM C	9.86	32.29	0.305		0.6	0.4	6.7
I								

.QUEUE AT ARM A

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	1.3	*
08.00	2.3	**
08.15	6.2	*****
08.30	7.0	*****
08.45	2.5	***
09.00	1.4	*

.QUEUE AT ARM B

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	1.0	*

```
.QUEUE AT ARM C
```

QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

* 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.

Eastergate Junction - PM Base 2013 + Dev (No BRRR).vao
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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
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Models\
Eastergate Junction - PM Base 2013 + Dev (No BRRR).vai"
(drive-on-the-left) at 12:56:22 on Thursday, 29 October 2009

.ROUNDAABOUT CAPACITY AND DELAY

.RUN TITLE

Eastergate Junction - PM Base 2013 + Dev (No BRRR)

.INPUT DATA

ARM A - A29 Fontwell Avenue
ARM B - B2233 Barnham Road
ARM C - A29 Nyton Road

.GEOMETRIC DATA

I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI
(DEG) I SLOPE I INTERCEPT (PCU/MIN) I

I ARM A I 3.00 I 4.00 I 1.00 I 6.20 I 25.00 I
38.0 I 0.444 I 14.119 I
I ARM B I 4.00 I 4.00 I 0.00 I 999.00 I 25.00 I
15.0 I 0.618 I 22.219 I
I ARM C I 6.30 I 6.30 I 0.00 I 71.00 I 25.00 I
19.0 I 0.757 I 34.147 I

Eastergate Junction - PM Base 2013 + Dev (No BRRR).vao

V = approach half-width L = effective flare length D =
inscribed circle diameter
E = entry width R = entry radius PHI = entry
angle

.TRAFFIC DEMAND DATA

.TIME PERIOD BEGINS 16.30 AND ENDS 18.00
.LENGTH OF TIME PERIOD - 90 MINUTES.
.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	NUMBER OF MINUTES FROM START WHEN			I	RATE OF FLOW (VEH/MIN)			I
I	ARM	I	FLOW STARTS	I	TOP OF PEAK	I	BEFORE	I	AT TOP
I	I	I	TO RISE	I	IS REACHED	I	PEAK	I	OF PEAK
I	I	I	I	I	IF FALLING	I	I	I	I
I	ARM A	I	15.00	I	45.00	I	2.64	I	3.96
I	ARM B	I	15.00	I	45.00	I	7.47	I	11.21
I	ARM C	I	15.00	I	45.00	I	11.16	I	16.74
I		I		I		I		I	

		TURNING PROPORTIONS				
		TURNING COUNTS (VEH/HR)				
		(PERCENTAGE OF H.V.S)				
I	TIME	I	FROM/TO	I	ARM A	I
I	I	I	I	I	ARM B	I
I	I	I	I	I	ARM C	I
I	16.30 - 18.00	I		I		I
I		I	ARM A	I	0.000	I
I		I		I	0.0	I
I		I		I	(0.5)	I
I		I		I		I
I		I	ARM B	I	0.211	I
I		I		I	126.0	I
I		I		I	(1.2)	I
I		I		I		I
I		I	ARM C	I	0.373	I
I		I		I	333.0	I
I		I		I	(0.2)	I
I		I		I		I

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	SEGMENT) TIME	SEGMENT) I						
I	16.30-16.45	I						
I	ARM A	I	2.64	10.96	0.241	0.0	0.3	4.5
I	ARM B	I	7.47	20.77	0.360	0.0	0.6	8.1
I		I						

Eastergate Junction - PM Base 2013 + Dev (No BRRR).vao

I ARM C	11.16	32.88	0.339	0.0	0.5	7.5
I	I					
I	I					

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME SEGMENT)	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME
I 16.45-17.00	I						
I ARM A	3.15	10.35	0.304		0.3	0.4	6.3
I ARM B	8.93	20.53	0.435		0.6	0.8	11.1
I ARM C	13.33	32.64	0.408		0.5	0.7	10.1
I	I						

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME SEGMENT)	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME
I 17.00-17.15	I						
I ARM A	3.86	9.53	0.405		0.4	0.7	9.6
I ARM B	10.93	20.21	0.541		0.8	1.2	16.8
I ARM C	16.32	32.32	0.505		0.7	1.0	14.8
I	I						

