

TRANSPORT ASSESSMENT

LAND EAST OF TYE LANE, WALBERTON

JUNE 2017

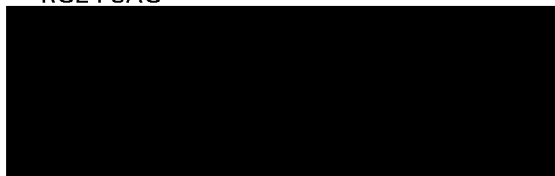


TRANSPORT ASSESSMENT

LAND EAST OF TYE LANE, WALBERTON

Client: Wates Developments

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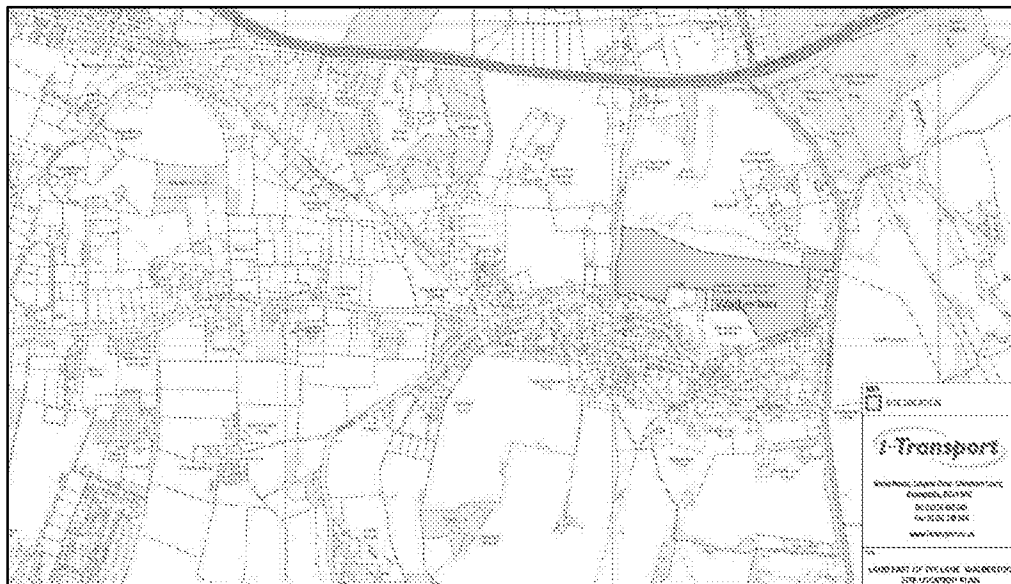
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SECTION 1 INTRODUCTION

1.1 Introduction

- 1.1.1 i-Transport has been appointed by Wates Developments to provide highway and transport advice in relation to the outline application for up to 175 dwellings, new vehicular access, together with associated car parking, landscaping and community facilities to include allotments, play space and community orchard on Land East of Tye Lane, Walberton, in Arun District, West Sussex.
- 1.1.2 An outline planning application has been prepared which seeks permission for the principle of residential development on the land. All detailed matters are reserved at this stage apart from access which is a detailed matter for consideration as part of this application. An illustrative masterplan is provided at **Appendix A**.
- 1.1.3 The site is located to the north of Walberton village and south of the Avisford Park Hotel and Golf Club. To the east of the site is Yapton Lane with Tye Lane to the west. The location of the site is shown on **Figure T1** (Extract at **Image 1.1**). The site is currently made up of approximately 11.25ha of farmed agricultural land.

Image 1.1: Site Location



- 1.1.4 In line with the requirements of the National Planning Policy Framework (NPPF), this Transport Assessment (TA) has been prepared to consider the transport impacts that may arise from the proposed development, and to consider the proposal against relevant transport and planning policy.

1.1.5 The TA has been produced in accordance with guidance contained in the National Planning Practice Guidance (March 2014) and where necessary, other local and national transport planning guidance.

1.1.6 Specifically, the TA has been prepared to consider the three critical tests outlined in paragraph 32 of the National Planning Policy Framework which are summarised as:

- Will safe and acceptable access be provided to the site for all people?
- Will the opportunities for sustainable travel be taken up?
- Will there be a 'severe' residual cumulative transport impact of the development?

1.1.7 In line with policy requirements, a separate Framework Travel Plan (*i-Transport report reference ITB11324-005B*) has also been prepared to identify a package of measures designed to encourage sustainable travel to and from the site. The TA should be read alongside the Framework Travel Plan (FTP).

1.2 Scope of Transport Assessment

1.2.1 To inform the scope and methodologies of the TA, a Transport Assessment Scoping Note (**Appendix B**) was prepared to set out and agree the parameters of the assessment. This was submitted to West Sussex County Council (WSCC) as Local Highway Authority, and Highways England (HE) as the Highway Authority for the Strategic Road Network (SRN).

1.2.2 Subsequent meetings with both WSCC and HE were held to discuss and agree the approach to assessment and records of these meetings are contained in **Appendix C**.

1.2.3 The parameters used in determining the impact of the development therefore follow the same parameters as those previously agreed with WSCC and HE.

1.3 Public Consultation

1.3.1 A public exhibition was held on 8 May 2017 at Avisford Park Hotel in Walberton. This was a well-attended exhibition and local residents and stakeholders were provided with feedback forms to provide their comments. These comments have been used to inform the transport strategy for the development presented in the TA.

1.3.2 During the public consultation, the following key transport comments were noted and are addressed in this TA:

- Need to ensure that the potential site access to Yapton Lane is safe, with a number of residents preferring access to Tye Lane;
- Concern with vehicle speeds along Yapton Lane, with a number of residents and stakeholders considering that some traffic calming would be beneficial;
- Some residents considered the Yapton Lane / A27 junction already has large queues and is difficult to use, with the right-turn length insufficient;
- Need to ensure that any traffic surveys used were representative of local conditions and not affected by school holiday periods;
- A need to ensure that the impacts on local roads are properly considered, with some residents considering a large amount of traffic will use The Street;
- A desire to see a cycle route in the site to connect Yapton Lane and Tye Lane;
- Some concern with the placement of a pedestrian connection to Avisford Park Road. Others considered that even with a pedestrian access onto Avisford Park Road the majority of residents will still drive their children to the primary school, where parking is already a problem.

1.4 Transport Assessment Structure

1.4.1 The remainder of this report follows the same proposed structure as the TA:

- Section 2 – relevant national and local transport policies;
- Section 3 – existing transport conditions in the vicinity of the site;
- Section 4 – details of the development proposal;
- Section 5 – promoting sustainable transport;
- Section 6 – traffic impact - methodology;
- Section 7 – operational analysis; and
- Section 8– summary and conclusions.

SECTION 2 POLICY REVIEW

2.1.1 Key national and local transport planning policies have been reviewed to provide the context for the transport appraisal, including:

- **National Policy and Guidance**
 - National Planning Policy Framework (March 2012); and
 - National Planning Practice Guidance (NPPG - March 2014).
- **Local Policy and Guidance**
 - Arun District Council Local Plan 2003-2011 - Saved Policies;
 - Emerging Arun District Council Local Plan 2011-2031;
 - West Sussex County Council's Transport Plan (2011 -2026); and
 - West Sussex Guidance for Parking in New Residential Developments (September 2010) & Car Parking Demand Calculator.

2.2 National Transport Planning Policy and Guidance

National Planning Policy Framework (2012)

2.2.1 The NPPF sets out the Government's planning policies for England. At paragraph 32 the government identifies that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessments. It further states that plans and decisions should also take into account whether:

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

2.2.2 Development should therefore provide opportunities for sustainable travel; achieve safe access; and should only be prevented where the residual cumulative impact is **'severe'**. These three key tests are assessed in this Transport Assessment.

National Planning Practice Guidance (NPPG) (2014)

2.2.3 The NPPG provides guidance on promoting sustainable transport (Section 4), and paragraph 32 states that a Transport Assessment or Statement is required to support proposals that generate significant amounts of movement.

2.2.4 In accordance with NPPF, this TA has been produced to accompany the planning application and to assess the scheme against these key transport tests.

2.3 **Local Policy and Guidance**

Arun District Council Local Plan 2003-2011;

2.3.1 Local policy is set out in the saved policies of the Arun District Local Plan. The Local Plan was adopted in April 2003 and ran until 2011. On 27 September 2007, the Secretary of State agreed to 'Save' a number of policies. These 'saved' policies for the existing development plan against which the proposals must be assessed.

Policy GEN4: Location and Travel Demand

2.3.2 Policy GEN4 involves the consideration of the effect that a new development will have on the demand for transport.

2.3.3 The policy states that planning permission for new development will be granted if:

- **"it is located so as to minimise the demand for travel;**
- **it does not materially add to existing road congestion and air pollution; and**
- **appropriate provision is made for safe and convenient access by public transport, cyclists and pedestrians.**

Before granting planning permission, the Local Planning Authority will need to be satisfied that any identified potential travel problems arising from a proposal will be resolved."

2.3.4 Section 5 of the TA describes how the proposed development will contribute to the improvement of local transport conditions by providing connecting walking and cycling infrastructure.

2.3.5 Section 7 demonstrates the development will not add materially to existing congestion on local roads.

Policy GEN12: Parking in New Development

2.3.6 Saved Policy GEN12 “Parking in New Development” states that:

“The Local Planning Authority will base its consideration of the need for on-site parking provision on its parking standards contained within this Plan. Provision of parking in excess of these standards will not be allowed.

The Local Planning Authority may seek a lower provision than required by the standards for developments proposed in town centres and other areas accessible by other means of transport.”

2.3.7 Section 4 of the TA presents the development parking proposals for the proposed site, albeit as only outline consent is sought, details will be confirmed at a later time.

Policy GEN14: Public Transport

2.3.8 Policy GEN14 is included to ensure that within new developments there is provision of a public transport system in the interests of sustainability.

2.3.9 Section 5 of the TA demonstrates that the proposed development is well located to public transport options and can contribute to the improvement of local transport conditions by providing public transport infrastructure and increased patronage.

Policy GEN15: Cycling and Walking

2.3.10 This policy involves providing and enhancing safe walking and cycling facilities. Where appropriate new development will be required to provide safe and attractive facilities for cyclists and pedestrians within their site and in the surrounding area.

2.3.11 Section 5 identifies the layout principles to deliver a well-connected network of streets on the site, and also demonstrates how the site integrates well with the local network to provide direct walking and cycling connections to local facilities. The FTP presents a package of measures designed to further encourage walking and cycling.

Policy GEN16: Public Rights of Way

2.3.12 Policy GEN16 seeks to maintain and improve access to the public rights of way network in order to improve access to the District and enhance the recreation.

2.3.13 Section 5 of the TA identifies that the proposed development will contribute to the improvement of local public rights of way.

Emerging Arun District Council Local Plan 2011-2031

2.3.14 The emerging Arun District Council Local Plan sets out the strategic vision, objectives, policies, and proposals which affect Arun until 2031.

2.3.15 Within the emerging Local Plan there five strategic transport objectives:

"Reduce the need to travel and promote sustainable forms of transport."

"Plan for climate change and work in harmony with the environment to conserve natural resources and increase biodiversity".

"Create vibrant, attractive, safe and accessible towns and villages that build upon their unique characters to provide a wide range of uses and which are a focus for quality shopping, entertainment, leisure, tourism and cultural activities."

"Promote strong, well-integrated and cohesive communities, through the promotion of healthy lifestyles, provision of good quality accessible community facilities and a safe environment, which delivers an enhanced quality of life to all. This includes meeting the needs of a growing elderly population."

"Strengthen Arun's economic base and provide local job opportunities by increasing, diversifying and improving the quality of employment within the District through the provision of appropriate employment sites, better infrastructure, including road and rail access, quality affordable accommodation and the development of business support and partnerships."

2.3.16 The draft transport policies that are included in this emerging local plan are set out below, albeit at this stage carry limited weight:

Policy T SP1: Transport and Development

2.3.17 This policy focuses on the impact that development will have on the highway network, highway improvements, sustainable transport, public transport improvement and cycle, pedestrian and the bridleway network.

Policy T DM1: Sustainable Travel and Public Rights of Way

2.3.18 This policy ensures that development provides access to sustainable modes of transport to all members of the community.

Policy T SP3: Safeguarding the Main Road Network

2.3.19 This policy sets out the strategic transport routes to be protected.

West Sussex County Council's Transport Plan – 2011-2026

2.3.20 The West Sussex Transport Plan provides strategic direction for transport in West Sussex and works closely with the County Strategy and the Local Community Strategies. From this plan, there are four objectives which include:

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

2.3.21 Section 5 of the TA presents that the proposed development will contribute to the improvement of local transport conditions by providing connecting walking, cycling and public transport infrastructure.

West Sussex Guidance for Parking in New Residential Developments (September 2010) & Car Parking Demand Calculator.

2.3.22 This document provides information about the number of the appropriate amount parking spaces required for a new development, based on the location and the characteristics of the development.

2.4 **Policy Summary**

2.4.1 Paragraph 32 of the NPPF identifies the three key transport criteria that decisions on development proposals should take account of. These are whether:

- The opportunities for sustainable travel have been appropriately 'taken up';
- safe and suitable access can be achieved; and
- improvements can be undertaken within the transport network that cost effectively limit the impacts of the development.

2.4.2 These criteria are broadly reflected in existing and emerging local policy. This TA has been prepared to consider the development proposal against these criteria.

2.4.3 The following sections of the TA describe how the proposed development complies with these local and national transport planning policy considerations.

SECTION 3 EXISTING CONDITIONS

3.1.1 This section of the TA describes the existing transport conditions in the area, including the opportunities for walking, cycling and public transport.

3.2 **Walking and Cycling**

3.2.1 The site benefits from connections to a number of local roads which together provide connections towards the centre of Walberton village and the wider area:

- Yapton Lane – To the east of the site;
- Tye Lane – To the west of the site; and
- Avisford Park Road – To the south of the site.

3.2.2 Yapton Lane has designated footway on its western side and provides a continuous connection from the Avisford Park Hotel Golf Club (to the north) to The Street in the south. Avisford Park Road connects from Yapton Lane some 150m south of site, and forms a public footpath leading towards the village facilities.

3.2.3 Tye Lane does not have any designated pedestrian or cycling facilities. It is however a lightly trafficked road and is regularly used by walkers, joggers and cyclists.

3.2.4 The Street is the main road through Walberton village. There is a footway along the south of The Street for the majority of its length, along with sections of footway on the north side where local facilities are served. The Street connects with both Tye Lane in the west and Yapton Lane in the east.

3.2.5 Avisford Park Road comprises Public Footpath 333 (FP333) which connects Yapton Lane to The Street at the local centre. Avisford Park Road is an unmade private road which is residential and very quiet in nature. To the west of Avisford Park Road, FP333 continues adjacent to the recreation ground as a designated footpath.

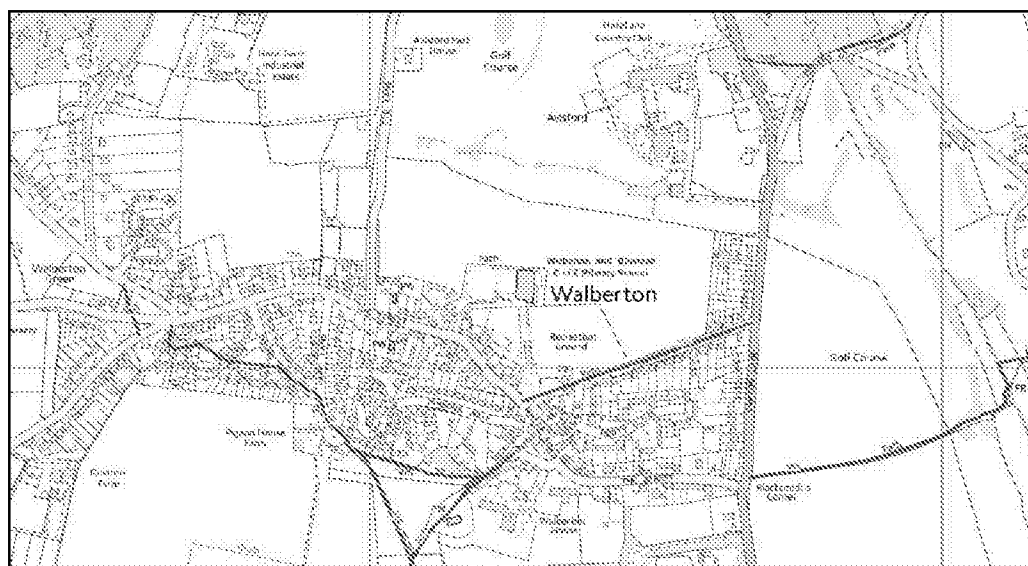
3.2.6 A recently constructed shared footway / cycleway route is present adjacent to Barnham Lane (west of the site) and provides a direct connection from Walberton to Barnham. The footway / cycleway terminates to the south of Kingsmill Road, from which point a designated footway continues for 500m to the centre of Barnham.

3.2.7 The routes which future residents would use to access local facilities within Walberton have been assessed as part of a Non-Motorised User Audit, presented in **Appendix D**.

Public Rights of Way (PRoW)

- 3.2.8 Access to a network of PRoW can be gained within the vicinity of the site.
- 3.2.9 Footpath FP333 (Avisford Park Road) forms the southern boundary of the site and provides a direct connection from Yapton Lane (to the east) to the local shopping parade in the centre of Walberton village (The Street / Maple Road). The site has a 140m direct frontage to FP333.
- 3.2.10 Footpath FP350 can be accessed from Yapton Lane within the vicinity of the roundabout junction with The Street, approximately 450m south of the site. FP350 provides an off-road traffic free pedestrian leisure route from Walberton to Binstead.
- 3.2.11 Footpaths FP326 and FP327 can be accessed from The Street / Church Lane and Dairy Lane. These footpaths provide a route towards Lake Lane (south of the site), providing an off-road route alternative to local employment areas and onwards to Barnham.
- 3.2.12 Footpath FP332 connects with FP326 and FP327 to the south of the site and continues west towards Barnham Lane. It is accessed from Barnham Lane and continues through residential areas on Burch Grove and Homefield Crescent in the west of Walberton.
- 3.2.13 Footpath FP334 can be accessed from West Walberton Lane (to the west of the site) and provides a designated off-road connection to Eastergate Lane. Footpath FP334 provides an extension to FP332 and the dedicated shared footway / cycleway route (adjacent to Barnham Lane) via a short section of on-road.

Image 3.1: Public Rights of Way Map



Source: WSCC i-Map

3.3 Public Transport

Bus

- 3.3.1 The closest bus stops to the site are located on Yapton Lane (adjacent to Manser Road), approximately 475m to the east of the centre of the site. Facilities in the form of bus flags and timetable information (for the southbound bus stop only) are provided. Additional bus stops are accessible and are located approximately 550m south of the centre of the site on The Street close to The Holly Tree junction.
- 3.3.2 These bus stops are served by Compass Travel services 85/85A and 66 which operate Monday to Saturday. In addition, school bus services 228, 602 and 665 operate from these bus stops and provide one to two bus services a day Monday to Friday.
- 3.3.3 **Table 3.1** provides a summary of the locations served and the frequencies of the bus services while **Figure T2** illustrates the accessibility of the site to the local bus network, as well as the routing of bus services within Walberton.

Table 3.1: Local Bus Services

Route	Bus Stop	Destinations	Service Frequency	
			Weekday	Saturdays
85 / 85A	Manser Road	Arundel - Walberton - Fontwell - Chichester	Every 2 Hours First outbound at 0712 last at 1412. First inbound at 0930, last at 1659.	Every 2 Hours First outbound at 0712 last at 1412. First inbound at 0930, last at 1659.
66	The Street – Old Viacarge / Post Office	Bognor Regis - Yapton - Walberton – Barnham - Bognor Regis (circular route)	Every 4-5 Hours First service at 0748 last at 1814.	Every 4-5 Hours First service at 0748 last at 1814.
School Services				
228	Tye Lane	Ormiston Six Villages Academy – Walberton	Return from Ormiston Academy at 1550.	No Service
665	The Street	Walberton – Barnham Station - Ormiston Six Villages Academy - Chichester High School &	Depart at 0748 Return from Ormiston Academy at 1450. Return from Chichester High School at 1533.	No Service
602	The Street	Walberton - St Philip Howard School	Departs at 0822. Return at 1515.	No Service

Source: Traveline

- 3.3.4 Existing bus services provide opportunities to travel to key destinations such as Arundel, Chichester, Barnham, Bognor Regis and Fontwell without reliance on the private car. Furthermore, school bus services are available to numerous local secondary schools, such as Chichester High School, Ormiston Academy and St Philip Howard School.
- 3.3.5 The bus times provide the opportunity for commuter journeys to/from Barnham railway station (arriving at 07:53 and departing at 18.01) and Bognor Regis railway station (arriving at 08:10 and departing at 17:32).

Rail

- 3.3.6 Barnham Railway Station is located some 3km from the centre of the site and is directly accessible via bus route 66 and 85A from The Street, as well as by walking or cycle (**Figure T3**). A new designated off-road shared footway / cycleway has been provided to connect Walberton with Barnham. This station has access to 142 car park spaces, 2 accessible spaces and 62 secure cycle storage spaces.
- 3.3.7 **Table 3.2** shows the direct services from Barnham Railway Station, including their typical frequency and journey time during both peak and off-peak periods. Destinations accessible by rail include Southampton, London, Portsmouth, Brighton, Chichester, Bognor Regis and Littlehampton.

Table 3.2: Rail Services and Destinations

Destination	Typical Daytime Frequency		Typical Journey Time (approx.)
	Peak Services	Off-Peak Services	
Chichester	Every 8-10 minutes	Every 12 minutes	8 minutes
Bognor Regis	Every 15-20 minutes	Every 15 minutes	8 minutes
Littlehampton	Every 30-60 minutes	Every 30 minutes	9 minutes
Portsmouth	Every 20 - 30 minutes	Every 30 minutes	39 minutes
Brighton	Every 20 - 30 minutes	Every 30 minutes	43 minutes
Southampton Central	Every 20 -45 minutes	Every 30 minutes	1 hour 5 minutes
London Victoria via Horsham	Every 15 minutes	Every 15 minutes	1 hour 25 minutes

Source: National Rail / Southern Rail

3.4 Local Highway Network

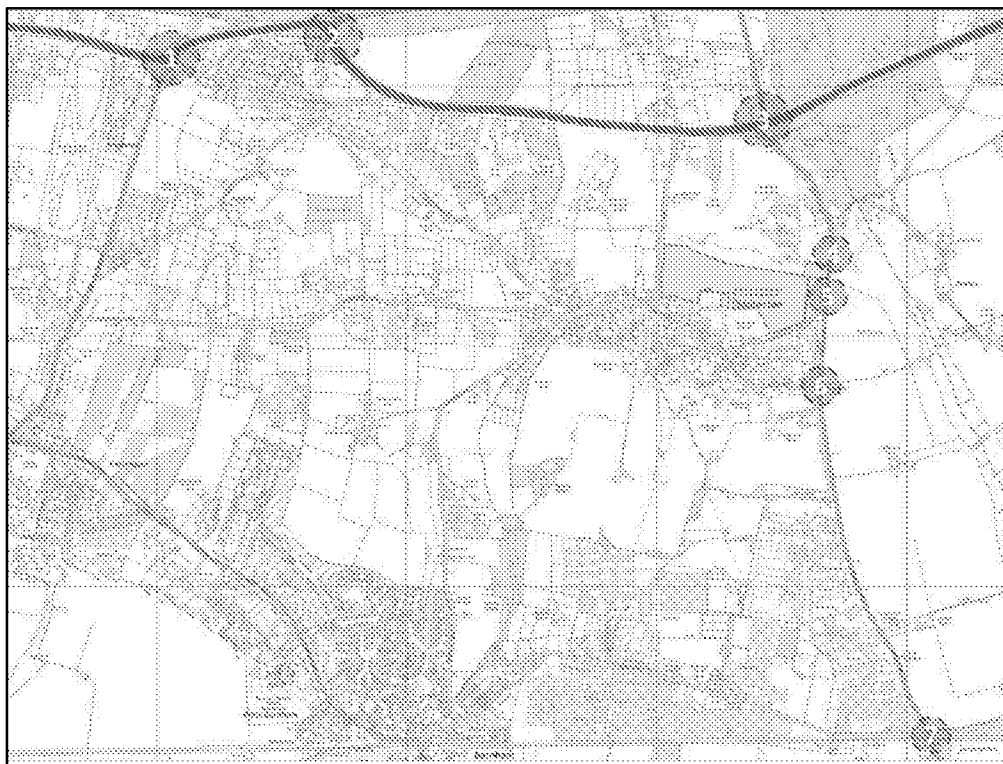
- 3.4.1 The site is bounded to the north by Avisford Park Hotel and Golf Club, to the east by Yapton Lane and residential dwellings, the south by Walberton & Binsted Church of England Primary School and the extents of the existing built-up residential area and the west by Tye Lane.
- 3.4.2 The site benefits from highway frontage onto both Yapton Lane and Tye Lane (to the east and west respectively). Yapton Lane and Tye Lane provide connections into the centre of Walberton village (via The Street) and northbound to the A27 Arundel Road.
- 3.4.3 Yapton Lane is a two-way single carriageway road of varying width, between 6.5m and 7.1m. A 1.7m wide footway is present on the western (site) side of the road and provides a continuous connection from the Avisford Park Hotel and Golf Club access (to the north) southbound to Walberton village (via The Street) and onwards towards Yapton, passing across a railway level crossing. This route is not street lit. Yapton Lane is subject to a 30mph speed limit to the south of the site access point. Mid-way along the site frontage the speed limit changes to 40mph heading north.
- 3.4.4 Tye Lane is a rural two-way single carriageway road with a width of some 4.8m. No footways are present along its length and is not street lit. The speed limit is 30mph, changing to derestricted (60mph) at the south-western corner of the site frontage.
- 3.4.5 The Street is an historic two-way single carriageway road of varying width, between 5.5m and 6.2m, and is subject to a 30mph speed limit. A continuous footway is present along the southern side of The Street for much of its length as well as sections of the northern side. There are sections on The Street where on-street parking occurs.
- 3.4.6 The A27 Arundel Road forms part of the Strategic Road Network and provides a connection east towards Arundel and Brighton, and west to Chichester and Portsmouth. Yapton Lane connects to the A27 at a restricted moves priority junction (right-turn out of Yapton Lane is prohibited). The A27 is a two-lane dual carriageway subject to the national speed limit. To the west of Walberton at Fontwell village, the A27 meets the A29 at a three-arm roundabout junction.

Existing Traffic Volumes

- 3.4.7 To identify existing traffic patterns on the local highway network, a series of traffic surveys were carried out on local roads. These comprised:

- Radar Speed survey at the site access on 14 January 2016;
- Automatic Traffic Count (ATC) survey for a seven-day period (24 hours per day) on Yapton Lane at the proposed access between 2 -8 February 2017;
- Manual Classified Count survey undertaken on 21 March 2017 during the peak periods (Junction 4 on 2 February 2017), at the following junctions (as shown on **Image 3.1**):
 - Junction 1 – A27 Arundel Road / Fontwell Avenue / Arundel Road;
 - Junction 2 – A27 Arundel Road / A29 Farmille Bottom;
 - Junction 3 – A27 Arundel Road / Yapton Lane / Shellbridge Road;
 - Junction 4 – Avisford Park Golf Course / Yapton Lane;
 - Junction 5 – Yapton Lane / Site Access;
 - Junction 6 – Yapton Lane / The Street; and
 - Junction 7 – Yapton Lane / Lake Lane Railway Crossing.

Image 3.2: Locations of Manual Classified Counts



3.4.8 The traffic survey data has been analysed to identify the network morning and evening peak hours (Appendix H of **Appendix B**). The morning peak hour is 07:15 – 08:15 and the evening peak hour is 16:45 – 17:45.

3.4.9 The observed morning and evening peak hour flows are shown on **Figures TF1 and TF2** respectively which are summarised in **Table 3.3**.

Table 3.3: Observed Local Road Conditions

Road	Direction	Morning Peak	Evening Peak
Yapton Lane (at Site Access)	Northbound	484	159
	Southbound	161	364
Yapton Lane (At Level Crossing)	Northbound	559	173
	Southbound	196	505
The Street (West of Yapton Lane)	Eastbound	78	114
	Westbound	83	78
A27 (West of Yapton Lane)	Eastbound	1,053	1,359
	Westbound	1,550	1,048
A27 (East of Yapton Lane)	Eastbound	885	999
	Westbound	1095	956

Source: MCC Surveys – March 2017

3.4.10 The morning peak hour vehicle movements passing the proposed site access on Yapton Lane were measured to be 484 vehicles northbound and 161 southbound (totalling 645) while the evening peak hour movements were measured to be 159 northbound and 364 southbound (totalling 523). Observed vehicle flows confirm the heavily tidal flow profile between the morning and evening peak periods.

3.4.11 Traffic flows on Yapton Lane across the level crossing are higher than recorded at the site access with 755 two way flows in the morning peak and 678 in the evening. Again, traffic flows are heavily tidal due to the influence of the A27 corridor to the north.

3.4.12 The A27 itself is heavily trafficked, as would be expected from part of the Strategic Road Network. The A27 carries in excess of 1,000 vehicles in each direction in both the morning and evening peak hours, and is broadly balanced.

3.4.13 Traffic flows on The Street are very light, with 150-200 vehicles in each peak period.

Existing Traffic Speeds on Yapton Lane

3.4.14 The radar speed survey (in accordance with the requirement set out in the Design Manual for Roads and Bridges (DMRB) TA 22/81) was undertaken in the vicinity of the proposed site access where the speed limit changes from 30mph to 40mph. Existing northbound and southbound traffic speeds on Yapton Lane are presented in **Table 3.4** as both average and 85th percentile wet weather design speeds¹ along with the corresponding visibility splay requirements² in line with WSCC guidance.

Table 3.4: Speed survey results and visibility requirements on Yapton Lane

Direction	Average Vehicle Speeds	85 th percentile wet weather speeds	Visibility requirement based on MfS criteria (m)
Northbound	33.3mph / 53.6kph	34.2mph / 55kph	51.8m
Southbound	34.6mph / 55.3kph	37.2mph / 59.9kph	58.7m

Source: Radar gun survey / Consultant's Calculations.

3.4.15 The radar survey found the recorded 85th percentile wet weather speeds on the approaches were 34.2mph northbound and 37.2mph southbound. A week-long ATC survey was also undertaken on the site frontage in March 2017 which recorded 85th percentile wet weather speeds as 35mph northbound and 38mph southbound.

3.5 Personal Injury Accident (PIA) Data

3.5.1 Personal Injury Accident (PIA) data has been obtained from Sussex Safer Roads for the most recent five-year period for which data is available, 28 February 2012 to 28 February 2017.

3.5.2 The data covers a comprehensive study area and includes the eastern and western A27 / A29 Roundabouts, the A27 up to the Yapton Lane and the length of Yapton Lane (up to and including the railway barrier crossing within the vicinity of junction with Lake Lane), Tye Lane and The Street. A copy of the PIA data and a plan showing the locations of the PIA's is attached at **Appendix E**. A summary of the recorded PIAs at a select number of links and junctions within the study area is provided below.

¹ In accordance with the DMRB TA22/81 (Volume 5 Section 1 Chapter 3 paragraph 3.4), a wet weather reduction of 2.5mph should be applied to observed 85th percentile dry weather speeds.

² Using the requirements set out in paragraph 4.12 / Table 1 of the West Sussex County Council Local Design Guide Supplementary Guidance for Residential Development Proposals document.

Yapton Lane

3.5.3 Along Yapton Lane (between the A27 and the railway level crossing) there have been four recorded accidents. Three of these accidents were recorded as 'slight' and one accident recorded as 'serious'. These are summarised as:

- One 'slight' accident occurred some 300m south of The Street where a vehicle sought to avoid a dog in the road;
- One 'serious' accident occurred to the north of the Yapton Lane / Hedgers Hill junction where a van travelling south on the wrong side of the road collided with another van travelling north;
- One 'slight' accident occurred when a vehicle emerged from the Avisford Hotel access and collided with another vehicle;
- One 'slight' accident occurred north of the Avisford Park hotel access when a foreign driver forgot which side of the road to use and collided with another vehicle;
- No accidents occurred at The Railway Level Crossing;
- No accidents occurred at the site frontage, or the Golf Course access; and
- No accidents occurred at the Yapton Lane 'The Street' mini-roundabout.

3.5.4 There are no patterns identified in the accidents recorded on Yapton Lane and the number of accidents is typical of a road of this length.

A27 / Yapton Lane Junction

3.5.5 Two accidents have been recorded at this junction, one serious accident on the eastbound off slip and a slight accident on the westbound on slip. The slight accident was caused by a vehicle hitting black ice causing the car to lose control. The serious accident involved a vehicle approaching the exit to cross the carriageway and pulling out into the path of a cyclist.

3.5.6 The accident record does not identify an unduly high accident rate or any pattern of accidents that would suggest any safety issue with the junction.

A27 (Between Yapton Lane and the Eastern Roundabout)

3.5.7 On the A27 between Yapton Lane and the A27 / A29 Eastern Roundabout there have been five recorded accidents, all 'slight' and comprising:

- One accident at Arundel Road where a vehicle aborted an exit manoeuvre;
- Two accidents north of Clear Springs Farm was a result of u-turn manoeuvres;
- Two accidents occurred at the Tye lane / A27 junction.

The A27 / A29 Eastern Roundabout

3.5.8 At this roundabout, there have been three recorded 'slight' accidents. Two of these accidents were caused by vehicles losing control due to over correcting and by losing control on the approach to the roundabout. The third accident was caused by two vehicles colliding with one another while exiting the roundabout.

The A27 / A29 / Arundel Road Western Roundabout

3.5.9 At this roundabout, there have been 15 accidents recorded in the last five years. Within these 15, twelve were recorded as 'slight' with three recorded as 'serious'. The primary reason of these collisions was due to drivers failing to look properly when approaching the roundabout thus colliding with rear of vehicles waiting at the give-way line, or failing to notice vehicles travelling around the roundabout and pulling out into the path of the circulating vehicles.

3.5.10 An improvement to the junction is proposed in the Emerging Local Plan and as part of the Fontwell Application (WA/22/15) to address capacity and safety concerns.

The Street

3.5.11 Along The Street, including the junction with Eastergate Lane, there have been three accidents recorded in which two were 'slight' and the other 'serious'. Two of these accidents involved either a cyclist or a pedestrian with the other accident involving a motor cycle. The accident involving a pedestrian was caused by the pedestrian crossing the road who was then collided by the turning vehicle. The accident involving the cyclist, which was of a 'serious' nature, was caused by the cyclist overtaking a vehicle, however, the vehicle was not able to see this cyclist and therefore collided. The final accident was caused by a vehicle pulling out into the path of a motorcycle.

3.6 Summary

- 3.6.1 In summary, there have been 34 recorded injury accidents over the last five years, six were recorded as serious and 28 were recorded as slight. The number of accidents is typical for busy links and junctions on major routes.
- 3.6.2 There were no recorded accidents on the site frontage, at the Yapton Lane mini-roundabout or at the level crossing. Whilst four accidents have occurred on the wider Yapton Lane, and two at the A27 / Yapton Lane access, there is not pattern to these accidents that suggest a deficiency with the local network.
- 3.6.3 Analysis of the accident history does not identify any underlying safety problem with the local highway network, apart from at the A27 / A229 Fontwell Avenue Junction where an improvement scheme is already committed to improve the junction.

SECTION 4 DEVELOPMENT PROPOSAL

- 4.1.1 The proposed residential development of Land to the East of Tye Lane, Walberton, will provide for up to 175 dwellings along with parking and open space, of which some 30% will be affordable dwellings, with all vehicular access to be provided from Yapton Lane to the east.
- 4.1.2 The planning application seeks outline consent only at this stage, and other than access, all matters including the precise quantum and mix of development, as well as the site layout, will be confirmed at the reserved matters stage. Means of access is however a detailed matter for determination as part of the outline application.
- 4.1.3 The development will deliver a mix of private and affordable dwellings to help meet Arun District Council's housing requirements. To inform the planning application, an indicative accommodation schedule has been produced, as set out in **Table 4.1**. The final development mix will be determined through reserved matters applications.

Table 4.1: Indicative Accommodation Schedule

	Beds	Type	No.
Private	1-bed	Apartment	6
	2-bed	House	50
	3-bed	House	55
	4-bed	House	9
	5-bed	House	3
	Sub-Total		123
Affordable	1-bed	Apartment	13
	2-bed	Apartment	12
	2-bed	House	12
	3-bed	House	13
	4-bed	House	2
	Sub-Total		52
Total Dwellings			175

Source: Illustrative Masterplan

4.2 Site Access Strategy

4.2.1 The NPPF at paragraph 32 requires that;

“Safe and suitable access to the site can be achieved for all people”

4.2.2 To achieve safe access, the development proposal includes the delivery of a new vehicular accesses to Yapton Lane, and connections to the existing highway networks. These access strategy principles are shown in principle on **Drawing ITB11324-GA-011 Rev B**.

Vehicular Access

4.2.3 To serve the development, a simple priority junction to Yapton Lane is proposed. The access arrangements are shown on **Drawing ITB11324-GA-001 Rev F** and comprise:

- A new simple priority junction to Yapton Lane, some 45m south of the existing access to Avisford Park Golf Course;
- A 5.5m wide carriageway access road with 2m wide footways either side to tie into the existing footway network on the western side of Yapton Lane; and
- Visibility splays of 2.4m x 58.7m, to the north, and 2.4m x 51.8m, to the south in accordance with observed vehicle speeds on Yapton Lane and MfS visibility guidance – **Table 3.4**; and
- A ‘Gateway’ feature to the north of the Golf Course access along with the promotion of a Traffic Regulation Order to relocate the existing 30mph speed limit north. The inclusion of the gateway feature and proposed relocation of the speed limit transition is intended to reduce entry speeds to the village.

4.2.4 To assess the future operation of the proposed site access, operational assessment has also been carried out using industry standard modelling software ‘Junctions 9’.

4.2.5 This considers the operation of the access in the anticipated Opening Year (2020) and at the end of the proposed Arun DC Local Plan period (2031), and includes both background growth and development traffic, assuming a robust assessment of 200 dwellings rather than the 175 dwellings proposed by the planning application.

4.2.6 The summary results are presented in **Table 4.2** (full output results at **Appendix F**).

Table 4.2: Operational Assessment of Site Access Junction

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (Veh)	Delay (s)	RFC	Queue (Veh)	Delay (s)
2020 'With Development'						
Site Access	0.18	<1	10.13	0.08	<1	7.63
Yapton Lane N	0.04	<1	5.82	0.10	<1	4.66
2031 'With Development'						
Site Access	0.19	<1	10.62	0.08	<1	7.79
Yapton Lane N	0.04	<1	5.83	0.10	<1	4.58

Source: Junctions 9

- 4.2.7 The assessment demonstrates that the access junction will operate comfortably within capacity in both 2020 and at 2031, with no anticipated queuing or delay on any arm of the junction. The proposed junction therefore offers sufficient utility to effectively serve the proposed development.
- 4.2.8 As part of the pre-application scoping exercise, WSCC highways officers confirmed that the principles of the site access junction arrangements were satisfactory subject to swept path analysis and an Independent Road Safety Audit.
- 4.2.9 **Drawings ITB11324-GA-008 Rev A, ITB11324-GA-009 Rev A and ITB11324-GA-010 Rev A** present swept path analysis of the proposed site access for a large refuse vehicle, fire tender and estate car. The assessments demonstrate that each design vehicle can adequately negotiate the access junction.
- 4.2.10 An independent Stage 1 Road Safety Audit has been carried out by GM Traffic Consultants in accordance with the DMRB HD 19/15. This is presented at **Appendix G**. The audit raised no safety issues with the proposed site access arrangements.

Pedestrian and Cycle Access

- 4.2.11 A number of pedestrian and cycle connections to the site are proposed to the site (**Drawing ITB11324-GA-011 Rev B** and illustrative masterplan at **Appendix A**) to ensure a connected and permeable development to include:
- All moves access to Yapton Lane, including access for pedestrians and cyclists;
 - A 2m wide pedestrian access to Public Footpath 333 on Avisford Park Road;
 - A 3m wide pedestrian, cycle and emergency access in the north-western corner of the site to Tye Lane (widening to 3.7m at the junction); and
 - A 3m wide pedestrian / cycle access in the south-western corner to Tye Lane.

4.2.12 The proposed pedestrian and cycle access points will deliver connected, intuitive and direct connections between the site and local facilities. The combination of a permeable and connected development, and delivery of walking and cycling routes within the site, also offers a wider benefit for local Walberton village residents.

4.2.13 The adequacy, in safety terms, of each of the pedestrian and cycle access points has been considered through independent Stage 1 Road Safety Audit (**Appendix G**).

4.2.14 The Audit raised one safety concern relating to the potential speed of cyclists approaching Tye Lane and the risk of overshooting the junction and entering Tye Lane. The Auditor recommend that:

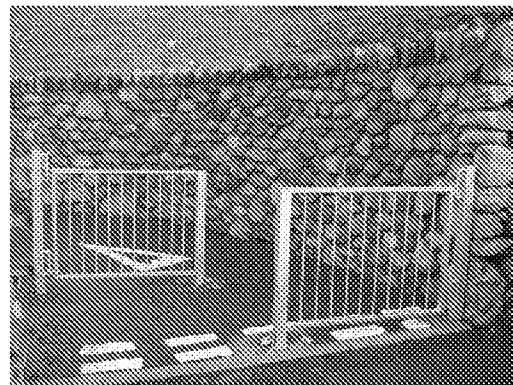
“measures to prevent cyclists from overshooting the junctions and riding in to the carriageway are included”.

4.2.15 This recommendation is accepted, and the Designer’s Response is presented in **Appendix G** which confirms that:

- A fixed staggered barrier will be placed on the southern pedestrian and cycle access to Tye Lane; and
- A locked staggered gate will be included to the northern Tye Lane access in view of the potential for emergency vehicle access.

4.2.16 These measures are shown on **Drawings ITB11324-GA-011 Rev B and ITB11324-GA-012 Rev A**. Examples of the restraint features are shown in **Image 4.1**.

Image 4.1: Example Access Control Features on Tye Lane



Source: Sustrans: A guide to Controlling Access on Paths

4.2.17 A letter of confirmation is provided in **Appendix G** from the independent Road Safety Audit team to confirm that the proposed measures address their concern.

4.2.18 The Audit did not raise any safety issues in connection with:

- The proposed pedestrian access to Avisford Park Road (FP333);
- The use of Tye Lane by pedestrians and cyclists; and
- The proposed pedestrian and cycle access to Yapton Lane.

Emergency Vehicle Access

4.2.19 Emergency vehicles will be able to enter and egress the development in forward gear and manoeuvre effectively within the development. The final layout will demonstrate that access to within 45m of each dwelling will be provided for a fire tender, as required by the Building Regulations Approved Documents H and B, Section 6.7 of MfS, and a fire tender will not need to reverse over a distance of greater than 20m. All roads within the site will provide in excess of 3.7m width (the required working width for a fire tender).

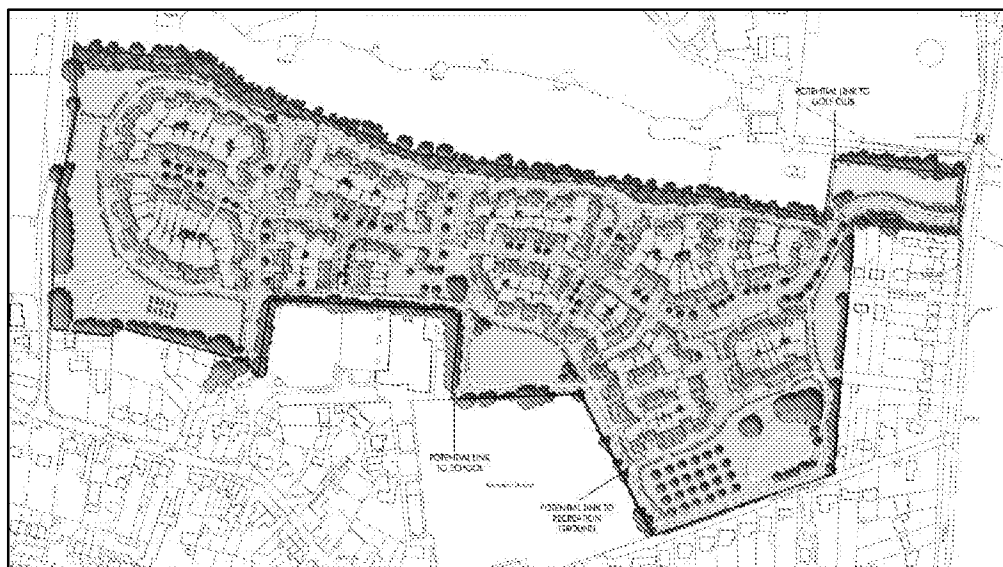
4.2.20 WSCC confirmed that a secondary emergency vehicle access would be required to serve the development. A 3m wide footway / cycleway / emergency access from Tye Lane is therefore proposed and is shown on **Drawing ITB11324-GA-012 Rev A**.

4.3 Illustrative Site Layout and Development Principles

4.3.1 An illustrative masterplan has been developed to demonstrate how the development can be delivered. This has been heavily informed by the constraints and opportunities of the site and takes account of the highway requirements in terms of road hierarchy, parking (on plot and on street), servicing and pedestrian / cycle movement.

4.3.2 Whilst the details of the layout are still to be determined, the 'principles' of the site layout have been considered and are presented to provide context to the application and to demonstrate how the development can be brought forward. The illustrative masterplan is provided as **Appendix A** (extract at **Image 4.2**).

Image 4.2: Illustrative Masterplan



Source: Omega Architects

Street Hierarchy and Design Principles

4.3.3 The following highway parameters have been used during the preparation of the masterplan (in conjunction with the WSCC 'Local Design Guide - Supplementary Guidance for Residential Development Proposals' and the 'Manual for Streets'):

- **Primary Street** – minimum 5.5m carriageway, sufficient for a car and a large vehicle to pass, with 2.0m footways either side;
- **Secondary Streets** – 5.0m shared surfaces on secondary routes through the development - designed to enable refuse vehicle access; and
- **Private driveways** – narrower shared surface areas where refuse vehicles do not need to enter.
- **Design Speed** - A 20mph design speed will be adopted on primary streets, with 15mph design speeds on secondary roads and private driveways.

4.3.4 The palette of materials used for the design of the internal streets, and the detailed design of those streets, will be determined at the reserved matters stage.

4.3.5 The primary and secondary streets will be designed to adoptable standards. The extent of proposed road adoption will be determined at the reserved matters stage.

Refuse Collection

- 4.3.6 The refuse collection arrangements will be designed with regard to the guidance in Section 6.8 of Manual for Streets (MfS). For example, where appropriate, bin collection areas will be provided such that a refuse vehicle will not have to enter any smaller cul-de-sacs of 55m or less in length. The illustrative layout demonstrates a connected network of streets to enable progressive movement for refuse vehicles and to limit the need to turning – cul-de-sacs have been limited.
- 4.3.7 The illustrative masterplan includes street widths and turning heads of sufficient size to allow a refuse vehicle to enter, turn and exit the development in forward gear.
- 4.3.8 Refuse vehicles will not enter cul-de-sacs of less than 55m in length. In these locations bin collection points will be provided to meet the carry distance requirements given in Section 6 of MfS, i.e. 25m from collection point to refuse vehicle and 30m from individual dwellings to the collection point.