I TIME GEOMETRIC DELAY I (VEH.MIN/ I SEGMENT)	DEMAND I (VEH/MIN) I TIME SEGMENT)	CAPACITY I (VEH/MIN) I	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME
I 17.15-17.30	I						
I ARM A	3.86	9.52	0.405		0.7	0.7	10.1
I ARM B	10.93	20.21	0.541		1.2	1.2	17.5
I ARM C	16.32	32.32	0.505		1.0	1.0	15.2
I	I						

Eastergate Junction - PM Base 2013 + Dev (No BRRR).vao

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY	I	I	I	I	I	I
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	17.30-17.45							
I	ARM A	3.15	10.34	0.304		0.7	0.4	6.9
I	ARM B	8.93	20.52	0.435		1.2	0.8	12.0
I	ARM C	13.33	32.64	0.408		1.0	0.7	10.6
I								
I								

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY	I	I	I	I	I	I
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	17.45-18.00							
I	ARM A	2.64	10.95	0.241		0.4	0.3	4.9
I	ARM B	7.47	20.76	0.360		0.8	0.6	8.7
I	ARM C	11.16	32.87	0.340		0.7	0.5	7.9
I								
I								

.QUEUE AT ARM A

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.3
17.00	0.4
17.15	0.7 *
17.30	0.7 *
17.45	0.4
18.00	0.3

.QUEUE AT ARM B

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.6 *

Eastergate Junction - PM Base 2013 + Dev (No BRRR).vao

17.00	0.8	*
17.15	1.2	*
17.30	1.2	*
17.45	0.8	*
18.00	0.6	*

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.45	0.5	*
17.00	0.7	*
17.15	1.0	*
17.30	1.0	*
17.45	0.7	*
18.00	0.5	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I		I		I		I
I		I	(VEH)	I	(VEH/H)	I	(MIN)	I
I		I		I		I	(MIN/VEH)	I
I		I		I		I		I
I	A	I	289.3	I	192.9	I	42.3	I
I	B	I	820.0	I	546.7	I	74.3	I
I	C	I	1224.5	I	816.3	I	66.2	I
I	ALL	I	2333.8	I	1555.9	I	182.8	I

* 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 JOB

***** ARCADY 5 run completed.

Eastergate Junction - AM Base 2013 + Dev (with BRRR).vao
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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Models\
Eastergate Junction - AM Base 2013 + Dev (with BRRR).vai"
(drive-on-the-left) at 13:03:01 on Thursday, 29 October 2009

.ROUNDABOUT CAPACITY AND DELAY

.RUN TITLE

Eastergate Junction - AM Base 2013 + Dev (No BRRR)

.INPUT DATA

ARM A - A29 Fontwell Avenue
ARM B - B2233 Barnham Road
ARM C - A29 Nyton Road

.GEOMETRIC DATA

I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI
(DEG) I SLOPE I INTERCEPT (PCU/MIN) I

I ARM A I 3.00 I 4.00 I 1.00 I 6.20 I 25.00 I
38.0 I 0.444 I 14.119 I
I ARM B I 4.00 I 4.00 I 0.00 I 999.00 I 25.00 I
15.0 I 0.618 I 22.219 I
I ARM C I 6.30 I 6.30 I 0.00 I 71.00 I 25.00 I
19.0 I 0.757 I 34.147 I

Eastergate Junction - AM Base 2013 + Dev (With BRRR).vao
V = approach half-width L = effective flare length D =
inscribed circle diameter
E = entry width R = entry radius PHI = entry
angle

. TRAFFIC DEMAND DATA

. TIME PERIOD BEGINS 07.30 AND ENDS 09.00

. LENGTH OF TIME PERIOD - 90 MINUTES.

. LENGTH OF TIME SEGMENT - 15 MINUTES.

. DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	I	I	I	I	I	I	I	I	I
ARM	NUMBER OF MINUTES FROM START WHEN	TOP OF PEAK	FLOW STOPS	RATE OF FLOW (VEH/MIN)	BEFORE	AT TOP	AFTER			
	TO RISE	IS REACHED	IF FALLING	PEAK	OF PEAK	PEAK				
ARM A	15.00	45.00	75.00	6.85	10.27	6.85				
ARM B	15.00	45.00	75.00	9.41	14.12	9.41				
ARM C	15.00	45.00	75.00	9.88	14.81	9.88				

I	I	I	I	I	I	I	I	I	I	I
TIME	FROM/TO	ARM A	ARM B	ARM C						
07.30 - 09.00	ARM A	0.000	0.237	0.763						
		0.0	130.0	418.0						
		(5.0)	(5.0)	(5.0)						
	ARM B	0.165	0.001	0.834						
		124.0	1.0	628.0						
		(1.8)	(1.8)	(1.8)						
	ARM C	0.637	0.363	0.000						
		503.0	287.0	0.0						
		(2.0)	(2.0)	(2.0)						