Car and Cycle Parking

- 4.3.9 Layout, mix and scale are reserved matters and as such the provision for car can cycle parking cannot be accurately determined at this stage.
- 4.3.10 It is proposed to provide both car and cycle parking in accordance with the guidance contained within the WSCC Guidance for 'Parking in New Residential Developments' SPD (September 2010) and the associated Car Parking Demand Calculator. Applying the illustrative development mix in **Table 4.1** into the car parking demand calculator yields the requirement for 413 allocated spaces and 44 visitor / unallocated spaces. This is presented in **Table 4.3**.

Table 4.3: Car Parking Provision Calculation

Dwelling Size	No Dwellings	Allocated Spaces	Unallocated Spaces	Total
1-bed flat	19	19	6	25
2-bed flat	12	24	2	26
2-bed house	62	124	17	141
3-bed house	68	204	16	220
4-bed house	11	33	2	35
5-bed house	3	9	1	10
Total	175	413	44	457

Source: WSCC Car Parking Demand Calculator

4.3.11 The design, location and layout of car and cycle parking will be determined at the reserved matters stage, but a statement of intent with regards to parking is as follows:

- Car and cycle parking to be provided in accordance with local parking standards as set out in adopted guidance;
- Non-curtilage allocated parking to be located within 25m of dwellings;
- Within parking courts, a proportion of parking would to be unallocated; and
- On-street parking where appropriate to be provided within discrete parking bays on the main routes.

4.3.12 The illustrative masterplan (**Appendix A**) demonstrates a feasible layout which can deliver a level of parking consistent with the current adopted parking standards.

4.3.13 Cycle parking will be provided in accordance with WSCC's cycle parking standards and will be provided in sheds in gardens or garages.

4.4 **Summary**

4.4.1 The development proposal comprises an outline planning application for the development of up to 175 residential dwellings, which will deliver a significant proportion of affordable dwellings (30% - 53 dwellings).

4.4.2 Vehicular access is proposed to the site through a new T-junction to Yapton Lane. The proposed access has been designed in accordance with the relevant design guidance contained in Manual for Streets, and delivers sufficient geometry, capacity and visibility to ensure the safe movement of vehicles through the junction. An independent Road Safety Audit raised no safety issues with the access.

4.4.3 The proposal would deliver a highly permeable site layout, and will offer a number of different connections to the local walking and cycling networks, to ensure the site is safely accessible by all. This includes the provision of designated pedestrian and cycle accesses to Tye Lane, Yapton Lane as well as pedestrian access to Avisford Park Road.

4.4.4 In this regard, it is demonstrated that the site will deliver safe and suitable access, and that the proposed development complies therefore with para 32 of the NPPF.

4.4.5 The proposed development will deliver car and cycle parking in line with the relevant guidance and will promote a site layout that has been developed in accordance with the principles of Manual for Streets.

SECTION 5 PROMOTING SUSTAINABLE TRANSPORT

5.1 Introduction

5.1.1 Paragraph 32 of the NPPF sets out that development proposals should ensure that:

“Opportunities for sustainable transport modes have been taken up depending on the nature and location of the site to reduce the need for major transport infrastructure”

5.1.2 This section of the report considers the accessibility of the site to key services and facilities by non-car modes of transport and identifies how future residents of the site will be encouraged to use these alternative modes of travel through the delivery of a Sustainable Transport Strategy.

5.2 Journey Purpose

5.2.1 In considering accessibility and promoting sustainable travel it is important to consider the reason why future residents of the proposed development will make journeys. The Department for Transport’s (DfT) National Travel Survey identifies the proportion of all trips by purpose as set out in **Table 5.1**.

Table 5.1: Proportion of Trips per Year by Journey Purpose

Journey Purpose	Proportion of Trips
Commuting	16%
Personal business and other escort	19%
Shopping	19%
Visiting friends	15%
Education (including escort)	12%
Business	3%
Other Leisure	16%

Source: National Travel Survey Statistics 2015 (Table NTS0401)

5.2.2 It is evident that travel demand is well spread between a number of journey purposes including leisure, shopping, commuting / business and education / escort education trips which account for around two thirds of all journeys.

5.3 Propensity to Travel by Non-Car Modes

5.3.1 In order to consider the potential for trips to be made by walking, cycling and public transport, consideration is given to the distances that people are likely to travel.

Walking Distances

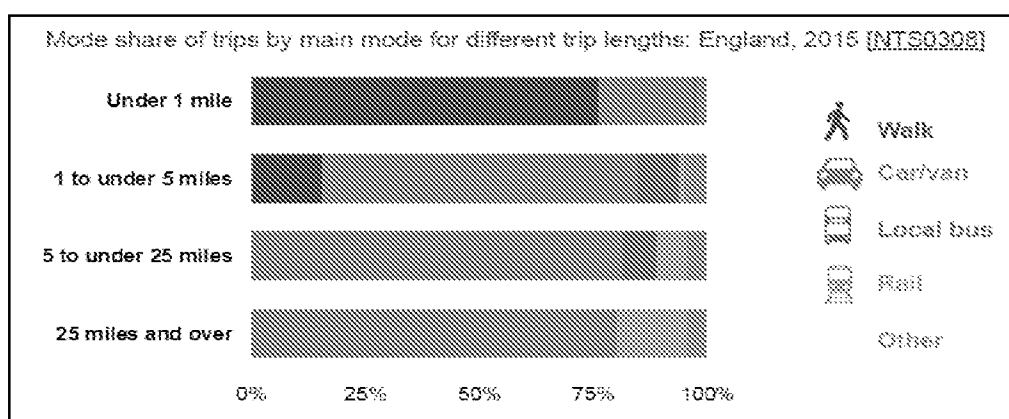
5.3.2 Paragraph 4.4.1 of the Manual for Streets identifies that ***“Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes’ (up to about 800 m) walking distance of residential areas”*** and ***“this is not an upper limit and PPG13 states that walking offers the greatest potential to replace short car trips, particularly those under 2km.”***

5.3.3 CIHT ‘Planning for Walking’ (Section 6.3) identifies that most people will walk if their destination is less than a mile away (1.6km):

“Across Britain, approximately 80% of journeys shorter than 1 mile are made wholly on foot – something that has changed little in 30 years.

5.3.4 This is corroborated by the National Travel Survey (NTS) 2015 which identifies the mode share of journeys of different lengths (Image 5.1).

Image 5.1: Mode Share of Trips by Main Mode for Different Trip Lengths: England



Source: National Travel Survey: England 2015 – Department for Transport 8 September 2016

5.3.5 Therefore, the vast majority (76%) of trips of up to one mile (1,600m) are undertaken on foot. Furthermore, 32% of journeys between 1 and 2 miles (1,600m – 3,200m) are likely to also be undertaken on foot.

5.3.6 On this basis, the following walking distances are identified:

- 800m – A comfortable and attractive walking distance in line with the walkable neighbourhood’s concept;
- 1,600m – A reasonable walking distance i.e. the distance within which circa three-quarters of all journeys are made on foot;
- 3,200m – A maximum walking distance i.e. the distance within which a significant proportion (circa one-third) of journeys will still be on foot.

5.4 Cycling Distances

5.4.1 The Design Manual for Roads and Bridges (DMRB) TA 91/05 'Provision for Non-Motorised Users' paragraph 2.11 states:

"Cycling is used for accessing a variety of different destinations, including educational facilities, shops and places of work, up to a range of around 5 miles. Cycling is also undertaken as a leisure activity, often over much longer distances. As well as being a mode of transport in its own right, cycling frequently forms part of a journey in combination with cars and public transport."

5.4.2 Guidance within CIHT "Planning for Cycling" also states that:

"The majority of cycling trips are for short distances, with 80% being less than five miles and with 40% being less than two miles. However, the majority of trips by all modes are also short distances (67% are less than five miles, and 38% are less than two miles); therefore, the bicycle is a potential mode for many of these trips (DfT, 2014a)..."

5.4.3 Paragraph 1.5 in the Department for Transport's (DfT) Local Transport Note 2/08 'Cycle Infrastructure Design' (October 2008) states that:

"Urban networks are primarily for local journeys. In common with other modes, many utility cycle journeys are under three miles (4.8km) (ECF, 1998), although for commuter journeys, a trip distance of over 5 miles (8km) is not uncommon."

5.4.4 Data provided within the National Travel Survey demonstrates that the average distance per journey by bike is approximately 4.4km, with the current average length of an employment and leisure cycle trip some 5.2km.

5.4.5 On this basis, the following cycling distances are identified:

- Up to 3,200m - an attractive and short cycle trip;
- Up to 5,000m - a 'reasonable' everyday cycle distance; and
- Up to 8,000m - the 'maximum' cycling distance for regular (non-leisure) trips.

5.5 Local Facilities and Services

5.5.1 The key local destinations for future residents of the proposed development within the context of the local walking and cycling catchments are illustrated on **Figure T2** and **Figure T3** and are listed in **Table 5.2**, which includes facilities for education, leisure, retail, employment and health.

Table 5.2: Key Local Destinations

Facility	Destination	Distance	Walking	Cycling
Education	Walberton and Binsted Primary School	675m	✓✓✓	✓✓✓
	Walberton Pre-School	550m	✓✓✓	✓✓✓
	Littlewoods Nursery (@Avisford Hotel)	700m	✓✓✓	✓✓✓
	St. Philip Howard High School	3,250m	✓	✓✓
Employment	The William Booker Yard	575m	✓✓✓	✓✓✓
	Hoe Farm Industrial Estate	750m	✓✓✓	✓✓✓
	Avisford Park Hotel	800m	✓✓✓	✓✓✓
	Tokar Industrial Park	1,350m	✓✓	✓✓✓
	Nurseries (Fresh Acres/Toddington)	2,050m	✓	✓✓
Leisure	The Holly Tree PH	575m	✓✓✓	✓✓✓
	Walberton Cricket Club	550m	✓✓✓	✓✓✓
	Walberton Recreation Ground	550m	✓✓✓	✓✓✓
	Walberton Village Hall	550m	✓✓✓	✓✓✓
	Avisford Golf Club	575m	✓✓✓	✓✓✓
	The Cedar Restaurant	825m	✓✓	✓✓✓
	The Black Horse PH	950m	✓✓	✓✓✓
	Allotments	1,250m	✓✓	✓✓✓
	Fontwell Park Race Course	2,925m	✓	✓✓
	Walberton Baptist Church Hall	475m	✓✓✓	✓✓✓
Retail / Personal Business	Walberton Village Centre • Newsagent and Green Grocer • Post Office • Laundrette • Hairdresser • Estate Agent	500m	✓✓✓	✓✓✓
	St. Mary's Church	775m	✓✓✓	✓✓✓
	Service Station	2,825m	✓	✓✓
	Barnham Centre	3,125m	✓	✓✓
Health	Walberton Dental Surgery	500m	✓✓✓	✓✓✓
	Flintcroft Surgery	600m	✓✓✓	✓✓✓
	Croft Surgery	3,625m	-	✓✓
Transport	Tye Lane Bus Stop	500m	✓✓✓	✓✓✓
	Manser Road (Yapton Lane) Bus Stop	475m	✓✓✓	✓✓✓
	Dairy Lane / Holly Tree Bus Stop	550m	✓✓✓	✓✓✓
	Barnham Railway Station	3,025m	✓	✓✓

Source: Consultant (all distances are estimated walk distances measured from the centre of the site on Google Maps)

Notes: Walk Distances – ✓✓✓ less than 800m ✓✓ between 800m and 2km, ✓ between 2km and 3.2km
Cycle Distances – ✓✓✓ less than 2km ✓✓ between 2km and 5km, ✓ between 5km and 8km

5.5.2 The assessment demonstrates that there is a wide range of everyday facilities within a comfortable and attractive walking distance of the site, including primary education, convenience retail, personal business services, a range of leisure facilities and employment opportunities.

- 5.5.3 All of the services and facilities outlined in **Table 5.2** are within the maximum walking distance of 3.2km, except Croft Surgery, and all fall within reasonable cycling distance.

5.6 Adequacy of Walking and Cycling Facilities

- 5.6.1 As set out in Section 4.2, the proposed development offers a number of connections to the local walking and cycling network.
- 5.6.2 To consider the adequacy of connections, a Non-Motorised User Audit of local routes has been undertaken and is presented in **Appendix D**. A summary of each route is described in the following paragraphs:

Pedestrian and Cycle Access to Yapton Lane

- 5.6.3 A designated footway is proposed along the access road to Yapton Lane. Yapton Lane has an existing footway on the western side which provides for onward travel north to Avisford Park Golf Club / Hotel, and south towards the bus stops and wider public rights of way network.
- 5.6.4 The route is partially street lit and the existing footway network is sufficiently wide for likely usage. There are however some minor deficiencies noted:
- The existing southbound bus stop facilities at Yapton Lane lack adequate crossing facilities and waiting area; and
 - There are inadequate crossing facilities of Yapton Lane at Blacksmiths Corner to access the Public Footpath leading towards Binsted.

Pedestrian Access to Avisford Park Road

- 5.6.5 The proposals include the provision of a pedestrian access to Avisford Park Road which forms part of FP333. The proposals would connect to FP333 at the western end of Avisford Park Road, minimising interaction with vehicles using the private road and travel distances. Avisford Park Road is unmade but in generally adequate condition, whereas to the west a designated footpath connects to the recreation ground, pre-school, community facilities and local shops and services.
- 5.6.6 The route is considered adequate and attractive to encourage walking trips between the site and local village services.

Pedestrian and Cycle Access to Tye Lane

- 5.6.7 The development proposals identify two connections to Tye Lane, one to the north to provide access to Hooe Farm Industrial Estate opposite, and one to the south of the site to connect towards The Street.
- 5.6.8 There is no footway on Tye Lane along the site frontage, with the footway network commencing to the south of the site at The Street. However, the lightly trafficked nature of Tye Lane makes it suitable for walking the short distance from the southern access to The Street (100m) and pedestrians are regularly observed to use the road. There is a lack of crossing facilities to cross to the southern footway on The Street outside the Baptist Church.

Pedestrian and Cycle Access to Barnham

- 5.6.9 West of Tye Lane there is continuous footway provision and the road is lightly trafficked (circa 100 vph), making on-road cycling suitable. To the west of the Green, a designated off-road footway / cycleway has recently been constructed and provides an excellent connection from Walberton to Barnham village and station.

Access to the Wider Public Rights of Way Network

- 5.6.10 Section 2 has provided detailed information about the local rights of way network. FP333 (forming part of Avisford Park Road) is considered a suitable and attractive route, and discussion with WSCC Rights of Way officers identify no requirement for improvement of the Footpath in connection with the development.
- 5.6.11 Further afield, WSCC has an aspiration to deliver improvements to FP350 which routes from Yapton Lane at Blacksmiths Corner, through Avisford Park Golf Course, and onwards towards Binsted village. WSCC is seeking to improve the surface of the public footpath to make it more attractive to walkers and potentially to introduce cycling uses. The route is unmade along a field boundary between Blacksmiths Corner and the Golf course, from which point it becomes a wide track of a relatively good surface. To the east of the golf course, the track becomes unmade again, leading to Binsted Lane, emerging at St Mary's Church.

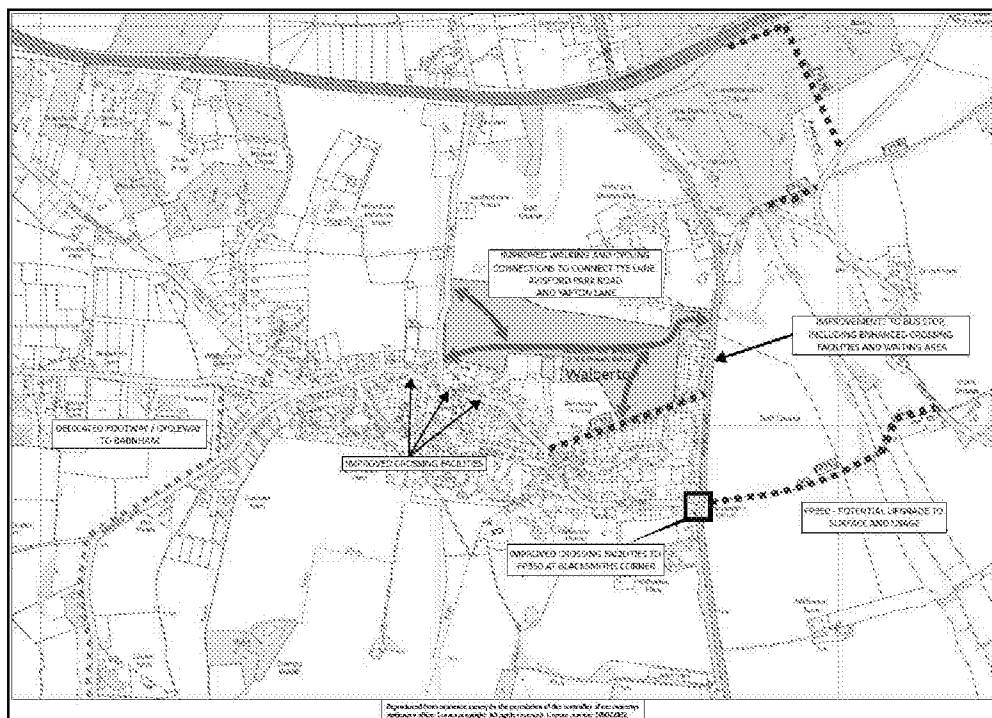
Potential Walking and Cycling Improvements

5.6.12 Following a detailed review of local walking and cycling routes, it is demonstrated that the development site is well placed to connect to local infrastructure and to access local facilities and services.

5.6.13 In order to further encourage walking and cycling, and to maximise opportunities for sustainable travel, a number of potential improvements have been identified. These are shown graphically on **Image 5.2** and comprise:

- Improvement to the eastern bus-stop on Yapton Lane, to include enhanced crossing facilities and waiting area;
- Delivery of improved crossing facilities to PF350 at Blacksmiths Corner;
- Improvement to FP350 in line with WSCC aspirations to improve surface of route and potentially to provide cycle use;
- Delivery of dropped kerb crossing improvements at:
 - The Street opposite William Booker Yard;
 - The Street outside the Baptist Church; and
 - The Street at Dairy Lane.

Image 5.2: Improved Sustainable Transport Connections



5.7 Public Transport

Bus Travel

- 5.7.1 The site is well located to existing bus services which provide opportunity for trips to be made to local services and facilities beyond the village by sustainable modes. Existing bus services provide travel to key destinations such as Arundel, Chichester, Barnham, Bognor Regis and Fontwell. Furthermore, school bus services are available to numerous local secondary schools, such as Chichester High School, Ormiston Academy and St Philip Howard School.
- 5.7.2 Whilst bus frequencies are relatively low in Walberton, consistent with its village location, bus travel remains a realistic option for a number of trip purposes, including particularly secondary and higher education trips, and daytime travel to higher order centres including Arundel, Chichester and Bognor Regis.
- 5.7.3 WSCC has confirmed (**Appendix C**) that extensions to existing bus routes are not being considered, would be unsustainable, and that they are not necessary in the context of the proposed development.
- 5.7.4 Routes to bus facilities are addressed in Section 5.6, which confirms that these are conducive to encouraging bus travel.
- 5.7.5 However, as identified in Section 5.6, there is a limited hardstanding on the eastern side of Yapton Lane for the southbound bus stop. In order to improve local facilities, a short section of footway and an uncontrolled crossing facility, comprising of dropped kerbs and tactile paving is proposed. Upgrades to both the northbound and southbound bus stop infrastructure on Yapton Lane, in the form of new bus stop flags and timetable boards are also proposed.

Rail Travel

- 5.7.6 Barnham Railway Station is located some 3km from the centre of the site and is directly accessible via bus route 66 and 85A from The Street, as well as by walking or cycle (**Figure T3**). The bus times provide the opportunity for commuter journeys to/from Barnham railway station (arriving at 07:53 and departing at 18.01) and Bognor Regis railway station (arriving at 08:10 and departing at 17:32).

5.7.7 A new designated off-road shared footway / cycleway has been provided to connect Walberton with Barnham. This provides an excellent and attractive connection between Walberton and Barnham that is observed to be well used.

5.7.8 From Barnham railway Station, direct services are accessible to Southampton, London, Portsmouth, Brighton, Chichester, Bognor Regis and Littlehampton, and so provides for longer distance travel.

5.8 Sustainable Transport Strategy

5.8.1 It is demonstrated that the site benefits from its close proximity to a range of local everyday services and facilities that cater for many journey purposes.

5.8.2 The site is located within a reasonable walking distance of these facilities, all of which are within a comfortable cycle distance.

5.8.3 Regular bus services are also accessible to the site. Overall there are a number of realistic and viable transport choices available to future residents of the site.

5.8.4 To ensure these opportunities are taken up, a '*Sustainable Transport Strategy*' has been developed. The Strategy comprises:

- Delivering sustainable access connections from the site to the local walking and cycling network;
- Delivering improvements to the walking network to address identified barriers to sustainable travel;
- Providing improvements to the public transport network to encourage access and use; and
- Delivering a realistic package of measures designed to encourage residents to consider sustainable travel choices as part of their overall travel pattern.

5.8.5 The delivery of this strategy comprises a series of 'Hard' measures, which offer physical infrastructure improvements, and 'Soft' measures to encourage use of sustainable travel through incentivisation, promotion and marketing.

Hard Measures

5.8.6 To encourage walking for local trips and address the issues identified in the Non-Motorised User Audit, a package of infrastructure improvements has been developed to improve local walking connections. These comprise:

- Provision of a new footpath link to Avisford Park Road;
- Provision of a pedestrian and cycle access to Tye Lane;
- Provision of a new walking and cycling link within the site to connect Tye Lane, Avisford Park Road and Yapton Lane. This would provide improved connections within the village and would better link public rights of way in the wider Walberton hinterland;
- Delivery of a comprehensive network of footways and routes within the site to improve the pedestrian and cycle permeability;
- Contribution to improvements on FP350 in line with WSCC aspirations to improve surface of route and potentially to provide cycle use, including improved crossing facilities to PF350 at Blacksmiths Corner;
- Contribution to delivery of dropped kerb crossing improvements at:
 - The Street opposite William Booker Yard;
 - The Street outside the Baptist Church; and
 - The Street at Dairy Lane;

5.8.7 To encourage cycling, in addition to the access improvements described above, the site will deliver good quality cycle parking facilities within the development, in line with the West Sussex County Council parking standards.

5.8.8 To encourage access to local bus facilities, in addition to the walking improvements identified to enhance connections to local bus stops, a bus stop improvement at Yapton Lane is proposed to improve waiting facilities and bus information.

Soft Measures

5.8.9 To support the TA, a Framework Travel Plan has been developed which sets out a detailed and comprehensive strategy for the delivery of measures to encourage sustainable travel.

5.8.10 The overarching aims of the Framework Travel Plan are:

- To reduce the number of single occupancy car journeys to the site; and
- To improve accessibility to the site by non-car modes of transport and thereby encourage the use of other travel modes.

5.8.11 The overarching aims have been set in order to achieve a number of key transport objectives and targets. The key target of the FTP is to:

“To reduce the number of single occupancy vehicle trips to and from the site by 10% from the baseline position by year five.”

5.8.12 To achieve the aims and objectives, a package of ‘Soft’ measures designed to encourage residents to consider sustainable travel opportunities are promoted through the FTP.

5.8.13 The Framework Travel Plan identifies the following measures;

- Provision of a ‘Residents Travel Information Pack’, to provide information of travel opportunities and to promote travel;
- Offer of a sustainable travel voucher to be used either on public transport or on cycle equipment;
- Creation of a community travel website, to provide travel information;
- Creation of a steering group consisting of local residents;
- Community noticeboards to identify travel opportunities and incentives;
- Promotion of local car-share and bicycle user groups;
- Negotiation of discounts for cycle equipment; and
- Establishment of a cycle user group.

5.8.14 The FTP identifies a delivery and management strategy for these measures, and commits to future monitoring of the success of the travel plan. In combination with the hard measures identified earlier, these will ensure opportunities to travel sustainably are taken up.

5.8.15 An Action Plan (**Table 5.3**) is provided to summarise the comprehensive package of measures to be delivered to encourage sustainable access to and from the site.

Table 5.3: Sustainable Transport Strategy

Objective	Measure	Timescale
Overall cross-objective	Appoint a Travel Plan Coordinator	Prior to Occupation
	Develop web-site	Prior to Occupation
	Distribute Travel Welcome Packs	Prior to Occupation
	Provide community notice boards	Phased with Development
Reduce the Need to Travel	Deliver broadband connections	Prior to Occupation
Promotion of Walking and cycling	Walking and cycling maps and health information	Prior to Occupation
	Pedestrian / cycleway connections to Tye Lane, Avisford Park Road and Yapton Lane - to connect to wider area	Phased with Development
	Improved uncontrolled pedestrian crossings within the village	Contribution to WSCC
	Improvements to FP350	Contribution to WSCC
	Provision of improved wayfinding	Prior to Occupation
	Delivery of MfS layout – interconnecting streets, shared streets and home zones	Phased with Development
	Offer of a £150 travel voucher to each dwelling for cycle equipment purchase	On occupation (within Travel Information Packs)
	Provision of cycle storage	Phased with Development
	Set up a Bicycle User Group (BUG)	6 months after occupation
Promotion of Public Transport	Delivery of a Bus Stop improvement at Yapton Lane	Phased with Development
	Offer of £150 Travel Voucher	On occupation (within Travel Information Packs)
Encourage Car Sharing	Promotion of car sharing schemes through liftshare.com	Prior to Occupation and Ongoing

5.9 Accessibility Summary

5.9.1 Walberton provides a good range of local services and facilities which future residents will utilise on a day to day basis. This includes local shops, post office, community centre, primary school and leisure facilities such as the recreation ground. Facilities further afield within service centres at Arundel, Barnham, Chichester and Bognor Regis can be reached by a variety of travel modes, including public transport.

5.9.2 Future residents of the proposed development will have the opportunity to access a range of everyday destinations by a choice of different travel modes:

- Walking is a realistic mode of travel to and from the site, with well-connected routes providing direct access to local facilities which are located within a short walk of the site. A significant proportion of travel from the site can be expected to be made on foot to reach the village centre as well as local schools and services. All of Walberton's facilities are within a short cycle journey;
- Facilities located beyond Walberton are within a reasonable cycle distance, particularly the services Barnham. Barnham is connected to Walberton by both bus services and a recently constructed shared footway / cycleway which makes an attractive connection to Barnham and the railway station; and
- Existing bus services operate between Walberton village and local centres, including Chichester, Arundel, Barnham and Bognor Regis. Additional school services connect pupils with local secondary schools.

5.9.3 A Sustainable Transport Strategy identifies a series of measures to encourage travel by non-car modes and to promote a choice of travel options. This identifies a number of local infrastructure improvements that can be provided, as well as softer measures designed to promote sustainable travel behaviours. The Sustainable Travel Strategy will be delivered by the Travel Plan for the development.

5.9.4 Future residents at the proposed development therefore have the opportunity to access a range of destinations by a choice of sustainable transport modes. The proposed development is located where the need to travel will be minimised and, through the Framework Travel Plan, the use of sustainable transport modes can be maximised. In line with the NPPF requirements, it is therefore demonstrated that the opportunities for sustainable travel can be and have been taken up.

SECTION 6 TRAFFIC IMPACT – METHODOLOGY

6.1 Introduction

- 6.1.1 This section of the Transport Assessment details the methodology used to assess the potential traffic impact of the development. This methodology has been agreed with both WSCC and Highways England.

6.2 Baseline Conditions

- 6.2.1 Peak period manual classified turning counts were undertaken on 2 February 2017 and 21 March 2017 at the junctions identified in Section 3.4. The observed morning and evening peak hour traffic flows are shown on **Figures TF1 and TF2** respectively.

6.3 Committed Developments

- 6.3.1 To consider the cumulative impact of local development that has been permitted but not built, the assessment of traffic impacts on the local network has been undertaken including the additional traffic associated with committed development in the area. The traffic assessment of the local road network therefore makes an allowance for the following committed developments, as agreed with WSCC and HE: -

- Land to the East of Fontwell Avenue (pending decision);
- Land West of Westergate Street and east of Hook Lane, Westergate; and
- Land at Nyton Road and Northfields Lane, Aldingbourne.

- 6.3.2 The traffic flows associated with the committed developments have been taken from the Transport Assessment submitted with the planning applications.

- 6.3.3 For assessment on the Strategic Road Network (i.e. the A27), Highways England required use of the Arun District Local Plan strategic (SATURN) model which includes all draft allocations from the latest draft Arun Local Plan, as well as background growth and mitigation schemes. Traffic flows from the model have been obtained from WSCC.

6.4 Traffic Generation

- 6.4.1 In accordance with WSCC's TAM guidance, the TRICS database (version 2015 7.4.1) has been used to calculate the potential traffic generation of the proposed development. Full details are presented in the TA Scoping Note (**Appendix B**).

6.4.2 The trip rates have been obtained using the following parameters:

- Region – all of United Kingdom (except Greater London and Ireland);
- Size relevance – developments between 50 and 500 dwellings;
- Time period – surveys for the last 10-year period (start date: 01/04/2007);
- Location relevance – surveys in ‘suburban’ and ‘edge of town’ locations only;
- Date relevance – surveys undertaken during a weekday.

6.4.3 To present a robust assessment, the ‘Private Housing’ only trip rate has been applied to whole development. This does not account for the significant proportion of affordable dwellings to be provided on the site (circa 30%), which generally exhibit lower trip rates. Furthermore, to ensure a robust assessment is carried out, a development of 200 dwellings is considered in the assessment, rather than the 175 dwellings proposed. These factors combined mean that the assessment should be considered to be robust.

6.4.4 The vehicle trip rates and resulting trips for Private Housing dwellings are summarised in **Table 6.1**. A full copy of the TRICS data is provided within **Appendix H**.

Table 6.1: Vehicle Trip Rates and Trips

Time	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	In	Out	Total	In	Out	Total
Private (per dwelling)	0.143	0.401	0.544	0.364	0.212	0.576
Vehicle Trips (200 Dwellings)	29	80	109	73	42	115

Source: TRICS

6.5 Traffic Distribution and Assignment

Journey Purpose

6.5.1 Data derived from the National Travel Survey (NTS) 2015 (DfT) outlines the proportion of peak hour trips made by car, split into journey purpose (**Table 6.2**).

Table 6.2: Proportion of Peak Hour Trips by Journey Purpose (Car Driver Only)

Trip Purpose	AM Peak (0800-0900)	PM Peak (1700-1800)
Commuting/Business	40%	45%
All Other Journey Purposes	60%	55%
Total	100%	100%

Source: Car driver trip start time by trip purpose (Monday to Friday only): National Travel Survey, DfT, 2015

6.5.2 For the purposes of the assessments, the analysis has been undertaken on the basis that 45% of vehicular trips are for employment journeys and the remaining 55% will be for all other purposes for both the morning and evening peak hour periods.

Trip Distribution

6.5.3 To provide an accurate assessment of the likely distribution of traffic from the site, separate methodologies have been applied to consider the destinations of commuting and business trips to other trip purposes:

- For commuting and business trips, the National Census Journey to Work statistics (for car drivers) for Arun 003 Super Output Area – Middle Layer have been used (which comprises of Walberton, Barnham, Eastergate and Westergate); and
- For other journey purpose trips a P/T^2 gravity model has been undertaken using the population of key urban areas (from the 2011 census) within a 40-minute drive from the site (estimated from Google Maps Directions facility).

6.5.4 The two sets of data are then combined to generate a single set of distribution parameters to inform the development trip assignment. The key local destinations are shown in **Table 6.3** with the full assessment presented in **Appendix I**.

Table 6.3: Distribution of Car Driver Trips (All Purpose)

Destination	Employment Trips	Non-Employment Trips	All Trips Combined
Chichester	17.25%	3.58%	20.83%
Bognor Regis	6.52%	5.60%	12.11%
Walberton/Barnham	5.45%	4.91%	10.36%
Littlehampton	3.59%	5.22%	8.81%
Portsmouth	1.41%	6.94%	8.34%
Worthing	3.00%	3.26%	6.26%
Yapton	1.56%	4.38%	5.94%
Arundel	2.28%	0.59%	2.87%
Fareham/Gosport	0.38%	2.33%	2.71%
Other North	2.64%	-	2.64%
Havant	0.91%	1.49%	2.40%
Shoreham-by-Sea/Southwick	0.76%	1.30%	2.06%
Horndean/Clanfield/Waterlooville	0.51%	1.16%	1.68%
Other	8.72%	4.25%	12.97%
Total	55%	45%	100%

Source: 2011 Census / Consultant Gravity Model (some rounding applied)

6.5.5 This analysis identifies that Chichester is the main traffic attractor, with some 21% of total travel demand, followed by Bognor Regis (12%), Walberton/Barnham (10%), Littlehampton (9%) and Portsmouth (8%). The remainder of trips are well distributed across destinations along the south coast and beyond.

Assignment

6.5.6 The expected traffic that would be generated by the development is then distributed onto the local network to the destinations identified in **Table 6.3**.

6.5.7 To determine the routing of vehicle trips to these destinations, trips were assigned to the road network based on the quickest route from the site to the destination location using the Google Maps 'Directions' Facility. Within the Directions facility, a start time for journeys of 08:00 was utilised to reflect peak period traffic conditions. In some cases, a single route option was identified by the assessment, however for the majority of destinations the assessment identified multiple routes. In these cases, development trips were distributed to the possible routes based upon the journey times identified, with the quickest route assigned a larger number of trips.

6.5.8 The full distribution and assignment model is included in **Appendix I**.

6.5.9 **Table 6.4** presents the summary of the assignment assessment. This demonstrates that over two-thirds of vehicle trips are expected to route north from the site to the A27 corridor, with the remainder travelling to routes in the south using either Yapton Lane South / North End Road for travel to Littlehampton and Bognor Regis, or The Street for travel to Walberton and Barnham.

Table 6.4: Summary Traffic Assignment

Route 1		Route 2		Route 3		Route 4	
Yapton Lane N	68%	A27 West	68%	A27 West	50%	A27 West	44%
						A29 South	6%
				A27 East	13%	A27 East	13%
				A29 North	5%	A29 North	5%
Yapton Lane S	32%	North End Rd	22%				
		The Street	5%				
		Lake Lane W	5%				

6.5.10 The resultant development traffic distribution and assignment, for the morning and evening peak hour periods, are presented on traffic flow diagrams **TF3** to **TF8**.

6.6 Assessment Years and scenarios

6.6.1 The Highways England (HE) Circular 02/13 'Strategic Road Network and the delivery of Sustainable Development' identifies that:

"Where the overall forecast demand at the time of opening of the development can be accommodated by the existing infrastructure, further capacity mitigation will not be sought." (Paragraph 27)

6.6.2 The HE document 'Planning for the Future' identifies that in respect of assessing the development impact:

"Assessments should be carried out for:

- **the development and construction phase;**
- **and the opening year, assuming full build out and occupation;**
- **either a date ten years after the date of registration of the associated planning application or the end of the Local Plan period (whichever is the greater).**

The assessment at opening will be used for the determination of impact mitigation needs whilst the latter is necessary to determine the risk which will transfer to us." (Paragraph 101)

6.6.3 Based on the HE guidance, the traffic assessment has been carried out for the projected 'Opening Year' of development, assuming full development occupation and full occupation of all relevant Committed Development sites along with background traffic growth, and the end of the local plan period (this currently being 2031).

6.6.4 As the application site is not a site identified in the draft Arun District Local Plan, HE requires that assessment is carried out at the end of the Local Plan period (i.e. 2031), with all draft Local Plan developments also considered.

6.6.5 On this basis, operational assessments have been undertaken for the morning and evening peak hours for the following scenarios:

- **2017 Base Year – Figures TF1 and TF2;**
- **2020 'Without Development' – Figures TF9 and TF10;**
- **2020 'With Development' - Figures TF11-TF12;**
- **2031 'Without Development' – Figures TF13 and TF14; and**
- **2031 'With Development' – Figures TF15 and TF16.**

6.6.6 The full assessment outputs for all scenarios are presented in **Appendix J**, whilst Section 7 presents the summary results for the 2031 with and without development scenarios, being the worst-case assessment scenario.

6.7 Traffic Growth

Background traffic growth

6.7.1 In accordance with WSCC's TAM guidance, TEMPRO and National Transport Model (NTM 7.2) database has been interrogated in order to determine applicable growth rates for the background traffic to be adjusted from the baseline year (2017) to the opening year of 2020 and end of local plan year 2031. The rates presented are unadjusted for local development growth so should be considered robust.

6.7.2 The derived growth rates are presented in **Table 6.5** and have been used for the assessment of the local road junctions.

Table 6.5: Calculated Local Peak Period Growth Rates

Growth Period	Time Period	Growth Rate
2017-2020	AM Peak	1.033
	PM Peak	1.032
2017-2031	AM Peak	1.140
	PM Peak	1.143

Source: TEMPRO and Consultant Calculated

6.7.3 Highways England requested an alternative assessment of growth with respect to the A27 corridor, whereby 2031 development flows obtained from the Arun DC model would be used for assessment of the A27 junctions. This model includes an adjusted background growth rate (from TEMPRO), as well as development growth from all of the draft allocation sites in the district, as well as adjoining authorities. Traffic flows for the 2031 with Local Plan sites was obtained from WSCC and are used for the assessment of the 2031 A27 junctions. The WSCC flows are provided at **Appendix N**.

SECTION 7 TRAFFIC IMPACT ASSESSMENT

7.1 Introduction

7.1.1 This section of the TA details results of the traffic impact assessment of the of the development proposals.

7.2 Overarching Traffic Impacts

7.2.1 To consider the high-level development impacts, and so the need for more detailed assessment, the peak hour development impacts have been considered against projected future network conditions (taken as total junction entry flows) (Table 7.1).

Table 7.1: Development Traffic Impacts

Junction	2020 Morning Peak			2020 Evening Peak		
	Flow	Dev Flow	% Impact	Flow	Dev Flow	% Impact
A27 / A29 Fontwell Avenue / Arundel Road	4,556	55	1.19%	4,557	58	1.26%
A27 Arundel Road / A29 Farmille Bottom	4,169	69	1.63%	3,887	69	1.74%
A27 Arundel Road / Yapton Lane / Shellbridge Road	2,748	75	2.66%	2,577	79	2.97%
Avisford Park / Yapton Lane	661	75	10.19%	541	79	12.74%
Yapton Lane / Site Access	666	109	14.06%	540	115	17.56%
Yapton Lane / The Street	799	35	4.20%	741	37	4.76%
Yapton Lane Railway Crossing	780	24	2.99%	700	25	3.45%
The Street	184	5	2.72%	220	6	2.73%

Source: Consultants calculations

7.2.2 This assessment demonstrates that whilst the majority of development traffic is expected to route north to the A27 corridor, the development is only likely to have a small impact on the A27 corridor overall, increasing traffic flows at the key junctions between 1-3%, and adding around one additional vehicle each minute.

7.2.3 Traffic flow increases on the local highway network are proportionately larger (as base flows are significantly lower), with a 3%-5% increase in traffic flows at the Yapton Lane / The Street junction and around a 3% increase in traffic flows at the Yapton Lane level crossing and on The Street itself.

7.2.4 WSCC also sought assessment of the potential traffic impacts on the A259 / Bilsham Lane 'Comet Corner junction' and the A259 / Yapton Road 'Oyster Catcher junction'. These junctions are beyond the scope of the traffic flow diagrams. Consideration of the distribution model (**Appendix I**) identifies that of the development traffic expected to route south on Yapton Lane through the two junctions comprises:

- Oyster Catcher Junction – 4% of development traffic will travel to Littlehampton using the Oystercatcher junction during the peak hour periods. This equates to approximately 1-2 vehicles during the peak hour periods; and
- Comet Corner Junction - 6% of development traffic will travel towards Bognor Regis using the Comet Corner junction during the peak hour periods. This equates to approximately 1-2 vehicles during peak hour periods.

7.2.5 This level of additional traffic will be indiscernible from existing traffic flows and will not have a material impact on junction operation.

7.3 Detailed Junction Assessment

7.3.1 Operational analysis has been undertaken to determine the performance of the surrounding highway network and its ability to accommodate the additional traffic from the proposed development. This has considered the following junctions:

- Junction 1 – A27 Arundel Road / Fontwell Avenue / Arundel Road;
- Junction 2 – A27 Arundel Road / A29 Farmille Bottom;
- Junction 3 – A27 Arundel Road / Yapton Lane / Shellbridge Road;
- Junction 4 – Avisford Park / Yapton Lane;
- Junction 5 – Yapton Lane / Site Access;
- Junction 6 – Yapton Lane / The Street; and
- Junction 7 – Yapton Lane Railway Crossing.

7.3.2 Assessments have been undertaken using the weekday morning and evening peak hour traffic flows (07:15 to 08:15 and 16:45 to 17:45) combined with the peak hour traffic generation of the development (08:00 to 09:00 and 17:00 to 18:00). The assessment results are therefore a worst case. The priority junctions and roundabouts have been tested using the TRL Software Junctions 9, whereas traffic signal controlled junctions have been assessed using LINSIG3.

7.3.3 The capacity analysis reported in this Section should be considered as a robust and as a ‘worst-case’ assessment. This is because:

- The assessment uses trip rates derived for ‘Private houses’ only and does not account for the significant (30%) elements of affordable housing which generally exhibit lower trip rates in peak hours;
- The assessment does not take account of the mode shift that could be achieved through the implementation of the sustainable transport strategy; and
- The assessment has considered a development of 200 dwellings not the 175 proposed as part of the application (some 12% smaller).

7.3.4 A copy of the full junction modelling outputs is provided at **Appendix J** whilst summary results for the 2031 assessments are presented in the following sections.

Junction 1 - A27 Arundel Road / Fontwell Avenue / Arundel Road Roundabout

7.3.5 To assess the capacity of the existing A27 Arundel Road / Fontwell Avenue / Arundel Road roundabout, a Junctions 9 traffic model has been constructed. This assesses the existing junction configuration for the 2031 scenarios, both with and without development traffic flows. The assessment is summarised in **Table 7.2**.

Table 7.2: A27 Arundel Road / Fontwell Avenue / Arundel Road – Existing

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2031 With LP and LP Mitigation – No Development						
A27 (N)	0.66	2	4	1.04	24	93
Arundel Road	0.68	2	15	2.94	116	2,600
A29 (S)	0.74	3	20	0.42	1	5
A27 (W)	0.64	2	4	0.93	12	16
2031 With LP and LP Mitigation Plus Development						
A27 (N)	0.68	2	4	1.06	63	105
Arundel Road	0.70	2	17	3.00	126	2,697
A29 (S)	0.77	3	23	0.42	1	5
A27 (W)	0.65	2	4	0.94	14	18

Source: Junctions 9

7.3.6 The operational analysis demonstrates that the existing junction is not able to accommodate forecast traffic flows either with or without development traffic. During the 2031 evening peak period, very long queues (>100 vehicles) and delays are expected to develop, particularly on the A29 and Arundel Road arms of the junction.

- 7.3.7 In view of the projected operation of the junction, an improvement scheme has been identified in connection with both the draft Arun District Local Plan and the recent Fontwell Avenue development. The improvement scheme is shown in **Appendix K** and was prepared by Phil Jones Associates under drawing reference 1186-05 Rev A. The improvement seeks to increase the size of the roundabout and to introduce traffic signal control on both A27 approaches.
- 7.3.8 To consider the operation of the improved junction, an assessment has been carried out using a LINSIG model prepared for the junction. This is based on the Phil Jones Associates drawing and assesses 2031 traffic conditions derived from the ADC Local Plan transport model, both 'with' and 'without' development traffic. The results are presented in **Table 7.3**.

Table 7.3: A27 Arundel Road / Fontwell Avenue / Arundel Road – LP Improvement

	Morning Peak Hour			Evening Peak Hour		
	DOS	Queue (Veh)	Delay (s)	DOS	Queue (Veh)	Delay (s)
2031 With LP and LP Mitigation – No Development						
A27 W Ahead	94.6%	14	36	104.8%	65	123
A27 W Ahead	68.8%	6	22	134.9%	174	513
A27 E Ahead / Left	88.9%	13	27	113.6%	71	264
A27 E Ahead	88.8%	13	27	113.6%	71	264
Arundel Road	94.6%	9	62	101.9%	15	145
A29 Fontwell Avenue	97.8%	10	73	50.6%	3	15
2031 With LP and LP Mitigation Plus Development						
A27 W Ahead	95.7%	16	40	107.0%	80	154
A27 W Ahead	68.8%	6	22	134.9%	174	513
A27 E Ahead / Left	91.1%	14	30	115.1%	76	284
A27 E Ahead	91.0%	14	30	115.1%	76	284
Arundel Road	95.3%	9	66	101.9%	15	145
A29 Fontwell Avenue	98.7%	11	79	51.1%	3	15

Source: LINSIG 3

- 7.3.9 The assessment demonstrates that whilst the improved junction would operate significantly better than the existing arrangement, there are likely to be some significant queues and delays at the junction, particularly during the evening peak hour on the A27 junction approaches.
- 7.3.10 The additional traffic from the development (some 60 vehicles across each peak hour) has a modest impact on operation, increasing queues on the A27 West by 15 vehicles (above a 65-vehicle queue) and delay by some 30 seconds. Queues on the A27 east arm are increased by some 5 vehicles and delay by 20 seconds.

7.3.11 Whilst development impacts are modest, the additional traffic does exacerbate conditions at a junction that is likely to be operating at capacity. In view of discussions with Highways England, this is likely to result in the need for a further improvement.

7.3.12 On this basis, consideration has been given to the provision of a further improvement at the junction. The improvement would deliver an additional entry lane on the A27 east approach to the junction and enable left and ahead traffic to utilise the nearside lane. The further improvement is shown on **Drawing ITB11324-GA-015** and has been assessed using LINSIG, with the results summarised in **Table 7.4**.

Table 7.4: A27 Arundel Road / Fontwell Avenue – Further Improvement

	Morning Peak Hour			Evening Peak Hour		
	DOS	Queue (Veh)	Delay (s)	DOS	Queue (Veh)	Delay (s)
2031 With LP and LP Mitigation Plus Development						
A27 W Ahead	89.6%	11	26	98.3%	28	44
A27 W Ahead	64.5%	5	20	116.9%	108	299
A27 E Ahead / Left	79.2%	9	16	102.3%	34	98
A27 E Ahead	94.0%	9	19	103.0%	29	125
Arundel Road	98.8%	9	58	102.2%	16	146
A29 Fontwell Avenue	23.2%	11	78	49.2%	3	12
Comparison with 2031 With LP and LP Mitigation						
A27 W Ahead	-5.00%	-3	-10	-6.50%	-37	-79
A27 W Ahead	-4.30%	-1	-2	-18.00%	-66	-214
A27 E Ahead / Left	-9.70%	-4	-11	-11.30%	-37	-166
A27 E Ahead	5.20%	-4	-8	-10.60%	-42	-139
Arundel Road	4.20%	0	-4	0.30%	1	1
A29 Fontwell Avenue	-74.60%	1	5	-1.40%	0	-3

Source: LINSIG 3

7.3.13 The further improvement significantly improves junction performance. With development and the further improvement, junction operation is significantly improved beyond 2031 Baseline conditions. The improvement reduces evening peak queueing on the A27 west by 40-60 vehicles and delay by up to 3 minutes, and A27 east queueing by some 40 vehicles and 2-3 minutes' delay.