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	I	I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY			
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/			
(VEH.MIN/			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME			
SEGMENT) TIME SEGMENT) I										
07.30-07.45										
ARM A	6.85	11.90	0.576		0.0	1.3	18.3			
ARM B	9.41	18.54	0.508		0.0	1.0	14.6			

Eastergate Junction - AM Base 2013 + Dev (with BRRR).vao

I	ARM	C	9.88	32.31	0.306	0.0	0.4	6.5
I			I					
I			I					

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY						
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	07.45-08.00							
I	ARM A	8.18	11.59	0.705		1.3	2.3	31.2
I	ARM B	11.24	17.88	0.629		1.0	1.6	23.5
I	ARM C	11.79	32.07	0.368		0.4	0.6	8.5
I								

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY						
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	08.00-08.15							
I	ARM A	10.02	11.18	0.896		2.3	6.2	74.9
I	ARM B	13.77	17.09	0.806		1.6	3.8	50.5
I	ARM C	14.44	31.77	0.455		0.6	0.8	12.2
I								

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY						
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	08.15-08.30							
I	ARM A	10.02	11.18	0.896		6.2	7.1	100.4
I	ARM B	13.77	16.99	0.810		3.8	4.0	59.1
I	ARM C	14.44	31.76	0.455		0.8	0.8	12.4
I								

Eastergate Junction - AM Base 2013 + Dev (with BRRR).vao

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY	I	I	I	I	I	I
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	08.30-08.45							
I	ARM A	8.18	11.59	0.706		7.1	2.6	45.7
I	ARM B	11.24	17.71	0.635		4.0	1.8	28.9
I	ARM C	11.79	32.05	0.368		0.8	0.6	8.9
I								

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY	I	I	I	I	I	I
I	(VEH.MIN/	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	SEGMENT)	TIME	SEGMENT)	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	08.45-09.00							
I	ARM A	6.85	11.89	0.576		2.6	1.4	22.4
I	ARM B	9.41	18.46	0.510		1.8	1.1	16.5
I	ARM C	9.88	32.29	0.306		0.6	0.4	6.7
I								

.QUEUE AT ARM A

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	1.3	*
08.00	2.3	**
08.15	6.2	*****
08.30	7.1	*****
08.45	2.6	***
09.00	1.4	*

.QUEUE AT ARM B

TIME SEGMENT	NO. OF	
ENDING	VEHICLES	
	IN QUEUE	
07.45	1.0	*

Eastergate Junction - AM Base 2013 + Dev (with BRRR).vao

08.00	1.6	**
08.15	3.8	****
08.30	4.0	****
08.45	1.8	**
09.00	1.1	*

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE
07.45	0.4
08.00	0.6 *
08.15	0.8 *
08.30	0.8 *
08.45	0.6 *
09.00	0.4

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I		I		I		I
I		I	(VEH)	I	(MIN)	I	(MIN)	I
I		I	(VEH/H)	I	(MIN/VEH)	I	(MIN/VEH)	I
I	A	I	751.4	I	500.9	I	293.0	I
I	B	I	1032.5	I	688.3	I	193.1	I
I	C	I	1083.3	I	722.2	I	55.3	I
I	ALL	I	2867.2	I	1911.5	I	541.3	I

* 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 JOB

***** ARCADY 5 run completed.

Eastergate Junction - PM Base 2013 + Dev (With BRRR).vao
TRL LIMITED

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CAPACITIES, QUEUES AND DELAYS AT ROUNDABOUTS

ARCADY 5.0 ANALYSIS PROGRAM
RELEASE 1.1 (MAY 2001)

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Run with file:-
"p:\2009 Projects (1003-)\1067 Yapton Road, Barnham\Junction Assesements\SAJ
Models\
Eastergate Junction - PM Base 2013 + Dev (With BRRR).vai"
(drive-on-the-left) at 13:01:43 on Thursday, 29 October 2009

.ROUNDABOUT CAPACITY AND DELAY

.RUN TITLE

Eastergate Junction - PM Base 2013 + Dev (With BRRR)