7.3.14 The applicant proposes to contribute towards the value of the additional works.

Junction 2 - A27 Arundel Road / A29 Farmille Bottom Roundabout

7.3.15 To assess the operation of the A27 Arundel Road / A29 roundabout, Junctions 9 has been used. This considers the existing junction configuration for the 2031 scenario, both with and without development traffic. Future base traffic flows derived from the Arun DC traffic model. The results of the assessment are summarised in **Table 7.5**.

Table 7.5: A27 Arundel Road / A29 Farmille Bottom – Existing Arrangement

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2031 With LP and LP Mitigation – No Development						
A29 (N)	1.12	50	190	1.01	25	86
A29 (S)	0.79	4	7	0.51	1	3
A27 (W)	0.91	9	19	0.74	3	5
2031 With LP and LP Mitigation – With Development						
A29 (N)	1.15	59	223	1.05	38	123
A29 (S)	0.81	4	7	0.51	1	3
A27 (W)	0.92	10	21	0.75	3	5

Source: Junctions 9

7.3.16 The operational analysis demonstrates that the existing junction arrangement is unable to accommodate future traffic flows likely to arise with the planned Local Plan growth, either with or without development. In the 2031 Opening Year with draft Local Plan development traffic included, the A29 (E) arm of the roundabout is expected to operate at capacity with an RFC of above 1.0 in both peak periods. Queues of some 50 vehicles in the morning peak hour (three minutes' delay) and 25 vehicles in the evening peak (90 seconds' delay) are projected.

7.3.17 The impact of the development is relatively modest, with queues increasing by some 9 vehicles in the morning and 13 in the evening peak hour, and with delays increasing by around 30 seconds during each peak hour on the A29 approach. Both A27 approaches are projected to operate within capacity in all scenarios.

7.3.18 To address the projected capacity issues, the ADC Local Plan identifies an improvement to the junction which includes flare lengthening of the A29 (E) arm and the signalisation of the junction. The improvement scheme is shown at **Appendix L** and has been assessed using LINSIG software for the 2031 'with' and 'without' development scenarios, with the results are summarised in **Table 7.6**.

Table 7.6: A27 Arundel Road A29 Farmille Bottom – LP Improvement

	Morning Peak Hour			Evening Peak Hour		
	DOS	Queue (Veh)	Delay (s)	DOS	Queue (Veh)	Delay (s)
2031 With LP and LP Mitigation						
A27 W Ahead	81.4%	8	18	85.3%	9	16
A27 W Ahead	70.5%	6	19	72.1%	7	16
A29 Ahead	78.7%	5	15	81.2%	7	17
A27 E Ahead	80.5%	9	18	66.5%	5	18
A27 E Ahead	86.1%	10	18	70.6%	6	18

	Morning Peak Hour			Evening Peak Hour		
	DOS	Queue (Veh)	Delay (s)	DOS	Queue (Veh)	Delay (s)
2031 With LP and LP Mitigation Plus Development						
A27 W Ahead	82.1%	8	18	85.7%	9	17
A27 W Ahead	71.7%	6	20	73.0%	7	16
A29 Ahead	80.5%	6	16	82.4%	7	18
A27 E Ahead	83.9%	10	20	68.5%	6	18
A27 E Ahead	88.2%	11	20	72.4%	6	18

Source: LINSIG 3

7.3.19 The assessment demonstrates that the Local Plan improvement would fully address projected capacity issues at the junction sufficiently to accommodate Local Plan projected growth. All approaches to the junction are projected to operate within design capacity with both Local Plan growth and the proposed development.

7.3.20 The impact of development traffic on the improved junction is very small, with all arms of the junction projected to continue to operate wholly within capacity in 2031. The development adds generally less than one additional vehicle to projected queues on each approach, and increases delay by generally one second.

7.3.21 On this basis, no further improvement to the junction is required.

Junction 3 - A27 Arundel Road / Yapton Lane Priority Junction

7.3.22 The A27 / Yapton Lane is a restricted moves priority junction, with right-turns from Yapton Lane prohibited. Traffic seeking access to the A27 eastbound must u-turn at the Fontwell East roundabout.

7.3.23 To assess the capacity of the A27 Arundel Road / Yapton Lane priority junction, Junctions 9 has been used and the results are summarised in **Table 7.7**.

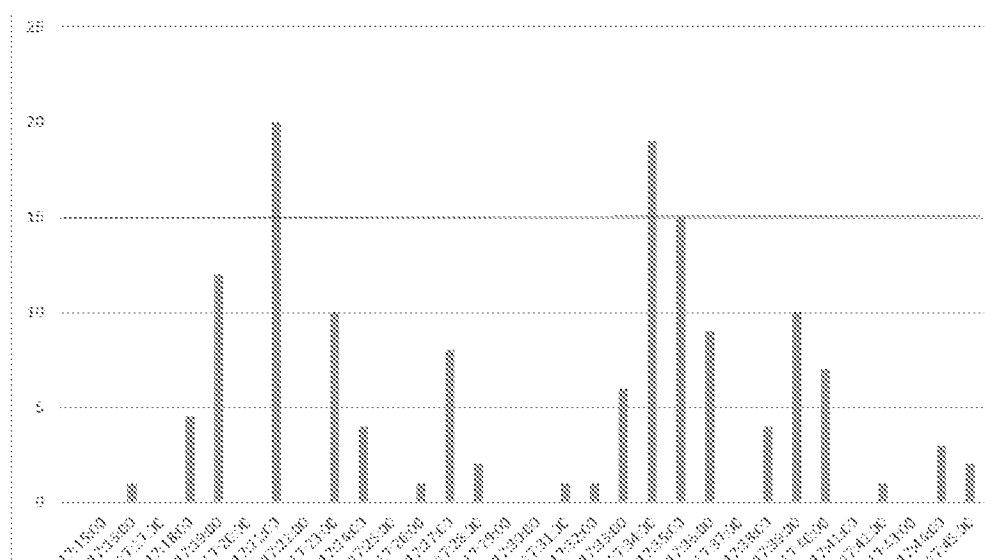
Table 7.7: A27 Arundel Road / Yapton Lane Assessment Results

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2031 With LP and LP Mitigation						
Yapton Lane – Left-out	0.35	1	9	0.23	<1	8
A27 (W) – Ahead and Right	0.22	0	7	0.57	1	14
2031 With LP and LP Mitigation Plus Development						
Yapton Lane – Left-out	0.45	1	10	0.28	<1	8
A27 (W) – Ahead and Right	0.25	0	8	0.64	2	17

Source: Junctions 9

- 7.3.24 The operational analysis demonstrates that in 2031, both with and without development traffic, the junction will operate below design capacity in both peak periods, with a maximum RFC of 0.45 and a queue of one vehicle in the morning peak hour on Yapton Lane, and a maximum RFC of 0.64 and a queue of two vehicles in the evening peak hour on the A27 right-turn to Yapton Lane. Average delay for vehicles turning right into Yapton Lane is 17 seconds.
- 7.3.25 Notwithstanding that the junction is projected to operate well within capacity under all scenarios, and that queue surveys demonstrate that the average queue on the A27 right-turn lane to Yapton Lane is limited (one vehicle in the morning peak and three in the evening peak – **Appendix M**), site observations confirm that there are isolated and short lived instances of more extensive queuing at the junction whereby right-turn queues can project outside of the available right-turning space, primarily in the evening peak period. This was confirmed by residents during the public consultation.
- 7.3.26 The existing A27 right-turn lane is 110m in length, and can accommodate a maximum of 19 vehicles dependent upon vehicle mix. However, in practice, it is observed that queues of some 15 vehicles can lead to blocking back to the A27 mainline. **Image 7.1** presents a snapshot of the queue survey for the evening peak which demonstrates that there were three instances where queue demand exceeds 15 vehicles.

Image 7.1: Evening Peak Queuing at A27 / Yapton Lane



- 7.3.27 The proposed development would add some 40-additional right-turning movements to the junction in the evening peak hour, less than one additional right-turning movement each minute. Notwithstanding that this impact is small, Highways England has sought an improvement to the junction to extend the right-turn reservoir.

7.3.28 An improvement scheme has been prepared to extend the right turn lane by 80m and to bring the design of the right-turn lane in line with DMRB TD42/95. The improvement is shown on **Drawing ITB11324-GA-014** and is deliverable within the public highway. The applicant is prepared to deliver the improvement which would fully address the modest impact of the development and provide a wider benefit.

Junction 4 – Avisford Park / Yapton Lane Priority Junction

7.3.29 To assess the capacity of the Avisford Park / Yapton Lane priority junction, Junctions 9 has been used. The results of the assessment are summarised in **Table 7.8**.

Table 7.8: Avisford Park / Yapton Lane Assessment Results

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2031 'Without Development'						
Yapton Lane	0.01	<1	13	0.03	<1	8
Avisford Park	0.02	<1	6	0.01	<1	4
2031 'With Development'						
Yapton Lane	0.01	<1	13	0.03	<1	8
Avisford Park	0.02	<1	6	0.01	<1	4

Source: Junctions 9

7.3.30 The operational analysis demonstrates that the priority junction will operate well within capacity during the peak hours, both with and without development, with a maximum RFC of only 0.03 with no material queueing or delay anticipated.

Junction 5 – Proposed Yapton Lane / Site Access Priority Junction

7.3.31 To assess the operation of the proposed Yapton Lane / Site Access priority junction, Junctions 9 has been used. The results of the assessment are summarised in **Table 7.9**.

Table 7.9: Proposed Yapton Lane / Site Access Assessment Results

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2031 'With Development'						
Site Access	0.19	<1	11	0.08	<1	8
Yapton Lane N	0.04	<1	6	0.10	<1	5

Source: Junctions 9

7.3.32 The operational analysis demonstrates that the proposed site access junction will operate well within capacity in both the morning and evening peak hours, with less than one queuing vehicle in either peak period.

Junction 6 – Yapton Lane / The Street Roundabout

7.3.33 To assess the operation of the Yapton Lane / The Street roundabout, Junctions 9 has been used. The results of the assessment are summarised in **Table 7.10**.

Table 7.10: Yapton Lane / The Street Assessment Results

	Morning Peak Hour			Evening Peak Hour		
	RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)
2031 'Without Development'						
Yapton Lane (N)	0.27	<1	6	0.57	1	9
Yapton Lane (S)	0.71	2	13	0.23	<1	5
The Street	0.17	<1	7	0.16	<1	5
2031 'With Development'						
Yapton Lane (N)	0.30	<1	6	0.63	2	11
Yapton Lane (S)	0.78	3	16	0.26	<1	5
The Street	0.20	<1	8	0.18	<1	5

Source: Junctions 9

7.3.34 The operational analysis demonstrates that the roundabout will operate well within capacity under all scenarios, with a maximum RFC of 0.78 on Yapton Lane South, and a queue of only three vehicles in the morning peak hour. In the evening peak hour, the maximum RFC is projected to be 0.63 on the Yapton Lane North arm, with a queue of two vehicles. The impact of the development is small, adding generally one additional vehicle to queues on the Yapton lane approaches, and 2-3 seconds delay.

Junction 7 - Yapton Lane / Lake Lane Level Crossing

7.3.35 To the south of Walberton, immediately south of Lake Lane, is an Automatic Half Barrier crossing of the mainline railway line.

7.3.36 A review of Personal Injury Accident records identifies that there has not been any recorded accidents at the level crossing over the last 5 year period. Notwithstanding this, in April 2017, planning permission was granted for the installation of red light safety equipment to prevent vehicle misuse of the crossing.

7.3.37 Traffic surveys were undertaken at the level crossing on Tuesday 21 March 2017 which recorded the times that the barrier was lowered and raised, the number of vehicles queuing in each direction during the times that the barrier was lowered, and instances of queue clearance during the peak hours (**Appendix O**).

7.3.38 **Tables 7.11 and 7.12** summarise the maximum queue lengths recorded at the level crossing in the morning and evening peak hours.

Table 7.11: Observed Queues at Level Crossing – AM Peak Hour

Barrier Downtime	Northbound (south of crossing)		Southbound (north of crossing)	
	Max Queue	Last vehicle in queue cleared	Max Queue	Last vehicle in queue cleared
07:16:58 - 07:18:20	14	Yes	7	Yes
07:23:56 - 07:24:30	13	Yes	4	Yes
07:25:34 - 07:26:21	9	Yes	2	Yes
07:36:12 - 07:36:53	11	Yes	2	Yes
07:41:12 - 07:42:27	13	Yes	2	Yes
07:46:08 - 07:47:58	23	Yes	8	Yes
07:49:33 - 07:50:08	19	Yes	8	Yes
07:56:04 - 07:56:42	15	No	2	Yes
07:57:26 - 07:58:11	8	Yes	2	Yes
08:01:57 - 08:02:34	8	Yes	3	Yes
08:03:22 - 08:04:04	17	Yes	3	Yes
08:12:52 - 08:13:31	7	Yes	9	Yes

Source: 2017 Survey Data

7.3.39 The largest observed queues in the morning peak hour were when the barrier was down between 07:46:08 and 07:47:58 with 23 and 8 vehicles in the northbound and southbound directions respectively. The longest barrier downtime occurs during this same time period and lasts for one minute and 50 seconds.

7.3.40 In total, the barrier is called into operation some 12 times within the morning peak period for a total duration of 10 minutes. During this peak hour period, the average duration the barrier spends closed down is 52 seconds and on only one occasion (northbound) did all queued traffic not clear.

Table 7.12: Observed Queues at Level Crossing – PM Peak Hour

Barrier Downtime	Northbound (south of crossing)		Southbound (north of crossing)	
	Max Queue	Last vehicle in queue cleared	Max Queue	Last vehicle in queue cleared
16:45:48 - 16:47:15	6	Yes	31	Yes
16:50:34 - 16:51:33	4	Yes	27	Yes
16:55:52 - 16:56:45	5	Yes	6	Yes
17:02:41 - 17:03:24	3	Yes	11	Yes
17:05:10 - 17:06:25	4	Yes	14	Yes
17:13:16 - 17:14:27	3	Yes	9	Yes
17:17:05 - 17:18:05	3	Yes	8	Yes
17:20:31 - 17:21:18	5	Yes	13	Yes
17:26:41 - 17:27:21	5	Yes	20	No
17:28:27 - 17:29:03	1	Yes	15	Yes
17:30:34 - 17:31:22	5	Yes	9	Yes
17:34:31 - 17:35:14	4	Yes	15	No
17:36:02 - 17:36:51	0	N/A	9	Yes
17:39:20 - 17:40:16	5	Yes	14	No
17:40:58 - 17:41:42	6	Yes	15	Yes

Source: 2017 Survey Data.

7.3.41 During the evening peak period the barrier is called into operation some 15 times for a total duration of 13 minutes. The average duration the barrier spends when down is 54 seconds and on only three occasions did the queued traffic not clear (all in the southbound direction).

7.3.42 The largest queues in the evening peak hour were observed when the barrier was down between 16:45:48 and 16:47:15 with 6 and 31 vehicles in the northbound and southbound directions respectively. This coincides with the longest barrier downtime period of one minute and 27 seconds.

7.3.43 To consider the impact of the development on the level crossing:

- Observed 2017 traffic flows have been growthed to 2031;
- Development traffic has been distributed and assigned to the local network. In total, 22% of the development traffic is expected to travel south on Yapton Lane towards the level crossing and North End Road; and
- The impact of development is considered against forecast flows.

7.3.44 **Table 7.13** provides an assessment of the impact of development at the level crossing.

Table 7.13: Forecast Flows at the Level Crossing

	2017 Observed Flows		Development Traffic		2031 'With Development'		Development Impact	
	AM	PM	AM	PM	AM	PM	AM	PM
Northbound	559	173	6	16	644	214	0.9%	7.5%
Southbound	196	505	18	9	241	587	7.5%	1.5%

7.3.45 The proposed development is expected to generate a total of 24 two-way vehicle movements in the morning peak period and 25 two-way vehicle movements in the evening peak period, which equates to one additional vehicle trip every circa 2-3 minutes. The assessment demonstrates that traffic flows at the level crossing are heavily tidal, with northbound traffic constituting 72% of morning traffic and southbound traffic being 73% of evening traffic flows at the crossing.

7.3.46 The development traffic flows are however counter-tidal, adding less than 1% to traffic flows in the heaviest direction during both peak hours (6-9 vehicles), equivalent to one vehicle every 8-10 minutes, and one vehicle every four minutes in the opposite direction (16-18 vehicles).

7.3.47 In real terms, with the barriers being down for between 10-15 minutes in peak hours, this means that the development may add up to one additional vehicle to the queues in the heaviest direction (Northbound AM / Southbound PM) for every four to five barrier closures which will not have any discernible impact on the crossing.

7.3.48 In the more lightly trafficked direction (Southbound AM / Northbound PM) development flows are higher, with one additional vehicle every four minutes expected at the crossing, but existing queues are significantly less and clear after each cycle. The development is likely to add one additional vehicle to every other barrier cycle, but this will not have any material impact on the operation of the crossing.

7.3.49 On this basis, the development will not have any material impact on the crossing.

7.3.50 Network Rail were consulted as part of the pre-application process and, having considered the potential impacts on the crossing, has advised that it has no objections to the development. The Network Rail response can be found in **Appendix P**.

7.4 **Traffic Impact Summary**

7.4.1 A detailed assessment has been carried out to consider the potential traffic impacts of the development proposal. This assessment has been carried out in accordance with a scope and methodology of assessment agreed with WSCC and Highways England. The assessment should be considered robust in that it:

- Assesses the impact of 200 dwellings rather than the 175 proposed;
- Considers all housing as private dwellings which exhibit higher peak period trip rates than affordable housing. The site would deliver a significant proportion (30%) of affordable dwellings;
- Considers the cumulative impact of development in the local area up until the end of the local plan period (2031); and
- Takes no account of the potential benefits of the Sustainable Transport Strategy to reduce traffic demands.

7.4.2 Overall, the development proposals will result in a small impact on local roads. Traffic flows on the A27 corridor are expected to increase by 1-3%, which is a small increase contained to levels of daily traffic fluctuation. Whilst impacts on local roads are proportionally larger, in real terms the development will add around one additional vehicle every 1-2 minutes to Yapton Lane south of the site and one additional vehicle every 5-10 minutes on The Street through Walberton village.

7.4.3 Notwithstanding the modest development traffic impacts, detailed assessment of the operation of local road junctions has been carried out for the 2031 end of Local Plan scenario. This concludes that:

- The proposed Site Access / Yapton Lane junction would operate comfortably within capacity with no material queueing or delay;
- The Yapton Lane / Avisford Park Golf Course access will operate wholly within capacity in all scenarios; and
- The Blacksmiths Corner (Yapton Lane / The Street) mini-roundabout will operate within capacity in all scenarios.

7.4.4 An appraisal of the impacts of development traffic on the A27 corridor concludes that:

A27 / A29 Fontwell Avenue / Arundel Road (Fontwell West) roundabout

- The junction would fail to accommodate future traffic flows in its current condition, with significant queueing and delay projected across the junction;
- The draft Local Plan has developed an improvement scheme at the junction to implement traffic signal control. Whilst this improves operation, there is likely to remain extensive queuing on the A27 approaches in the evening peak period. The Fontwell application is committed to delivering the scheme; and
- The development has a relatively small impact on the junction, adding around one vehicle each minute. Whilst this has only a modest impact, it does worsen operation. A further improvement scheme has been devised to create an additional entry lane on the A27 east. This significantly improves operation, well beyond 2031 baseline levels and therefore presents betterment. The applicant is prepared to contribute to the delivery of the additional works.

A27 / A29 Farmille Bottom (Fontwell East) roundabout

- The junction would fail to accommodate future traffic in its current condition, with significant queueing and delay projected across the junction; and
- The draft Local Plan has identified an improvement to the junction which would introduce traffic signal control. This improvement significantly improves junction operation, sufficient to accommodate all Local Plan growth plus the development, such that no further improvement is needed.

A27 / Yapton Lane Priority Junction

- The existing A27 / Yapton Lane junction is projected to operate within capacity in 2031 both with and without development. The development will have only a small impact on junction operation, increasing queues by some one additional vehicle (the development adds less than one vehicle each minute to the right-turn provision); and
- Notwithstanding this small impact, in view of the observed instances of the right-turn lane storage being exceeded, an improvement scheme has been developed to increase the length of the right-turn lane by 80m and to bring this in line with DMRB standards. The improvement would provide a significant wider benefit and the applicant is prepared to deliver the scheme.

7.4.5 The traffic impacts on the Yapton Lane level crossing have been addressed in detail. The development will add modest additional traffic to the crossing (less than one vehicle every two minutes) and development traffic is counter tidal. There will not be a material impact arising from the development at the level crossing.

7.4.6 The NPPF identifies that development proposals should only be ***“prevented or refused on transport grounds where the residual cumulative impacts of developments are severe.”*** The assessment carried out has comprehensively considered cumulative traffic impacts and has developed cost effective mitigation schemes to ensure that the residual impacts of development are not severe.

7.4.7 Moreover, the improvements identified in the Transport Assessment go well beyond seeking to mitigate the impact of development and deliver tangible and significant wider benefits, providing betterment over a scenario where the development (and mitigation) does not come forward.

SECTION 8 SUMMARY AND CONCLUSION

8.1 This Transport Assessment has been prepared to consider the potential transport impacts that would arise from a development of up to 175 residential dwellings on Land East of Tye Lane, Walberton. To provide a robust assessment, the TA assessed the traffic impact of a higher quantum of development (200 dwellings).

8.2 The TA tests the development proposals against the key policy requirements, particularly paragraph 32 of the NPPF, which requires that development sites:

- **Provide safe and acceptable access for all modes;**
- **Ensure that opportunities for travel by sustainable travel modes have been taken up; and**
- **Do not result in a 'severe' residual cumulative impact.**

8.3 The TA demonstrates that the proposal fully meets these policy tests, as well as local policy requirements:

- Vehicular access to the site is provided to Yapton Lane through a new simple priority T-junction along with speed reduction measures on Yapton Lane. The access works have been designed to meet the required design standards, have been subject to an independent Road Safety Audit, and are shown to operate comfortably within capacity. In addition to vehicular access, walking and cycling connections are provided to Tye Lane and Yapton Lane, with additional pedestrian access to Avisford Park Road (forming Public Footpath 333). The principles of the access arrangements were agreed with WSCC during the pre-application process;
- The site is well located within reasonable walking and cycling distance of a good range of local everyday services and facilities within Walberton village, including primary education, retail, leisure and employment facilities, and benefits from good connections to the public transport network. To maximise sustainable travel, the development proposal includes the delivery of enhanced walking and cycling connections in the local area and improved public transport connections. Additionally, a Travel Plan is provided, in line with policy requirements, to set out a comprehensive package of measures to further encourage sustainable travel to the site. In combination, this will ensure that opportunities for sustainable travel are fully taken up; and

- A full and robust assessment of the likely traffic impacts of the development has been carried out which has considered the operation of local network junctions and those on the A27 corridor. The assessment demonstrates that the development site is likely to result in only small local traffic impacts and that these impacts fall far short of a 'severe' impact.

8.4 Notwithstanding the limited traffic impacts of the development, improvement options for the A27 / A29 / Arundel Road (Fontwell West) junction, to deliver an additional entry lane on the A27 east above the committed improvement, and to the A27 / Yapton Lane junction, to extend the right-turn lane, have been developed which will provide a significant betterment above the baseline conditions than would occur if the development does not come forward.

8.5 The relevant tests for preventing development from coming forward are;

- a) The dis-benefits must significantly and discernibly outweigh the benefits (NPPF para 14); and
- b) The residual cumulative impacts of development should not be severe in transport terms (NPPF para 32).

8.6 It is clear that the traffic impact of the scheme will not be severe; safe and suitable access will be provided; and that the opportunities for sustainable travel have been taken up.

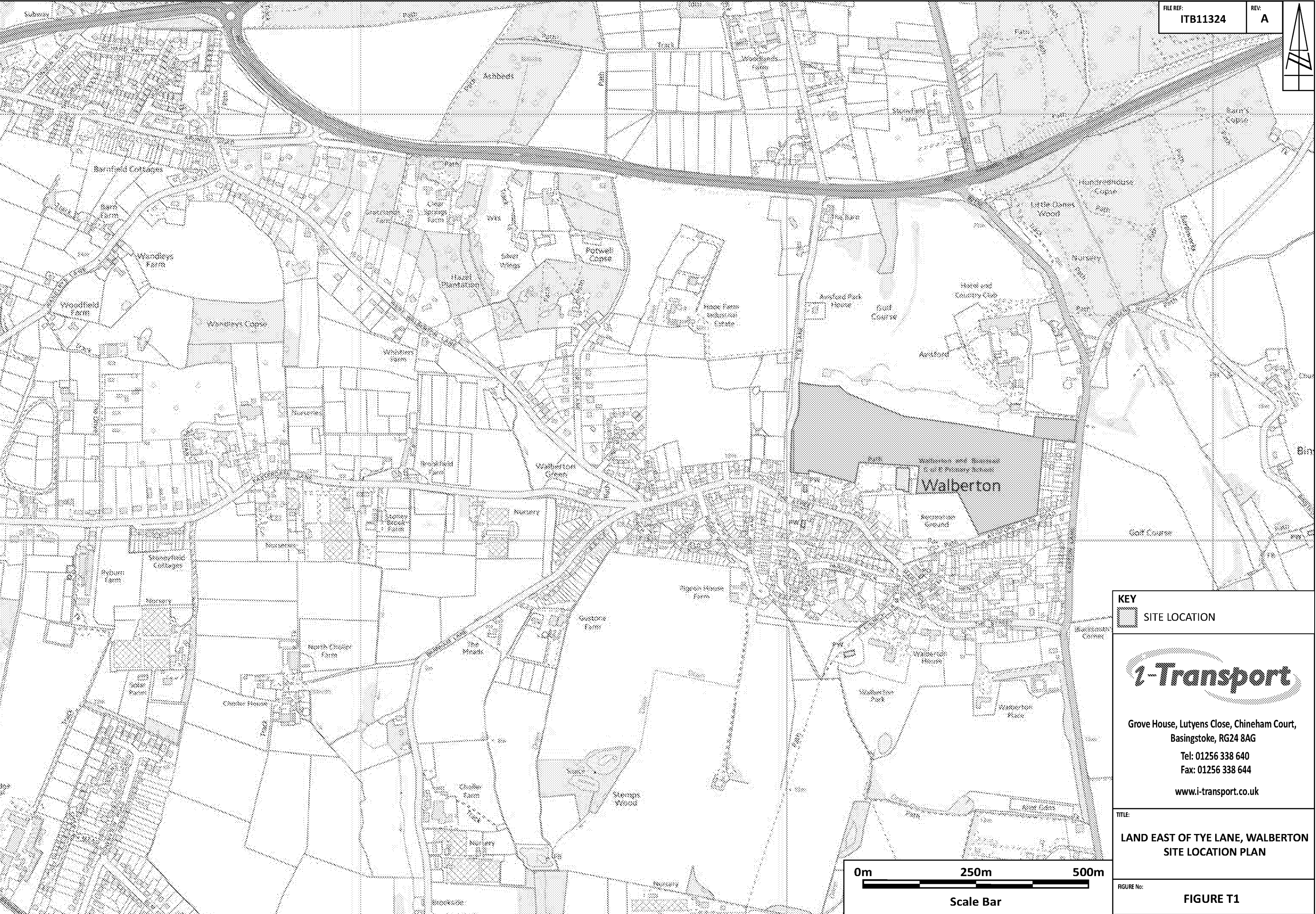
8.7 Furthermore, the scheme will deliver the following benefits;

- Improved pedestrian and cycling facilities in the surrounding area;
 - Provision of a new footpath link to Avisford Park Road, along with pedestrian and cycle access to The Street, as well as to Tye Lane.
 - Provision of a new walking and cycling link within the site to connect Tye Lane and Yapton Lane. This would provide improved connections within the village and would better link public rights of way;
 - Contribution to improvements on FP350 in line with WSCC aspirations to improve surface of route and potentially to provide cycle use, including improved crossing facilities to PF350 at Blacksmiths Corner;

- Contribution to delivery of dropped kerb crossing improvements at:
 - The Street opposite William Booker Yard;
 - The Street outside the Baptist Church; and
 - The Street at Dairy Lane;
- Improved public transport facilities on Yapton Lane;
- Improved traffic conditions on Yapton Lane through the delivery of speed reduction measures and re-location of the speed limit transition;
- Improvement to the A27 / Yapton Lane junction to extend the right-turn lane and to reduce instances of queuing back into the A27 mainline;
- Payment of a contribution towards the further improvement of the A27 / A29 Fontwell Avenue / Arundel Road junction to improve capacity.

8.7.1 On this basis, the development proposal offers an overall benefit in transport terms.

FIGURES

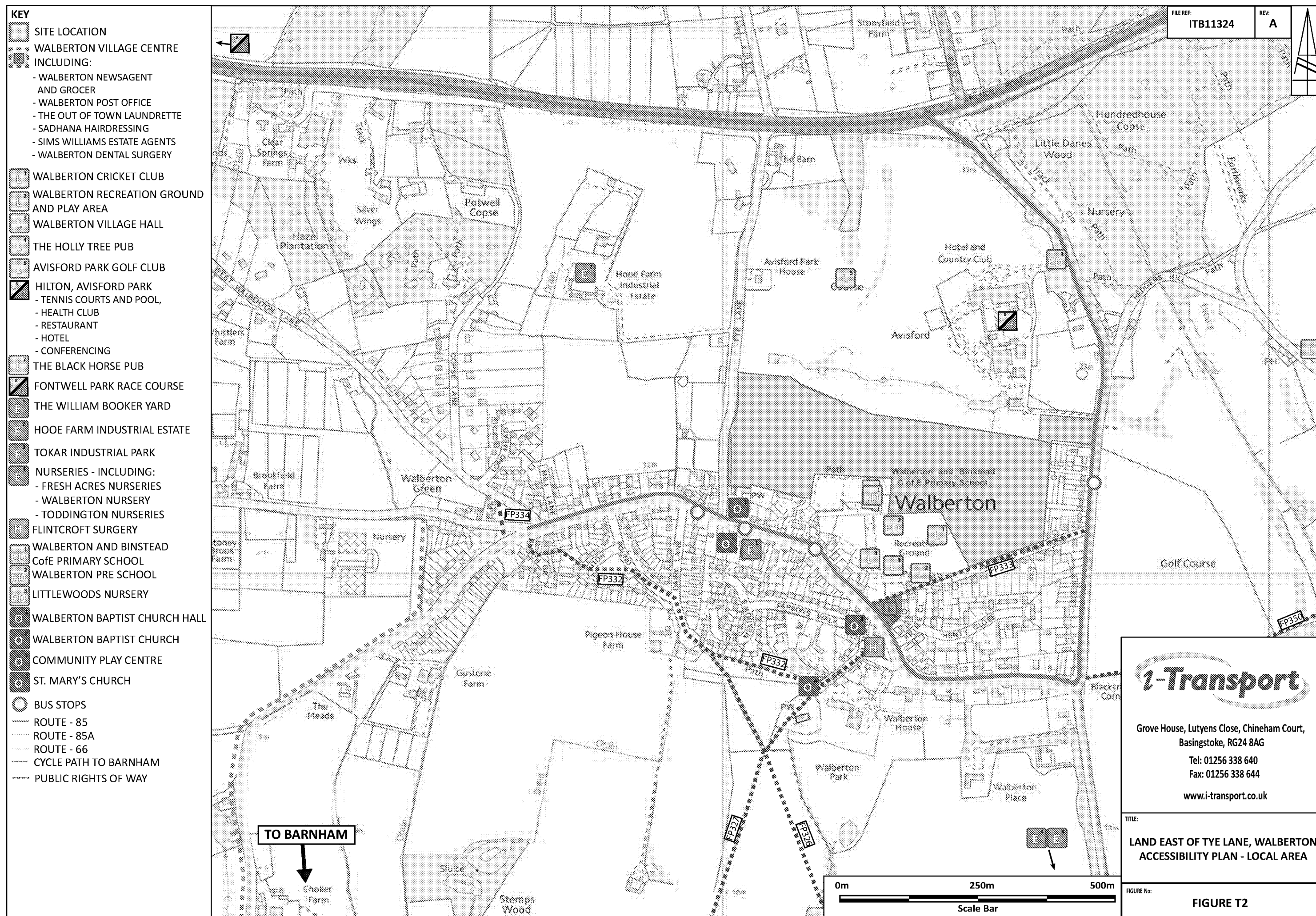


KEY
 SITE LOCATION

**Grove House, Lutyens Close, Chineham Court,
Basingstoke, RG24 8AG**
Tel: 01256 338 640
Fax: 01256 338 644
www.i-transport.co.uk

TITLE:
**LAND EAST OF TYE LANE, WALBERTON
SITE LOCATION PLAN**

FIGURE No:
FIGURE T1



KEY

SITE LOCATION

WALBERTON VILLAGE CENTRE INCLUDING:

- WALBERTON NEWSAGENT AND GROCER

- WALBERTON POST OFFICE

- THE OUT OF TOWN LAUNDRETTE

- SADHANA HAIRDRESSING

- SIMS WILLIAMS ESTATE AGENTS

- WALBERTON DENTAL SURGERY

BARNHAM VILLAGE CENTRE

WALBERTON CRICKET CLUB

WALBERTON RECREATION GROUND AND PLAY AREA

WALBERTON VILLAGE HALL

THE HOLLY TREE PUB

AVISFORD PARK GOLF CLUB

HILTON, AVISFORD PARK

- TENNIS COURTS AND POOL,

- HEALTH CLUB

- RESTAURANT

- HOTEL

- CONFERRING

THE BLACK HORSE PUB

FONTWELL PARK RACE COURSE

ALLOTMENTS

THE WILLIAM BOOKER YARD

HOOE FARM INDUSTRIAL ESTATE

TOKAR INDUSTRIAL PARK

NURSERIES - INCLUDING:

- FRESH ACRES NURSERIES

- WALBERTON NURSERY

- TODDINGTON NURSERIES

FLINTCROFT SURGERY

THE CROFT SURGERY

WALBERTON AND BINSTED CofE PRIMARY SCHOOL

WALBERTON PRE SCHOOL

LITTLEWOODS NURSERY

BARNHAM PRIMARY SCHOOL

ST. PHILIP HOWARD CATHOLIC HIGH SCHOOL

WALBERTON BAPTIST CHURCH HALL

WALBERTON BAPTIST CHURCH

COMMUNITY PLAY CENTRE

ST. MARY'S CHURCH

SERVICE STATION INCLUDING RESTAURANT AND PETROL STATION

BARNHAM RAIL STATION

BUS STOPS

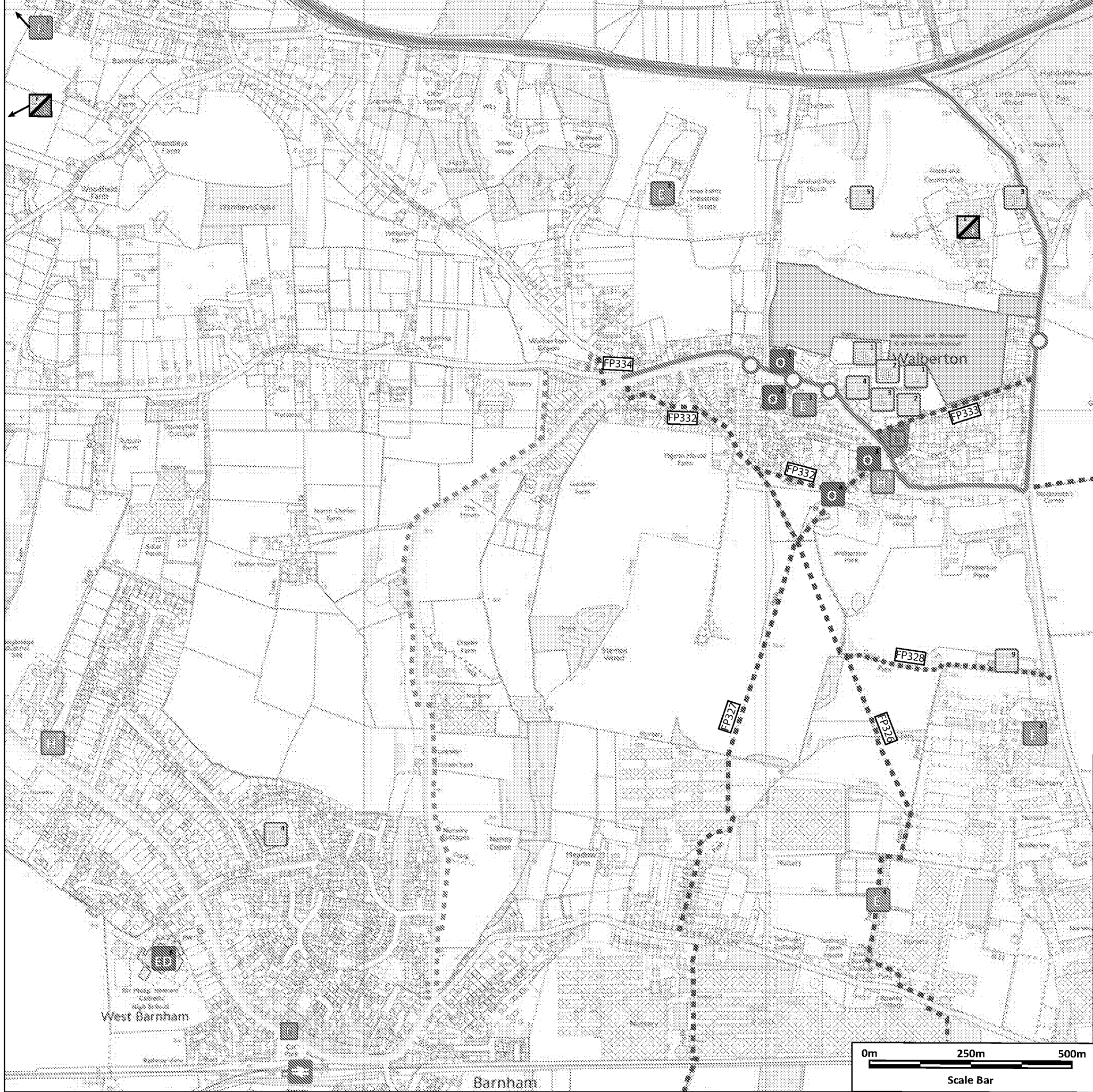
ROUTE - 85

ROUTE - 85A

ROUTE - 66

CYCLE PATH

PUBLIC FOOTPATH



FILE REF:

ITB11324

REV:

A

1-Transport

Grove House, Lutyens Close, Chineham Court,
Basingstoke, RG24 8AG
Tel: 01256 338 640
Fax: 01256 338 644
www.i-transport.co.uk

TITLE:

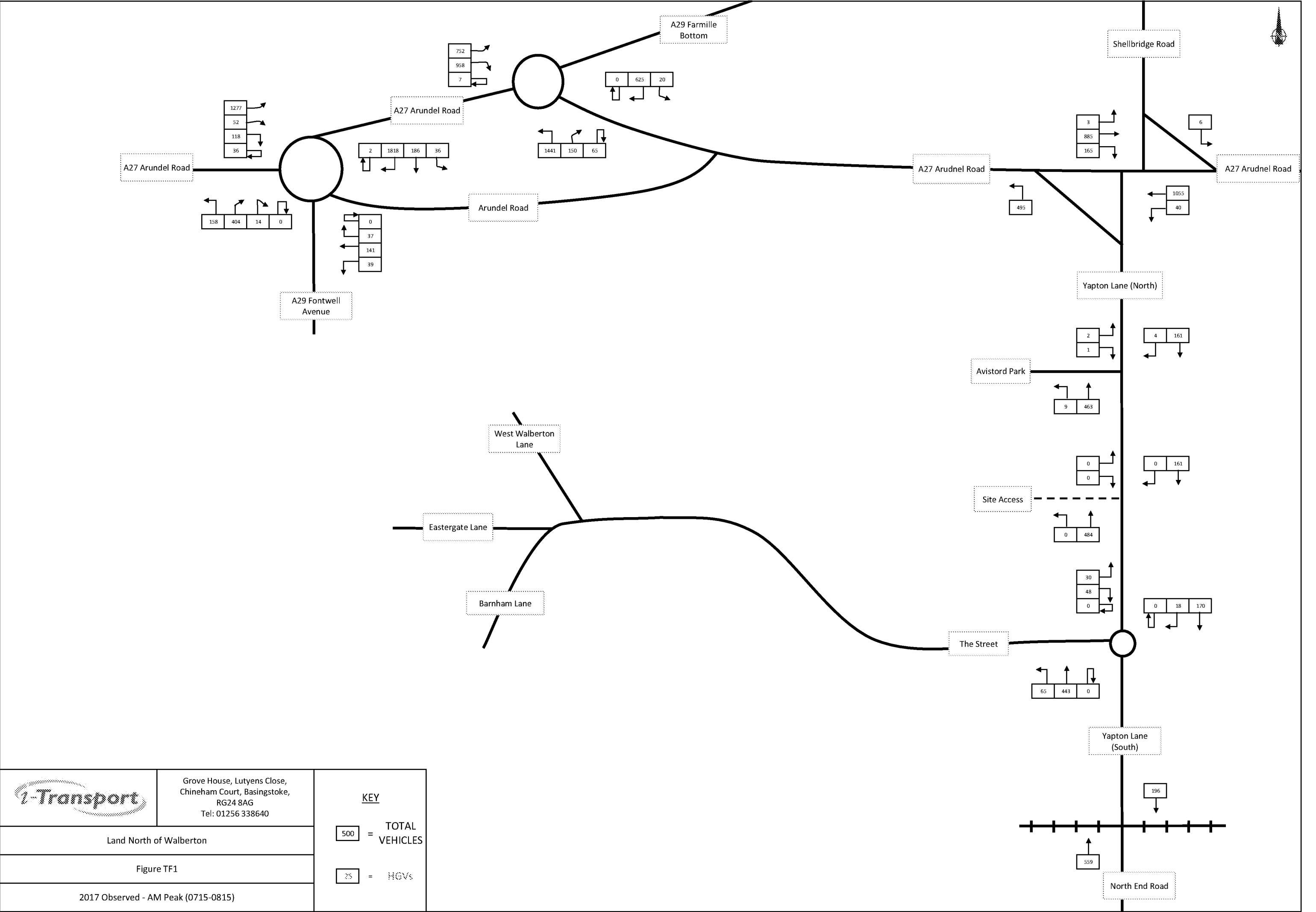
LAND EAST OF TYE LANE, WALBERTON
ACCESSIBILITY PLAN - WIDER AREA

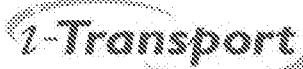
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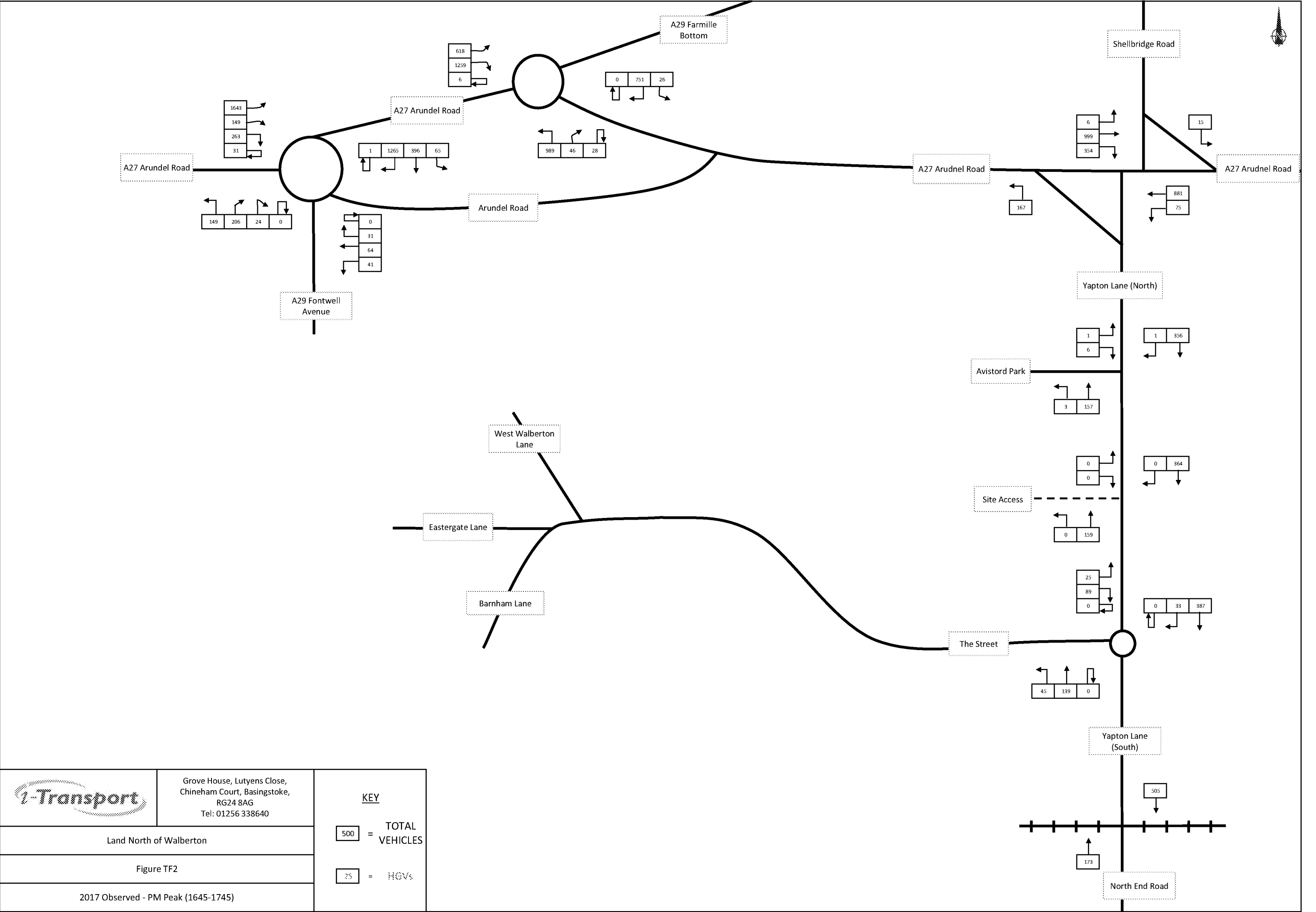
FIGURE T3

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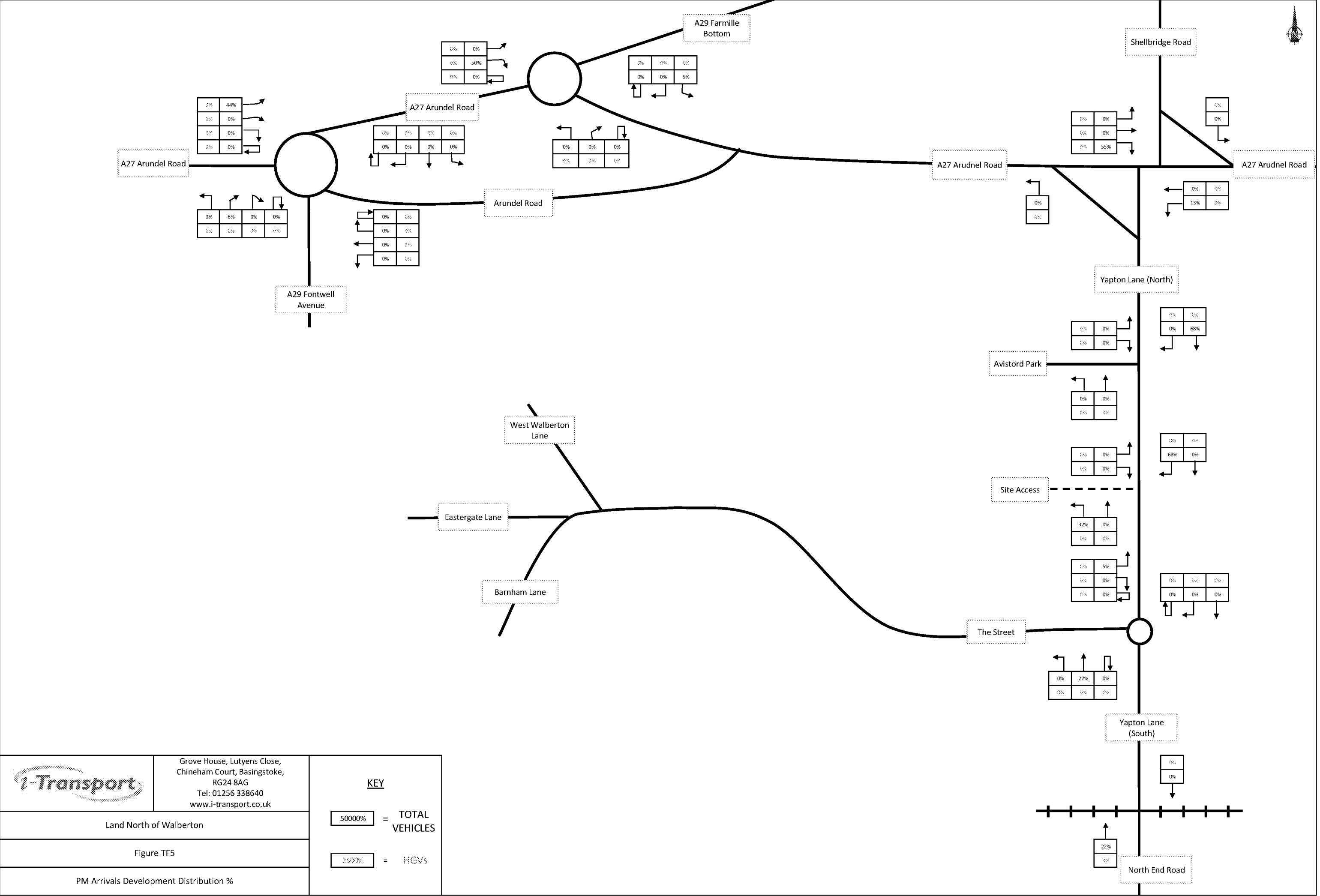
ARUN DISTRICT COUNCIL WA/44/17/OUT



	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY 500 = TOTAL VEHICLES 25 = HGVs
Land North of Walberton		
Figure TF1		
2017 Observed - AM Peak (0715-0815)		



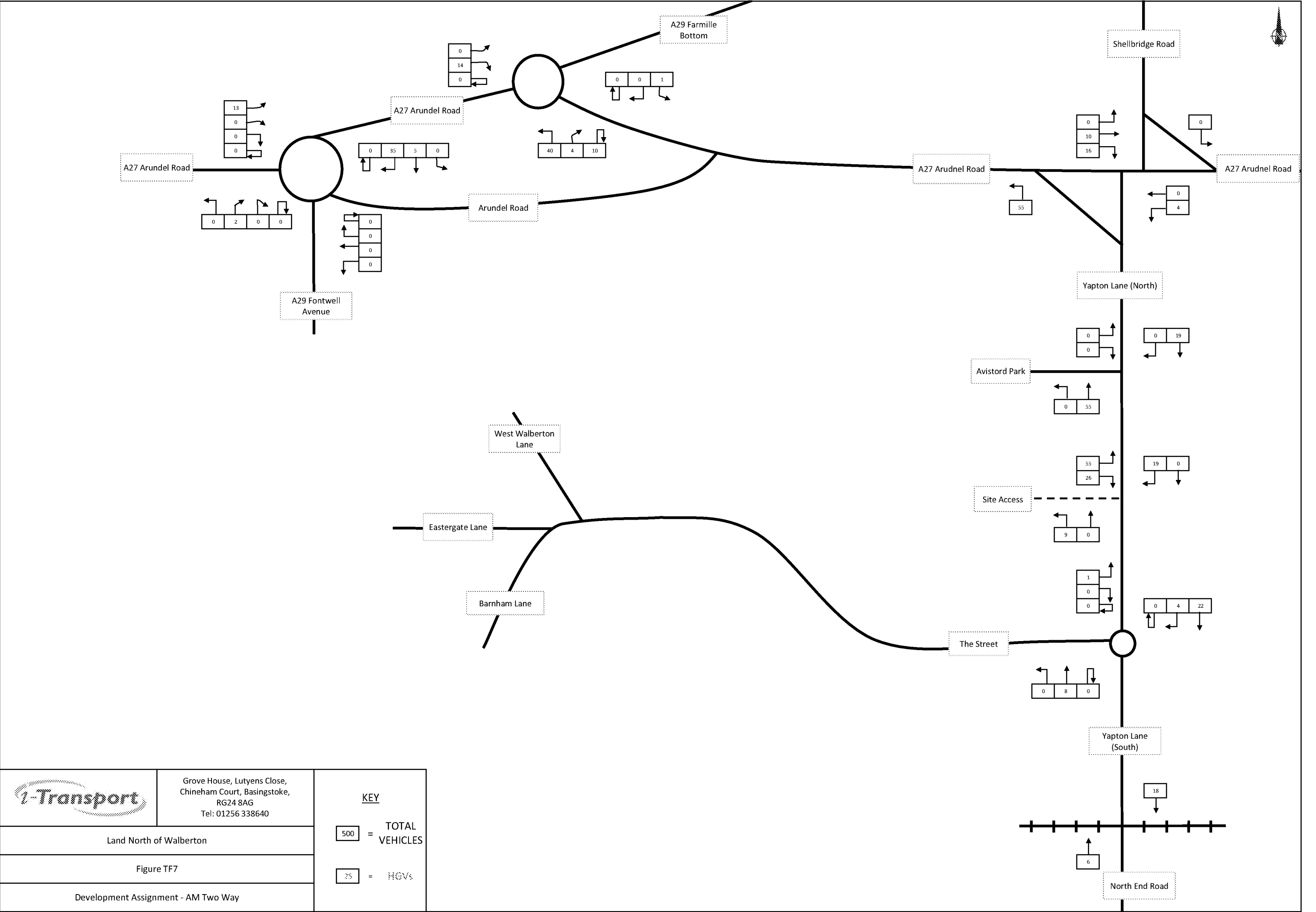
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Land North of Walberton		
Figure TF2		
2017 Observed - PM Peak (1645-1745)		



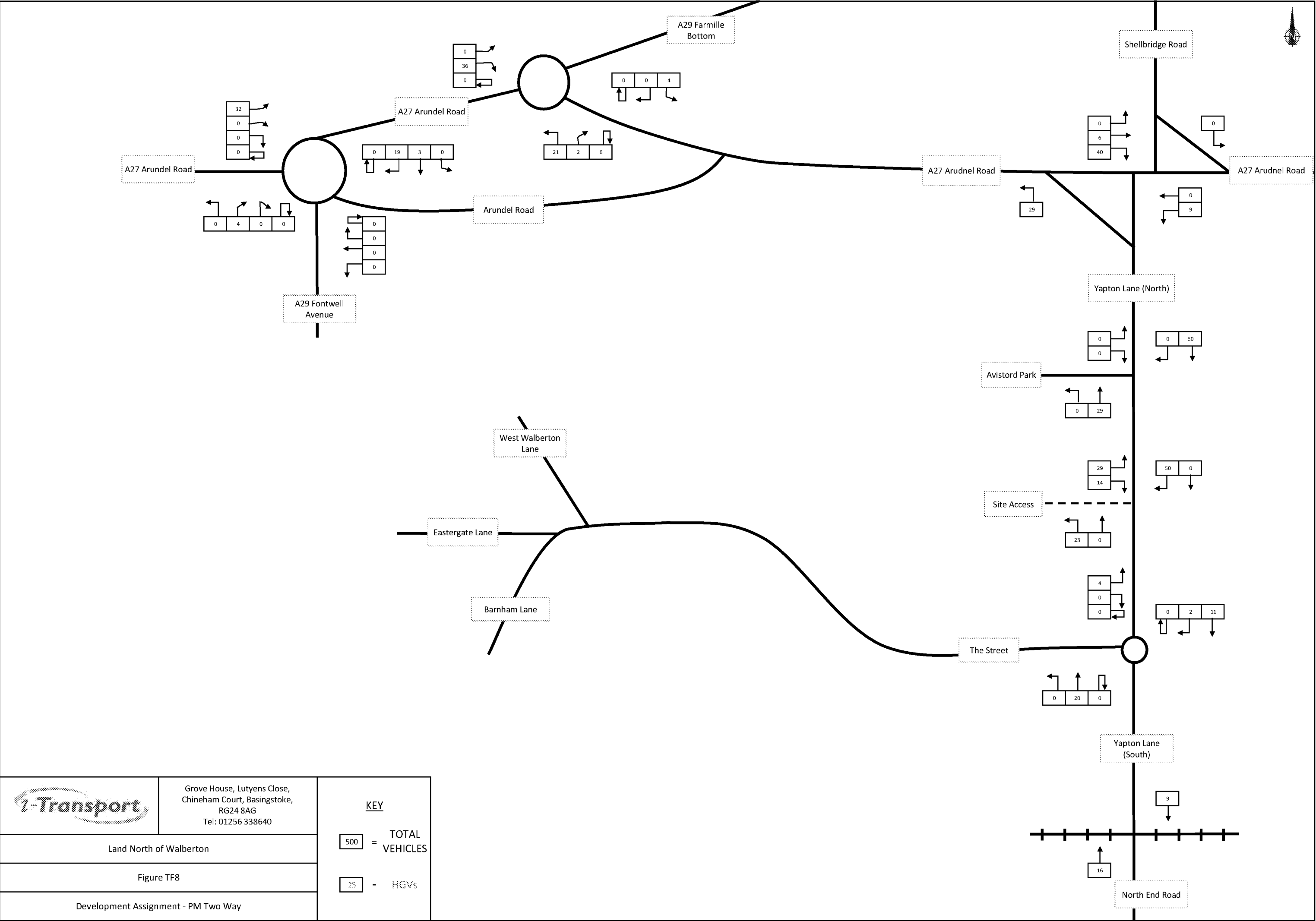


Grove House, Lutyens Close,
Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640
www.i-transport.co.uk

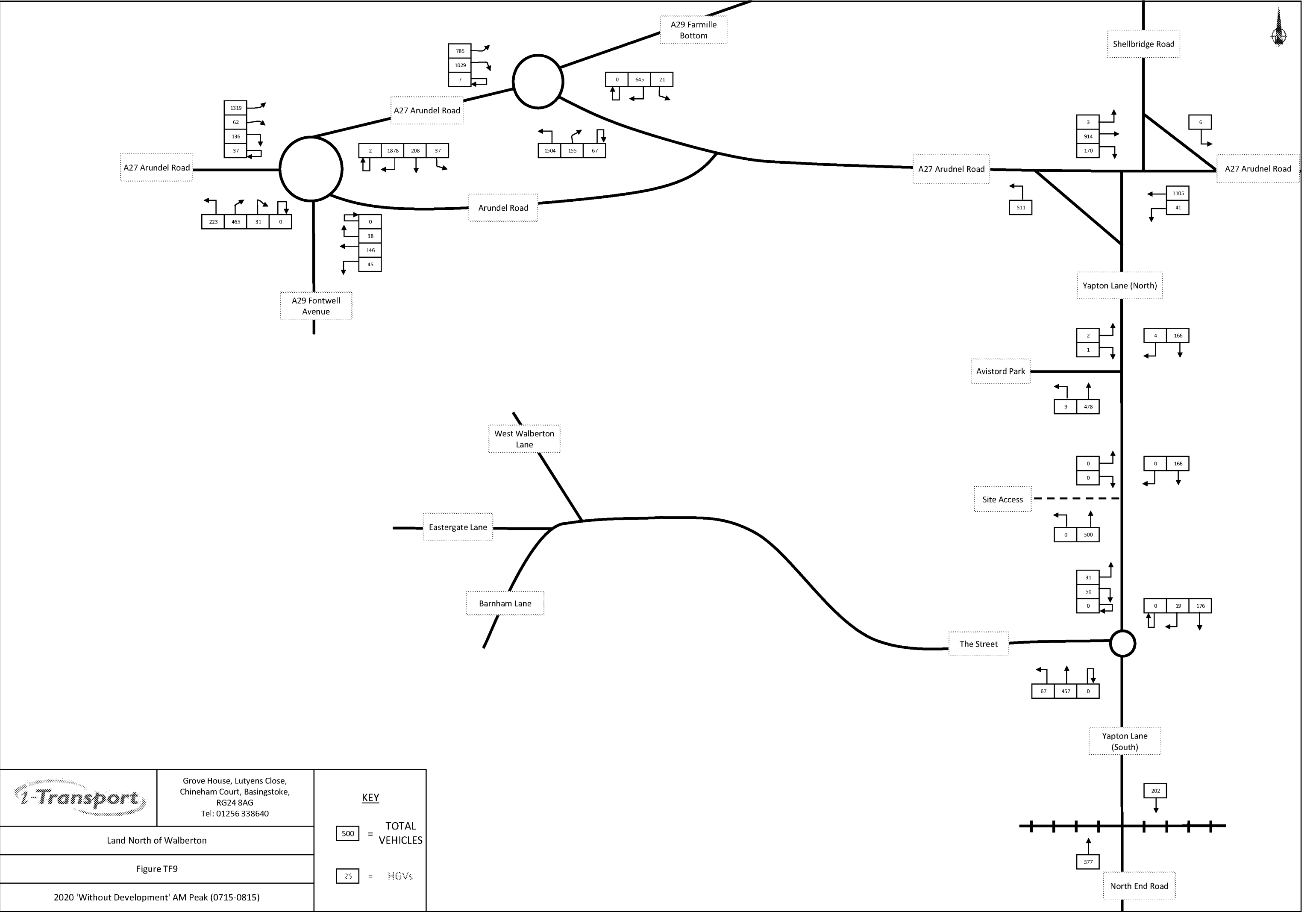
Land North of Walberton	50000% = TOTAL VEHICLES
Figure TF5	2500% = HGVs
PM Arrivals Development Distribution %	



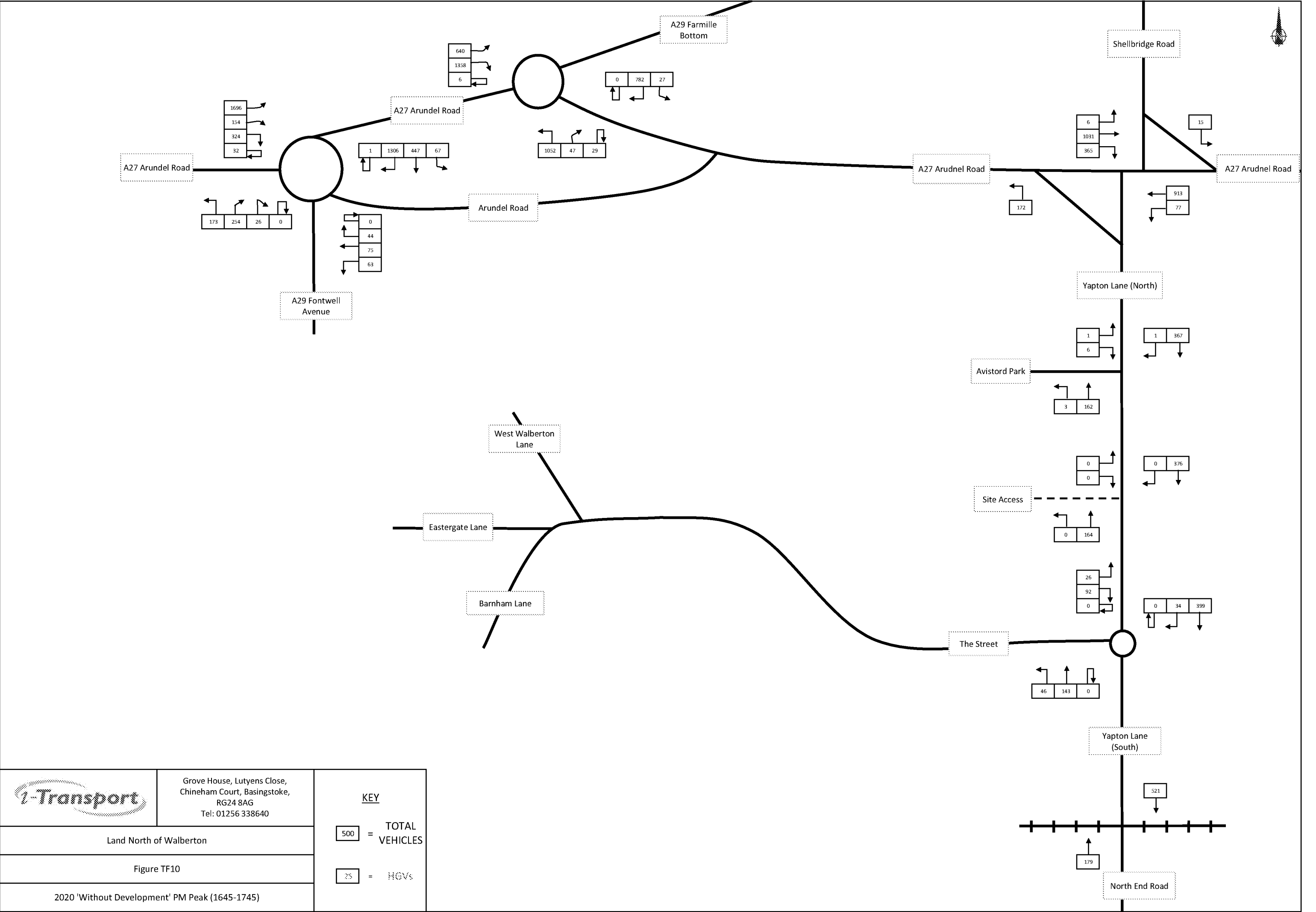
	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY
Land North of Walberton		500 = TOTAL VEHICLES
Figure TF7		25 = HGVs
Development Assignment - AM Two Way		



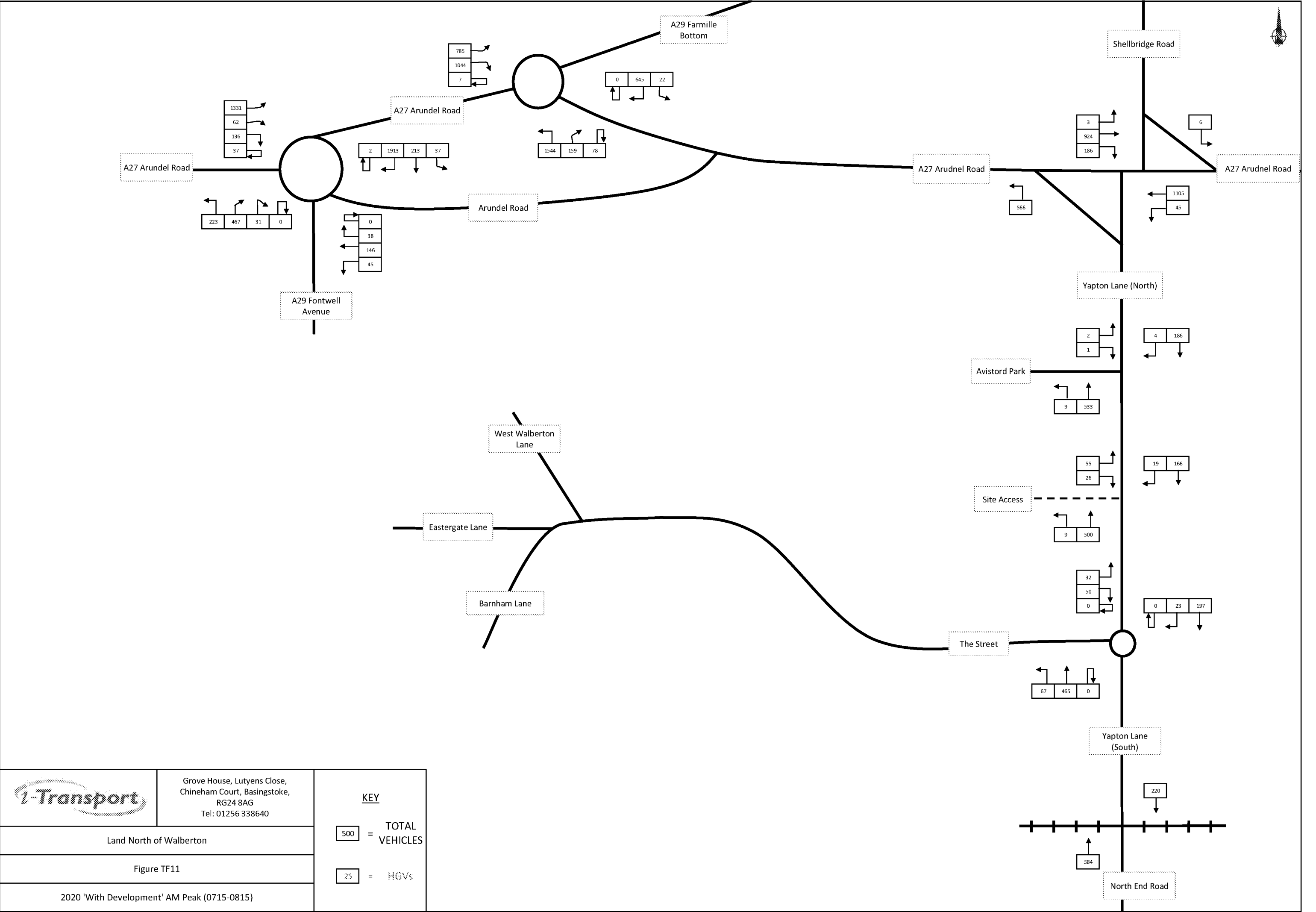
	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY 500 = TOTAL VEHICLES 25 = HGVs
Land North of Walberton		
Figure TF8		
Development Assignment - PM Two Way		



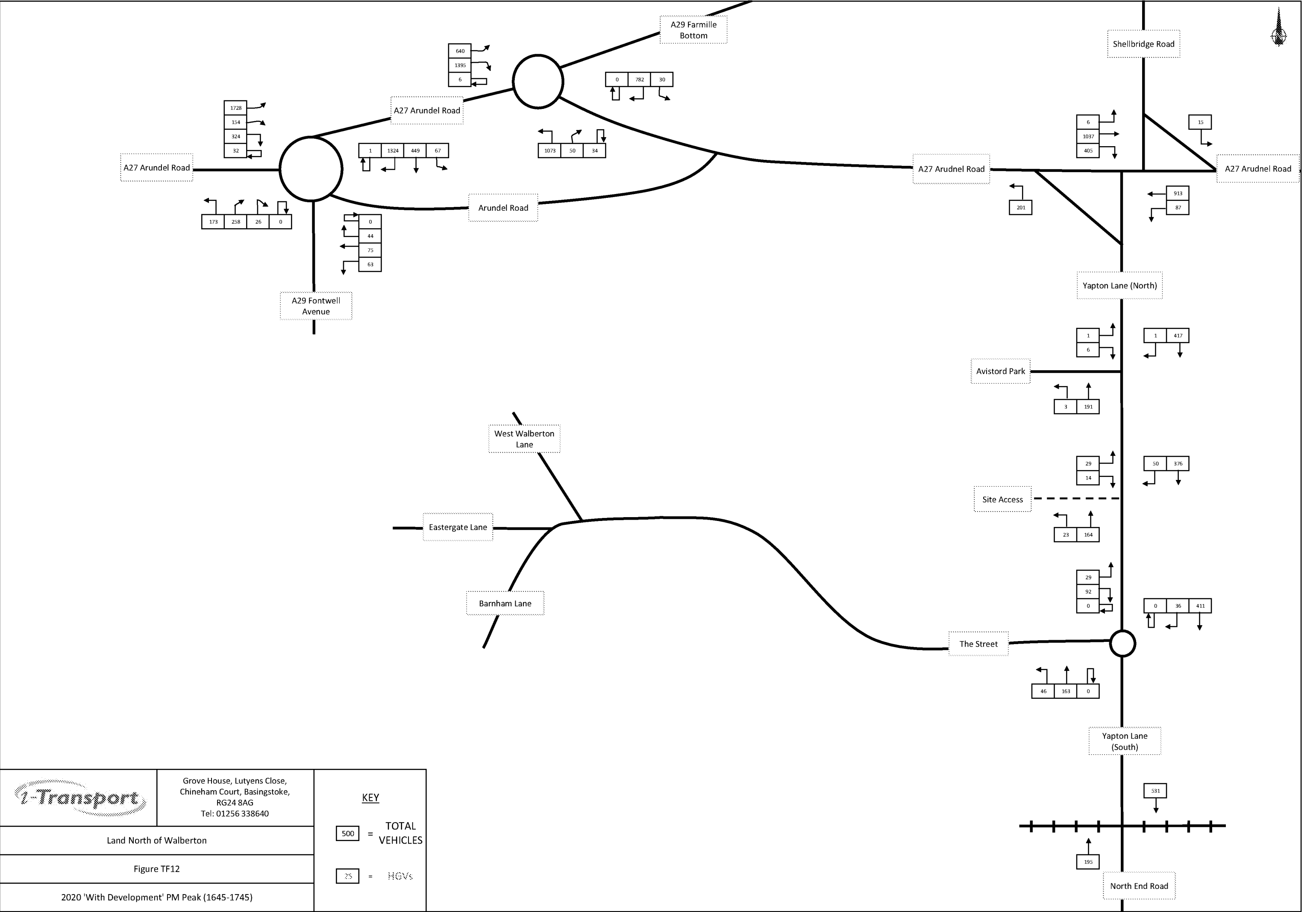
	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY
Land North of Walberton		 = TOTAL VEHICLES
Figure TF9		 = HGVs
2020 'Without Development' AM Peak (0715-0815)		

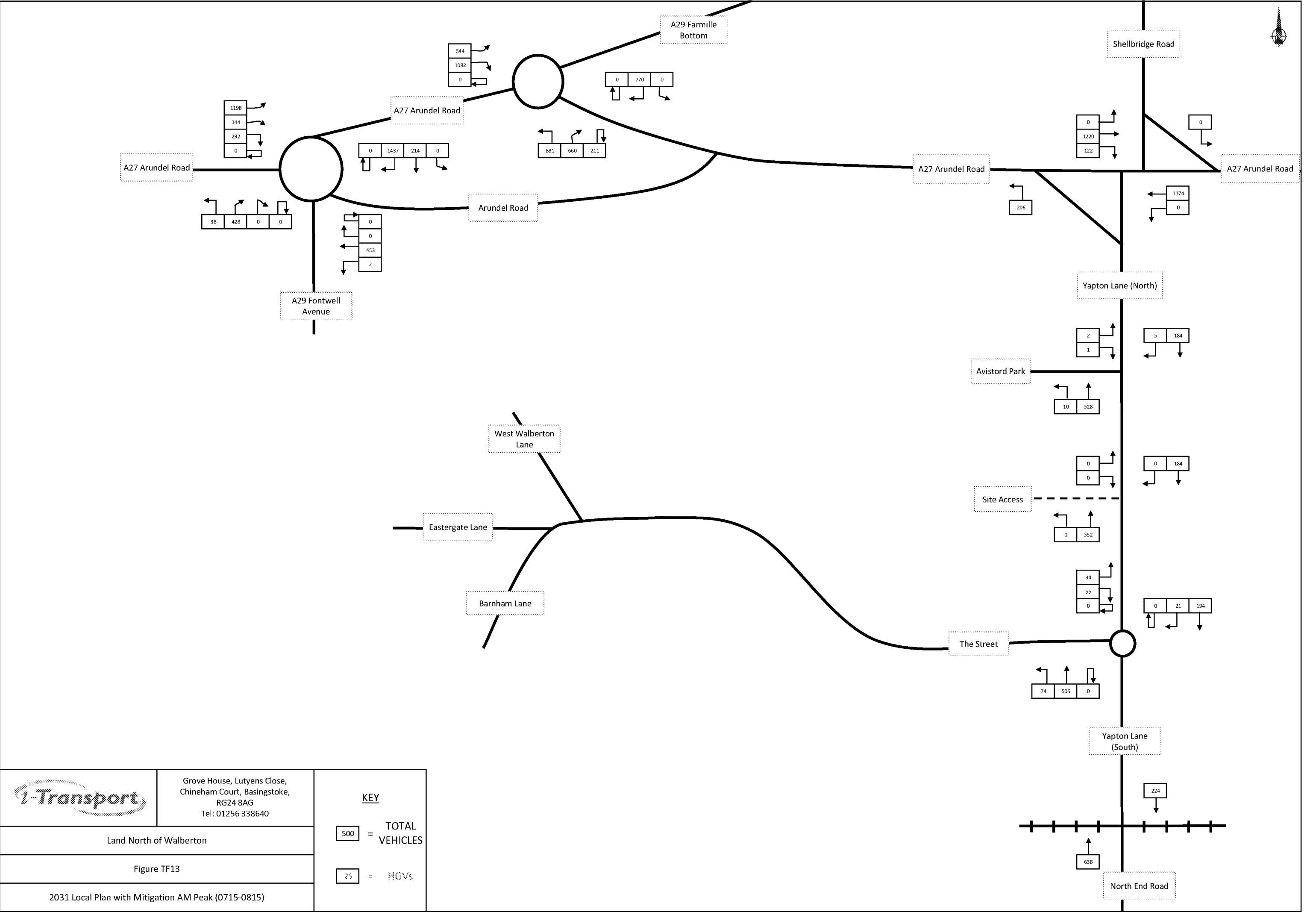


	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY
Land North of Walberton		500 = TOTAL VEHICLES
Figure TF10		25 = HGVs
2020 'Without Development' PM Peak (1645-1745)		

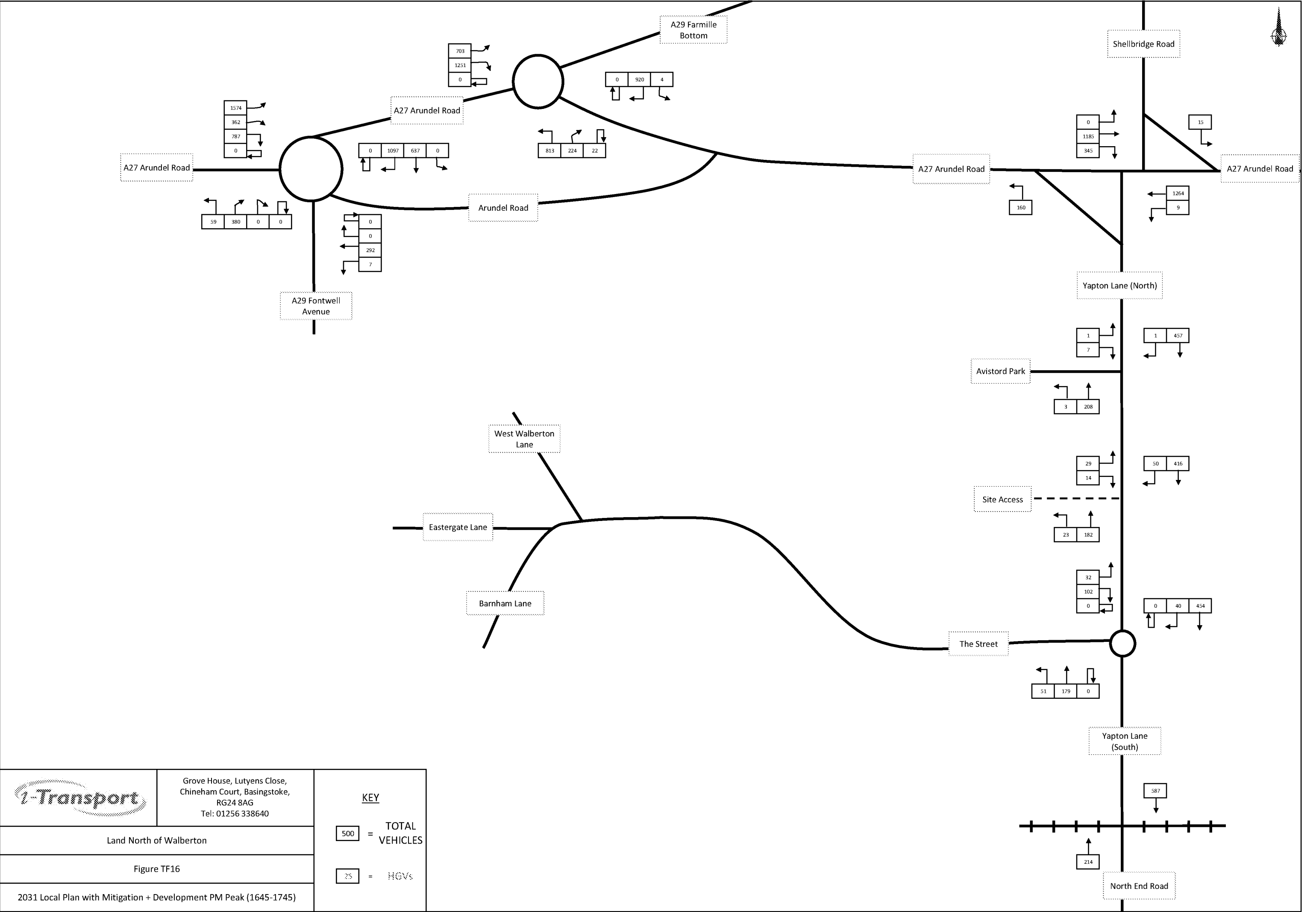


	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY
Land North of Walberton		 = TOTAL VEHICLES
Figure TF11		 = HGVs
2020 'With Development' AM Peak (0715-0815)		



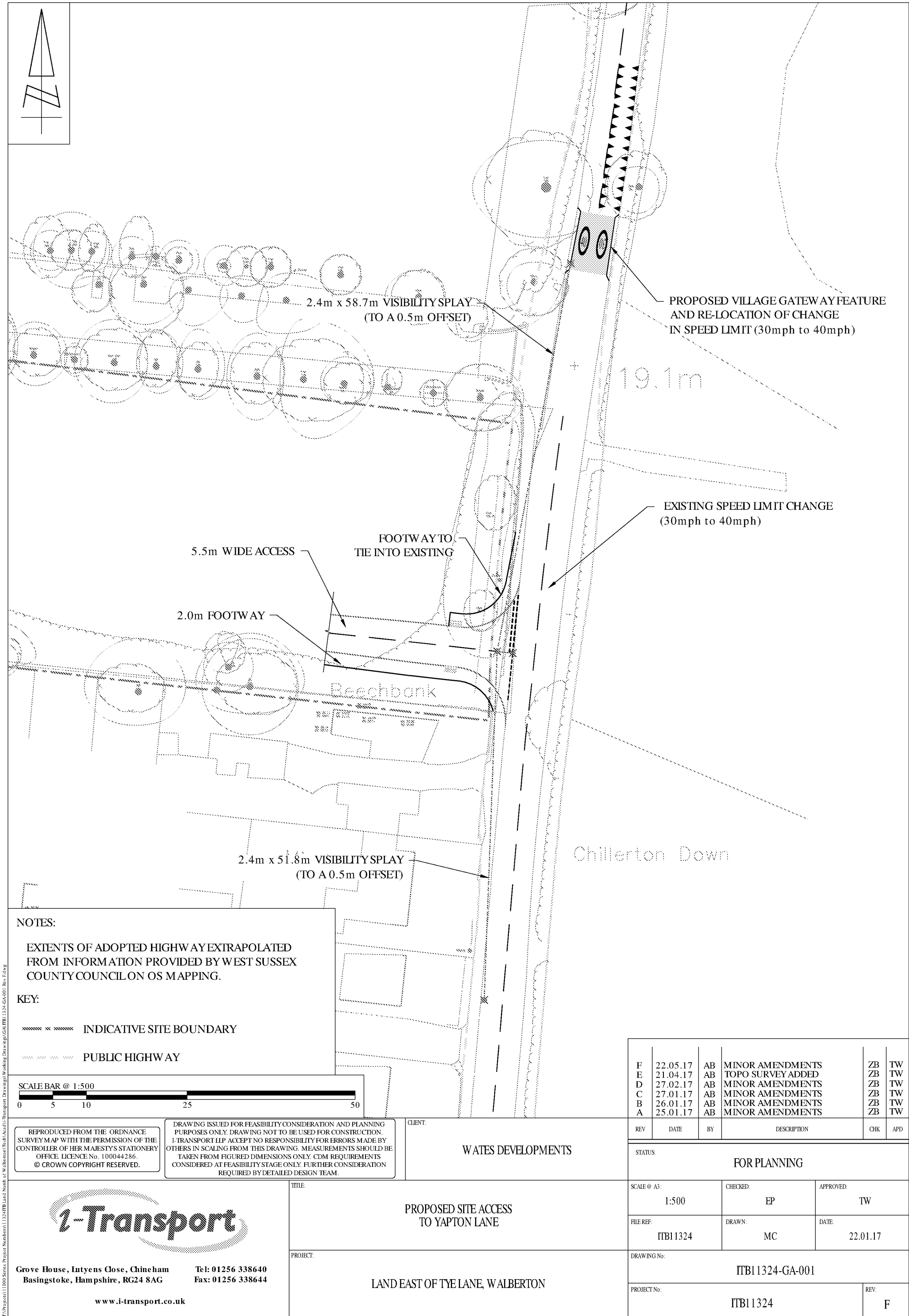


	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY
Land North of Walberton		 = TOTAL VEHICLES
Figure TF13		 = HGVs
2031 Local Plan with Mitigation AM Peak (0715-0815)		



	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY
Land North of Walberton		500 = TOTAL VEHICLES
Figure TF16		25 = HGVs
2031 Local Plan with Mitigation + Development PM Peak (1645-1745)		

DRAWINGS



NOTES:

EXTENTS OF ADOPTED HIGHWAY EXTRAPOLATED FROM INFORMATION PROVIDED BY WEST SUSSEX COUNTY COUNCIL ON OS MAPPING.

KEY:

- INDICATIVE SITE BOUNDARY
- PUBLIC HIGHWAY



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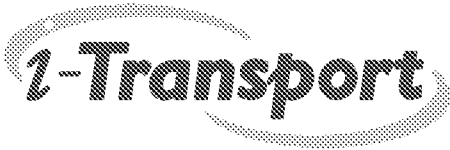
CLIENT:

WATES DEVELOPMENTS

F	22.05.17	AB	MINOR AMENDMENTS	ZB	TW
E	21.04.17	AB	TOPO SURVEY ADDED	ZB	TW
D	27.02.17	AB	MINOR AMENDMENTS	ZB	TW
C	27.01.17	AB	MINOR AMENDMENTS	ZB	TW
B	26.01.17	AB	MINOR AMENDMENTS	ZB	TW
A	25.01.17	AB	MINOR AMENDMENTS	ZB	TW
REV	DATE	BY	DESCRIPTION	CHK	APD

STATUS: FOR PLANNING

SCALE @ A3:	CHECKED:	APPROVED:
1:500	EP	TW
FILE REF:	DRAWN:	DATE:
ITB11324	MC	22.01.17
DRAWING No:	ITB11324-GA-001	
PROJECT No:	ITB11324	REV: F



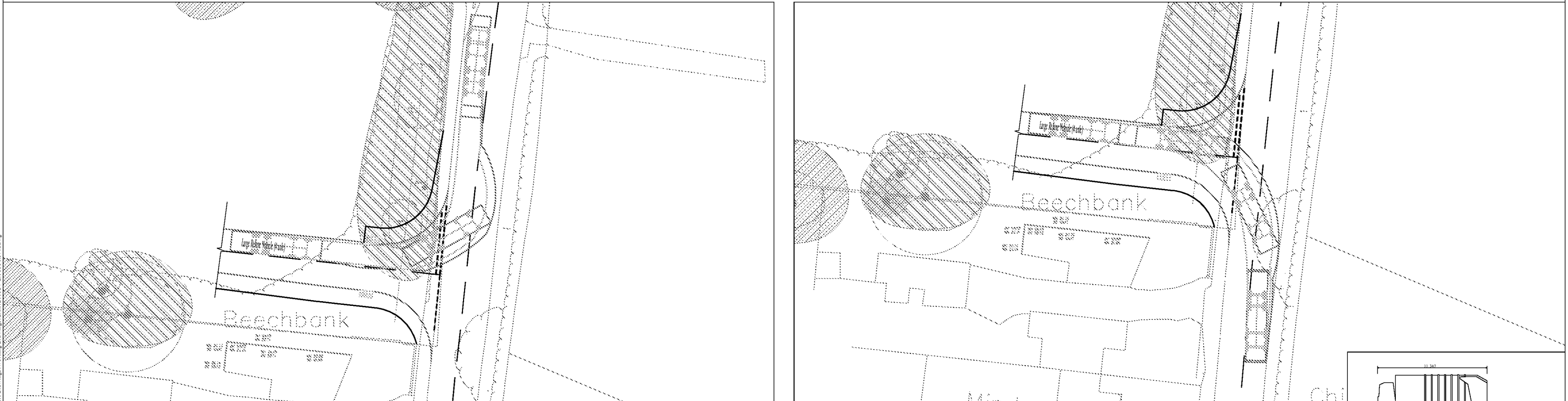
Grove House, Intyens Close, Chineham
Basingstoke, Hampshire, RG24 8AG
Tel: 01256 338640
Fax: 01256 338644
www.i-transport.co.uk

TITLE:

PROPOSED SITE ACCESS
TO YAPTON LANE

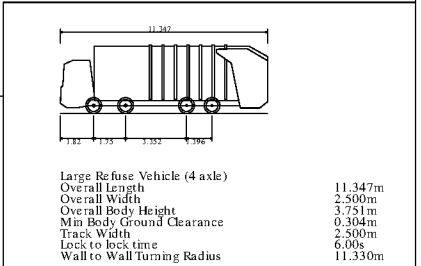
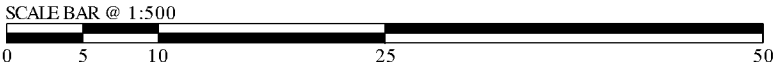
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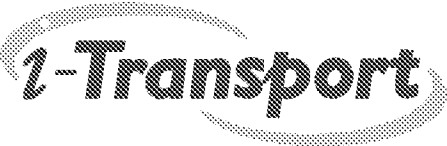
LAND EAST OF TYE LANE, WALBERTON