.INPUT DATA

ARM A - A29 Fontwell Avenue
ARM B - B2233 Barnham Road
ARM C - A29 Nyton Road

.GEOMETRIC DATA

I ARM I V (M) I E (M) I L (M) I R (M) I D (M) I PHI
(DEG) I SLOPE I INTERCEPT (PCU/MIN) I

I ARM A I 3.00 I 4.00 I 1.00 I 6.20 I 25.00 I
38.0 I 0.444 I 14.119 I
I ARM B I 4.00 I 4.00 I 0.00 I 999.00 I 25.00 I
15.0 I 0.618 I 22.219 I
I ARM C I 6.30 I 6.30 I 0.00 I 71.00 I 25.00 I
19.0 I 0.757 I 34.147 I

Eastergate Junction - PM Base 2013 + Dev (With BRRR).vao

V = approach half-width
 inscribed circle diameter
 E = entry width
 angle

L = effective flare length
 R = entry radius

D =
 PHI = entry

.TRAFFIC DEMAND DATA

.TIME PERIOD BEGINS 16.30 AND ENDS 18.00

.LENGTH OF TIME PERIOD - 90 MINUTES.

.LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I	I	I	I	I	I	I	I	I	I
ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS IF FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK			
ARM A	15.00	45.00	75.00	2.64	3.96	2.64			
ARM B	15.00	45.00	75.00	7.44	11.16	7.44			
ARM C	15.00	45.00	75.00	11.13	16.69	11.13			

I	I	I	I	I	I	I	I	I	I
TIME	FROM/TO	ARM A	ARM B	ARM C					
16.30 - 18.00	ARM A	0.000	0.261	0.739					
		0.0	55.0	156.0					
		(0.5)	(0.5)	(0.5)					
	ARM B	0.212	0.000	0.788					
		126.0	0.0	469.0					
		(1.2)	(1.2)	(1.2)					
	ARM C	0.374	0.626	0.000					
		333.0	557.0	0.0					
		(0.2)	(0.2)	(0.2)					

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

I	I	I	I	I	I	I	I	I
TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY	
GEOMETRIC DELAY	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	
(VEH.MIN/			(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT) TIME SEGMENT) I								
I 16.30-16.45								
ARM A	2.64	10.98	0.240		0.0	0.3	4.5	
ARM B	7.44	20.77	0.358		0.0	0.6	8.1	

Eastergate Junction - PM Base 2013 + Dev (with BRRR).vao

I	ARM	C	11.13	32.88	0.338	0.0	0.5	7.5
I			I					
I			I					

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY						
I		(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	SEGMENT)	TIME	SEGMENT)	I				
I	16.45-17.00							
I		I						
I	ARM A	3.15	10.37	0.304		0.3	0.4	6.3
I		I						
I	ARM B	8.88	20.53	0.433		0.6	0.8	11.1
I		I						
I	ARM C	13.28	32.64	0.407		0.5	0.7	10.1
I		I						
I		I						

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY						
I		(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	SEGMENT)	TIME	SEGMENT)	I				
I	17.00-17.15							
I		I						
I	ARM A	3.86	9.55	0.404		0.4	0.7	9.6
I		I						
I	ARM B	10.88	20.21	0.538		0.8	1.1	16.6
I		I						
I	ARM C	16.27	32.32	0.503		0.7	1.0	14.7
I		I						
I		I						

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
I	GEOMETRIC	DELAY						
I		(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/
I	(VEH.MIN/	I		(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME
I	SEGMENT)	TIME	SEGMENT)	I				
I	17.15-17.30							
I		I						
I	ARM A	3.86	9.54	0.404		0.7	0.7	10.0
I		I						
I	ARM B	10.88	20.21	0.538		1.1	1.2	17.3
I		I						
I	ARM C	16.27	32.32	0.503		1.0	1.0	15.1
I		I						
I		I						

Eastergate Junction - PM Base 2013 + Dev (with BRRR).vao

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY							
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	
I	(VEH.MIN/	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME	SEGMENT)	I					
I	17.30-17.45	I						
I	ARM A	3.15	10.36	0.304		0.7	0.4	6.9
I	ARM B	8.88	20.52	0.433		1.2	0.8	11.9
I	ARM C	13.28	32.64	0.407		1.0	0.7	10.6
I		I						
		I						