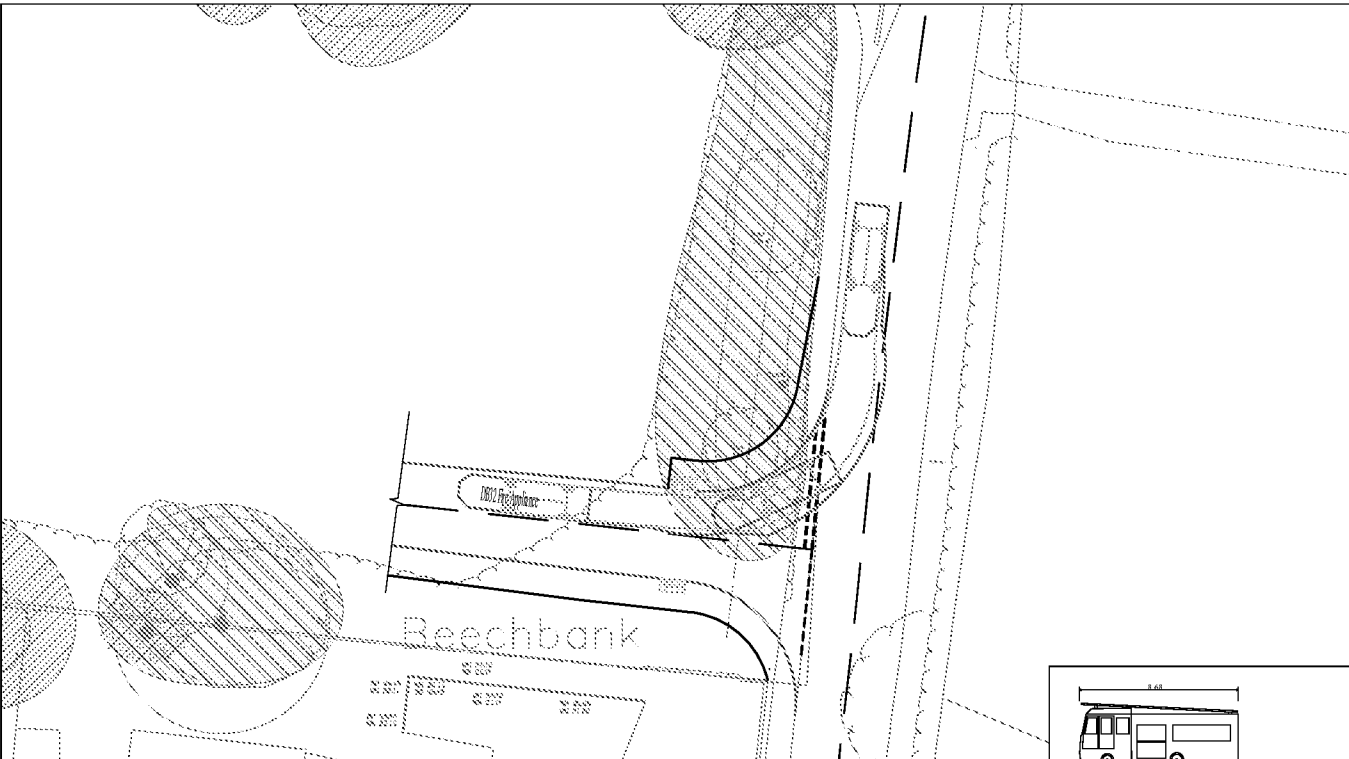
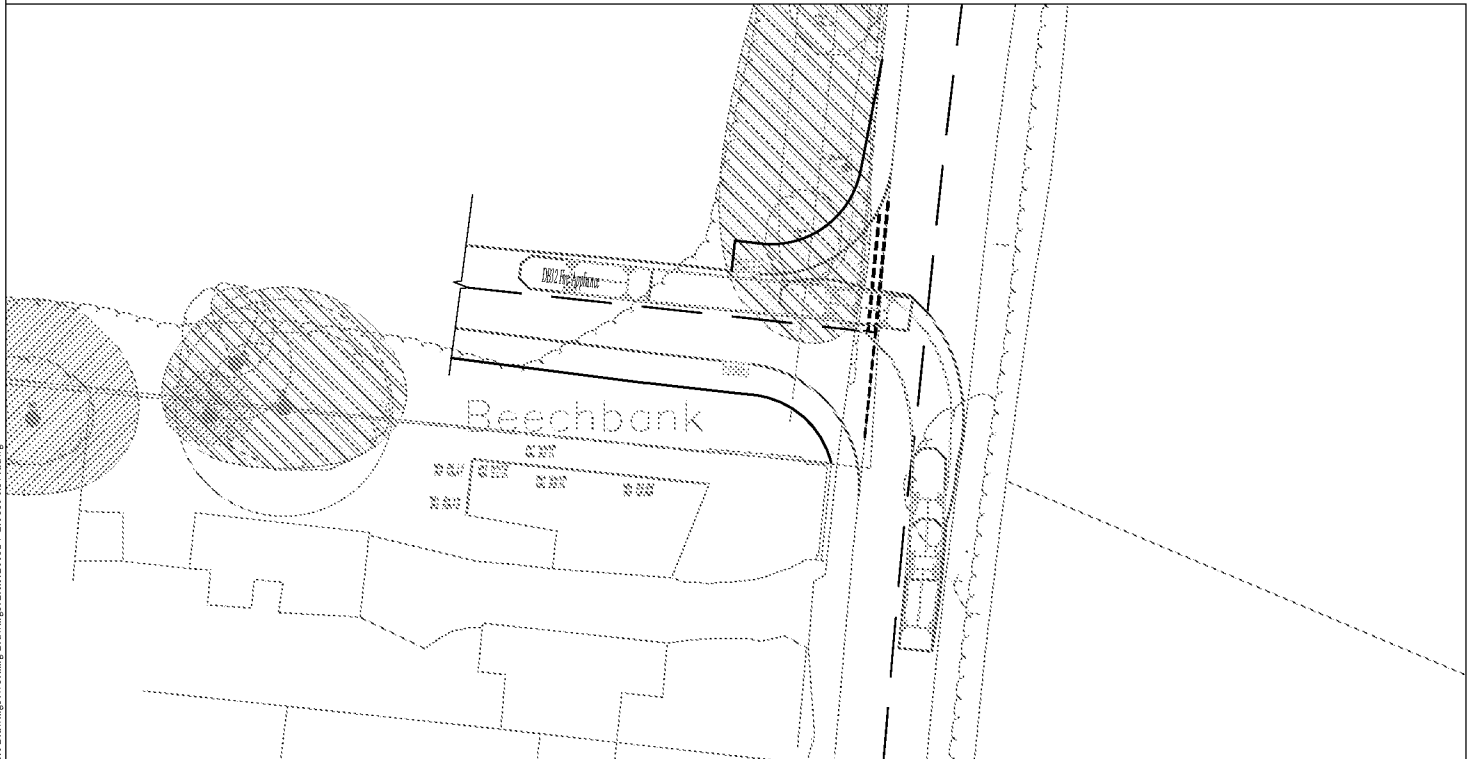
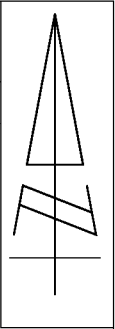
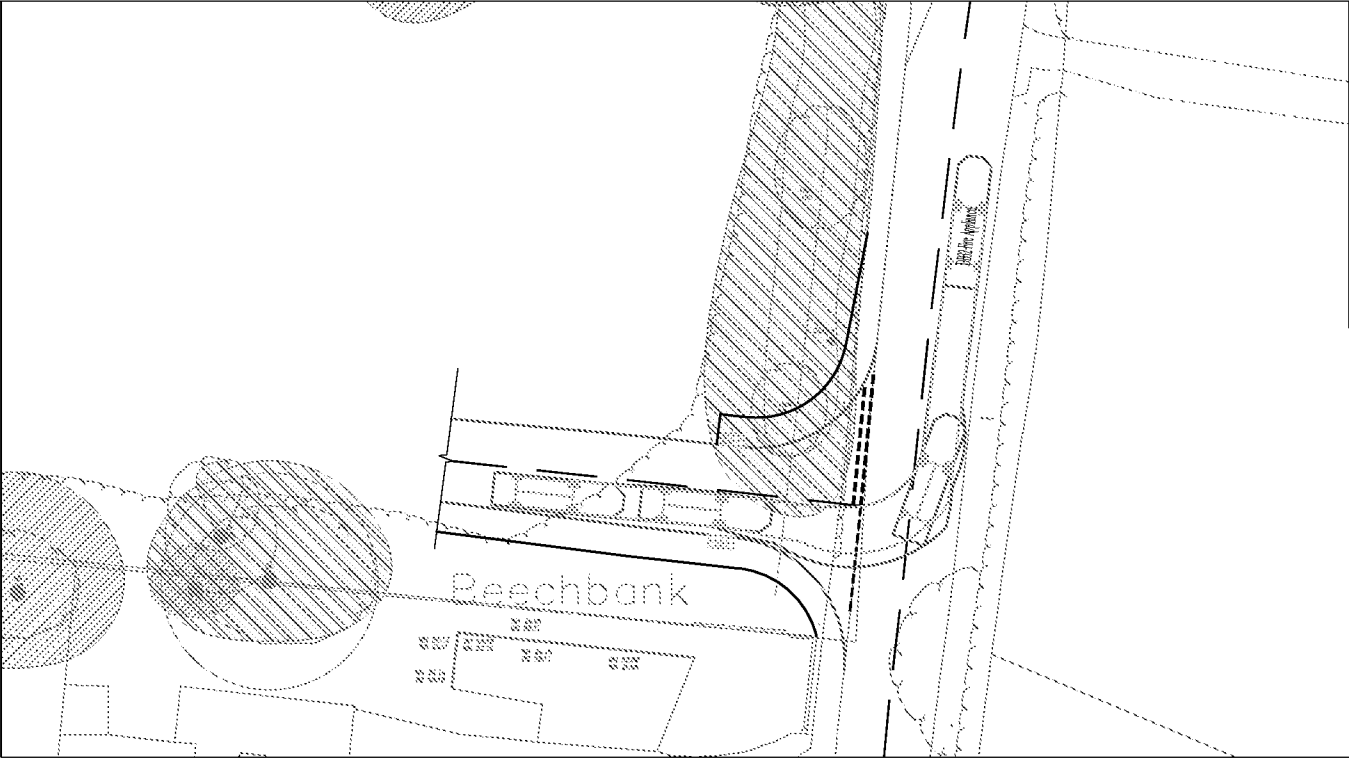
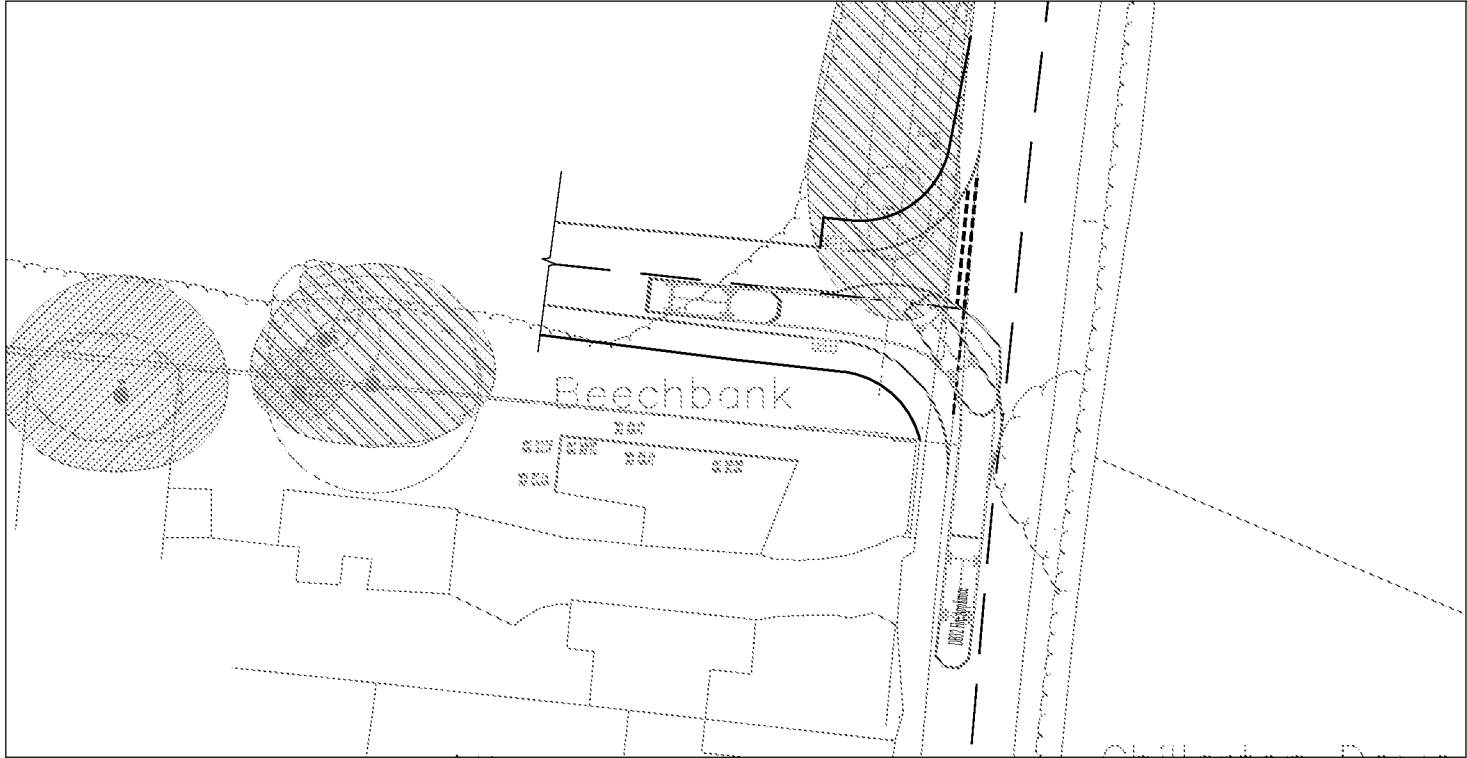
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 Grove House, Intyens Close, Chineham Basingstoke, Hampshire, RG24 8AG Tel: 01256 338640 Fax: 01256 338644 www.i-transport.co.uk						TITLE:		SCALE @ A3: 1:500	CHECKED: ZB	APPROVED: TW		
		A	22.05.17	AB	MINOR AMENDMENTS	TW	TW	SITE ACCESS TO YAPTON LANE SWEPT PATH ANALYSIS - LARGE REFUSE VEHICLE		FILE REF: ITB11324	DRAWN: AB	DATE: 21.04.17
		REV	DATE	BY	DESCRIPTION	CHK	APD	PROJECT:	CLIENT:	DRAWING No: ITB11324-GA-008		
		STATUS: FOR PLANNING					LAND EAST OF TYE LANE, WALBERTON		WATES DEVELOPMENTS		PROJECT No: ITB11324	REV: A

T:\Projects\1100 Series\Project Numbers\11324\ITB Land North of Walberton\Tech Assets\Transport Drawings\Working Drawings\GA\ITB11324-GA-008 Rev. A.dwg



Fire Appliance	8.680m
Overall Length	2.180m
Overall Width	3.452m
Overall Body Height	0.337m
Min Body Ground Clearance	2.121m
Max Track Width	6.00s
Lock to lock time	7.910m
Kerb to Kerb Turning Radius	

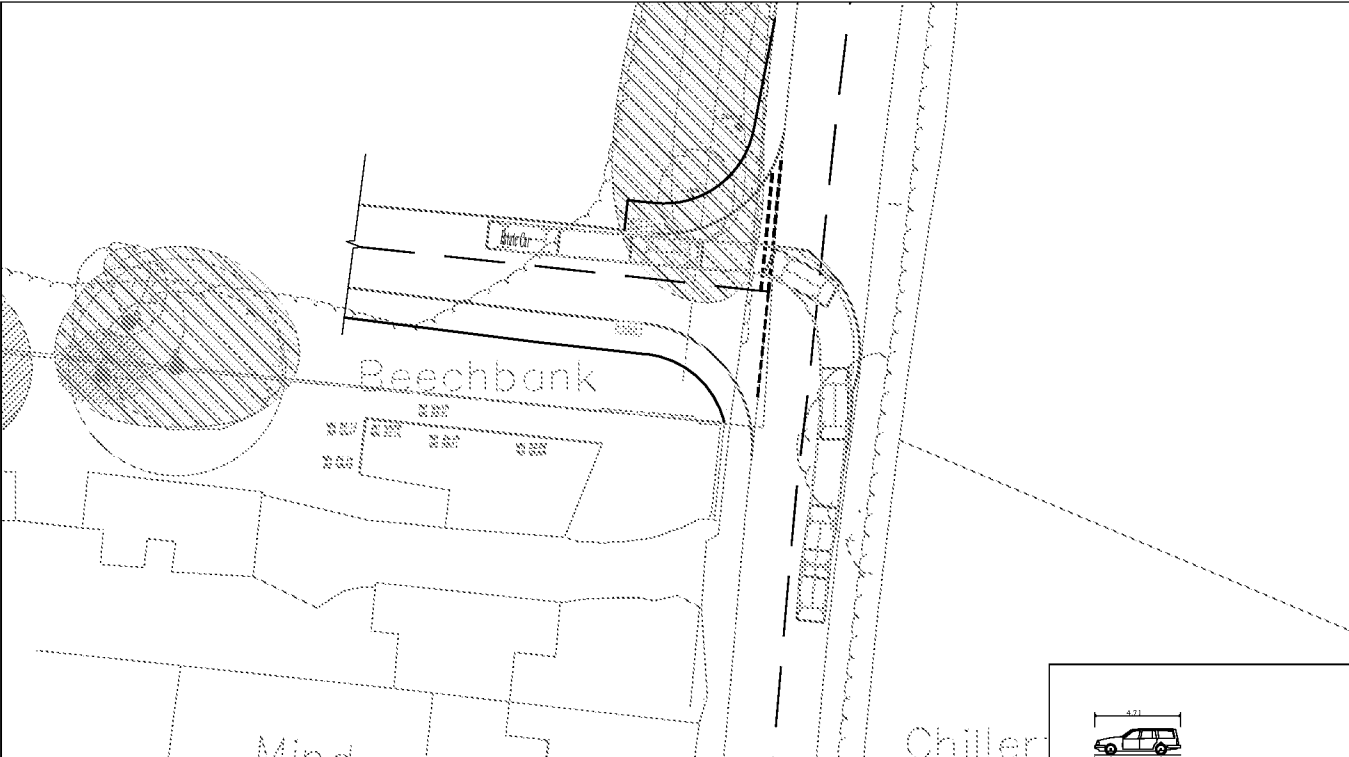
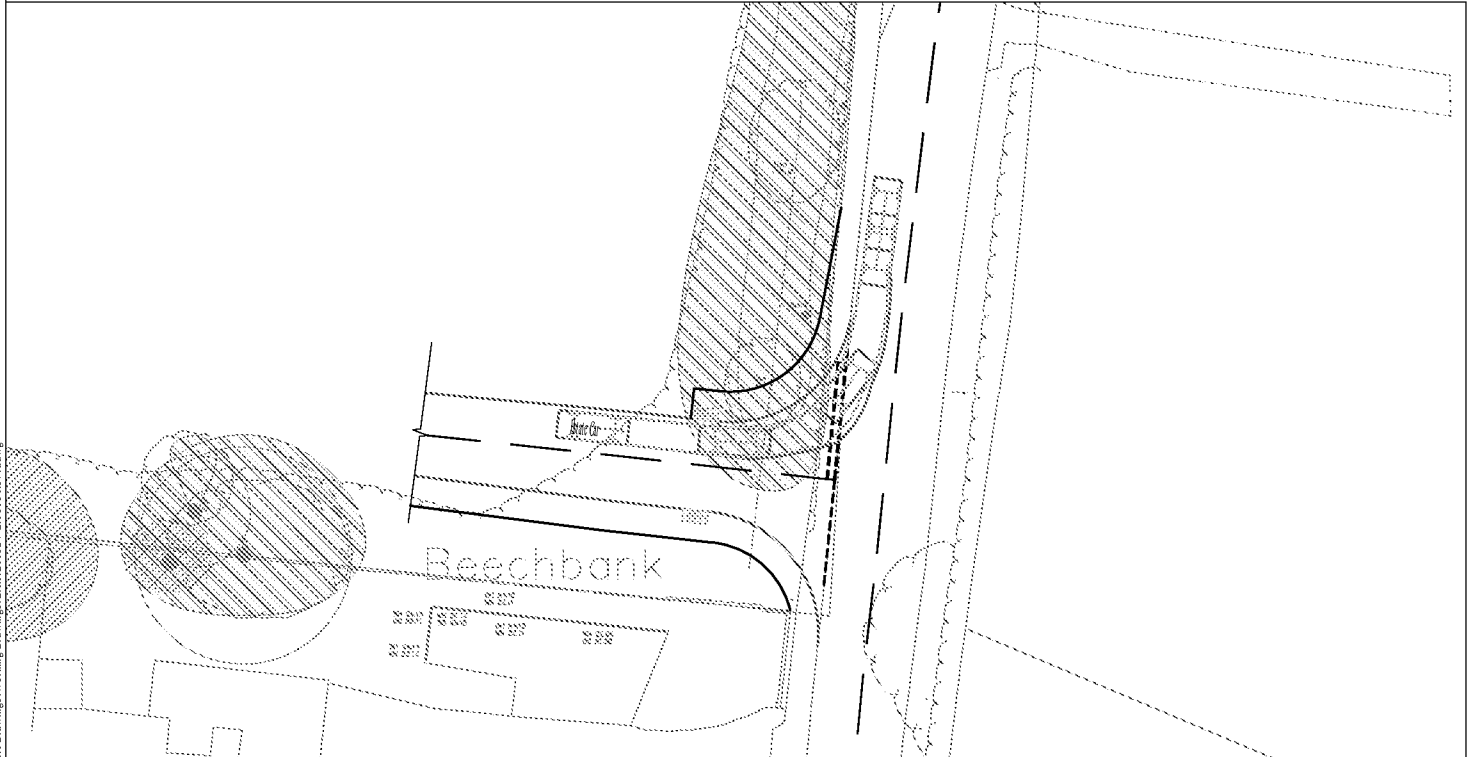
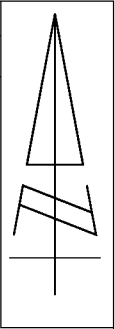
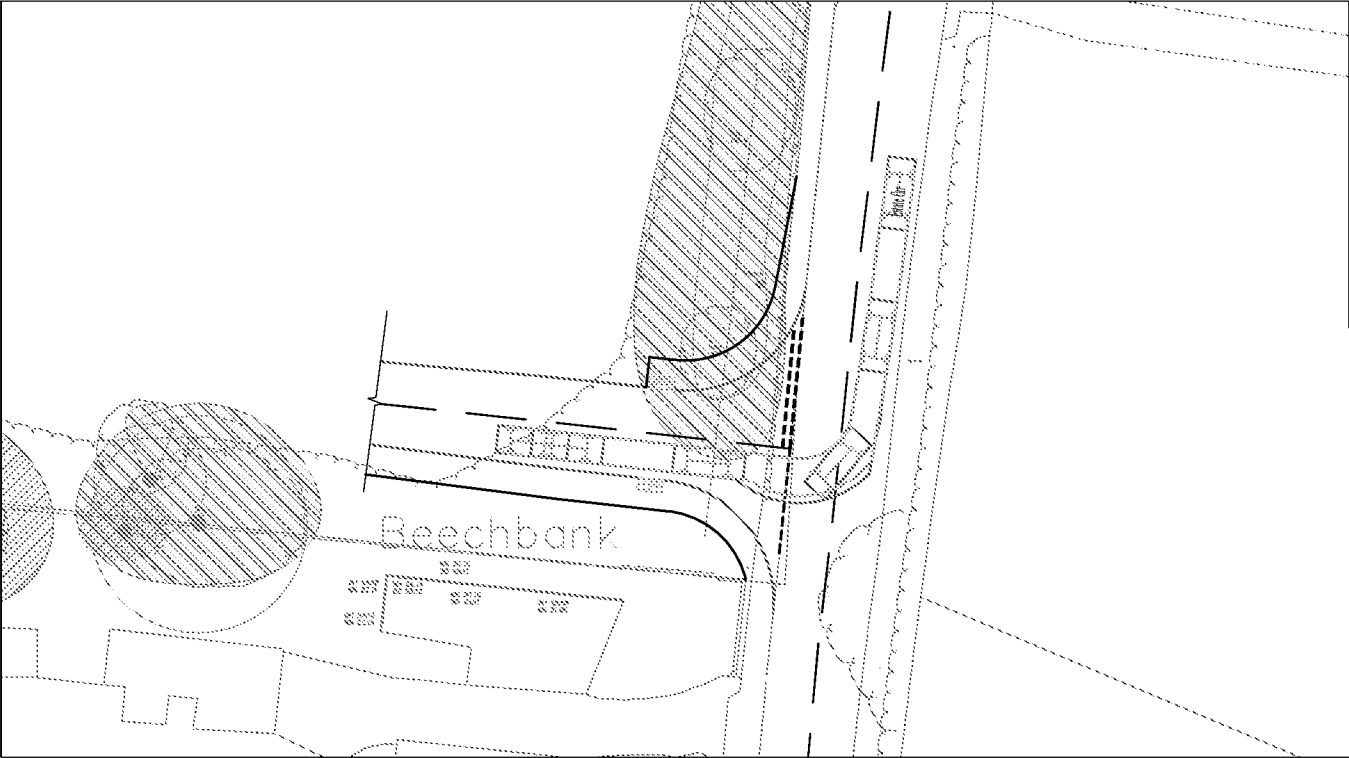
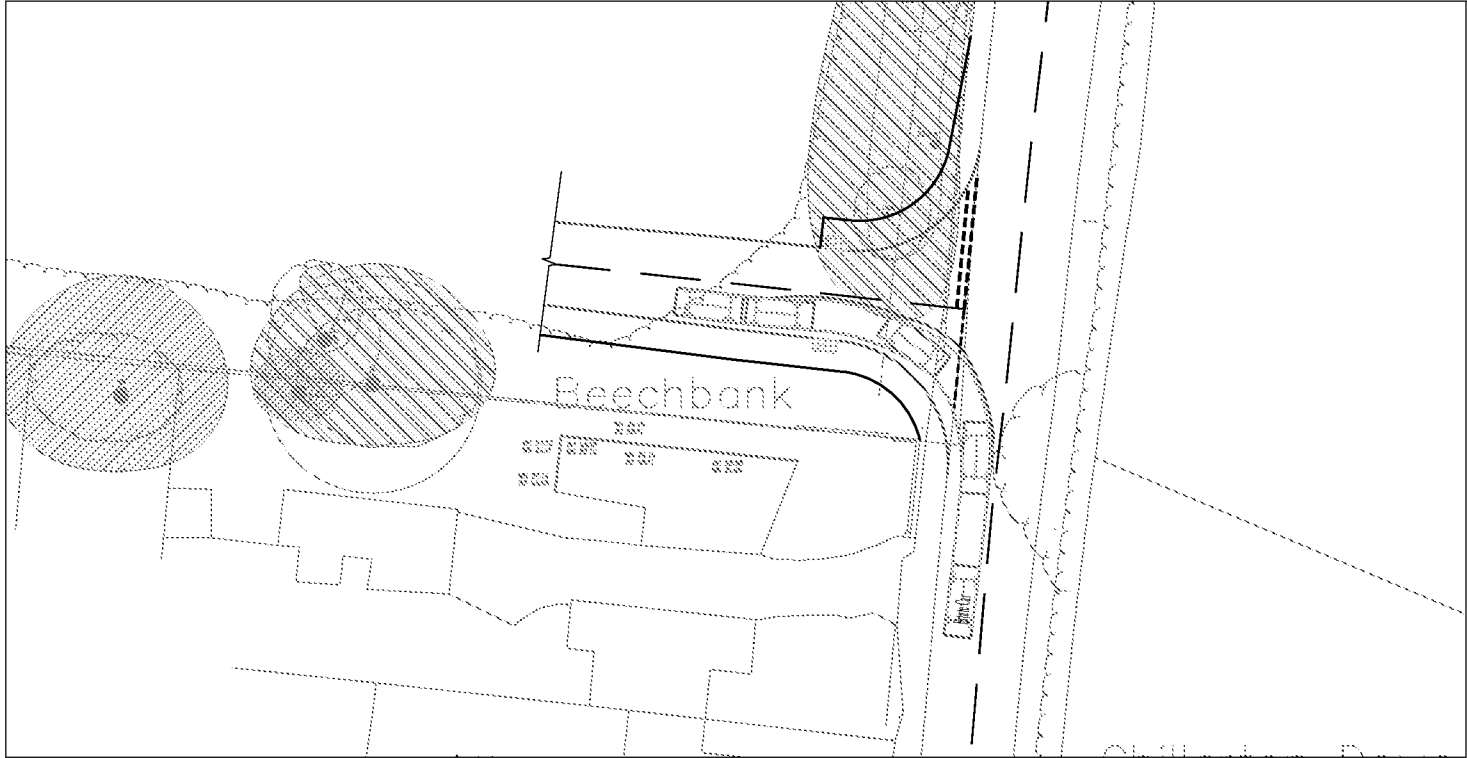
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Grove House, Intyens Close, Chineham Basingstoke, Hampshire, RG24 8AG www.i-transport.co.uk		REV DATE BY DESCRIPTION CHK APD STATUS: FOR PLANNING		TITLE: YAPTON LANE SITE ACCESS SWEPT PATH ANALYSIS - FIRE TENDER PROJECT: LAND EAST OF TYE LANE, WALBERTON CLIENT: WATES DEVELOPMENTS		SCALE @ A3: 1:500	CHECKED: ZB	APPROVED: TW
						FILE REF: ITB11324	DRAWN: AB	DATE: 21.04.17
						DRAWING No: ITB11324-GA-009		
						PROJECT No: ITB11324	REV: A	

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4.31m
2.155m

Estate Car

Overall Length

Overall Width

Overall Body Height

Min Body Ground Clearance

Max Track Width

Lock to lock time

Kerb to Kerb Turning Radius

4.710m

1.804m

1.442m

0.207m

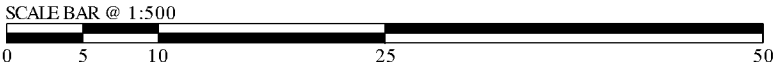
1.756m

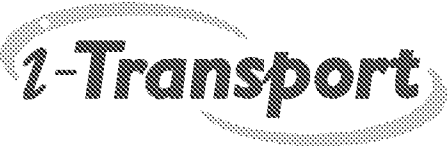
4.00s

5.950m

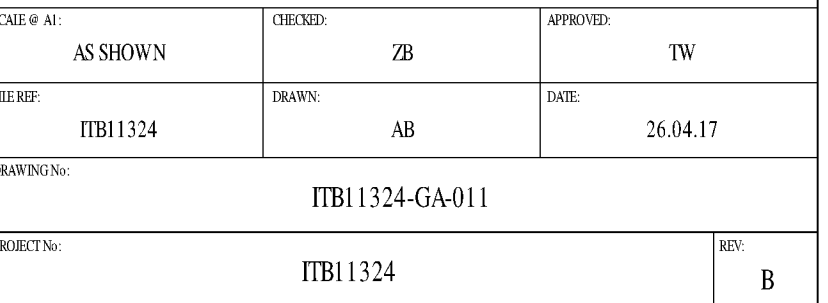
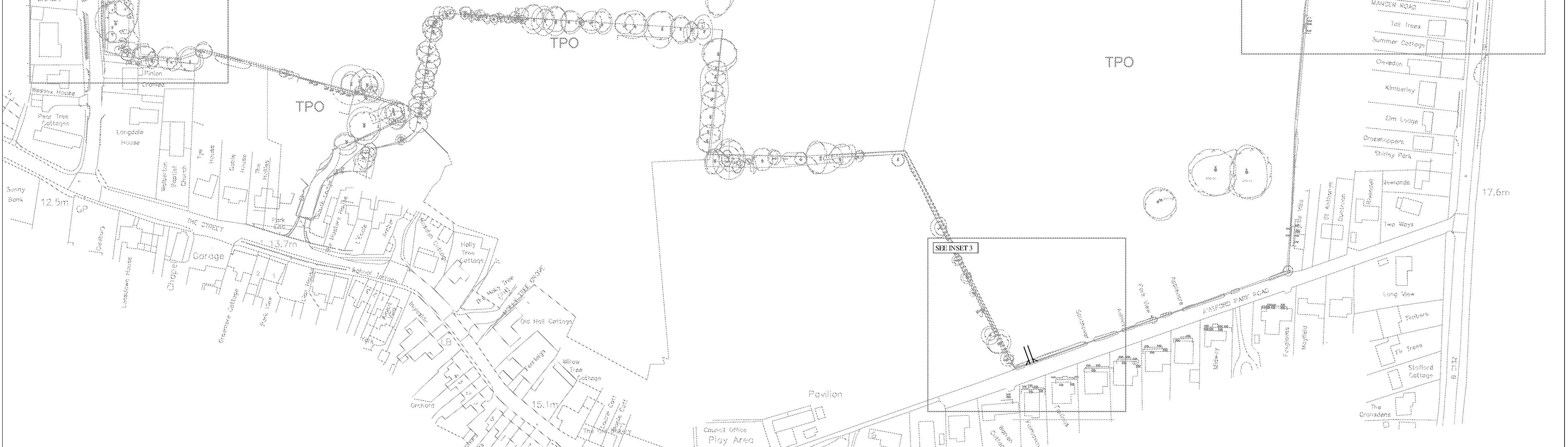
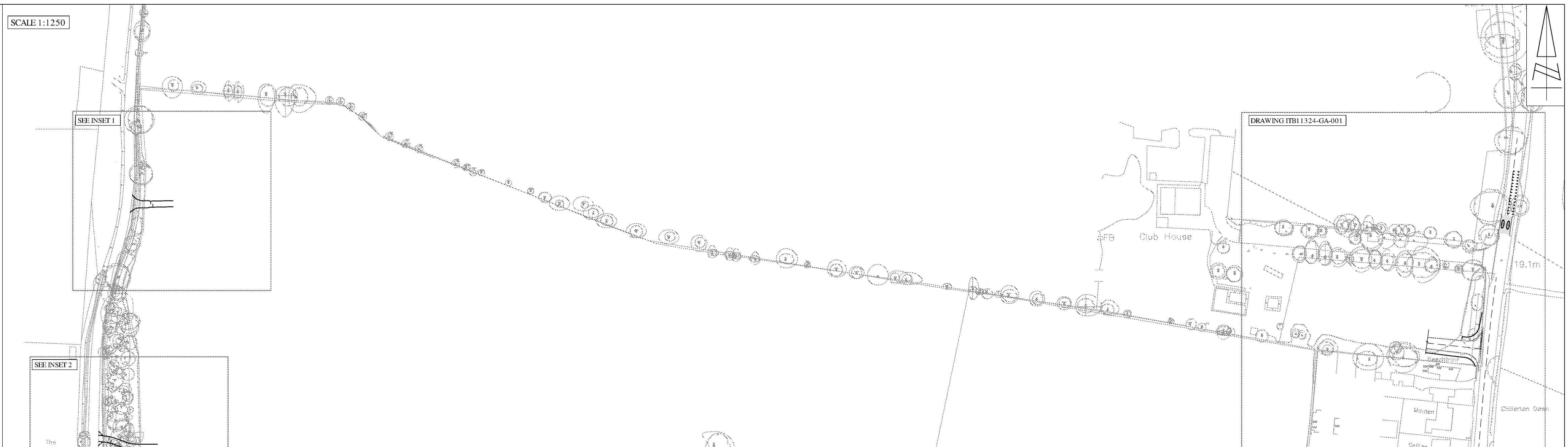
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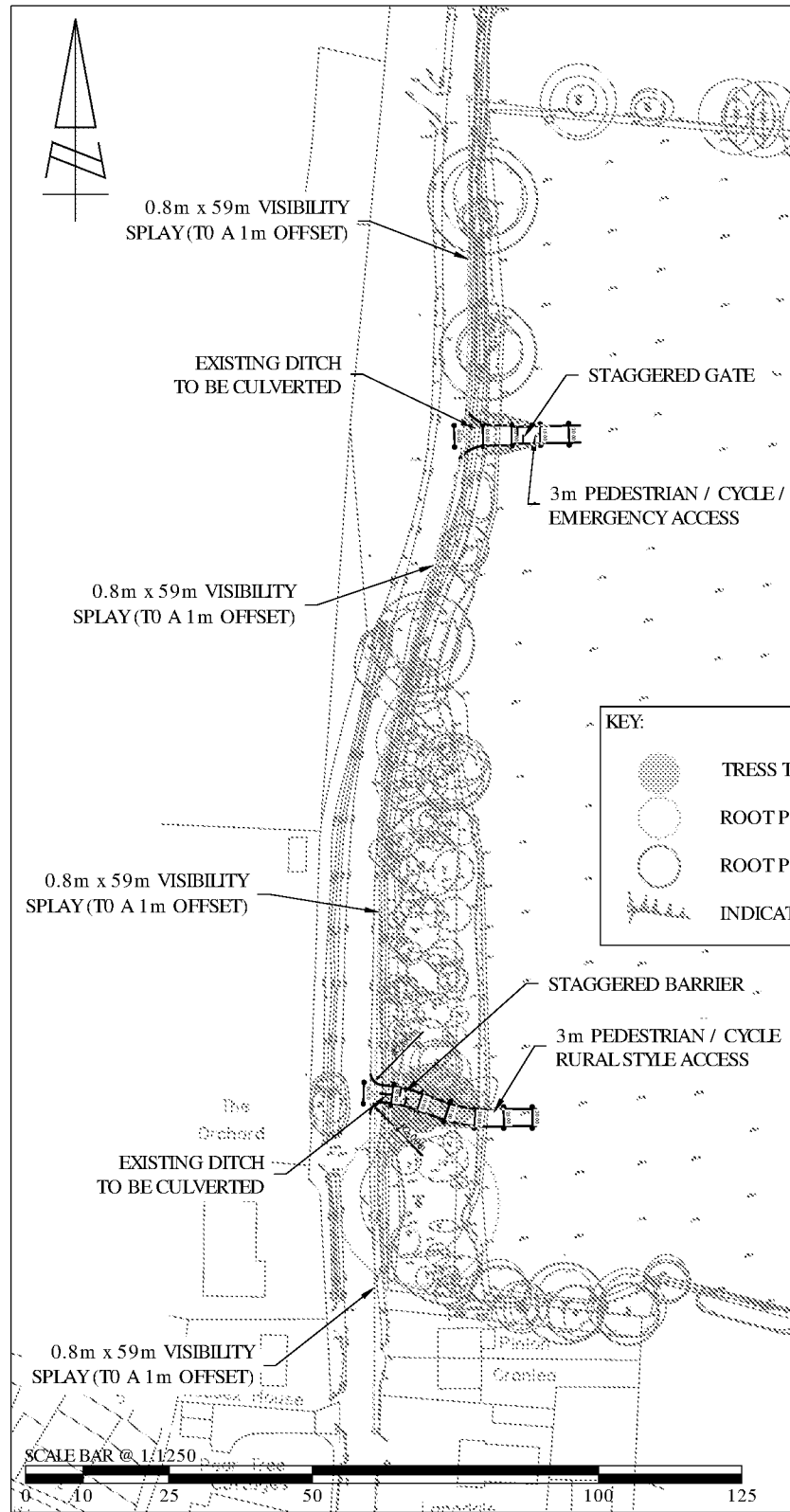


 Grove House, Intyens Close, Chineham Basingstoke, Hampshire, RG24 8AG Tel: 01256 338640 Fax: 01256 338644 www.i-transport.co.uk							TITLE: YAPTON LANE SITE ACCESS SWEPT PATH ANALYSIS - ESTATE CAR		SCALE @ A3: 1:500	CHECKED: ZB	APPROVED: TW		
		A	22.05.17	AB	MINOR AMENDMENTS	TW	TW			FILE REF: ITB11324	DRAWN: AB	DATE 21.04.17	
		REV	DATE	BY	DESCRIPTION	CHK	APD	PROJECT: LAND EAST OF TYE LANE, WALBERTON		CLIENT: WATES DEVELOPMENTS		DRAWING No: ITB11324-GA-010	
		STATUS: FOR PLANNING										PROJECT No: ITB11324	REV: A

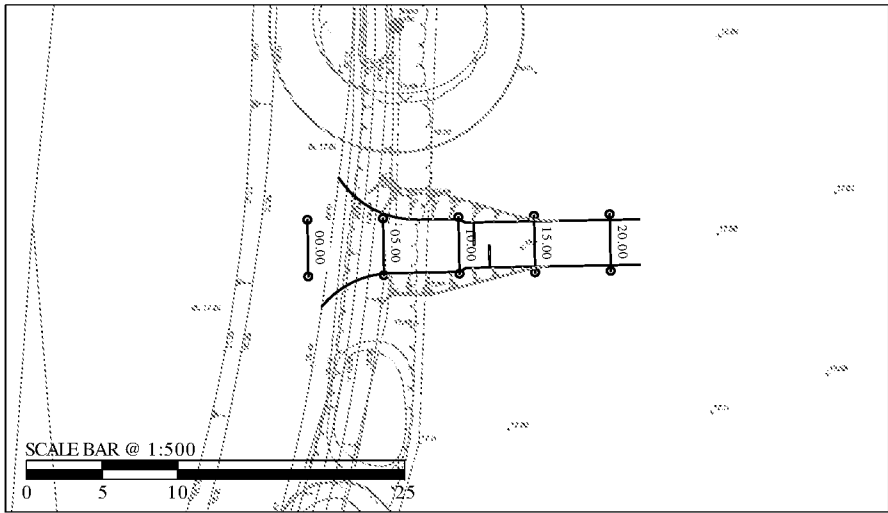
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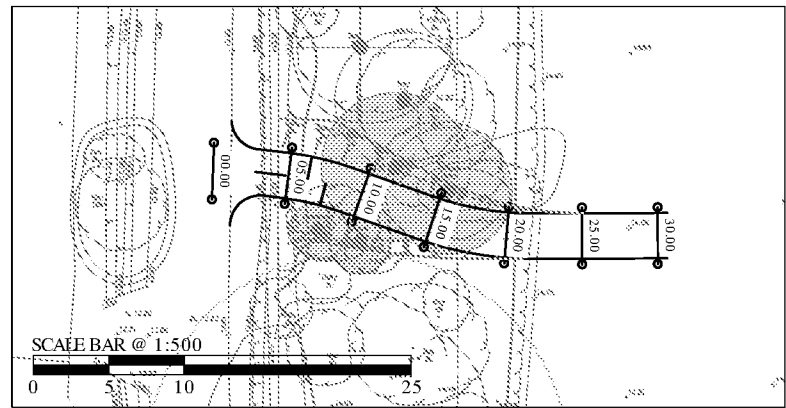


KEY:	
	TRESS TO BE REMOVED
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	ROOT PROTECTION ZONE CATEGORY B
	INDICATIVE EARTHWORKS 1 IN 3

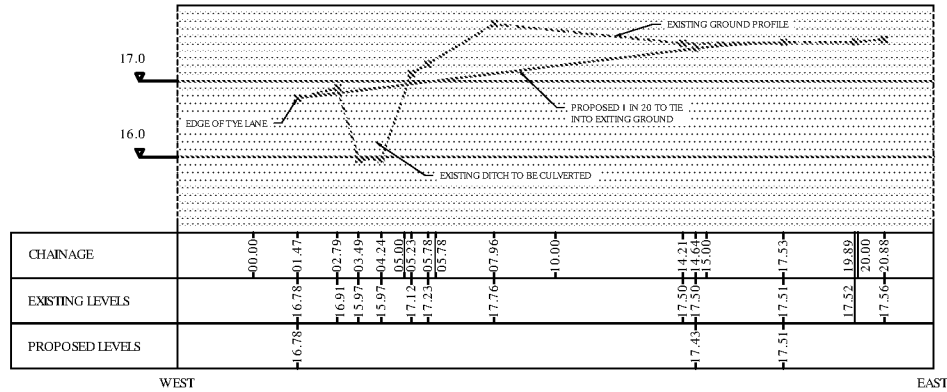


3m PEDESTRIAN / CYCLE / EMERGENCY ACCESS

EXAMPLE OF FTITLEWORTH
STONE FOOTPATH

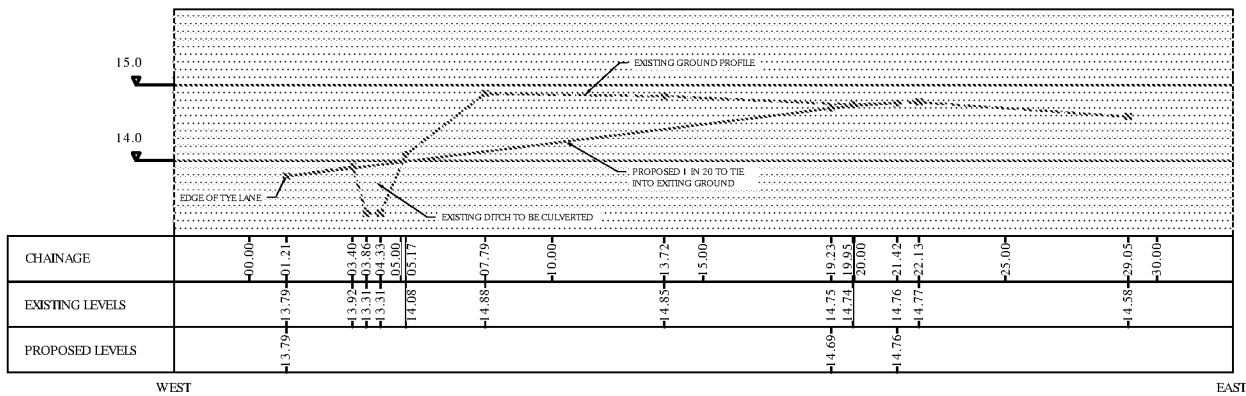
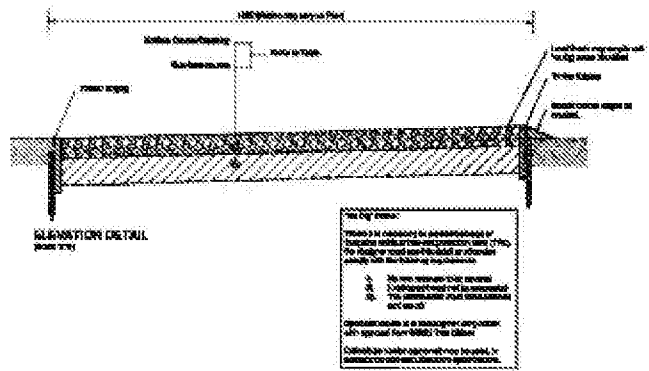


3m PEDESTRIAN
/ CYCLE ACCESS



LONG SECTION OF PROPOSED EMERGENCY ACCESS
SCALE 1:100 VERTICAL 1:500 HORIZONTAL

STANDARD DETAILS OF FOOTWAY/FOOTPATH
(RURAL) TYPE 5 CROSS SECTION

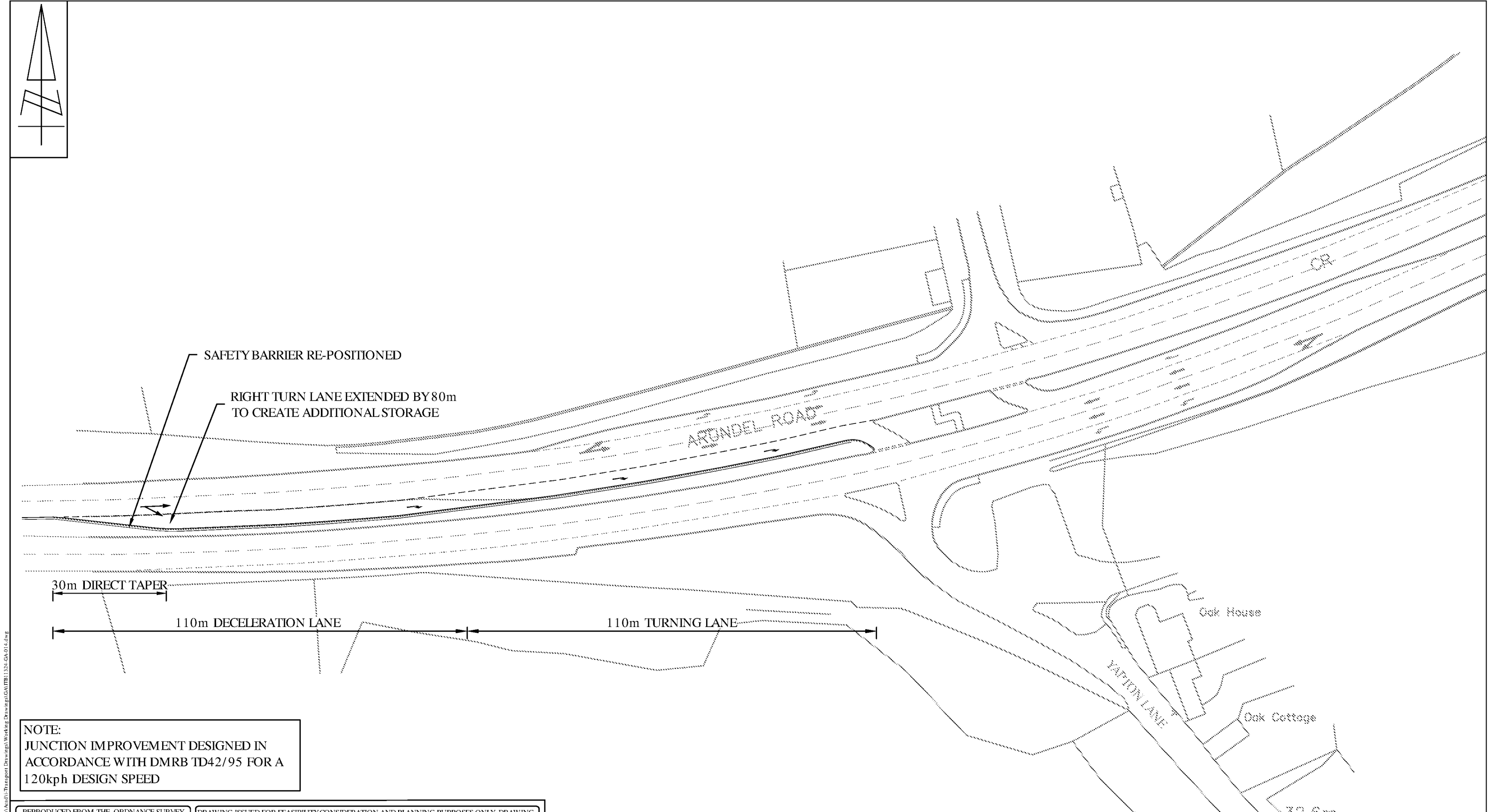


LONG SECTION OF PROPOSED PEDESTRIAN/ CYCLE ACCESS
SCALE 1:100 VERTICAL 1:500 HORIZONTAL

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		A		26.05.17	AB	MINOR AMENDMENTS	TW	TW	TITLE: PROPOSED PEDESTRIAN/CYCLE/EMERGENCY ACCESS FROM TYE LANE - LONG SECTION		SCALE @ A3: AS SHOWN	CHECKED: ZB	APPROVED: TW					
Grove House, Intyens Close, Chineham Basingstoke, Hampshire, RG24 8AG		DATE		BY	DESCRIPTION		CHK	APD	PROJECT: LAND EAST OF TYE LANE, WALBERTON		CLIENT: WATES DEVELOPMENTS		FILE REF: ITB11324		DRAWN: MC		DATE: 28.04.17	
www.i-transport.co.uk		FOR PLANNING											DRAWING No: ITB11324-GA-012		PROJECT No: ITB11324		REV: A	



NOTE:
JUNCTION IMPROVEMENT DESIGNED IN
ACCORDANCE WITH DMRB TD42/95 FOR A
120kph DESIGN SPEED

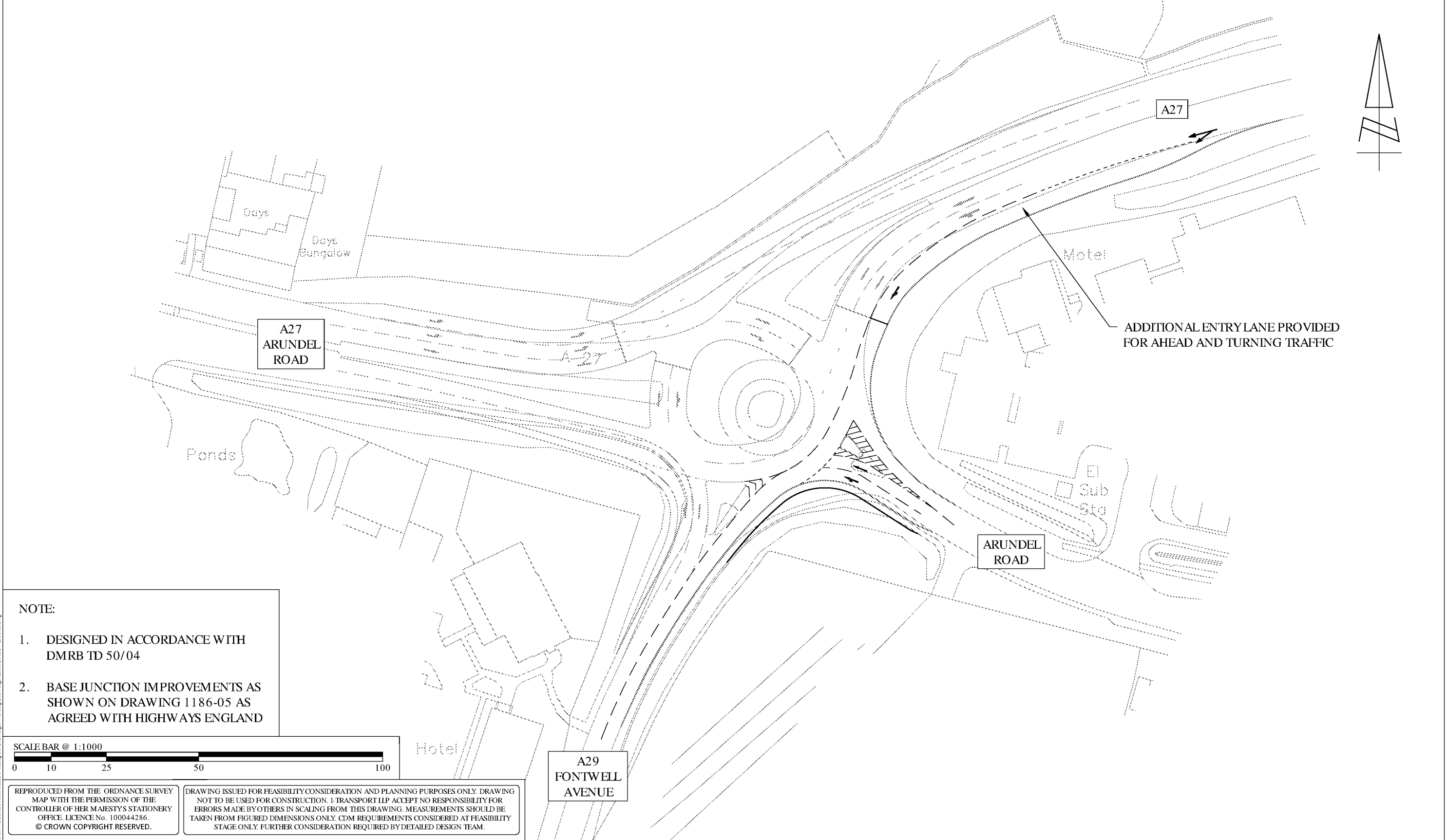
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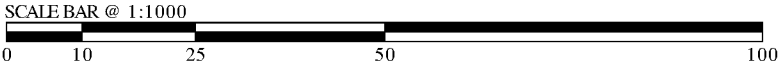


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							PROJECT: LAND EAST OF TYE LANE WALBERTON	CLIENT: WATES DEVELOPMENTS	DRAWING No: ITB11324-GA-014	
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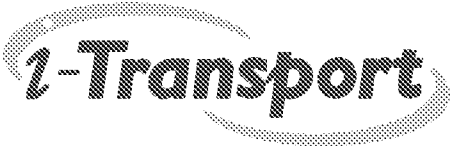


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CLIENT: WATES DEVELOPMENTS		DRAWING No: ITB11324-GA-015		
		PROJECT No: ITB11324		REV:

APPENDIX A

ILLUSTRATIVE MASTERPLAN

APPENDIX B

TRANSPORT ASSESSMENT SCOPING REPORT



LAND NORTH OF WALBERTON

TRANSPORT ASSESSMENT SCOPING REPORT

Client: Wates Developments

TRANSPORT ASSESSMENT SCOPING REPORT

LAND NORTH OF WALBERTON

Client: Wates Development

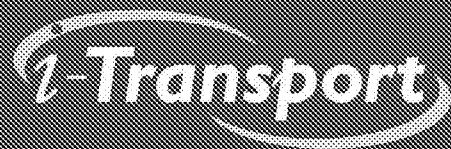


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QUALITY MANAGEMENT

Report No.	Comments	Date	Author	Authorised
ITB11324-003	First Draft	10/04/2017	RS/ZB	N/A
ITB11324-003A	Client Draft	12/04/2017	RS/ZB	TW
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APPENDICES

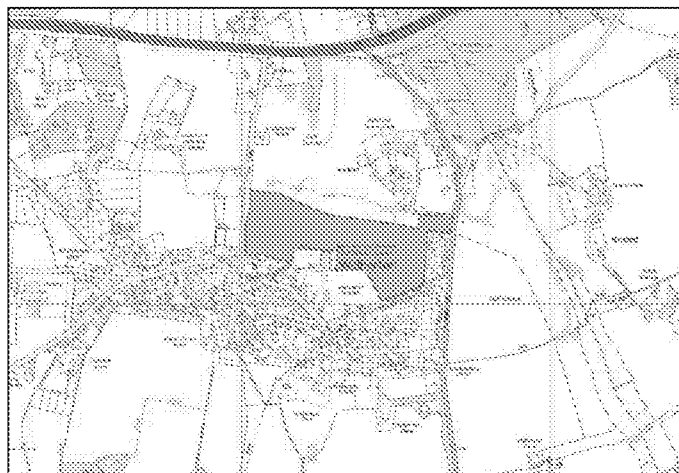
APPENDIX A	ACCESS APPRAISAL TECHNICAL NOTE (EXTRACTS)
APPENDIX B	PRE-APPLICATION MEETING NOTES (02/03/17)
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SECTION 1 INTRODUCTION

1.1.1 i-Transport has been appointed by Wates Developments to provide highway and transport advice to support an outline planning application for a proposed residential development of up to 200 dwellings with associated car parking and landscaping, on Land North of Walberton in West Sussex.

1.1.2 The site is located to the north of Walberton village and south of the Avisford Park Hotel and Golf Club. The site is currently made up of approximately 11.5ha of agricultural land. The location of the site is shown indicatively at **Image 1.1**.

Image 1.1: Site Location



Source: Open source mapping and consultant

1.2 Background Information

1.2.1 Initial pre-application discussions were held with West Sussex County Council (WSCC) in March 2016 to consider the acceptability of the proposed site access, informed by an Access Appraisal Technical Note (attached as **Appendix A**).

1.2.2 A subsequent meeting was held between WSCC and i-Transport on 2nd March 2017 where the Access Appraisal was discussed in more detail. WSCC confirmed that the principle of the site access to Yapton Lane was acceptable and that there were no overriding concerns regarding the accessibility of the site. A copy of the meeting minutes and WSCC pre-application response are provided at **Appendix B and C**.

1.3 Approach to Assessment

1.3.1 In line with the National Planning Policy Framework (NPPF) and the West Sussex County Council Transport Assessment Methodology (TAM), to consider the transport impacts of the proposed development a Transport Assessment (TA) is to be prepared, supported by a Framework Travel Plan (FTP).

1.3.2 The remainder of this Transport Assessment Scoping Report sets out the proposed scope, methodology, parameters and structure of the TA which will assess the transport and highways implications of the development of the site. The methodology generally follows the guidance provided in the TAM.

1.3.3 This TA Scoping Note has been prepared for discussion and agreement with the local highway authority, West Sussex County Council (WSCC), and Highways England (HE) in relation to the A27 corridor, to enable the TA to be prepared on an agreed basis. This approach is in accordance with the National Planning Policy Framework.

1.3.4 The remainder of this Scoping Note follows the same proposed structure as the TA:

- Section 2 – relevant national and local transport policies;
- Section 3 – existing transport conditions in the vicinity of the site;
- Section 4 – details of the development proposal;
- Section 5 – accessibility and sustainable transport strategy;
- Section 6 – traffic impacts; and
- Section 7 – summary and conclusions.



SECTION 2 POLICY CONTEXT

2.1.1 The TA will review and summarise the following national and local policy:

- National Planning Policy Framework (NPPF);
- National Planning Practice Guidance (NPPG);
- Arun District Council Local Plan 2003-2011 - Saved Policies;
- Emerging Arun District Council Local Plan 2011-2031;
- West Sussex County Council's Transport Plan (2011 -2026);
- West Sussex Guidance for Parking in New Residential Developments (September 2010) & Car Parking Demand Calculator.

2.1.2 This review will provide the context for assessing the development proposal in transport and highway terms.



SECTION 3 EXISTING CONDITIONS

3.1.1 This section of the TA will describe the existing transport conditions in the Walberton area, including opportunities for walking, cycling and public transport, as well as local highway conditions.

3.2 Local Highway Network

3.2.1 The site is bounded to the north by Avisford Park Hotel and Golf Club, to the east by Yapton Lane and residential dwellings, the south by Walberton & Binsted Church of England Primary School and the extents of the existing built-up residential area, and to the west by Tye Lane.

3.2.2 The site benefits from highway frontage onto both Yapton Lane and Tye Lane (to the east and west respectively) which both offer connections southbound into the centre of Walberton village, and northbound to the A27 Arundel Road.

3.2.3 Yapton Lane is a two-way single carriageway road of varying width, between 6.5m and 7.1m. A 1.7m wide footway is present on the western (site) side of the road and provides a continuous connection from the Avisford Park Hotel and Golf Club access (to the north) southbound to Walberton village (via The Street). This route is not street lit. Yapton Lane is subject to a 30mph speed limit to the south of the site. Mid-way along the site frontage the speed limit changes to 40mph heading north.

3.2.4 Tye Lane is a rural two-way single carriageway road with a width of some 4.8m. No footways are present along its length and is not street lit. The speed limit is 30mph, changing to derestricted (60mph) at the southwestern corner of the site frontage.

3.2.5 The Street is an historic two-way single carriageway road of varying width, between 5.5m and 6.2m, and is subject to a 30mph speed limit. A continuous footway is present along the southern side of The Street as well as sections of the northern side. There are sections on The Street where on-street parking occurs.

3.2.6 The A27 Arundel Road forms part of the Strategic Road Network and provides a connection east towards Arundel and Brighton, and west to Chichester and Portsmouth. Yapton Lane connects to the A27 at a restricted moves priority junction (right-turn out of Yapton Lane is prohibited). To the north of Walberton the A27 is a two-lane dual carriageway subject to the national speed limit. To the west of Walberton at Fontwell the A27 meets the A29 at a three-arm roundabout junction.

3.3 Public Transport

Bus

3.3.1 The closest bus stops to the site are located on Yapton Lane (Manser Road) some 350m to the east of the centre of the site, and on The Street (Dairy Lane / Holly Tree), some 400m to the south of the site. From both of these bus stops, Services 85/85A and 66 can be accessed, as well as school bus services, 228, 602 and 665.

3.3.2 **Table 3.1** provides a summary of the locations served and their frequencies while **Figure 2** illustrates the sites accessibility to the public transport network and the routing of buses within the vicinity of the site.

Table 3.1: Local Bus Services

Route	Bus Stop	Destinations	Service Frequency	
			Weekday	Saturdays
85 / 85A	Manser Road	Arundel - Walberton - Fontwell - Chichester	Every 2 Hours	Every 2 Hours
			First outbound at 0710, last at 1410.	First outbound at 0710, last at 1410.
			First inbound at 0905, last at 1630.	First inbound at 0905, last at 1630.
66	Dairy Lane / Holly Tree	Bognor Regis - Yapton - Walberton – Barnham - Bognor Regis	Eight services	Eight services
			First outbound 0744, last at 1649	First outbound 0744, last at 1649
			First inbound at 0705, last at 1735.	First inbound bus at 0705, last at 1735.
School Services				
228	Dairy Lane / Holly Tree	Ormiston Six Villages Academy – Walberton	Return from Ormiston Academy at 1550.	No Service
665	Dairy Lane / Holly Tree	Walberton – Barnham Station - Ormiston Six Villages Academy - Chichester High School &	Depart at 0748	No Service
			Return from Ormiston Academy at 1450. Return from Chichester High School at 1533.	
602	Dairy Lane / Holly Tree	Walberton - St Philip Howard School	Departs at 0822. Return at 1515.	No Service

Source: Travelling

3.3.3 There are opportunities to travel to key destinations by bus (such as Arundel, Chichester, Barnham, Bognor Regis and Fontwell) as well as school bus services to Chichester High School, Ormiston Academy and St Philip Howard School.

Rail

3.3.4 Barnham Railway Station is located some 2.5km from the centre of the site and is directly accessible via bus route 66 and 85A from The Street, as well as by walking or cycle. A new designated off-road shared footway / cycleway has been provided to connect Walberton with Barnham. This station has access to 142 car park spaces, 2 accessible spaces and 62 secure cycle storage spaces.

3.3.5 **Table 3.2** shows the direct services from Barnham Railway Station, including their typical frequency and journey time during both peak and off-peak periods. Destinations accessible by rail include Southampton, London, Portsmouth, Brighton, Chichester, Bognor Regis and Littlehampton.

Table 3.2: Rail Services and Destinations

Destination	Typical Daytime Frequency		Typical Journey Time (approx.)
	Peak Services	Off-Peak Services	
Chichester	5-7 per hour	5 per hour	8 minutes
Bognor Regis	3-4 per hour	4 per hour	8 minutes
Littlehampton	1-2 per hour	2 per hour	9 minutes
Portsmouth	2-3 per hour	2 per hour	39 minutes
Brighton	2-3 per hour	2 per hour	43 minutes
Southampton Central	1-3 per hour	2 per hour	1 hour 5 minutes
London Victoria via Horsham	4 per hour	4 per hour	1 hour 25 minutes

Source: National Rail / Southern Rail

3.4 Access to Local Facilities

3.4.1 Paragraph 29 of the NPPF consider accessibility in rural areas and states:

“...The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.”

3.4.2 **Table 3.3** summarises the approximate walking distances to key local facilities (from the centre of the site) which are shown on **Figure T2**.

Table 3.3: Accessibility to Local Facilities

Facility	Destination	Approximate Distance	Walking	Cycling
Education	Walberton and Binsted Primary School	275	✓✓✓	✓✓✓
	Littlewoods Nursery (@Avisford Hotel)	700	✓✓✓	✓✓✓
	St. Philip Howard High School	3,150	✓	✓✓
Employment	The William Booker Yard	300	✓✓✓	✓✓✓
	Avisford Park Hotel	700	✓✓✓	✓✓✓
	Hooe Farm Industrial Estate	750	✓✓✓	✓✓✓
	Tokar Industrial Park	1,500	✓✓	✓✓✓
	Nurseries (Fresh Acres/Toddington)	1,750	✓✓	✓✓✓
Leisure	The Holly Tree PH	350	✓✓✓	✓✓✓
	Walberton Cricket Club	500	✓✓✓	✓✓✓
	Walberton Recreation Ground	500	✓✓✓	✓✓✓
	Walberton Village Hall	550	✓✓✓	✓✓✓
	Avisford Golf Club	550	✓✓✓	✓✓✓
	The Cedar Restaurant	650	✓✓✓	✓✓✓
	The Black Horse PH	1,000	✓✓	✓✓✓
	Allotments	1,250	✓✓	✓✓✓
	Fontwell Park Race Course	2,950	✓	✓✓
	Walberton Baptist Church Hall	350	✓✓✓	✓✓✓
Retail / Personal Business	Walberton Village Centre	500	✓✓✓	✓✓✓
	• Newsagent and Green Grocer			
	• Post Office			
	• Laundrette			
	• Hairdresser			
	• Estate Agent			
	St. Mary's Church	750	✓✓✓	✓✓✓
	Service Station	2,600	✓	✓✓
	Barnham Village Centre	2,650	✓	✓✓
Health	Walberton Dental Surgery	500	✓✓✓	✓✓✓
	Flintcroft Surgery	575	✓✓✓	✓✓✓
	Croft Surgery	3,500	-	✓✓
Transport	Tye Lane Bus Stop	250	✓✓✓	✓✓✓
	Manser Road Bus Stop	350	✓✓✓	✓✓✓
	Dairy Lane / Holly Tree Bus Stop	400	✓✓✓	✓✓✓
	Barnham Railway Station	2,500	✓	✓✓

Notes: Walk Distances – ✓✓✓ less than 800m ✓✓ between 800m and 2km, ✓ between 2km and 3.2km
Cycle Distances – ✓✓✓ less than 2km ✓✓ between 2km and 5km, ✓ between 5km and 8km

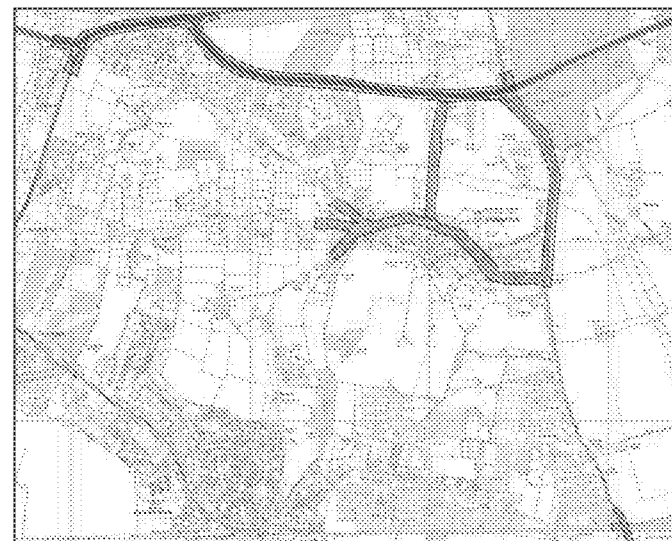
3.4.3 There are a wide variety of local services and facilities located within an easily walkable distance of the site with facilities further afield accessible by cycle and / or local bus services. The TA will provide a full appraisal of local facilities and the adequacy of available connecting routes.

3.4.4 The TA will include a full appraisal of pedestrian, cycle and bus connectivity between the site and local facilities and will set out measures to encourage sustainable access to these facilities.

3.5 Personal Injury Accident Data

3.5.1 Personal Injury Accident (PIA) data will be obtained from the Sussex Safer Roads for the most recent five-year period and will be analysed in the TA for the area shown hatched red on Image 3.1. This will identify if there are any recorded road safety issues in the local area that need to be considered in the TA.

Image 3.1: PIA Data Collection Area



SECTION 4 DEVELOPMENT PROPOSAL AND ACCESS ARRANGEMENTS

4.1 Overview

4.1.1 The planning application will seek outline consent for a development of up to 200 new residential dwellings along with parking and open space.

4.1.2 At this time 'means of access' to the development will be a detailed matter for determination with all other matters, such as layout and appearance, reserved for later consideration.

4.2 Site Access

4.2.1 Pre-application discussions with WSCC have agreed the principles of the site access junction arrangement (**Drawing ITB11324-GA-001**) to comprise:

- A new simple priority junction to Yapton Lane, some 45m south of the existing access to Avisford Park Golf Course;
- A 5.5m wide carriageway access road with 2m wide footways either side to tie into the existing footway network on the western side of Yapton Lane; and
- Visibility splays of 2.4m x 58.7m, to the north, and 2.4m x 51.8m, to the south, in accordance with observed vehicle speeds);
- A 'Gateway' feature to the north of the Golf Course access along with the promotion of a TRO to relocate the existing 30mph speed limit north.

4.2.2 An independent Stage 1 Road Safety Audit will be undertaken of the site access junction and will be submitted with the application, along with a Designer's Response.

4.2.3 Swept path analysis of the proposed access will be undertaken to confirm the final design, and this will assess the ability for a large refuse vehicle, a fire tender, a large rigid lorry and a large car to manoeuvre the access.

4.2.4 Initial capacity testing of the access has also been carried out using industry standard modelling software 'Junctions 9' and the summary results are presented in **Table 4.1** (with full results presented at **Appendix D**). This has considered the projected operation of the access in the Opening Year (2021) and at the end of the proposed Arun DC Local Plan period (2031).

Table 4.1: Operational Assessment of Site Access Junction

	Morning Peak Hour			Evening Peak Hour		
	Max Queue	Delay (s)	Max RFC	Max Queue	Delay (s)	Max RFC
2021 'With Development'						
Site Access	<1	10.13	0.18	<1	7.63	0.08
Yapton Lane N	<1	5.82	0.04	<1	4.66	0.10
2031 'With Development'						
Site Access	<1	10.62	0.19	<1	7.79	0.08
Yapton Lane N	<1	5.83	0.04	<1	4.58	0.10

Source: Junctions 9

4.2.5 The assessment demonstrates that a simple priority junction would operate comfortably in capacity, with no material queueing or delay arising at the junction, and as such is sufficient to serve the development.

4.2.6 A number of pedestrian and cycle connections to the site will be promoted through the masterplan (illustrative masterplan provided at **Appendix E**) to ensure a connected and permeable development to include:

- All moves access to Yapton Lane at the main site access;
- Pedestrian access to Public Footpath 333 on Avisford Park Road;
- Pedestrian and Cycle access to The Street; and
- Pedestrian, Cycle and Emergency access to Tye Lane.

4.2.7 The Transport Assessment will provide further details of the sustainable transport connections to serve the site.

4.3 Internal Site Layout and Parking

4.3.1 The application seeks outline consent and as such layout will be a reserved matter. The TA will however present an illustrative site layout to demonstrate how the development can be achieved on the site. The layout will be designed in line with key guidance contained within the DfT's 'Manual for Streets', Manual for Streets 2 and West Sussex's County Council's 'Local Design Guide – Supplementary Guidance for Residential Development Proposals'.

4.3.2 The TA will also set out whether it is intended that the internal road layout will be offered for adoption by WSCC.



4.3.3 The following principles will be applied in developing the layout:

- Primary Street - 5.5m carriageway with 2m footways;
- Smaller cul-de-sacs – 5m shared surfaces;
- Private Driveways – narrower shared surface areas where refuse vehicles do not need to enter; and
- Service margins provided where no footway is present.
- A 20mph design speed will be adopted on primary streets, with 15mph design speeds on secondary roads.

4.3.4 Swept path analysis will be undertaken for a large refuse vehicle and a fire tender, to be in accordance with Building Code Approved Documents H & B respectively. Confirmation of the size of refuse vehicle used in Arun is requested.

Parking

4.3.5 Whilst parking is a reserved matter and will be determined by the final development mix, the TA will set out that car and cycle parking will be provided in accordance with the guidance contained within the WSCC Guidance for 'Parking in New Residential Developments' SPD (September 2010) and the associated Car Parking Demand Calculator.



SECTION 5 ACCESSIBILITY AND SUSTAINABLE TRANSPORT STRATEGY

5.1 Introduction

5.1.1 This section of the TA will set out the elements of the site's transport strategy for the proposed development covering both on-site and off-site elements.

5.2 Access to Local Facilities

5.2.1 Section 3 has identified that the site is well located to local services and facilities.

5.2.2 The TA will confirm the site access and movement strategy which will ensure good connectivity to the local area and will ensure that future residents have the opportunity to travel to a range of core destinations such as a primary school, convenience stores and everyday leisure facilities by walking and cycling and thus minimise the impact of external traffic on the local highway network.

5.3 Walking and Cycling

5.3.1 The TA will demonstrate that there is a good quality pedestrian and cycle network in the vicinity of the site which can be connected to and enhanced to provide pedestrian and cycle connectivity between the site and any key local off site destinations. Any improvements required to the local network including Public Rights of Way and pedestrian crossings, will be identified.

5.4 Public Transport

5.4.1 Public transport provision will form an important element of a comprehensive transport strategy for the proposed site and the TA will identify the opportunity to use public transport to reach destinations further afield. The TA will assess the adequacy of the existing public transport facilities and services to serve the users of the site, and will if necessary identify any improvements required.

5.5 Framework Travel Plan

5.5.1 A Framework Travel Plan (FTP) will be developed in conjunction with the TA. The FTP will focus on promoting sustainable lifestyles amongst new residents, through reducing the need for travel by private car; providing non-car mode travel options for local journeys; and influencing modal choice. The FTP will also provide a framework for the implementation and long-term management of the Travel Plan.

Measures

- 5.5.2 In addition to linking the site to the pedestrian, cycling and public transport networks, the other key element of the TP will be to issue all new residents with a 'Travel Pack', which will include details of journey planning websites, walking and cycle maps, local cycle shops and bus timetable information. Consideration will also be given to travel incentives such as providing free or discounted use of public transport to future residents for a limited time, and other measures to promote sustainable travel and to maximise use of existing transport choices.

Structure of FTP

- 5.5.3 The FTP will be structured as follows:
- A brief summary of the site location and existing transport conditions in the vicinity of the site;
 - A set of objectives for the FTP and an outline of the potential benefits;
 - An outline of the sustainability aspects of the site design to support the use of sustainable travel modes to and from the site;
 - A description of the non-infrastructure or 'soft' measures proposed to facilitate and encourage the use of sustainable travel modes to and from the site;
 - A framework for the management and implementation of the Travel Plan, including a timetable setting out the responsibility and implementation of the proposed measures; and
 - Initial targets, a commitment to setting further targets in due course, and a proposed monitoring strategy.

SECTION 6 TRAFFIC IMPACT

6.1 Introduction

- 6.1.1 This section identifies the traffic parameters and approach that will be used to assess the traffic impact of the proposed development on the local highway network.

6.2 Trip Generation

- 6.2.1 In accordance with WSCC's TAM guidance, the TRICS database (version 2015 7.4.1) has been used to calculate the potential traffic generation of the proposed development. The trip rates have been obtained using the following parameters:

- Region – all of United Kingdom (except Greater London and Ireland);
- Size relevance – developments between 50 and 500 dwellings;
- Time period – surveys for the last 10-year period (start date: 01/04/2007);
- Location relevance – surveys in 'suburban' and 'edge of town' locations only;
- Date relevance – surveys undertaken during a weekday.

- 6.2.2 To present a robust assessment, it is proposed to apply 'Private Housing' only trip rate to whole development. This approach overestimates the likely traffic that would be generated by the affordable dwellings provided on the site (circa 40%).

- 6.2.3 The vehicle trip rates and resulting trips for Private Housing dwellings are summarised in **Table 6.1**. A full copy of the TRICS data is provided within **Appendix F**.

Table 6.1: Vehicle Trip Rates and Trips

Time	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	In	Out	Total	In	Out	Total
Private (per dwelling)	0.143	0.401	0.544	0.364	0.212	0.576
Vehicle Trips (200 Dwellings)	29	80	109	73	42	115

Source: TRICS

- 6.2.4 The trip rates are proposed for agreement with WSCC and HE.

6.3 Traffic Distribution and Assignment

Journey Purpose

- 6.3.1 Data derived from the National Travel Survey (NTS) 2015 (DfT) outlines the proportion of peak hour trips made by car, split into journey purpose (Table 6.2).

Table 6.2: Proportion of Peak Hour Trips by Journey Purpose (Car Driver Only)

Trip Purpose	AM Peak (0800-0900)	PM Peak (1700-1800)
Commuting/Business	40%	45%
All Other Journey Purposes	60%	55%
Total	100%	100%

Source: Car driver trip start time by trip purpose (Monday to Friday only). National Travel Survey, DfT, 2015

- 6.3.2 For the purposes of the TA, the analysis will be undertaken on the basis that 45% of the total vehicular trips generated by the residential development will be for employment journeys and the remaining 55% of the vehicle trips will be for all other purposes for both the morning and evening peak hour periods.

Trip Distribution

- 6.3.3 To provide an accurate assessment of the likely distribution of traffic from the site, separate methodologies have been applied to consider the destinations of commuting and business trips to other trip purposes:

- For commuting and business trips, the National Census Journey to Work statistics (for car drivers) for Arun 003 Super Output Area – Middle Layer have been used (which comprises of Walberton, Barnham, Eastergate and Westergate). These identify the location of existing resident's employment locations and so identify existing commuting patterns; and
- For other journey purpose trips a P/T² gravity model has been undertaken using the population of key urban areas (from the 2011 census) within a 40-minute drive from the site (estimated from Google Maps Directions facility).

- 6.3.4 Appendix G presents the detailed distribution model for agreement.

- 6.3.5 The two sets of data are then combined to generate a single set of distribution parameters to inform the development trip assignment (Table 6.3).

Table 6.3: Distribution of Car Driver Trips (All Purpose)

Destination	Employment Trips	Non-Employment Trips	All Trips Combined
Chichester	17.25%	3.58%	20.83%
Bognor Regis	6.52%	5.60%	12.11%
Walberton/Barnham	5.45%	4.91%	10.36%
Littlehampton	3.59%	5.22%	8.81%
Portsmouth	1.41%	6.94%	8.34%
Worthing	3.00%	3.26%	6.26%
Yapton	1.56%	4.38%	5.94%
Arundel	2.28%	0.59%	2.87%
Fareham/Gosport	0.38%	2.33%	2.71%
Other North	2.64%	-	2.64%
Havant	0.91%	1.49%	2.40%
Shoreham-by-Sea/Southwick	0.76%	1.30%	2.06%
Horndean/Clanfield/Waterlooville	0.51%	1.16%	1.68%
West Chiltington /Storrington/Thakeham	0.76%	0.82%	1.58%
Angmering	0.72%	0.78%	1.50%
Emsworth	0.63%	0.56%	1.19%
London	0.85%	-	0.85%
Selsey	0.49%	0.35%	0.84%
Petworth	0.61%	0.21%	0.82%
Petersfield	0.36%	0.41%	0.77%
Horsham	0.72%	-	0.72%
Crawley	0.70%	-	0.70%
Midhurst	0.34%	0.31%	0.65%
East/West Wittering	0.46%	0.17%	0.63%
Billinghurst	0.30%	0.31%	0.61%
Brighton	0.57%	-	0.57%
Other West	0.53%	-	0.53%
Steyning/Henfield	0.06%	0.27%	0.33%
Lewes	0.32%	-	0.32%
Burgess Hill	0.09%	-	0.09%
Haywards Heath	0.09%	-	0.09%
Partridge Green	0.02%	0.06%	0.08%
Other East	0.08%	-	0.08%
Other South	0.02%	-	0.02%
Total	55%	45%	100%

Source: 2011 Census / Consultant Gravity Model (some rounding applied)

- 6.3.6 This analysis identifies that Chichester is the main traffic attractor, with some 21% of total travel demand, followed by Bognor Regis (12%), Walberton/Barnham (10%), Littlehampton (9%) and Portsmouth (8%). The remainder of trips are well distributed across destinations along the south coast and beyond.

Assignment

- 6.3.7 The expected traffic that would be generated by the development is then distributed onto the local network to the destinations identified in **Table 6.3**.
- 6.3.8 To determine the routing of trips to these destinations, trips were assigned to the road network based on the quickest route from the site to the destination location using the Google Maps 'Directions' Facility.
- 6.3.9 Within the Directions facility, a start time for journeys of 08:00 was utilised to reflect peak period traffic conditions. In some cases, a single route option was identified by the assessment, however for the majority of destinations the assessment identified multiple routes. In these cases, the estimated development trips were distributed amongst the routes based upon the journey times identified, with the quickest route assigned a larger number of trips than slower comparable routes.
- 6.3.10 Traffic has been assigned to the local highway network according to:
- The distribution methodology set out;
 - The journey times of routes available based on journey planning software and local knowledge; and
 - The impact of the proposed access strategy on route choice.

6.3.11 **Table 6.4** presents the summary of the assignment assessment. This demonstrates that over two-thirds of vehicle trips are expected to route north from the site to the A27 corridor, with the remainder travelling to routes in the south. The full distribution model is included in **Appendix G** for agreement.

Table 6.4: Summary Traffic Assignment

Route 1		Route 2		Route 3		Route 4	
Yapton Lane N	68%	A27 West	68%	A27 West	50%	A27 West	44%
						A29 South	6%
				A27 East	13%	A27 East	13%
				A29 North	5%	A29 North	5%
Yapton Lane S	32%	North End Rd	22%				
		The Street	5%				
		Lake Lane W	5%				

6.3.12 The resulting development traffic assignment for the morning and evening peak hour periods are presented on traffic flow diagrams **TF39** and **TF42**.

6.4 Traffic Assessment Study Area

6.4.1 A series of traffic surveys have been carried out to consider the operation of the local highway network. Total junction throughput at each location identified has been assessed to identify the peak periods. The assessment is presented at **Appendix H** and identifies that the peak hours are:

- Morning Peak Hour – 07:15 – 08:15
- Evening Peak Hour – 16:45 – 17:45

6.4.2 To consider the high-level development impacts, and so the need for more detailed assessment, the peak hour development impacts have been considered against current network conditions (taken as total junction entry flows); refer **Table 6.5**.

Table 6.5: Development Traffic Impacts

Junction	2020 Morning Peak			2020 Evening Peak		
	Flow	Dev Flow	% Impact	Flow	Dev Flow	% Impact
A27 Arundel Road / Fontwell Avenue / Arundel Road	4,556	55	1.19%	4,557	58	1.26%
A27 Arundel Road / A29 Farmille Bottom	4,169	69	1.63%	3,887	69	1.74%
A27 Arundel Road / Yapton Lane / Shellbridge Road	2,748	75	2.66%	2,577	79	2.97%
Avisford Park / Yapton Lane	661	75	10.19%	541	79	12.74%
Yapton Lane / Site Access	666	109	14.06%	540	115	17.56%
Yapton Lane / The Street	799	35	4.20%	741	37	4.76%
Yapton Lane Railway Crossing	780	24	2.99%	700	25	3.45%

Source: Consultants calculations

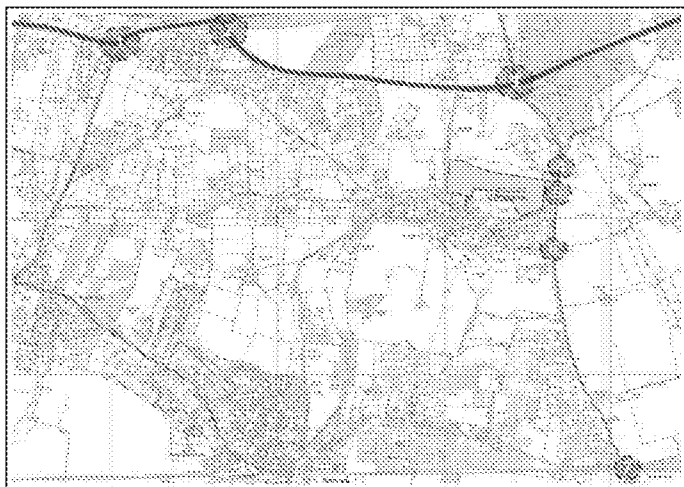
6.4.3 This assessment shows that the development is only likely to have a small impact on A27 corridor, increasing traffic flows at the three junctions between 1% and 3%.

6.4.4 Traffic flow increases on the local highway network are proportionately larger, with a 3%-5% increase in traffic flows at the Yapton Lane / The Street junction and at the Yapton Lane level crossing.

6.4.5 Notwithstanding the relatively limited increases in traffic likely to result from the development, as part of the TA it is proposed to carry out detailed assessments at the following junctions (as shown on **Image 6.1**):

- Junction 1 – A27 Arundel Road / Fontwell Avenue / Arundel Road;
- Junction 2 – A27 Arundel Road / A29 Farmille Bottom;
- Junction 3 – A27 Arundel Road / Yapton Lane / Shellbridge Road;
- Junction 4 – Avisford Park / Yapton Lane;
- Junction 5 – Yapton Lane / Site Access;
- Junction 6 – Yapton Lane / The Street; and
- Junction 7 – Yapton Lane Railway Crossing.

Image 6.1: Scope of Detailed Junction Assessment



6.5 Assessment Years and scenarios

6.5.1 The Highways England (HE) Circular 02/13 'Strategic Road Network and the delivery of Sustainable Development' identifies that:

"Where the overall forecast demand at the time of opening of the development can be accommodated by the existing infrastructure, further capacity mitigation will not be sought." (Paragraph 27)

6.5.2 The HE document 'Planning for the Future' identifies that in respect of assessing the development impact:

"Assessments should be carried out for:

- **the development and construction phase;**
- **and the opening year, assuming full build out and occupation;**
- **either a date ten years after the date of registration of the associated planning application or the end of the Local Plan period (whichever is the greater).**

The assessment at opening will be used for the determination of impact mitigation needs whilst the latter is necessary to determine the risk which will transfer to us." (Paragraph 101)

6.5.3 Based on the HE guidance, the traffic assessment for the TA will be carried out for the projected 'Opening Year' of development, assuming full development occupation and full occupation of all relevant Committed Development sites along with appropriate background traffic growth, and the end of the local plan period (this currently being 2031). The anticipated development timelines are set out at **Image 6.2**.

Image 6.2: Development Timeline



6.5.4 The following assessment scenarios are proposed for the TA:

- 2017 Base Year;
- 2020 Opening Year;
- 2020 with Committed Development (CD);
- 2020 Opening Year plus CD plus Development (assuming full occupation);
- For information - 2031 Opening Year;
- For information - 2031 Opening Year plus CD; and
- For information - 2031 Opening Year plus CD plus Development.

6.6 Traffic GrowthBackground traffic growth

6.6.1 In accordance with WSCC's TAM guidance, TEMPRO and National Transport Model (NTM 7.2) database has been interrogated in order to determine applicable growth rates for the background traffic to be grown from the baseline year (2017) to the opening year of 2020 and end of local plan year 2031. The rates presented are unadjusted for local development growth.

6.6.2 The derived growth rates are presented in **Table 6.6**.

Table 6.6: Calculated Local Peak Period Growth Rates

Growth Period	Time Period	Growth Rate
2017-2020	AM Peak	1.033
	PM Peak	1.032
2017-2031	AM Peak	1.140
	PM Peak	1.143

Source: TEMPRO and Consultant Calculated

Committed Development

6.6.3 A review of the Arun District Council planning application portal has been undertaken to identify permitted developments within the vicinity of the site which may have potential traffic impact on the local highway network being assessed as part of the development proposal. No committed developments have been identified.

6.6.4 However, the analysis has identified one development within the local area, this being a planning application for a mixed-use development of up to 400 dwellings, up to 5,000sqm light industrial employment space and up to 500sqm of flexible floor space for a range of community, leisure and retail use on Land to the East of Fontwell Avenue (WSCC planning WA/22/15/OUT).

6.6.5 Whilst this application is currently at call-in inquiry (as such is yet to be formally determined) the TA will consider a sensitivity test which includes the development at Fontwell coming Forward to ensure a robust approach.

6.6.6 We would be grateful for advice on whether any further committed developments should be considered.

SECTION 7 SUMMARY

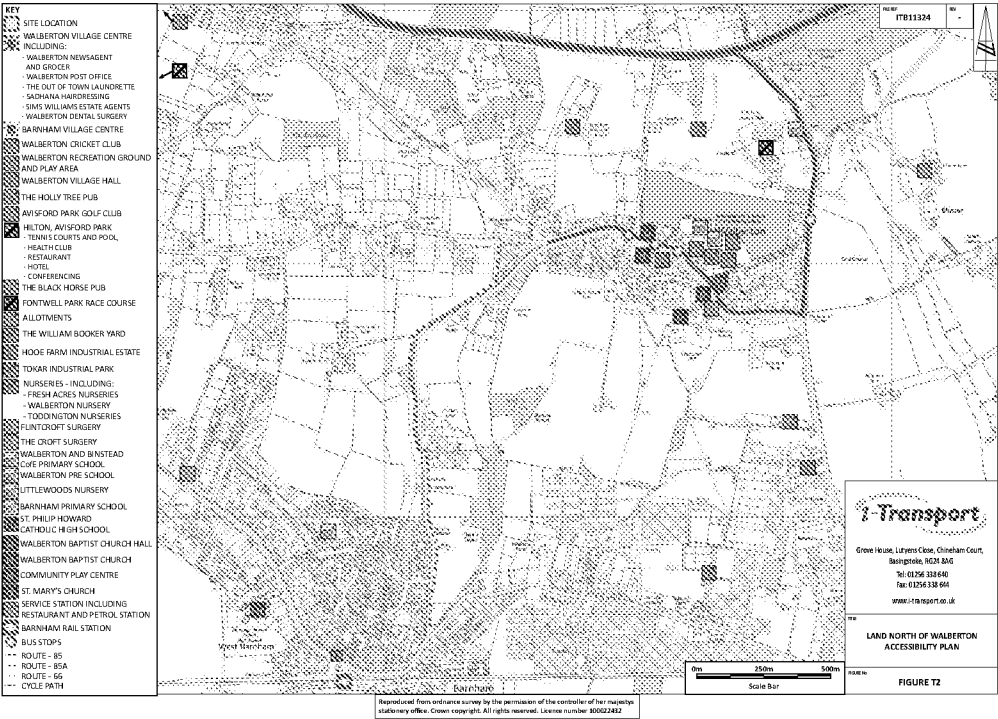
7.1.1 This Transport Assessment Scoping Note sets out the proposed methodology and parameters for a Transport Assessment to assess the transport and highways implications of a development of up to 200 dwellings on Land North of Walberton in West Sussex.

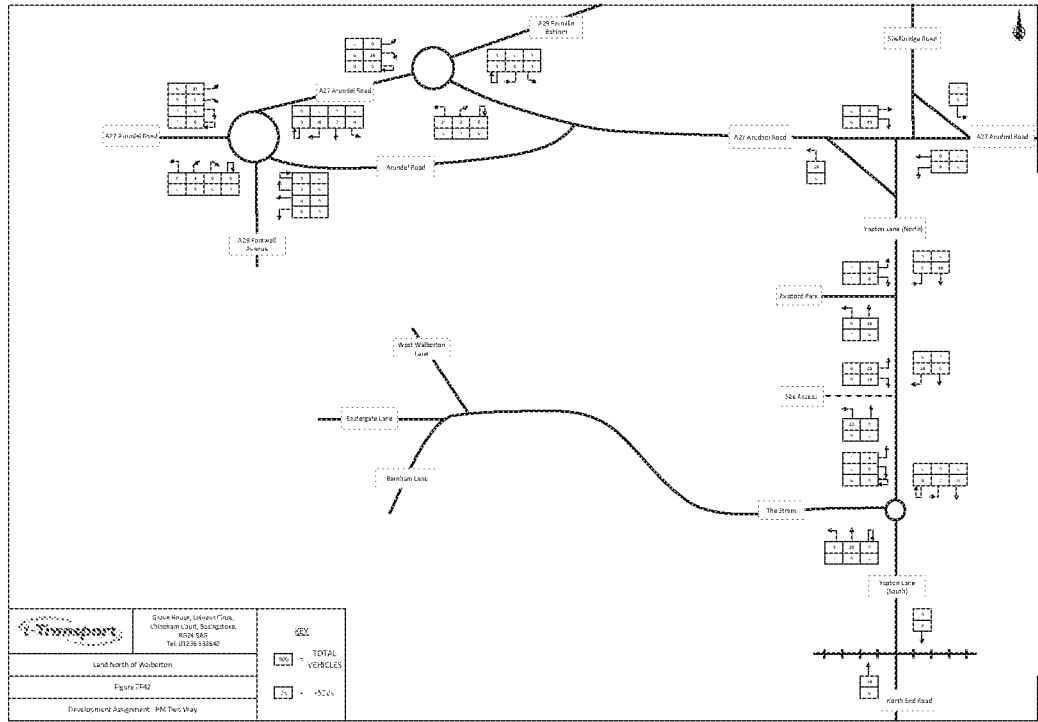
7.1.2 It is proposed to structure the Transport Assessment as follows:

- Section 2 will consider relevant national and local transport policies;
- Section 3 will review existing transport conditions in the vicinity of the site;
- Section 4 will provide details of the development proposal including the access strategy for the site;
- Section 5 will present a sustainable transport strategy;
- Section 6 will assess likely traffic impacts; and
- Section 7 will provide a summary and conclusion to the TA.