I	TIME	DEMAND	CAPACITY	DEMAND/	PEDESTRIAN	START	END	DELAY
GEOMETRIC	DELAY							
I	(VEH/MIN)	(VEH/MIN)	CAPACITY	FLOW	QUEUE	QUEUE	(VEH.MIN/	
I	(VEH.MIN/	I	(RFC)	(PEDS/MIN)	(VEHS)	(VEHS)	TIME	
SEGMENT)	TIME	SEGMENT)	I					
I	17.45-18.00	I						
I	ARM A	2.64	10.96	0.241		0.4	0.3	4.9
I	ARM B	7.44	20.76	0.358		0.8	0.6	8.6
I	ARM C	11.13	32.87	0.338		0.7	0.5	7.8
I		I						
		I						

.QUEUE AT ARM A

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.3
17.00	0.4
17.15	0.7 *
17.30	0.7 *
17.45	0.4
18.00	0.3

.QUEUE AT ARM B

TIME SEGMENT	NO. OF
ENDING	VEHICLES
	IN QUEUE
16.45	0.6 *

Eastergate Junction - PM Base 2013 + Dev (with BRRR).vao

17.00	0.8	*
17.15	1.1	*
17.30	1.2	*
17.45	0.8	*
18.00	0.6	*

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.45	0.5	*
17.00	0.7	*
17.15	1.0	*
17.30	1.0	*
17.45	0.7	*
18.00	0.5	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

I	ARM	I	TOTAL DEMAND	I	* QUEUEING *	I	* INCLUSIVE QUEUEING *	I
I		I		I	* DELAY *	I	* DELAY *	I
I		I		I		I		I
I		I	(VEH)	I	(VEH/H)	I	(MIN)	I
I		I		I		I	(MIN/VEH)	I
I	A	I	289.3	I	192.9	I	42.2	I
I	B	I	815.9	I	543.9	I	73.6	I
I	C	I	1220.4	I	813.6	I	65.8	I
I	ALL	I	2325.6	I	1550.4	I	181.6	I

* 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 JOB

***** ARCADY 5 run completed.



APPENDIX G

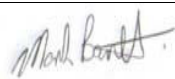
YAPTON ROAD, BARNHAM WEST SUSSEX

PROPOSED RESIDENTIAL DEVELOPMENT

Stage 1 Road Safety Audit

OCTOBER 2009

MB/BD/09/0356/RSA1

Revision Status	Prepared by: (Name)	Checked by: (Name)	Approved by: (Signature)	Date Approved:
Original	Mark Barrett	Beth Duncan		30 October 2009
Designer's Response				
Authority's Response				
Audit Response				

Client:

Russell Giles Partnership

Primrose Place
Portsmouth Road
Godalming
Surrey
GU7 2JN

Engineer:

The Safety Forum Ltd

PO Box 744
Godalming
Surrey
GU7 9DU

Date: 30 October 2009

TABLE OF CONTENTS

1.0	INTRODUCTION.....	3
2.0	ITEMS CONSIDERED	5
3.0	MATTERS ARISING FROM THIS STAGE 1 AUDIT	6
4.0	AUDITOR STATEMENT	8

APPENDIX A Key Plan

APPENDIX B Designers Response

1.0 INTRODUCTION

1.1 General

- 1.1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on the proposed residential development on Yapton Road, Barnham, West Sussex. The proposals involve the demolition of the existing buildings to provide up to 100 residential dwellings. Access to the development will take the form of a priority junction onto Yapton Road. As part of the proposals, it is intended to provide a right turn lane on Yapton Road. A pedestrian refuge will be provided on the east side of the proposed access. The new recreation ground, on adjacent land, will be accessed from the proposed development link road.
- 1.1.2 The RSA was carried out at the request of Philip Russell of Russell Giles Partnership.
- 1.1.3 The audit was carried out between 19th October 2009 and 30th October 2009 by consultants working on behalf of The Safety Forum Limited. The Auditors were:
- i) Mark Barrett MIHT
 - ii) Beth Duncan AMIHT
- 1.1.4 The Audit Team, which is established from THE SAFETY FORUM LTD and independent of the project design team, have had no other involvement with the project.
- 1.1.5 The report has been prepared in accordance with the Design Manual for Roads and Bridges (DMRB) Highways Directive (HD) 19/03.
- 1.1.6 Whilst reference is made to certain design standards, where safety may be compromised by a reduction in standard, this report is not intended to provide a design check. The Auditors have only reported on matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme or the appropriateness of the design. Consequently, the Auditors accept no responsibility for the design or construction of the scheme.
- 1.1.7 The audit consisted of a desktop study and a site visit, which was carried out on Monday 19th October 2009 between 16:00 and 17:00. The weather was sunny and the road surface was dry.
- 1.1.8 The recommendations in this report are aimed at addressing the road safety problems; however there may be other alternative acceptable ways to overcome a specific problem, when other practical issues are considered. The

recommendations contained herein do not absolve the designer of his/her responsibilities.

- 1.1.9 The auditors would be pleased to discuss the acceptability of alternative solutions to problems identified during the Audit, and would encourage the designer to consult them on this matter.
- 1.1.10 The LHA response to the RSA should be formally recorded and reported to the Designer and the RSA Team so that a record of the Audit process is contained in the *As Built* design pack to be provided and retained by the LHA on final completion.
- 1.1.11 As limited details such as signing, site clearance, and lighting have not been provided to the Audit Team, they are unable to comment on these issues. These details should be provided at the detailed design stage.

2.0 ITEMS CONSIDERED

- 2.1 The Road Safety Audit was undertaken on the scheme detailed in the following Russell Giles Partnership documentation:

Drawing no.	Rev	Title
2009/1067/001	A	Proposed Residential Development Access Design

- 2.2 The Auditors have not been notified of any departures from standards.

3.0 MATTERS ARISING FROM THIS STAGE 1 AUDIT

3.1 PROBLEM

LOCATION: Pedestrian refuge.

SUMMARY: Risk of overtaking through the junction.

It is unclear from the information provided if keep left bollards and high level keep left signs will be provided on the proposed pedestrian refuge. Failure to provide these signs may result in approaching vehicles attempting to overtake through the junction colliding with the island.

RECOMMENDATION

Provide keep left bollards and high level keep left signs on the proposed island.

3.2 PROBLEM

LOCATION: Proposed shared footway/cycleway.

SUMMARY: Risk of pedestrian/cyclist conflicts.

There is no corduroy tactile paving proposed to warn visually impaired pedestrians they are entering a shared pedestrian/cycle footway. This may lead to conflicts between cyclists and visually impaired pedestrians. It is also unclear what signing/carriageway markings will be provided to direct cyclists off Yapton Road and also to and from the recreation centre. This may also lead to conflicts with pedestrians as cyclists may continue along the footway.

RECOMMENDATION

Provide appropriate tactile/corduroy paving in accordance with *Department for Transport's Guidance on the use of Tactile Paving Surfaces 2005* to clearly indicate the start and end of the shared footway / cycleway. Provide signing/carriageway markings to direct cyclists off Yapton Road and also to and from the recreation centre.

3.3 PROBLEM

LOCATION: Pedestrian facilities within the development.

SUMMARY: Risk of pedestrian/vehicle conflicts.

No details of pedestrian routes and crossing facilities within the development have been provided; it is appreciated that the layout of the internal roads will not result in high vehicle speeds. However, concern is expressed that the lack of formal pedestrian facilities within the development could put pedestrians at unnecessary risk.

RECOMMENDATION

The design should ensure that adequate pedestrian facilities are provided within the development.

4.0 AUDITOR STATEMENT

4.1 I certify that this audit has been carried out in accordance with HD 19/03.

AUDIT TEAM LEADER

Mark Barrett
The Safety Forum Ltd
PO Box 744
Godalming
Surrey
GU7 9DU

AUDIT TEAM MEMBER

Beth Duncan



Signed:

Date: 30 October 2009

APPENDIX B: DESIGNERS RESPONSE

Auditors: Mark Barrett (Team Leader) and Beth Duncan (Team Member).

Scheme: Yapton Road, Barnham, West Sussex – Proposed Residential Development.

Date Audit Completed: 30 October 2009.

This response is to a Stage 1 Road Safety Audit to the design standard detailed within HD19/03 of Volume 5, Section 2, Part 2, of the Design Manual for Roads and Bridges, as detailed by the Highways Agency.

Problem no. in safety audit report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measure (detail description)
3.1	Y	Y	Refer to RGP Transport Assessment (Ref: Error! Reference source not found.) for full Designer's Response.
3.2	Y	Y	
3.3	Y	Y	

Principal Engineer's Statement:

Road Safety Audit for Yapton Road, Barnham, West Sussex – Proposed Residential Development.

I certify that I have considered the items raised in the Stage 1 Road Safety Audit Report and I am content to accept all of its recommendations except for the ones listed above. I have stated my reasons for not accepting them and I seek the Chief Engineer's endorsement of my proposals.



09/11/2009

..... Date.....

Principal Engineer

Chief Engineer's Decision:

I accept these proposals by the Principal Engineer.

..... Date.....

Chief Engineer



APPENDIX H