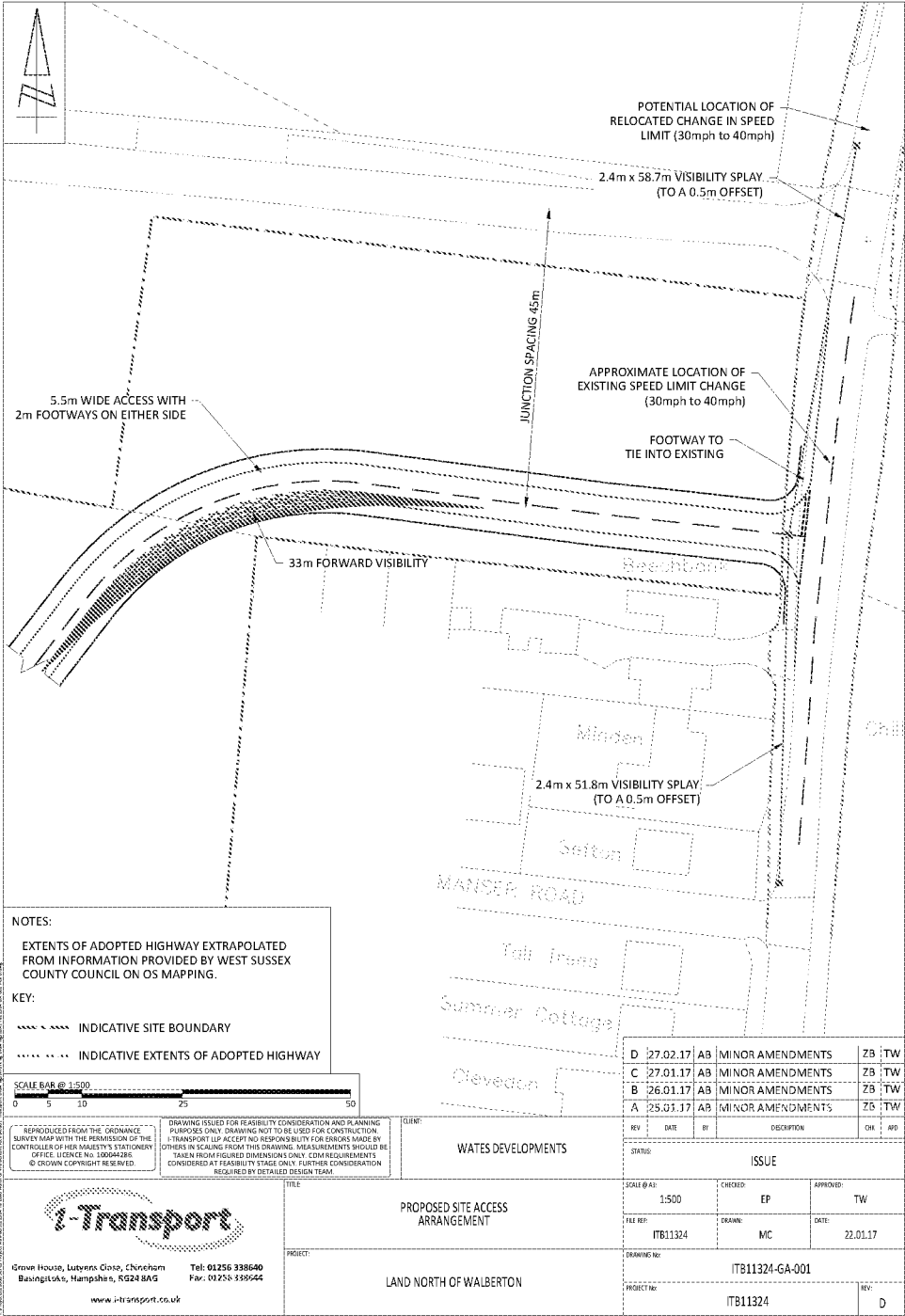
7.1.3 Agreement is sought from the Local Highway Authority, West Sussex County Council, and Highways England, that the parameters and suggested approach identified in this report are acceptable to enable production of the TA on an agreed basis.

FIGURES





DRAWING



APPENDIX A
ACCESS APPRAISAL
TECHNICAL NOTE
(EXTRACTS)



TECHNICAL NOTE

Project No: ITB11324
Project Title: Land at Walberton, West Sussex
Title: Access Appraisal
Ref: 28/TW/ITB11324-003 TN
Date: 27 February 2017

SECTION 1 INTRODUCTION

1.1.1 i-Transport has been approached by Yates Developments to provide highway and transport advice in relation to a proposed development on land at Walberton in West Sussex. The location of the site is shown indicatively at Image 1.

Image 1: Site Location



Source: Copernicus imagery and construction

1.1.2 The site is located to the north of Walberton village and south of the Aisford Park Hotel and Golf Club. The site is currently made up of approximately 11.5ha of agricultural land and is being promoted for residential development for up to 205 dwellings.

1.1.3 This Access Appraisal provides a review of the proposed vehicular / pedestrian access onto Yapton Lane, for discussion and agreement with the Local Highway Authority (West Sussex County Council).



1.2 Background Information

- 1.2.1 The following information has been used to develop the proposed access:
- A detailed site visit was carried out to view the site and surroundings, to investigate site access options and to undertake site measurements;
 - Highway boundary data was obtained from West Sussex County Council (WSCC) to confirm adopted highway extents (attached as **Appendix A**); and
 - West Sussex County Council 'Local Design Guide', Supplementary Guidance for Residential Development Proposals, Manual for Streets and Manual for Streets 2; have all been considered to determine an appropriate access

SECTION 2 EXISTING CONDITIONS

2.1 Local Highway Network

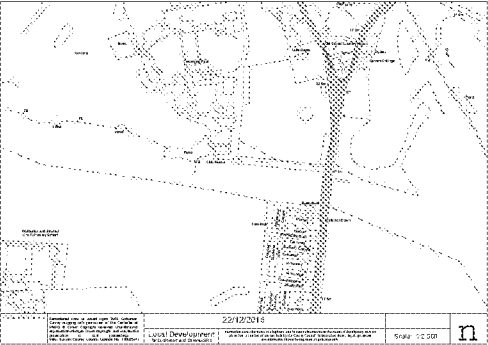
- 2.1.1 The site is bounded to the north by Aisford Park Hotel and Golf Club, to the east by Yapton Lane and residential dwellings, the south by Walberton & Binsted Church of England Primary School and the extents of the existing built-up residential area and the west by Tye Lane. The site benefits from highway frontage onto both Yapton Lane and Tye Lane (to the east and west respectively).
- 2.1.2 Yapton Lane and Tye Lane provide a connection to the southwest into the centre of Walberton village (via The Street) and northbound to the A27 Arundel Road, the A27 Arundel Road in turn provides a connection east towards Arundel and west to Chichester.
- 2.1.3 Yapton Lane is a residential single lane, two-way carriageway of varying width, between 6.5m and 7.1m, within the vicinity of the site. A 1.7m wide footway is present on the western (left) side of the road and provides a continuous connection from the Aisford Park Hotel and Golf Club access (to the north) southbound to Walberton village (via The Street). Yapton Lane is subject to a 30mph speed limit to the south of the site, however mid-way along the site frontage the speed limit changes to 40mph.

WAGGAS		Land at Walberton, West Sussex	
		Access Appraisal	
Table 3.3: Site Access/ Tipton Lane Junction Assessment Results			
	Proposed	2014	2031
AD1 'With Development'			
Site Access (Left and Right)	0.19	<1	0.08
Tipton Lane 'N' (Right and Ahead)	0.06	<1	0.13
2014 'With Development'			
Site Access (Left and Right)	0.12	<1	0.08
Tipton Lane 'N' (Right and Ahead)	0.07	<1	0.18
Source: Junction 5			
3.3.4	The proposed simple priority junction site access will operate well within capacity during the peak periods in both the forecast years, with a maximum RFC of only 0.22. No material queuing or delay is observed at the site access.		
SECTION 4 SUMMARY AND CONCLUSION			
4.3.1	Transport has been appointed by Wates to provide highways and transport advice in relation to a proposed residential development of up to 205 dwellings on land at Walberton in West Sussex.		
4.3.4	Access to the site is readily achievable in transport terms via a single 5.5m wide priority junction with 2m wide footways on both sides, as shown on Drawing ITS1133A-GA-501 . Visibility gales of 2.4m x 55.7m to the left and 2.4m x 33.8m to the right can be achieved in line with observed speeds and M19 requirements.		
4.3.3	The operational assessment results for the simple priority junction arrangement show a maximum RFC of only 0.22 in the future year of 2031 and as such the junction would operate wholly within capacity, without any modelled queuing or delay. It has therefore been demonstrated that the proposed site access junction arrangement provides more than sufficient capacity for the level of development proposed.		
¹ An RFC of 1 means that the traffic demand equals the available capacity. An RFC of less than 1 means that the junction is operating below capacity. An RFC of 0.85 is often used as a threshold of design capacity.			
Ref: 26/194/ITS1133A-GA-502 T16			
Date: 23 February 2017			
Page 3			

WAGGAS		Land at Walberton, West Sussex	
		Access Appraisal	
4.2	Conclusion		
4.2.1	In accordance with the key policy set out in paragraph 32 of the National Planning Policy Framework, it has been demonstrated that safe and suitable access to the site can be delivered from Tipton Lane in the form of a simple priority junction arrangement.		
4.2.2	WSCC Views are sought to confirm the principles of access. Subject to a feedback, an independent Stage 1 Road Safety Audit will be commissioned.		
Ref: 26/194/ITS1133A-GA-502 T16		Page 3	
Date: 23 February 2017			

APPENDIX A

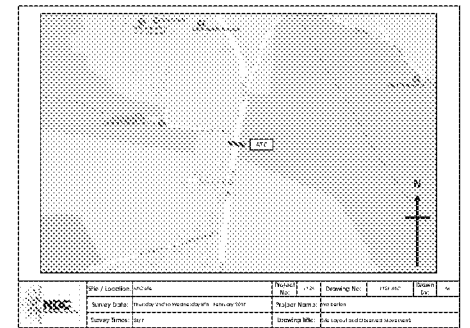
WSCC EXTENTS OF ADOPTED HIGHWAY



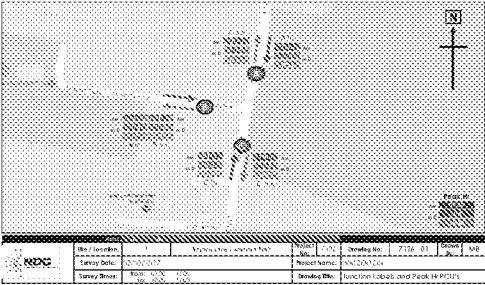
APPENDIX B CRASHMAP EXTRACT



APPENDIX C TRAFFIC SURVEY RESULTS

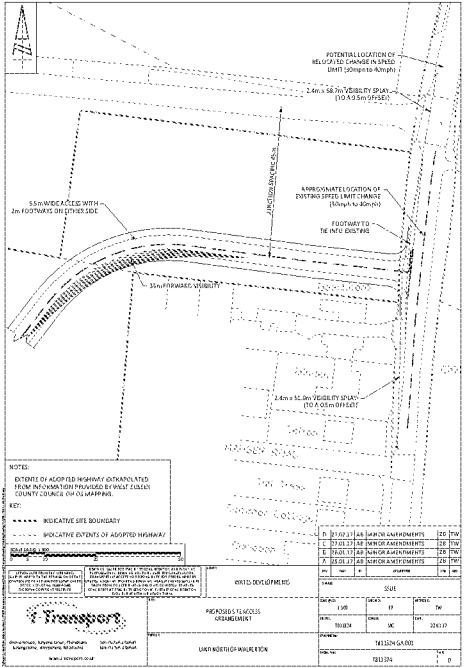


T132 - Substation Scheme 2017 At National Grid (NGB)											
Station	Ref	At National Grid	At National Grid	11.10	11.11	11.12	11.13	11.14	11.15	11.16	11.17
Sub	10	At National Grid	At National Grid	11.10	11.11	11.12	11.13	11.14	11.15	11.16	11.17
Sub	10	At National Grid	At National Grid	11.10	11.11	11.12	11.13	11.14	11.15	11.16	11.17
Sub	10	At National Grid	At National Grid	11.10	11.11	11.12	11.13	11.14	11.15	11.16	11.17



Arjun District Council
10/10/17

APPENDIX D DRAWING ITB3.1324-GA-001



TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected ranges and dates:

02 SOUTH EAST		
03 SOUTH WEST	1 days	
04 SOUTH	2 days	
05 WEST MIDLANDS	1 days	
06 SWITZERLAND	2 days	
07 YORKSHIRE & NORTH LINCOLNSHIRE	1 days	
08 NORTH YORKSHIRE	2 days	
09 NORTH	1 days	

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

Secondary filtering selection:

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

Parameter:	Number of dwellings
Actual Range:	70 to 151 (units)
Range Selected by User:	70 to 300 (units)

<u>Public Transport Proximity:</u>	Include all surveys
Selection type:	

Date Range: 01/01/08 to 28/09/15

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

Selected survey dates:

Monday	1 days
Tuesday	1 days
Wednesday	2 days
Thursday	3 days

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

Selected survey dates:

Manual counts	7 days
Overnight ATC Count	0 days

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

Selected locations:

Suburban Area (PP55 Out of Centre)	4
Edge of Town	3

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

Selected location sub-categories:

Residential Zone	4
No Sub Category	3

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

Secondary Filtering selection:

<u>Use Cases:</u>	7 days
C1	

This data displays the number of surveys per Use Case classification within the selected set. The Use Cases Order 2016 has been used for the purposes, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,000 to 1,500	1 days
1,500 to 10,000	1 days
10,000 to 15,000	4 days
15,000 to 25,000	1 days

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

Population within 5 miles:

5,000 to 25,000	2 days
25,000 to 50,000	1 days
50,000 to 100,000	3 days

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

Car ownership within 5 miles:

0.5 to 1.0	1 days
1.0 to 1.5	6 days

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

Travel Plans:

Yes	1 days
No	6 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Ratings:

No PTAL Present	7 days
-----------------	--------

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

LIST OF SITES related to selection parameters

1	CR-03-A-04	SEMI DETACHED	CUMBRITIA
	WYBORNIC WAD		
	SALTERBACK		
	WYBORNIC		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	82	
	Survey date: FRIDAY	24/04/09	Survey Type: MANUAL
2	DV-03-A-02	HOUSES & BUNGALOWS	DEVON
	MILLFIELD ROAD		
	HONINGTON		
	Suburban Area (PP55 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	116	
	Survey date: FRIDAY	26/09/15	Survey Type: MANUAL
3	DV-03-A-03	TERPACED & SEMI DETACHED	DEVON
	LOWER BRAND LANE		
	HONINGTON		
	Suburban Area (PP55 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	71	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL
4	NY-03-A-06	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	HORSEFAR		
	BOROUGHBRIDGE		
	Suburban Area (PP55 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: MONDAY	24/09/12	Survey Type: MANUAL
5	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD		
	RIPON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	72	
	Survey date: THURSDAY	17/09/13	Survey Type: MANUAL
6	SH-03-A-04	TERPACED	SHROPSHIRE
	ST MICHAEL'S STREET		
	SHROPSHIRE		
	Suburban Area (PP55 Out of Centre)		
	No Sub Category		
	Total Number of dwellings:	128	
	Survey date: THURSDAY	11/06/09	Survey Type: MANUAL
7	WE-03-A-04	MIXED HOUSES	WEST SUSSEX
	HILLS FARM LANE		
	BROOKWOOD HILL		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	151	
	Survey date: THURSDAY	11/12/14	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

2015-14-0012-01-06 10:20:19 192.168.0.100:100
 Page 4
 I-Transport Grove House Gaslight
 Licence No: 24561

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

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	DPP(0.0) (mg)		DPP(0.1) (mg)		DPP(0.2) (mg)		DPP(0.4) (mg)	
	No.	Mean	No.	Mean	No.	Mean	No.	Mean
00:00 - 00:09	2	0.00	2	0.00	2	0.00	2	0.00
00:09 - 00:18	2	0.00	2	0.00	2	0.00	2	0.00
00:18 - 00:27	2	0.00	2	0.00	2	0.00	2	0.00
00:27 - 00:36	2	0.00	2	0.00	2	0.00	2	0.00
00:36 - 00:45	2	0.00	2	0.00	2	0.00	2	0.00
00:45 - 00:54	2	0.00	2	0.00	2	0.00	2	0.00
00:54 - 01:03	2	0.00	2	0.00	2	0.00	2	0.00
01:03 - 01:12	2	0.00	2	0.00	2	0.00	2	0.00
01:12 - 01:21	2	1.00	0.00	2	1.00	0.25	2	1.00
01:21 - 01:30	2	1.00	0.50	2	1.00	0.50	2	1.00
01:30 - 01:39	2	1.00	0.50	2	1.00	0.50	2	1.00
01:39 - 01:48	2	1.00	0.50	2	1.00	0.50	2	1.00
01:48 - 01:57	2	1.00	0.50	2	1.00	0.50	2	1.00
01:57 - 02:06	2	1.00	0.50	2	1.00	0.50	2	1.00
02:06 - 02:15	2	1.00	0.50	2	1.00	0.50	2	1.00
02:15 - 02:24	2	1.00	0.50	2	1.00	0.50	2	1.00
02:24 - 02:33	2	1.00	0.50	2	1.00	0.50	2	1.00
02:33 - 02:42	2	1.00	0.50	2	1.00	0.50	2	1.00
02:42 - 02:51	2	1.00	0.50	2	1.00	0.50	2	1.00
02:51 - 03:00	2	1.00	0.50	2	1.00	0.50	2	1.00
03:00 - 03:09	2	1.00	0.50	2	1.00	0.50	2	1.00
03:09 - 03:18	2	1.00	0.50	2	1.00	0.50	2	1.00
03:18 - 03:27	2	1.00	0.50	2	1.00	0.50	2	1.00
03:27 - 03:36	2	1.00	0.50	2	1.00	0.50	2	1.00
03:36 - 03:45	2	1.00	0.50	2	1.00	0.50	2	1.00
03:45 - 03:54	2	1.00	0.50	2	1.00	0.50	2	1.00
03:54 - 04:03	2	1.00	0.50	2	1.00	0.50	2	1.00
04:03 - 04:12	2	1.00	0.50	2	1.00	0.50	2	1.00
04:12 - 04:21	2	1.00	0.50	2	1.00	0.50	2	1.00
04:21 - 04:30	2	1.00	0.50	2	1.00	0.50	2	1.00
04:30 - 04:39	2	1.00	0.50	2	1.00	0.50	2	1.00
04:39 - 04:48	2	1.00	0.50	2	1.00	0.50	2	1.00
04:48 - 04:57	2	1.00	0.50	2	1.00	0.50	2	1.00
04:57 - 05:06	2	1.00	0.50	2	1.00	0.50	2	1.00
05:06 - 05:15	2	1.00	0.50	2	1.00	0.50	2	1.00
05:15 - 05:24	2	1.00	0.50	2	1.00	0.50	2	1.00
05:24 - 05:33	2	1.00	0.50	2	1.00	0.50	2	1.00
05:33 - 05:42	2	1.00	0.50	2	1.00	0.50	2	1.00
05:42 - 05:51	2	1.00	0.50	2	1.00	0.50	2	1.00
05:51 - 06:00	2	1.00	0.50	2	1.00	0.50	2	1.00
06:00 - 06:09	2	1.00	0.50	2	1.00	0.50	2	1.00
06:09 - 06:18	2	1.00	0.50	2	1.00	0.50	2	1.00
06:18 - 06:27	2	1.00	0.50	2	1.00	0.50	2	1.00
06:27 - 06:36	2	1.00	0.50	2	1.00	0.50	2	1.00
06:36 - 06:45	2	1.00	0.50	2	1.00	0.50	2	1.00
06:45 - 06:54	2	1.00	0.50	2	1.00	0.50	2	1.00
06:54 - 07:03	2	1.00	0.50	2	1.00	0.50	2	1.00
07:03 - 07:12	2	1.00	0.50	2	1.00	0.50	2	1.00
07:12 - 07:21	2	1.00	0.50	2	1.00	0.50	2	1.00
07:21 - 07:30	2	1.00	0.50	2	1.00	0.50	2	1.00
07:30 - 07:39	2	1.00	0.50	2	1.00	0.50	2	1.00
07:39 - 07:48	2	1.00	0.50	2	1.00	0.50	2	1.00
07:48 - 07:57	2	1.00	0.50	2	1.00	0.50	2	1.00
07:57 - 08:06	2	1.00	0.50	2	1.00	0.50	2	1.00
08:06 - 08:15	2	1.00	0.50	2	1.00	0.50	2	1.00
08:15 - 08:24	2	1.00	0.50	2	1.00	0.50	2	1.00
08:24 - 08:33	2	1.00	0.50	2	1.00	0.50	2	1.00
08:33 - 08:42	2	1.00	0.50	2	1.00	0.50	2	1.00
08:42 - 08:51	2	1.00	0.50	2	1.00	0.50	2	1.00
08:51 - 09:00	2	1.00	0.50	2	1.00	0.50	2	1.00
09:00 - 09:09	2	1.00	0.50	2	1.00	0.50	2	1.00
09:09 - 09:18	2	1.00	0.50	2	1.00	0.50	2	1.00
09:18 - 09:27	2	1.00	0.50	2	1.00	0.50	2	1.00
09:27 - 09:36	2	1.00	0.50	2	1.00	0.50	2	1.00
09:36 - 09:45	2	1.00	0.50	2	1.00	0.50	2	1.00
09:45 - 09:54	2	1.00	0.50	2	1.00	0.50	2	1.00
09:54 - 10:03	2	1.00	0.50	2	1.00	0.50	2	1.00
10:03 - 10:12	2	1.00	0.50	2	1.00	0.50	2	1.00
10:12 - 10:21	2	1.00	0.50	2	1.00	0.50	2	1.00
10:21 - 10:30	2	1.00	0.50	2	1.00	0.50	2	1.00
10:30 - 10:39	2	1.00	0.50	2	1.00	0.50	2	1.00
10:39 - 10:48	2	1.00	0.50	2	1.00	0.50	2	1.00
10:48 - 10:57	2	1.00	0.50	2	1.00	0.50	2	1.00
10:57 - 11:06	2	1.00	0.50	2	1.00	0.50	2	1.00
11:06 - 11:15	2	1.00	0.50	2	1.00	0.50	2	1.00
11:15 - 11:24	2	1.00	0.50	2	1.00	0.50	2	1.00
11:24 - 11:33	2	1.00	0.50	2	1.00	0.50	2	1.00
11:33 - 11:42	2	1.00	0.50	2	1.00	0.50	2	1.00
11:42 - 11:51	2	1.00	0.50	2	1.00	0.50	2	1.00
11:51 - 12:00	2	1.00	0.50	2	1.00	0.50	2	1.00
12:00 - 12:09	2	1.00	0.50	2	1.00	0.50	2	1.00
12:09 - 12:18	2	1.00	0.50	2	1.00	0.50	2	1.00
12:18 - 12:27	2	1.00	0.50	2	1.00	0.50	2	1.00
12:27 - 12:36	2	1.00	0.50	2	1.00	0.50	2	1.00
12:36 - 12:45	2	1.00	0.50	2	1.00	0.50	2	1.00
12:45 - 12:54	2	1.00	0.50	2	1.00	0.50	2	1.00
12:54 - 13:03	2	1.00	0.50	2	1.00	0.50	2	1.00
13:03 - 13:12	2	1.00	0.50	2	1.00	0.50	2	1.00
13:12 - 13:21	2	1.00	0.50	2	1.00	0.50	2	1.00
13:21 - 13:30	2	1.00	0.50	2	1.00	0.50	2	1.00
13:30 - 13:39	2	1.00	0.50	2	1.00	0.50	2	1.00
13:39 - 13:48	2	1.00	0.50	2	1.00	0.50	2	1.00
13:48 - 13:57	2	1.00	0.50	2	1.00	0.50	2	1.00
13:57 - 14:06	2	1.00	0.50	2	1.00	0.50	2	1.00
14:06 - 14:15	2	1.00	0.50	2	1.00	0.50	2	1.00
14:15 - 14:24	2	1.00	0.50	2	1.00	0.50	2	1.00
14:24 - 14:33	2	1.00	0.50	2	1.00	0.50	2	1.00
14:33 - 14:42	2	1.00	0.50	2	1.00	0.50	2	1.00
14:42 - 14:51	2	1.00	0.50	2	1.00	0.50	2	1.00
14:51 - 15:00	2	1.00	0.50	2	1.00	0.50	2	1.00
15:00 - 15:09	2	1.00	0.50	2	1.00	0.50	2	1.00
15:09 - 15:18	2	1.00	0.50	2	1.00	0.50	2	1.00
15:18 - 15:27	2	1.00	0.50	2	1.00	0.50	2	1.00
15:27 - 15:36	2	1.00	0.50	2	1.00	0.50	2	1.00
15:36 - 15:45	2	1.00	0.50	2	1.00	0.50	2	1.00
15:45 - 15:54	2	1.00	0.50	2	1.00	0.50	2	1.00
15:54 - 16:03	2	1.00	0.50	2	1.00	0.50	2	1.00
16:03 - 16:12	2	1.00	0.50	2	1.00	0.50	2	1.00
16:12 - 16:21	2	1.00	0.50	2	1.00	0.50	2	1.00
16:21 - 16:30	2	1.00	0.50	2	1.00	0.50	2	1.00
16:30 - 16:39	2	1.00	0.50	2	1.00	0.50	2	1.00
16:39 - 16:48	2	1.00	0.50	2	1.00	0.50	2	1.00
16:48 - 16:57	2	1.00	0.50	2	1.00	0.50	2	1.00
16:57 - 17:06	2	1.00	0.50	2	1.00	0.50	2	1.00
17:06 - 17:15	2	1.00	0.50	2	1.00	0.50	2	1.00
17:15 - 17:24	2	1.00	0.50	2	1.00	0.50	2	1.00
17:24 - 17:33	2	1.00	0.50	2	1.00	0.50	2	1.00
17:33 - 17:42	2	1.00	0.50	2	1.00	0.50	2	1.00
17:42 - 17:51	2	1.00	0.50	2	1.00	0.50	2	1.00
17:51 - 18:00	2	1.00	0.50	2	1.00	0.50	2	1.00
18:00 - 18:09	2	1.00	0.50	2	1.00	0.50	2	1.00
18:09 - 18:18	2	1.00	0.50	2	1.00	0.50	2	1.00
18:18 - 18:27	2	1.00	0.50	2	1.00	0.50	2	1.00
18:27 - 18:36	2	1.00	0.50	2	1.00	0.50	2	1.00
18:36 - 18:45	2	1.00	0.50	2	1.00	0.50	2	1.00
18:45 - 18:54	2	1.00	0.50	2	1.00	0.50	2	1.00
18:54 - 19:03	2	1.00	0.50	2	1.00	0.50	2	1.00
19:03 - 19:12	2	1.00	0.50	2	1.00	0.50	2	1.00
19:12 - 19:21	2	1.00	0.50	2	1.00	0.50	2	1.00
19:21 - 19:30	2	1.00	0.50	2	1.00	0.50	2	1.00
19:30 - 19:39	2	1.00	0.50	2	1.00	0.50	2	1.00
19:39 - 19:48	2	1.00	0.50	2	1.00	0.50	2	1.00
19:48 - 19:57	2	1.00	0.50	2	1.00	0.50	2	1.00
19:57 - 20:06	2	1.00	0.50	2	1.00	0.50	2	1.00
20:06 - 20:15	2	1.00	0.50	2	1.00	0.50	2	1.00
20:15 - 20:24	2	1.00	0.50	2	1.00	0.50	2	1.00
20:24 - 20:33	2	1.00	0.50	2	1.00	0.50	2	1.00
20:33 - 20:42	2	1.00	0.50	2	1.00	0.50	2	1.00
20:42 - 20:51	2	1.00	0.50	2	1.00	0.50	2	1.00
20:51 - 21:00	2	1.00	0.50	2	1.00	0.50	2	1.00
21:00 - 21:09	2	1.00	0.50	2	1.00	0.50	2	1.00
21:09 - 21:18	2	1.00	0.50	2	1.00	0.50	2	1.00
21:18 - 21:27	2	1.00	0.50	2	1.00	0.50	2	1.00
21:27 - 21:36	2	1.00	0.50	2	1.00	0.50	2	1.00
21:36 - 21:45	2	1.00	0.50	2	1.00	0.50	2	1.00
21:45 - 21:54	2	1.00	0.50	2	1.00	0.50	2	1.00
21:54 - 22:								

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

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

Parameter summary

Trip rate parameters range selected:	70 - 151 (units:)
Survey date date range:	01/01/08 - 29/09/15
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
Surveys manually removed from selection:	0

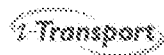
This section displays a quick summary of some of the data filtering selections made by the TRACS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey rates selected by the user. Then, the total number of selected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

Category	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903	2904	2905	2906	2907	2908	2909	2910	2911	2912	2913	2914	2915	2916	2917	2918	2919	2920	2921	2922	2923	2924	2925	2926	2927	2928	2929	2930	2931	2932	2933	2934	2935	2936	2937	2938	2939	2940	2941	2942	2943	2944	2945	2946	2947	2948	2949	2950	2951	2952	2953	2954	2955	2956	2957	2958	2959	2960	2961	2962	2963	2964	2965	2966	2967	2968	2969	2970	2971	2972	2973	2974	2975	2976	2977	2978	2979	2980	2981	2982	2983	2984	2985	2986	2987	2988	2989	2990	2991	2992	2993	2994	2995	2996	2997	2998	2999	3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Substrate	Concentration (%)	Growth rate (h ⁻¹)	
		20°C	30°C
Polystyrene (4.00%)	75%	0.1	0.0
Polystyrene (1.00%)	10%	0.0	0.0
DMF	100.0%	0.0	0.7

APPENDIX G

CAPACITY RESULTS



NOTES OF MEETING

Project No: IT81324
Project Title: Land at Walberton
Date/Time: 3 March 2017
Venue: WSCC Offices, Chichester

i-Transport LLP
 Grove House
 Lutyens Close
 Chicheham Court
 Basingstoke
 Hampshire
 RG24 8AG
 Tel: 01256 338640
 Fax: 01256 338644
 www.i-transport.co.uk

Attendees

Dominic Smith - WSCC (DS)
 Tim Wall - i-Transport (TW)

Item

1.0 Introduction and Background

1.1 Wates Developments are promoting land at Walberton for residential development of up to 205 dwellings. A vision document has been shared with Arun District Council (ADC), with the intention of promoting the site for development to the ADC Local Plan. A pre-application meeting with ADC is programmed for the 14th March 2017.

1.2 i-Transport has been appointed to provide advice on highways and transport matters and prepared an Access Appraisal Technical Note as submitted to DS prior to the meeting. This meeting is intended to discuss:

- Access Strategy Principles;
- Site Accessibility; and
- Key Highway Constraints.

2.0 Access Strategy Principles

2.1 TW presented the Access Appraisal Note. This presents a review of background information and identifies that an access to Yapton Lane to the east of the site can be delivered which:

- Provides a simple priority junction to Yapton Lane which achieves visibility splays of 2.4m x 58.7m to the north and 2.4m x 51.8m to the south, commensurate with observed speeds on Yapton Lane;
- Identifies a 5.5m wide access road leading into the site, with 2m footways on each side of the road to connect to the existing footway network on the western side of Yapton Lane;
- Achieves 45m separation to the Golf Course access to the north;
- Delivers a road leading into the site with a forward visibility envelope of 33m (in line with a 25mph design speed).

Item

2.2 Operational assessment using Junctions 9 has confirmed that the access would operate well within capacity at the end of the ADC Local Plan period (2031) and that there is no need for a right-turn lane at Yapton Lane.

2.3 DS confirmed that the principles of the access as presented were acceptable and that there would not be any overriding objection to access as proposed.

2.4 DS also noted that:

- Swept path analysis should be carried out and would inform the final design. DS considered some minor widening to 6m at the junction mouth may be needed;
- Whilst not necessary for visibility, re-location of the existing 30/40 speed limit transition to the north of the Golf Course access would be beneficial. Measured speeds would support this and it could be supported by delivery of a gateway feature to the village;
- A junction separation of 45m to the golf course access is acceptable and there is no interference with respective visibility;
- A Stage 1 Road Safety Audit would be required to support a future planning application; and
- WSCC do not actively seek road adoption. If roads are offered for adoption and meet standards, WSCC will adopt, but they are happy for internal roads to remain private. Refuse vehicles enter private housing estates and the S106 will allow for this.

3.0 Site Accessibility

3.1 TW presented an accessibility plan which demonstrates that Walberton offers a range of everyday facilities including primary school, community and leisure facilities and basic retail provision. DS noted that the nurseries to the south employ a significant number of people and a new Haulage depot is to be constructed.

3.2 Bus services 85/85A run from the site frontage at Yapton Lane to Barnham (for rail connection), Arundel and Chichester and are supported by school services from The Street. There is a newly constructed cycle link between Walberton and Barnham.

3.3 TW explained that the current development concept sought to achieve a permeable development for walking and cycling, with pedestrian and cycle access to Yapton Lane and Tye Lane, as well as pedestrian connections to the public footpath that runs along Avisford Park Road to the south of the site and to The Street in the centre of the site.

3.4 DS noted that Walberton village provided a good range of everyday facilities and that there are no overall concerns regarding the accessibility of the site.

Item

3.5 DS did note that he would expect any proposal to deliver good permeability and to offer improvements to local infrastructure, to include:

- Connection to and potential enhancements to local public rights of way – DS would engage is ROW officer for their views;
- Consideration of improved crossing facilities; and
- Improved bus stops provision on Yapton Lane.

4.0 Site Highway Constraints

4.1 DS noted that the key highway constraints to consider include:

- A27 Junction with Yapton Lane – consultation with Highways England will be needed; and
- Yapton Lane railway level crossing (half barrier) – Consultation with Network Rail needed.

4.2 In view of the likely traffic flows (which route most traffic north to the A27), detailed assessment of the Yapton Lane / The Street roundabout is unlikely to be required. There are no other local highway concerns.

4.3 TW/DS discussed the abandonment of the A27 Chichester Bypass scheme. This does not have implications for development at Walberton but will affect future applications in the Chichester Area. DS confirmed that the Arundel Bypass remains a commitment with public consultation planned later in 2017. One of the route options considered routes through Binstead Village close to Walberton, and the results of the HE assessment will need to be considered to understand any possible implications.

4.4 DS advised that a called-in planning appeal at Fontwell is being considered with the decision expected shortly. The development (400 dwellings) is proposing significant improvement to the Fontwell roundabout. This would need to be considered dependent upon the result of the appeal.

5.0 AOB

5.1 DS confirmed that he would be able to provide written advice through their free advice service to formalise the discussion, and that this can be provided before the ADC pre-application meeting. TW to submit request form. Beyond this, and should the application be taken forward, DS expects advice to be provided through the formal WSCC pre-application process where charges apply.

APPENDIX C

WSCC PRE-APPLICATION RESPONSE (13/03/17)

Author

Tim Wall

**WEST SUSSEX COUNTY COUNCIL
PRE APPLICATION CONSULTATION**

DATE: 13th March 2017

FROM: Dominic Smith TO: i-Transport LLP
FAO: Tim Wall

SUBJECT: PRE-005-17

Residential development of up to 205 dwellings

Land North of Walberton

RECOMMENDATION:

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

West Sussex County Council (WSCC), in its capacity as the local The Highways Authority has been consulted for pre-application advice in regard to the proposed residential development at land to the north of Walberton. The submission was accompanied by Technical Note ZB/TW/ITB11324-003 N. A meeting was also held at County Hall, Chichester on the 3rd March 2017 between representatives of i-Transport and WSCC.

Access

A simple priority junction is proposed to serve the site. Visibility has been demonstrated to be in accordance with Manual for Streets parameters, based on the recorded speed obtained through an ATC assessment. Junction spacing is also provided for consistent with MFS guidance.

Capacity assessment of the junction should inform whether a right turn lane should be provided. It is understood that the Applicant has undertaken a PICADY assessment, and this shows no incidence of queuing occurring. The accident history of the local area does not suggest that there is a trend of rear shunt collisions as a result of vehicles waiting to turn right at junctions. Therefore, the provision of a simple priority junction would appear to be appropriate.

The geometry of the access should be informed by vehicular tracking, to minimise the occurrence of a refuse, or other large, vehicle crossing the centre line of the carriageway or becoming obstructed by a vehicle waiting to exit the site.

A Road Safety Audit: Stage 1 will be required, in-line with the WSCC Road Safety Audit Policy.

Whilst access design is based on the recorded speed, as opposed to the speed limit, there would be benefit to relocation of the speed limit change and this should be explored. This could also provide the opportunity for a gateway feature to be introduced.

Accessibility

Options should be explored to provide connectivity to the south of the site, with potential to use the Public Rights of Way into the village. There may be scope for surfacing to be enhanced, and it is recommended that the WSCC PROW Team are engaged (jonathan.perks@westsussex.gov.uk).

The Applicant should consider the infrastructure utilised by residents of the proposed development (i.e. any cycle or pedestrian infrastructure on key desire lines, bus stops etc) and establish whether enhancement will be necessary to accommodate additional demand, or make it more attractive for use by future residents of the site.

Capacity

Capacity testing should occur where the development results in an entry flow increase of 50 or more vehicles during the course of any hour. Given the strong northern distribution that is likely to occur, it is unlikely that any testing will be required on the local network. There may be the need to consider the impact on the A27, and it is recommended that the Applicant engages Highway England in respect of any capacity testing requirements.

Network Rail has previously expressed concern regarding the operation of the Yapton Level Crossing. It is recommended that the Applicant engages Network Rail in respect of any requirements they may have in considering the impact upon this infrastructure.

It should be noted that the HE have recently cancelled a programme of major investment on the A27. It is unclear at this time whether this will have any impact on mitigation along the section of the A27 within Arun, for example, the Fontwell junction. Major investment schemes at Arundel and Worthing are still programmed.

Meeting

The LHA is satisfied that the meeting note ref: ITB1324 is an accurate record of the meeting held on the 3rd March 2017.

Dominic Smith
Strategic Planning



Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.1.4646 [J]
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The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution.

Filename: Site Access Priority Junction.j9
Path: T:\Projects\11000 Series Project Numbers\11324\TB Land North of Walberton\Tech\Junc Models\Picady\Site Access\2020 & 2031
Report generation date: 11/04/2017 17:21:46

- *2020 'With Development', AM
- *2020 'With Development', PM
- *2031 'With Development', AM
- *2031 'With Development', PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2020 'With Development'								
Stream B-AC	0.2	10.13	0.18	C	0.1	7.63	0.08	A
Stream C-AB	0.1	5.82	0.04	A	0.2	4.66	0.10	A
2031 'With Development'								
Stream B-AC	0.2	10.62	0.19	C	0.1	7.79	0.08	A
Stream C-AB	0.1	5.83	0.04	A	0.2	4.58	0.10	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description	
Title	Site Priority Access
Location	Walberton
Site number	
Date	11/04/2017
Version	
Status	
Identifier	
Client	Wates Developments
Jobnumber	ITB11324
Enumerator	RS
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

APPENDIX D SITE ACCESS – JUNCTIONS 9 ASSESSMENT



Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15
D2	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15
D3	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15
D4	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000



2020 'With Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.23	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Yapton Lane S		Major
B	Site Access		Minor
C	Yapton Lane N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50			200.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.20	19	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	125.249	0.089	0.226	0.142	0.322
1	B-C	161.516	0.097	0.245	-	-
1	C-B	172.446	0.261	0.261	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15



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Vehicle mix source	PCU Factor for a.HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To			
From		A	B	C	
	A	0.00	2.00	93.00	
	B	6.00	0.00	14.00	
	C	36.00	5.00	0.00	

07:15 - 07:30

Demand (Veh/TS)

		To			
From		A	B	C	
	A	0.00	2.00	125.00	
	B	6.00	0.00	14.00	
	C	43.00	5.00	0.00	

07:30 - 07:45

Demand (Veh/TS)

		To			
From		A	B	C	
	A	0.00	2.00	136.00	
	B	6.00	0.00	14.00	
	C	45.00	5.00	0.00	

07:45 - 08:00

Demand (Veh/TS)

		To			
From		A	B	C	
	A	0.00	2.00	146.00	
	B	6.00	0.00	14.00	
	C	41.00	5.00	0.00	

08:00 - 08:15

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A	B	C	
	A	0	0	2	
	B	0	0	0	
	C	3	0	0	



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Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.18	10.13	0.2	S
C-AB	0.04	5.82	0.1	A
C-A				
AB				
AC				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	122.41	0.163	19.61	0.2	8.755	S
C-AB	6.33	171.04	0.037	6.28	0.1	5.461	A
C-A	34.67			34.67			
AB	2.00			2.00			
AC	93.00			93.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	113.95	0.176	19.98	0.2	9.575	S
C-AB	6.73	167.99	0.040	6.73	0.1	5.580	A
C-A	41.27			41.27			
AB	2.00			2.00			
AC	125.00			125.00			

07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	111.06	0.180	19.99	0.2	9.881	S
C-AB	6.86	166.72	0.041	6.86	0.1	5.629	A
C-A	43.14			43.14			
AB	2.00			2.00			
AC	136.00			136.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	108.86	0.184	19.99	0.2	10.127	S
C-AB	6.72	161.54	0.042	6.71	0.1	5.817	A
C-A	39.28			39.28			
AB	2.00			2.00			
AC	146.00			146.00			



2020 'With Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

		To		
From		A	B	C
	A	0.00	6.00	36.00
	B	3.00	0.00	7.00
	C	90.00	12.00	0.00

Demand (Veh/TS)

17:00 - 17:15

		To		
From		A	B	C
	A	0.00	6.00	47.00
	B	3.00	0.00	7.00
	C	97.00	12.00	0.00

Demand (Veh/TS)

17:15 - 17:30

		To		
From		A	B	C
	A	0.00	6.00	32.00
	B	3.00	0.00	7.00
	C	103.00	12.00	0.00

Demand (Veh/TS)

17:30 - 17:45

		To		
From		A	B	C
	A	0.00	6.00	47.00
	B	3.00	0.00	7.00
	C	86.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	0	3
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.08	7.63	0.1	A
C-AB	0.10	4.66	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	131.21	0.076	9.92	0.1	7.415	A
C-AB	20.40	216.53	0.093	20.22	0.2	4.538	A
C-A	81.60			81.60			
A-B	6.00			6.00			
A-C	36.00			36.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	127.86	0.078	10.00	0.1	7.633	A
C-AB	21.50	220.73	0.097	21.49	0.2	4.520	A
C-A	87.50			87.50			
A-B	6.00			6.00			
A-C	47.00			47.00			



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17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	131.21	0.076	10.00	0.1	7.427	A
C-AB	22.05	227.68	0.097	22.01	0.2	4.380	A
C-A	92.99			92.99			
AB	6.00			6.00			
AC	32.00			32.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	128.72	0.078	10.00	0.1	7.580	A
C-AB	20.16	213.66	0.094	20.18	0.2	4.658	A
C-A	77.84			77.84			
AB	6.00			6.00			
AC	47.00			47.00			



Generated on 11/04/2017 17:21:59 using Junctions 9 (9.0.1.4646)

2031 'With Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D3	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Am	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	2.00	103.00
	B	6.00	0.00	14.00
	C	40.00	5.00	0.00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	2.00	138.00
	B	6.00	0.00	14.00
	C	48.00	5.00	0.00

Demand (Veh/TS)

		To		
		A	B	C
From	A	0.00	2.00	151.00
	B	6.00	0.00	14.00
	C	50.00	5.00	0.00



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Generated on 11/04/2017 17:21:59 using Junctions 9 (9.0.1.4646)

08:00 - 08:15

Demand (Veh/TS)

	From	To		
		A	B	C
	A	0.00	2.00	161.00
	B	6.00	0.00	14.00
	C	46.00	5.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	From	To		
		A	B	C
	A	0	0	2
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.19	10.62	0.2	D
C-AB	0.04	5.93	0.1	A
C-A				
AB				
AC				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	119.65	0.167	19.80	0.2	8.993	A
C-AB	6.52	171.27	0.038	6.47	0.1	5.460	A
C-A	38.48			38.48			
AB	2.00			2.00			
AC	103.00			103.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	110.34	0.181	19.98	0.2	9.957	A
C-AB	7.01	166.32	0.042	7.00	0.1	5.575	A
C-A	45.99			45.99			
AB	2.00			2.00			
AC	136.00			136.00			

07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	106.94	0.187	19.99	0.2	10.349	D
C-AB	7.16	166.63	0.043	7.16	0.1	5.643	A
C-A	47.84			47.84			
AB	2.00			2.00			
AC	151.00			151.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	104.74	0.191	19.99	0.2	10.620	D
C-AB	7.01	161.44	0.043	7.01	0.1	5.829	A
C-A	43.99			43.99			
AB	2.00			2.00			
AC	161.00			161.00			



2031 'With Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.01	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D4	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

	To		
	A	B	C
From	A	0.00	6.00
	B	3.00	0.00
	C	99.00	12.00

Demand (Veh/TS)

17:00 - 17:15

	To		
	A	B	C
From	A	0.00	6.00
	B	3.00	0.00
	C	107.00	12.00

Demand (Veh/TS)

17:15 - 17:30

	To		
	A	B	C
From	A	0.00	6.00
	B	3.00	0.00
	C	114.00	12.00

Demand (Veh/TS)

17:30 - 17:45

	To		
	A	B	C
From	A	0.00	6.00
	B	3.00	0.00
	C	95.00	12.00

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From	A	0	0
	B	0	0
	C	1	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.08	7.79	0.1	A
C-AB	0.10	4.58	0.2	A
C-A				
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	129.52	0.077	9.92	0.1	7.520	A
C-AB	21.55	223.43	0.096	21.35	0.2	4.454	A
C-A	89.45			89.45			
AB	6.00			6.00			
AC	40.00			40.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	125.59	0.080	10.00	0.1	7.765	A
C-AB	22.90	225.95	0.101	22.88	0.2	4.434	A
C-A	96.10			96.10			
AB	6.00			6.00			
AC	53.00			53.00			



17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	129.60	0.077	10.00	0.1	7.524	A
C-AB	23.51	234.07	0.100	23.51	0.2	4.277	A
C-A	102.49			102.49			
AB	6.00			6.00			
AC	35.00			35.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	126.52	0.079	10.00	0.1	7.723	A
C-AB	21.34	218.19	0.098	21.36	0.2	4.576	A
C-A	85.66			85.66			
AB	6.00			6.00			
AC	53.00			53.00			



EXISTING LAYOUT

APPENDIX F TRICS ASSESSMENT

Calculation Reference: AUDIT-236601-170411-0446

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLESSelected regions and areas:**02 SOUTH EAST**

EX	ESSEX	1 days
HC	HAMPSHIRE	1 days
SC	SURREY	1 days
WS	WEST SUSSEX	1 days

03 SOUTH WEST

CW	CORNWALL	1 days
DC	DORSET	1 days
DV	DEVON	2 days

04 EAST ANGLIA

NF	NORFOLK	1 days
SF	SUFFOLK	2 days

05 EAST MIDLANDS

LN	LINCOLNSHIRE	2 days
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06 WEST MIDLANDS

SH	SHROPSHIRE	2 days
WM	WEST MIDLANDS	1 days

07 YORKSHIRE & NORTH LINCOLNSHIRE

NE	NORTH EAST LINCOLNSHIRE	1 days
NY	NORTH YORKSHIRE	3 days
SY	SOUTH YORKSHIRE	1 days

08 NORTH WEST

CH	CHESHIRE	2 days
----	----------	--------

09 NORTH

CB	CUMBRIA	1 days
----	---------	--------

10 WALES

CF	CARDIFF	1 days
----	---------	--------

11 SCOTLAND

FA	FALKIRK	1 days
FI	FIFE	1 days
SR	STIRLING	1 days

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

Secondary Filtering selection:

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

Parameter:	Number of dwellings
Actual Range:	51 to 432 (units:)
Range Selected by User:	50 to 500 (units:)

Public Transport Provision:

Selection by:	Include all surveys
---------------	---------------------

Date Range:	01/04/07 to 29/11/16
-------------	----------------------

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

Selected survey days:

Monday	8 days
Tuesday	7 days
Wednesday	4 days
Thursday	5 days
Friday	4 days

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

Selected survey types:

Manual count	28 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	15
Edge of Town	13

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

Selected Location Sub Categories:

Residential Zone	23
No Sub Category	5

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

Secondary Filtering selection:Use Class:

C3	28 days
----	---------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	7 days
10,001 to 15,000	6 days
15,001 to 20,000	8 days
20,001 to 25,000	4 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	4 days
50,001 to 75,000	2 days
75,001 to 100,000	5 days
100,001 to 125,000	6 days
125,001 to 250,000	5 days
250,001 to 500,000	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	6 days
1.1 to 1.5	22 days

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

Travel Plan:

Yes	2 days
No	26 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	28 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CB-03-A-04	SEMI DETACHED	CUMBRIA
	MOORCLOSE ROAD		
	SALTERBACK		
	WORKINGTON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	82	
	Survey date: FRIDAY	24/04/09	Survey Type: MANUAL
2	CF-03-A-02	MIXED HOUSES	CARDIFF
	DROPE ROAD		
	CARDIFF		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	196	
	Survey date: FRIDAY	05/10/07	Survey Type: MANUAL
3	CH-03-A-02	HOUSES/FLATS	CHESHIRE
	SYDNEY ROAD		
	CREWE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	174	
	Survey date: TUESDAY	14/10/08	Survey Type: MANUAL
4	CH-03-A-06	SEMI-DET./BUNGALOWS	CHESHIRE
	CREWE ROAD		
	CREWE		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of dwellings:	129	
	Survey date: TUESDAY	14/10/08	Survey Type: MANUAL
5	CW-03-A-02	SEMI D./DETACHED	CORNWALL
	BOSVEAN GARDENS		
	TRURO		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	73	
	Survey date: TUESDAY	18/09/07	Survey Type: MANUAL
6	DC-03-A-01	DETACHED	DORSET
	ISAACS CLOSE		
	POOLE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	51	
	Survey date: WEDNESDAY	16/07/08	Survey Type: MANUAL
7	DV-03-A-02	HOUSES & BUNGALOWS	DEVON
	MILLHEAD ROAD		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	116	
	Survey date: FRIDAY	25/09/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	DV-03-A-03	TERRACED & SEMI DETACHED	DEVON
	LOWER BRAND LANE		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	70	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL
9	EX-03-A-01	SEMI-DET.	ESSEX
	MILTON ROAD		
	CORRINGHAM		
	STANFORD-LE-HOPE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	237	
	Survey date: TUESDAY	13/05/08	Survey Type: MANUAL
10	FA-03-A-02	MIXED HOUSES	FALKIRK
	ROSEBANK AVENUE & SPRINGFIELD DRIVE		
	FALKIRK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	161	
	Survey date: WEDNESDAY	29/05/13	Survey Type: MANUAL
11	FI-03-A-03	MIXED HOUSES	FIFE
	WOODMILL ROAD		
	DUNFERMLINE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	155	
	Survey date: MONDAY	30/04/07	Survey Type: MANUAL
12	HC-03-A-18	HOUSES & FLATS	HAMPSHIRE
	CANADA WAY		
	LIPHOOK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	62	
	Survey date: TUESDAY	29/11/16	Survey Type: MANUAL
13	LN-03-A-01	MIXED HOUSES	LINCOLNSHIRE
	BRANT ROAD		
	BRACEBRIDGE		
	LINCOLN		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	150	
	Survey date: TUESDAY	15/05/07	Survey Type: MANUAL
14	LN-03-A-02	MIXED HOUSES	LINCOLNSHIRE
	HYKEHAM ROAD		
	LINCOLN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	186	
	Survey date: MONDAY	14/05/07	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	NE-03-A-02	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	HANOVER WALK		
	SCUNTHORPE		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	432	
	Survey date: MONDAY	12/05/14	Survey Type: MANUAL
16	NF-03-A-02	HOUSES & FLATS	NORFOLK
	DEREHAM ROAD		
	NORWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	98	
	Survey date: MONDAY	22/10/12	Survey Type: MANUAL
17	NY-03-A-06	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	HORSEFAIR		
	BOROUGHBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: FRIDAY	14/10/11	Survey Type: MANUAL
18	NY-03-A-09	MIXED HOUSING	NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE		
	NORTHALLERTON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	52	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL
19	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD		
	RIPON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
20	SC-03-A-04	DETACHED & TERRACED	SURREY
	HIGH ROAD		
	BYFLEET		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	71	
	Survey date: THURSDAY	23/01/14	Survey Type: MANUAL
21	SF-03-A-01	SEMI DETACHED	SUFFOLK
	A1156 FELIXSTOWE ROAD		
	RACECOURSE		
	IPSWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	77	
	Survey date: WEDNESDAY	23/05/07	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

22	SF-03-A-02	SEMI DET./TERRACED	SUFFOLK
	STOKE PARK DRIVE MAIDENHALL IPSWICH Edge of Town Residential Zone Total Number of dwellings: 230 Survey date: THURSDAY 24/05/07		
	Survey Type: MANUAL		
23	SH-03-A-04	TERRACED	SHROPSHIRE
	ST MICHAEL'S STREET SHREWSBURY Suburban Area (PPS6 Out of Centre) No Sub Category Total Number of dwellings: 108 Survey date: THURSDAY 11/06/09		
	Survey Type: MANUAL		
24	SH-03-A-05	SEMI-DETACHED/TERRACED	SHROPSHIRE
	SANDCROFT SUTTON HILL TELFORD Edge of Town Residential Zone Total Number of dwellings: 54 Survey date: THURSDAY 24/10/13		
	Survey Type: MANUAL		
25	SR-03-A-01	DETACHED	STIRLING
	BENVIEW STIRLING Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 115 Survey date: MONDAY 23/04/09		
	Survey Type: MANUAL		
26	SY-03-A-01	SEMI DETACHED HOUSES	SOUTH YORKSHIRE
	A19 BENTLEY ROAD BENTLEY RISE DONCASTER Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings: 54 Survey date: WEDNESDAY 18/09/13		
	Survey Type: MANUAL		
27	WM-03-A-03	MIXED HOUSING	WEST MIDLANDS
	BASELEY WAY ROWLEYS GREEN COVENTRY Edge of Town Residential Zone Total Number of dwellings: 84 Survey date: MONDAY 24/09/07		
	Survey Type: MANUAL		
28	WS-03-A-04	MIXED HOUSES	WEST SUSSEX
	HILLS FARM LANE BROADBRIDGE HEATH HORSHAM Edge of Town Residential Zone Total Number of dwellings: 151 Survey date: THURSDAY 11/12/14		
	Survey Type: MANUAL		

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

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

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	28	127	0.076	28	127	0.287	28	127	0.363
08:00 - 09:00	28	127	0.143	28	127	0.401	28	127	0.544
09:00 - 10:00	28	127	0.155	28	127	0.190	28	127	0.345
10:00 - 11:00	28	127	0.143	28	127	0.183	28	127	0.326
11:00 - 12:00	28	127	0.162	28	127	0.156	28	127	0.318
12:00 - 13:00	28	127	0.186	28	127	0.167	28	127	0.353
13:00 - 14:00	28	127	0.172	28	127	0.169	28	127	0.341
14:00 - 15:00	28	127	0.170	28	127	0.185	28	127	0.355
15:00 - 16:00	28	127	0.276	28	127	0.191	28	127	0.467
16:00 - 17:00	28	127	0.306	28	127	0.189	28	127	0.495
17:00 - 18:00	28	127	0.364	28	127	0.212	28	127	0.576
18:00 - 19:00	28	127	0.264	28	127	0.197	28	127	0.461
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:	2,417			2,527			4,944		

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

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

Parameter summary

Trip rate parameter range selected:	51 - 432 (units:)
Survey date date range:	01/04/07 - 29/11/16
Number of weekdays (Monday-Friday):	28
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	2
Surveys manually removed from selection:	0

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

[illegible]

Parcel Lane II	26.5%	207 parcels Road W	26.5%	207 parcels Eastern	26.5%	207 parcels Lane W	26.5%
Parcel Lane I	26.5%	207 parcels Lane W	26.5%	207 parcels Lane W	26.5%	207 parcels Lane W	26.5%
Parcel Lane S	26.5%	207 parcels Lane W	26.5%	207 parcels Lane W	26.5%	207 parcels Lane W	26.5%
		North End Road	32.41%	27 parcels Road W	32.41%	27 parcels Lane W	32.41%
		The Street W	5.62%	28 parcels Lane W	5.62%	28 parcels Lane W	5.62%
TOTAL	100.00%	TOTAL	100.00%	TOTAL	100.00%	TOTAL	100.00%

[illegible]

	Route 1	Route 2	Route 3	Route 4				
Payton Lane N	41%	A27 Arundel Road W	41%	A29 Farmile Bottom	3%	A27 Arundel Road W	27%	
Payton Lane S	14%	Lake Lane W	3%	A27 Arundel Road E	7%	A29 Farnwell Avenue	33%	
		North End Road	3%	A27 Arundel Road W	30%		25%	
		The Street W	3%		14%			
100%	TOTAL	55.00%	TOTAL	55.00%	TOTAL	55.00%	TOTAL	55.00%

	Route 2		Route 3		Route 4			
Non-Employment Trucks	Yapion Lane N	27%	A27 Arundel Road W	27%	A29 Forcille Bottom	1%	A27 Arundel Road W	17%
	Yapion Lane S	18%	Lake Lane W	2%	A27 Arundel Road E	6%	A29 Forcille Avenue	3%
			North End Road	13%	A27 Arundel Road W	23%		25%
			The Street W	2%		18%		
	42%	TOTAL	45.00%	TOTAL	45.00%	TOTAL	45.00%	TOTAL

All Proposed Links	Route 1		Route 2		Route 3		Route 4	
	Yapton Lane N	68%	A27 Arundel Road W	68%	A29 Farmile Bottom	5%	A27 Arundel Road W	64%
	Yapton Lane S	32%	Lake Lane W	5%	A27 Arundel Road E	13%	A29 Farnwell Avenue	6%
			North End Road	22%	A27 Arundel Road E	50%		50%
			The Street W	5%		32%		
100%	TOTAL	100.00%	TOTAL	100.00%	TOTAL	100.00%	TOTAL	100.00%

APPENDIX H PEAK HOUR ANALYSIS

IT811324 - Land North of Walberton
Peak Hour Traffic Analysis

Time Period		Site 1 (A27/A29 Fontwell Ave/Arundel Road Roundabout)	Site 2 (A27/A29 Farmille Bottom Rbf)	Site 3 (Arundel oad/Yapton lane/Shellbridge)	Site 4 (Yapton Lane/The Street)	Site 5 (Avistford Park)	Total
07:00	08:00	4277	3996	2446	706	570	12195
07:15	08:15	4320	3838	2325	782	641	12222
07:30	08:30	4125	3797	2496	823	583	11942
07:45	08:45	3925	3626	2332	856	670	11409
08:00	09:00	3639	3402	2260	865	649	10815
08:15	09:15	3460	3183	2126	866	592	10167
08:30	09:30	3293	3068	2113	848	486	9808
08:45	09:45	3297	3031	2094	776	420	9618
09:00	10:00	3328	3032	2109	693	364	9526
09:15	10:15	2551	2322	1641	486	248	7248
09:30	10:30	1745	1601	1121	302	177	4946
09:45	10:45	645	769	562	154	99	2429
16:00	17:00	4220	3699	2596	649	483	11667
16:15	17:15	4190	3649	2508	665	503	11535
16:30	17:30	4268	3699	2493	704	526	11690
16:45	17:45	4388	3682	2418	724	525	11722
17:00	18:00	4277	3650	2477	728	488	11722
17:15	18:15	4201	3609	2457	724	483	11474
17:30	18:30	3891	3381	2339	664	436	10711
17:45	18:45	3471	3048	2084	562	378	9543
18:00	19:00	3026	2687	1853	450	292	8308
18:15	19:15	2098	1668	1294	309	203	5772
18:30	19:30	1294	1130	767	177	115	3483
18:45	19:45	583	509	346	80	53	1571



E enquiries@i-transport.co.uk
W www.i-transport.co.uk



APPENDIX C

PRE-APP MEETING RECORDS WITH WSCC AND HE

NOTES OF MEETING

Project No: ITB1324
Project Title: Land at Walberton
Date/Time: 3 March 2017
Venue: WSCC Offices, Chichester

i-Transport LLP
Grove House
Lutyens Close
Chineham Court
Basingstoke
Hampshire
RG24 8AG
Tel: 01256 338640
Fax: 01256 338644
www.i-transport.co.uk

Attendees

Dominic Smith	-	WSCC	(DS)
Tim Wall	-	i-Transport	(TW)

Item

1.0 Introduction and Background

1.1 Wates Developments are promoting land at Walberton for residential development of up to 205 dwellings. A vision document has been shared with Arun District Council (ADC), with the intention of promoting the site for development to the ADC Local Plan. A pre-application meeting with ADC is programmed for the 14th March 2017.

1.2 i-Transport has been appointed to provide advice on highways and transport matters and prepared an Access Appraisal Technical Note as submitted to DS prior to the meeting. This meeting is intended to discuss:

- Access Strategy Principles;
- Site Accessibility; and
- Key Highway Constraints.

2.0 Access Strategy Principles

2.1 TW presented the Access Appraisal Note. This presents a review of background information and identifies that an access to Yapton Lane to the east of the site can be delivered which:

- Provides a simple priority junction to Yapton Lane which achieves visibility splays of 2.4m x 58.7m to the north and 2.4m x 51.8m to the south, commensurate with observed speeds on Yapton Lane;
- Identifies a 5.5m wide access road leading into the site, with 2m footways on each side of the road to connect to the existing footway network on the western side of Yapton Lane;
- Achieves 45m separation to the Golf Course access to the north;
- Delivers a road leading into the site with a forward visibility envelope of 33m (in line with a 25mph design speed).

Item

- 2.2 Operational assessment using Junctions 9 has confirmed that the access would operate well within capacity at the end of the ADC Local Plan period (2031) and that there is no need for a right-turn lane at Yapton Lane.
- 2.3 DS confirmed that the principles of the access as presented were acceptable and that there would not be any overriding objection to access as proposed.
- 2.4 DS also noted that:
- Swept path analysis should be carried out and would inform the final design. DS considered some minor widening to 6m at the junction mouth may be needed;
 - Whilst not necessary for visibility, re-location of the existing 30/40 speed limit transition to the north of the Golf Course access would be beneficial. Measured speeds would support this and it could be supported by delivery of a gateway feature to the village;
 - A junction separation of 45m to the golf course access is acceptable and there is no interference with respective visibility;
 - A Stage 1 Road Safety Audit would be required to support a future planning application; and
 - WSCC do not actively seek road adoption. If roads are offered for adoption and meet standards, WSCC will adopt, but they are happy for internal roads to remain private. Refuse vehicles enter private housing estates and the S106 will allow for this.

3.0 Site Accessibility

- 3.1 TW presented an accessibility plan which demonstrates that Walberton offers a range of everyday facilities including primary school, community and leisure facilities and basic retail provision. DS noted that the nurseries to the south employ a significant number of people and a new Haulage depot is to be constructed.
- 3.2 Bus services 85/85A run from the site frontage at Yapton Lane to Barnham (for rail connection), Arundel and Chichester and are supported by school services from The Street. There is a newly constructed cycle link between Walberton and Barnham.
- 3.3 TW explained that the current development concept sought to achieve a permeable development for walking and cycling, with pedestrian and cycle access to Yapton Lane and Tye Lane, as well as pedestrian connections to the public footpath that runs along Avisford Park Road to the south of the site and to The Street in the centre of the site.
- 3.4 DS noted that Walberton village provided a good range of everyday facilities and that there are no overall concerns regarding the accessibility of the site.

Item

3.5 DS did note that he would expect any proposal to deliver good permeability and to offer improvements to local infrastructure, to include:

- Connection to and potential enhancements to local public rights of way – DS would engage is ROW officer for their views;
- Consideration of improved crossing facilities; and
- Improved bus stops provision on Yapton Lane.

4.0 Site Highway Constraints

4.1 DS noted that the key highway constraints to consider include:

- A27 Junction with Yapton Lane – consultation with Highways England will be needed; and
- Yapton Lane railway level crossing (half barrier) – Consultation with Network Rail needed.

4.2 In view of the likely traffic flows (which route most traffic north to the A27), detailed assessment of the Yapton Lane / The Street roundabout is unlikely to be required. There are no other local highway concerns.

4.3 TW/DS discussed the abandonment of the A27 Chichester Bypass scheme. This does not have implications for development at Walberton but will affect future applications in the Chichester Area. DS confirmed that the Arundel Bypass remains a commitment with public consultation planned later in 2017. One of the route options considered routes through Binstead Village close to Walberton, and the results of the HE assessment will need to be considered to understand any possible implications.

4.4 DS advised that a called-in planning appeal at Fontwell is being considered with the decision expected shortly. The development (400 dwellings) is proposing significant improvement to the Fontwell roundabout. This would need to be considered dependent upon the result of the appeal.

5.0 AOB

5.1 DS confirmed that he would be able to provide written advice through their free advice service to formalise the discussion, and that this can be provided before the ADC pre-application meeting. TW to submit request form. Beyond this, and should the application be taken forward, DS expects advice to be provided through the formal WSCC pre-application process where charges apply.

Author

Tim Wall

**WEST SUSSEX COUNTY COUNCIL
PRE APPLICATION CONSULTATION**

DATE: 13th March 2017

FROM: Dominic Smith

**TO: i-Transport LLP
FAO: Tim Wall**

SUBJECT: PRE-005-17

Residential development of up to 205 dwellings

Land North of Walberton

RECOMMENDATION:

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

West Sussex County Council (WSSC), in its capacity as the local The Highways Authority has been consulted for pre-application advice in regard to the proposed residential development at land to the north of Walberton. The submission was accompanied by Technical Note ZB/TW/ITB11324-003 N. A meeting was also held at County Hall, Chichester on the 3rd March 2017 between representatives of i-Transport and WSSC.

Access

A simple priority junction is proposed to serve the site. Visibility has been demonstrated to be in accordance with Manual for Streets parameters, based on the recorded speed obtained through an ATC assessment. Junction spacing is also provided for consistent with MFS guidance.

Capacity assessment of the junction should inform whether a right turn lane should be provided. It is understood that the Applicant has undertaken a PICADY assessment, and this shows no incidence of queuing occurring. The accident history of the local area does not suggest that there is a trend of rear shunt collisions as a result of vehicles waiting to turn right at junctions. Therefore, the provision of a simple priority junction would appear to be appropriate.

The geometry of the access should be informed by vehicular tracking, to minimise the occurrence of a refuse, or other large, vehicle crossing the centre line of the carriageway or becoming obstructed by a vehicle waiting to exit the site.

A Road Safety Audit: Stage 1 will be required, in-line with the WSSC Road Safety Audit Policy.

Whilst access design is based on the recorded speed, as opposed to the speed limit, there would be benefit to relocation of the speed limit change and this should be explored. This could also provide the opportunity for a gateway feature to be introduced.

Accessibility

Options should be explored to provide connectivity to the south of the site, with potential to use the Public Rights of Way into the village. There may be scope for surfacing to be enhanced, and it is recommended that the WSSC PROW Team are engaged (jonathan.perks@westsussex.gov.uk).

The Applicant should consider the infrastructure utilised by residents of the proposed development (i.e. any cycle of pedestrian infrastructure on key desire lines, bus stops etc) and establish whether enhancement will be necessary to accommodate additional demand, or make it more attractive for use by future residents of the site.

Capacity

Capacity testing should occur where the development results in an entry flow increase of 50 or more vehicles during the course of any hour. Given the strong northern distribution that is likely to occur, it is unlikely that any testing will be required on the local network. There may be the need to consider the impact on the A27, and it is recommended that the Applicant engages Highway England in respect of any capacity testing requirements.

Network Rail has previously expressed concern regarding the operation of the Yapton Level Crossing. It is recommended that the Applicant engages Network Rail in respect of any requirements they may have in considering the impact upon this infrastructure.

It should be noted that the HE have recently cancelled a programme of major investment on the A27. It is unclear at this time whether this will have any impact on mitigation along the section of the A27 within Arun, for example, the Fontwell junction. Major investment schemes at Arundel and Worthing are still programmed.

Meeting

The LHA is satisfied that the meeting note ref: ITB1324 is an accurate record of the meeting held on the 3rd March 2017.

Dominic Smith
Strategic Planning

**WEST SUSSEX COUNTY COUNCIL
STRATEGIC PLANNING CONSULTATION**

DATE: 11th May 2017

**FROM: Dominic Smith TO: iTransport
FAO: Tim Wall**

SUBJECT: PRE-005-17

Potential residential development for up to 205 dwellings.

Land North of, Walberton, (nr Avisford Park Hotel), BN18 OAW

West Sussex County Council (WSCC), in its capacity as the Local Highway Authority (LHA), has been consulted for pre-application advice on an emerging development proposal for residential dwellings on land to the north of Walberton.

Initial written advice was provided on the 13th March 2017 in relation to site access arrangements and information to inform the possible scope of any future assessment. A meeting was held between the LHA and iTransport on the 28th April 2017 to discuss the full scope of the transport assessment to be undertaken to accompany any future planning application. The following note summarises the discussion during this meeting and constitutes the pre-application advice of the LHA.

Access

A simple priority junction is proposed to serve the site. Visibility has been demonstrated to be in accordance with Manual for Streets (MFS) parameters, based on the recorded speed obtained through an ATC assessment. Junction spacing is provided consistent with MFS guidance.

Capacity assessment outputs of the junction have been provided which demonstrate no queuing occurring at the site access. The accident history of the local area does not identify that there is a trend of rear shunt collisions as a result of vehicles waiting to turn right at junctions along this stretch of road. Vehicular flows do not exceed the thresholds set out in the Design Manual for Roads and Bridges (DMRB) at which right turn provision should be considered. Therefore, the provision of a simple priority junction would appear to be appropriate, subject to the following.

- Road Safety Audit: Stage 1 in accordance with the WSCC Road Safety Audit Policy

Geometry of the access arrangements was presented during the meeting and has been used to inform to design of the access. It is acknowledged that a refuse vehicle entering or leaving the site may cause temporary obstruction to any other movements occurring at the same time. However, this is a common occurrence at many junctions and an infrequent movement. It is not considered that this presents a *severe* (NPPF, para 32) safety hazard.

Whilst access design is based on the recorded speed, as opposed to the speed limit, there would be benefit to relocation of the speed limit change to the north and this should be explored. The Applicant also intends to introduce a gateway feature to the north of the access. The 'dragons tooth' arrangement presented at the meeting is unlikely to be acceptable to the LHA. However, as the gateway will consist of carriageway demarcation and signage, it would be appropriate for the requirement to be secured through any planning consent and the treatment agreed through any subsequent S278 submission.

A second point of access for emergency vehicle use will be required. This access will not be required to provide general vehicular access, and should include removable bollards (or a similar restraint mechanism) to prevent non-emergency access.

Accessibility

It is recognised that the site is located within a reasonable walking distance for a range of services and facilities required for day to day residential dwelling. This includes education, minor employment opportunity, leisure, retail and healthcare. Cycle journeys provide further opportunity for sustainable access, notably to Barnham Railway Station utilising the cycle link between Barnham and Walberton.

It is understood that the Applicant is exploring direct access from the site into Walberton Village through the south of the site, and that this exercise is ongoing. The LHA will comment on the suitability of the pedestrian and cycle access arrangements once the final strategy has been established.

An east/west cycle route has been shown as part of the indicative layout, and off-site Public Rights of Way improvements are also being explored to enhance the sustainability of the site and provide a cycle connection through to Arundel. In line with National Planning Practice Guidance, it is recommended that commentary is included in the assessment in respect of the area wide enhancement to accessibility, given that some of the proposals will enhance access for existing residents as well as providing connectivity for the development itself.

Bus services in the locality are typical of a village location, with provision having a limited frequency and no evening service. However, regular services to education are available as well as infrequent services to Arundel Chichester and Bognor. Given the other sustainable travel options available to residents for access to key services, it is not considered that the site has a critical reliance upon bus provision in order to offer new residents a choice in how they travel to service their day to day needs. Financial contribution towards the enhancement of the existing services is not considered to be sustainable, and that any contribution would be better spent on the introduction or walking/cycling infrastructure improvements in and around Walberton. Similarly, the long term provision of a shuttle service from the site is not considered to be viable, given that a site of circa 200 dwellings is unlikely to achieve the critical mass required to ensure sufficient occupancy is achieved to achieve sustainable self-funding service.

Network Capacity

Given the location of the site a short distance to the south of the A27, it is anticipated that a significant proportion of the traffic would route north from the site access. This is reflected in the network distribution and assignment exercise that has been included within the scoping report.

The LHA have reviewed the site selection parameters used to derive the trip rate from TRICS. It is considered the selections accord with the TRICS 'Best Practice Guidance'. It is acknowledged that only private housing has been selected, which will result in a robust trip rate, on the assumption that a proportion of affordable housing will be provided for on site.

Junction capacity assessment will be required where development leads to an increase of 50 or more entry movements through a junction, or 30 where the junction experiences existing congestion. The LHA are satisfied with the scope of the assessment set out in the scoping note.

Testing scenarios of 2017, 2020 and 2031 (local plan horizon) are proposed, and are considered to be appropriate. The inclusion of Fontwell as a committed development is also considered to be appropriate, as determination of this application through call-in is expected shortly. No further committed development should be included in the 2017/2020 assessments, as any growth would be accommodated with the application of TEMPro.

As the primary impact is expected to be on the A27, it would be appropriate to engage with Highways England. Network Rail should also be engaged in respect of the Yapton level crossing. Whilst full capacity testing is unlikely to be required, a brief commentary of impact at the Comet Corner and Oyster Catcher junctions should be included within the assessment, given the concerns that have been raised previously by local residents, Members and the Arun Planning Committee. This should include a summary of how many movements the development is expected to add at these junctions during peak network hours.

Travel Plan

A Framework Travel Plan should be included as part of any future application. Guidance is attached as a separate document on the covering email.

Dominic Smith
Planning Services

NOTES OF MEETING

i-Transport LLP
Grove House
Lutyens Close
Chineham Court
Basingstoke
Hampshire
RG24 8AG

Project No: ITB11324
Project Title: Land East of Tye Lane, Walberton
Date/Time: 16 May 2017 – 11am
Venue: HE Offices - Bridge House, Guildford

Attendees

David Bowie	-	Highways England	(DB)
Richard Franklin	-	Highways England	(RF)
Elizabeth Cleaver	-	Highways England	(EC)
Tim Wall	-	i-Transport	(TW)

Item	Action
1.0 Introductions and Project Background 1.1 TW provided an update of the latest position: - The site is not included in the draft ADC Local Plan, but was a site considered in the HEELA as a 'suitable' site. - In view of the current housing supply position, an application is being pursued for up to 200 dwellings on the site (this is likely to reduce). An application is likely to be submitted in June 2017. - A public consultation was held in May, and was well attended. In terms of the SRN, the key concerns related to the A27 / Yapton Lane junction and the impact of additional right-turning traffic.	
2.0 Transport Assessment Scoping Note 2.1 DB / EC / RF confirmed that HE had reviewed the Transport Assessment Scoping Note and that the proposed approach was agreed, including: - The proposed vehicular TRIP Rates which are considered robust; - The approach to traffic distribution and assignment; - The scope of assessment which in respect of the SRN network includes: - A27 / Yapton Lane / Shellbridge Road Priority Junction; - A27 / A29 - Fontwell East Roundabout; and - A27 / A29 /Fontwell Avenue – Fontwell West Roundabout.	

Item	Action
2.2 DB confirmed that the only matter not agreed in the TA Scoping Note was the proposed application of growth. DB confirmed that the Arun DC Local Plan Saturn Model flows should be used, which includes the proposed LP development sites and respective mitigation. 2.3 TW confirmed that they had now obtained the traffic flow data from WSCC and would consider the A27 junction assessment on this basis and assess the following scenarios: ▪ 2031 Arun Local Plan with Mitigation ▪ 2031 Arun Local Plan with Mitigation plus Development 2.4 DB confirmed that in respect of the A27 in Arun District, HE had assessed the baseline model and was satisfied that it reflected baseline conditions adequately and as such was a reasonable basis for assessing growth. However, HE had noted concerns with the ADC Model in respect of the A27 flows at Chichester (being significantly lower in the model than on the ground). This issue should not affect the application in view of the scope of assessment. 2.5 RF confirmed that the traffic flow diagrams presented in the TA Scoping Note which depict development flows had omitted the u-turning traffic from the Fontwell East roundabout from the upstream A27 / Yapton Lane junction. TW noted and agreed to rectify in the final TA.	TW TW
3.0 A27 / A29 / Fontwell Avenue – Fontwell Roundabout West 3.1 DB confirmed that HE was satisfied with the principles of the Fontwell Improvement identified in the Local Plan and the Fontwell appeal, comprising signalisation of the existing roundabout and approach widening. The development is due to deliver the improvement scheme. 3.2 TW confirmed that the TA would assess the proposed improvement and consider the impact of development at the junction. This would use LINSIG and the ADC LP Scenario Flows, and DB confirmed that there was no current agreed LINSIG model (previous assessment used VISSIM). RR67 parameters to be used to derive parameters.	TW
4.0 A27 / A29 / Fontwell Avenue – Fontwell Roundabout East 4.1 DB / EC confirmed that HE was satisfied with the principles of the ADC LP mitigation scheme and that the TA should consider the operation on the improved junction. 4.2 TW questioned the need for the ADC LP improvement and noted that they would consider the operation of the existing junction (using Junctions 9), using ADC LP Flows and consider the need for the improvement, with and without development. If the improvement was required, a LINSIG model would be constructed.	TW TW

Item	Action
5.0 A27 / Yapton Lane Priority Junction 5.1 TW confirmed that initial modelling demonstrates that the junction operates within capacity, with and without development. 5.2 Queue surveys of the right-turn to Yapton Lane show that for only 2 minutes of the evening peak hour does the right-turn lane fill. The development is expected to generate around one additional right-turner every 90 seconds and TW considers this is unlikely to make the operation of the right-turn facility materially worse. 5.3 DB considered that the existing facility already fills and that the development will inevitably make this worse. DB considered that any significant development served from Yapton Lane would be required to improve the junction - a scheme had been agreed in relation to a potential development scheme in Yapton. 5.4 TW tabled a sketch to demonstrate how the right-turn could be extended. DB confirmed this would be the type of scheme required, and that a design and Stage 1 Road Safety Audit would be needed. TW to consider and liaise with Wates Developments.	TW
6.0 HE Major Schemes <u>A27 Arundel Bypass</u> 6.1 DB / EC confirmed that the A27 Arundel Bypass is an identified scheme in the current Road Investment Strategy (RIS), and as such HE expects an improvement scheme to come forward. The scheme is not however committed until a funding announcement is made by Government. 6.2 Feasibility work is ongoing to consider the route of any bypass scheme, and options for consultation will emerge later this year. It is considered that a scheme which connects close to Walberton village is less likely. 6.3 In terms of potential delivery programme for an A27 Arundel Bypass: • 2017 – Consultation on Options • 2018 – Business Case and Funding Approvals • 2019 – 2021 – Planning and Design • 2021 - 2022 – Scheme Construction <u>A27 Chichester Bypass</u> 6.4 DB confirmed that the SoS has formally cancelled the A27 Chichester Bypass Improvements following the recent consultation exercise which failed to achieve consensus on scheme options.	

Item	Action
6.5 The CDC Local Plan has identified some improvements for the corridor which are now expected to come forward in lieu of the Bypass improvement.	
7.0 AOB 7.1 DB confirmed that they are happy to receive information as and when it is ready and will endeavour to respond in as short a time as possible (noting statutory timescales of 21 days).	

Circulation

Those present plus Wates Developments and McClaren Clark (Planning Consultants)

Tim Wall

APPENDIX D

NON-MOTORISED USER AUDIT

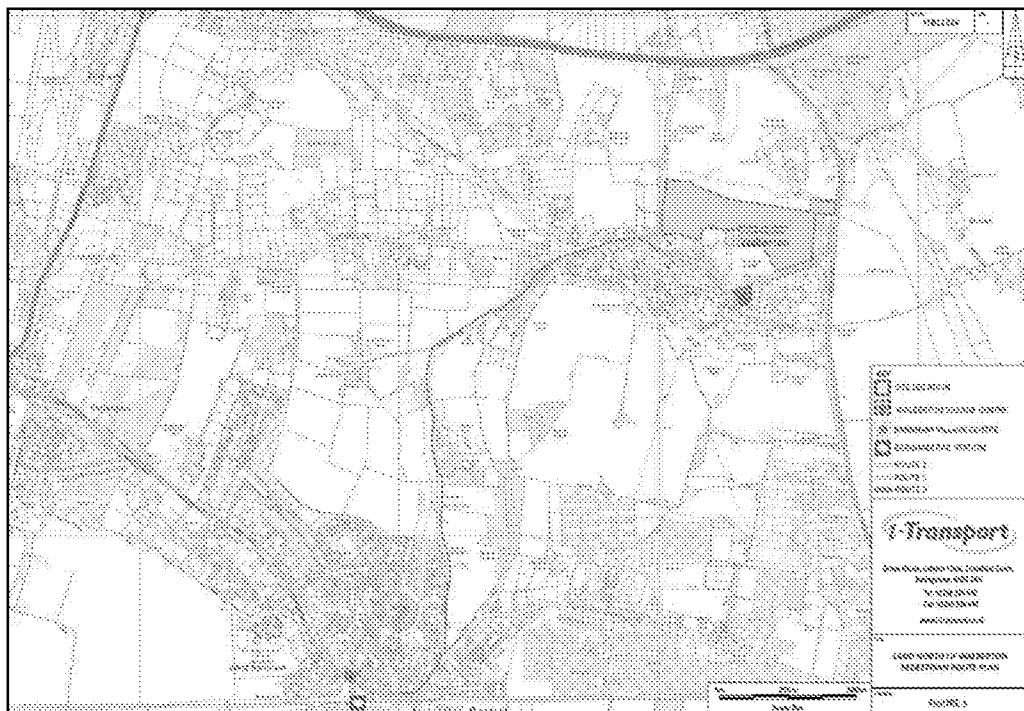
TECHNICAL NOTE

Project No: ITB11324
Project Title: Land North of Walberton
Title: Non-Motorised User Audit
Ref: TW/RS/ITB11324-006A TN
Date: 06 June 2017

SECTION 1 INTRODUCTION

- 1.1.1 i-Transport has been appointed by Wates Developments to provide highway and transport advice to support an outline planning application for a proposed residential development of up to 175 dwellings, on Land North of Walberton in West Sussex.
- 1.1.2 A Non-Motorised User (NMU) Audit was undertaken on Monday 8 May 2017 to assess the existing infrastructure for travelling by walking and cycling between the site and key local destinations as well as to public transport facilities.
- 1.1.3 **Image 1** shows the location of the site in relation to Walberton as well as the routes which have been assessed as part of the Audit.

Image 1: Extract of Pedestrian Route Plan



1.2 These three routes provide links to the main local facilities of Walberton and Barnham including the following:

- Walberton Village Centre via Yapton Lane and Avisford Park Road – **Route 1**;
- Walberton Village Centre via The Street and Tye Lane - **Route 2**; and
- To Barnham Town Centre via Tye Lane – **Route 3**.

1.3 The three routes identified are likely to be those used by future residents to access local services and facilities from the proposed development.

1.4 Each route has been assessed against the quality of pavement and crossing facilities currently provided and improvements have been identified where necessary. Given the nature of local roads in Walberton village, which are generally likely trafficked, it is envisaged that cycling journeys can be predominantly accommodated on road.

1.5 The audit of each route is presented in Section 2.

SECTION 2 NON-MOTORISED USER AUDIT

Route 1: Walberton Village Centre via Avisford Park Road		
Description of route and distances	1. Leaving the site onto Yapton Lane head south using the footway on the western side of the carriageway. 2. At the junction with Avisford Park Road head west along Public Footpath 333 (which is an unmade shared surface private road), and continue west through the gate parallel with the recreation ground (Image 2.1). 3. Alternatively, leave the site using the designated footpath connection to Avisford Park Road which joins the Public Footpath immediately west of the recreation ground; 4. Use the existing designated footpath connecting Avisford park Road to the Street towards the village centre. 5. Use The Street to access local facilities. Total Distance: 900m using Yapton Lane, 500m using Avisford Park Road. <i>Relevant Notes</i> This route has street lighting towards the entrance of the public footpath on Yapton Lane, however this is limited along Yapton Lane. It is overlooked by residential properties for the majority of the route on the western side.	Image 2.1 – Public Footpath 333 
Are routes wide enough?	1. The existing footway along Yapton Lane has a typical width of circa 1.7m wide which is sufficient to accommodate likely demands. 2. Along Avisford Park Road the footpath follows the existing shared surface road which is sufficiently wide for at least vehicles and pedestrians to safely pass. Although there is no footway provision on Avisford Park Road, this is a very lightly trafficked road and a speed limit of 10mph (Image 2.2). 3. Towards the western end of the footpath (Image 2.3), the footpath narrows to a typical width of between circa 1.3-1.5m. 4. At the end of the public footpath this then widens to circa 1.6m.	Image 2.2: Carriageway on Avisford Park Road 

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Date: 06 June 2017

Route 1: Walberton Village Centre via Avisford Park Road		
		Image 2.3: Public Footpath 333 
Are there any obstructions?	1. To the western end of Avisford Park Road as seen previously in Image 2.1 there are staggered barriers at the start of the narrow section of the footpath. This is also found at the end of the footpath at The Street (Image 2.4). These barriers ensure that pedestrians approach The Street slowly and with caution, and do not impede access.	Image 2.4: Barriers at the either end of the footpath 

Route 1: Walberton Village Centre via Avisford Park Road		
Crossing Provision	1. Along this route, the footways and footpaths are continuous to Walberton Village Centre and therefore crossing provision is not required. 2. However, for those wanting to access the southbound bus stop on Yapton Lane, crossing to the eastern side of Yapton Lane is required. Dropped kerbs and tactile paving is not present at this section on either side of Yapton Lane (Image 2.5). 3. Additionally, there is inadequate crossing provision at the Blacksmiths Corner junction to provide safe access to PF350 towards Binsted.	Image 2.5 – Lack of Crossing Provision to Bus Stop on Yapton Lane 
Quality of Surfaces	1. The footway along Yapton Lane and the western end of Public Footpath 333 are hard surfaced with a generally even finish (Image 2.3). These are adequate for likely usage. 2. Along Avisford Park Road the existing road is unmade but in reasonable condition, commensurate with its use as a private road and public right of way (Image 2.6). Between Avisford Park Road and The Street, the footpath is tarmac surfaced and in reasonable condition.	Image 2.6 – Avisford Park Road 

Route 2: Walberton Village Centre via Tye Lane		
Description of route and distances	1. From the potential pedestrian access to the west of the site travel south on Tye Lane. 2. At the junction of Tye Lane and The Street travel east using the footway on the northern side of The Street. 3. Opposite the Church, cross over to the southern side of The Street to continue using the footway (Image 2.7). 4. Continue travelling east along The Street until reaching Walberton Village Centre. Total Distance: – 600m from potential pedestrian access onto Tye Lane <i>Relevant notes</i> There is limited street lighting present along The Street, with no street lighting along Tye Lane. Once on The Street the route is largely overlooked residential properties, ensuring some surveillance of the route.	Image 2.7: Footway Provision along The Street 

Are routes wide enough?	1. Along Tye Lane there is currently no footway provision for this section of the route (Image 2.8). 2. Once on the The Street, the footway on the northern side is found to be circa 0.95m wide. 3. Crossing onto the southern side of The Street the footway widens to 1.7m opposite the church (Image 2.7). 4. Travelling further east along this footway the width varies between 1m to 1.3m wide. 5. The footway outside the Primary School is found to be circa 1.5m wide. 6. Opposite the village centre, the footway width decreases to 0.90m wide.	Image 2.8: Lack of Footway Provision along Tye Lane 
Are there any obstructions?	1. Obstructions for pedestrian's form in terms of on street parking. Along The Street, there are several vehicles parked, with some on the footways. This could narrow the useable footway width as well as restricting those crossing to either side of the carriageway and those wanting to continue along the footway (Image 2.9).	Image 2.9: On Street Parking along The Street 

Crossing Provision	1. As previously mentioned the footways alternate to the northern and southern side of The Street. Opposite the Church there are no dropped kerbs or tactile paving on either side of the footway (Image 2.10). 2. Opposite the William Booker Yard the footway continues on either side of the carriageway however, although there are dropped kerbs on one side, there is not dropped kerb on the north side to provide a complete level crossing. 3. At the junction with the school there are no dropped kerbs or tactile paving on the western side and only dropped kerbs on the eastern side (Image 2.11). 4. From the School entrance to the southern side of The Street there are no crossing provisions to access this footway. 5. Opposite the local shops in the centre there is no crossing provision apart from dropped kerbs on the southern side.	Image 2.10 – Lack of Crossing Provision along The Street near Tye Lane.  Image 2.11 – Lack of Crossing Provision at the Primary School. 
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Quality of Surfaces	1. All footways along The Street are hard surfaced with a broadly even finish (Image 2.12). 2. Although there is a lack of footways along Tye Lane, the road surface is of a good condition and would be suitable for pedestrians and cyclists (Image 2.8).	Image 2.12: Conditions of Footways along The Street 
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Route 3: Barnham Town Centre from Tye Lane / The Street		
Description of route and distances	1. From Tye Lane / The Street continue west along The Street using the footway on either side. 2. At the junction of Dairy Lane cross onto the northern side of The Street to carry on west using the footway provision. 3. Once past the North Pound junction continue using the footway on either side of The Street. 4. At the junction of West Walberton Lane, Eastergate Lane and Barnham Road use the footway on the southern side of The Street to travel south west. 5. Continue along Barnham Lane travelling south west. 6. Use the footway on the eastern side of Barnham Lane and continue until the first entrance of the Walberton Cycle Path or the second entrance where the footway terminates (Image 2.13). 7. Continue south using the cycle path, crossing the side road at the junction with Barnham Lane. 8. Continue until the off-road cycle path terminates and cross back onto the eastern side Barnham Lane.	Image 2.13 – Second Entrance to Cycle path 

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Route 3: Barnham Town Centre from Tye Lane / The Street		
	9. Using the footway/cycle path, continue south towards Barnham. 10. Approximately 35m from the Lake Lane junction cross onto the northern side of the Barnham Lane/Lake Lane. 11. Continue along Lake Lane/Barnham Road to arrive at Barnham Town Centre. Total Distance: 3.55km from Yapton Lane Site Access Total Distance: 2.75km from Tye Lane Site Access <i>Relevant notes</i> This route provides access to Barnham Town Centre via Barnham Lane and the off-road cycle route. The Tye Lane route does contain sections that does not have footway provision. There is limited street lighting along these routes, which is found near Walberton Village Centre and Barnham Local Centre.	
Are routes wide enough?	1. From the junction of Tye Lane / The Street the footways on the southern side when present are found to be between 1.3m and 1.75m wide. 2. On the northern side of The Street the footways when present along the route are between circa 1m and 1.65m wide (Image 2.14). 3. On the eastern side of Barnham Lane the footway is approximately between 1.4m and 1.65m. 4. Near the end of the footway provision the footway narrows to 1.24m. 5. Along the off-road cycle path this is circa 2.45m wide, which provides plenty of space of both cyclists and pedestrians (Image 2.15). 6. At one section of the cycle path, it narrows to 1.7m due to overgrown vegetation. 7. When the cycle path transfers to the eastern footway on Barnham Lane there is a width of approximately 3.9m wide, again providing plenty of space for both pedestrians and cyclists. 8. Once approaching Barnham the footway narrows to between 1.5m and 2m wide. 9. Into the Town Centre widths of circa 1.8m can be used on the western side.	Image 2.14 – Footways on the northern side of The Street 

Route 3: Barnham Town Centre from Tye Lane / The Street		
		Image 2.15: Wideway Cycle path from Walberton and Barnham 
Are there any obstructions?	Along this route there are no obstructions than those previously mentioned for Routes 1 and 2.	
Crossing Provision	1. At the junction of Dairy Lane there are no dropped kerbs or tactile paving either side. Due to the footway on the southern side terminating there is also no crossing provision to the northern footway (Image 2.16) 2. Following the northern footway there are no dropped kerbs or tactile paving at the junctions with side roads, however the footway is continuous. 3. At the bus stop on the northern side of the footway there is no crossing provision to reach the southern side of the footway. 4. To access the cycle path on Barnham Lane there is no crossing provision, although there are dropped kerbs on the western side (Image 2.17). 5. When the cycle path terminates on the western side, dropped kerbs and tactile paving are available in order to gain access onto the eastern side. 6. To gain access onto Lake Lane tactile paving and dropped kerbs are present.	Image 2.16 – Lack of Crossing Provision at Dairy Lane junction 

Route 3: Barnham Town Centre from Tye Lane / The Street		
		Image 2.17 – Crossing Provision from the Cycle Path 
Quality of surfaces	1. All footways along Barnham Lane are hard surfaced with a broadly even finish, especially at the southern end (Image 2.18). The Walberton Cycle Path is hard surfaced and has an excellent finish, making it very suitable for pedestrians and cyclists to travel to Barnham (Image 2.15).	Image 2.18 – Hard Surfaced Footway / Cycle Path 

SECTION 3 SUMMARY AND CONCLUSIONS

3.1 The three routes identified as part of the audit connect the site to the key services and facilities within Walberton and Barnham, including education, employment and retail opportunities as well as links to public transport facilities. All routes have been assessed as part of this audit in terms of existing pedestrian and cyclist infrastructure.

3.2 In general, the following is noted about each route:

- **Route 1** – This is a predominantly residential route with continuous footways on the western side of Yapton Lane. Along Avisford Park Road there are no footways however this is a lightly trafficked carriageway. Avisford Park Road is also Public Footpath 333 and provides a connection to Walberton Village Centre. The route provides pedestrians and cyclists a safe route to the local centre of Walberton and the local primary school;
- **Route 2** – This route is predominately residential except for Tye Lane and provides an opportunity to travel to the local school and the village centre. Tye Lane currently does not have footways however, it is very lightly trafficked and suitable for on-road walking and cycling. Footways are provided along The Street; and
- **Route 3** – This route provides the opportunity to access Barnham, including Barnham Railway Station. Along this route there is at least one footway either side of the carriageway, until the start of the off-road cycle path where this could also be used by pedestrians. This route could be improved by providing uncontrolled crossing points at the junctions such as Dairy Lane. However, this route has good surfaces, especially along the Walberton Cycle Way which provides a safe opportunity for cyclists and pedestrians to access Barnham.

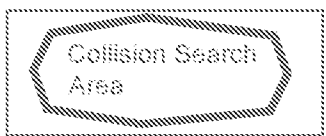
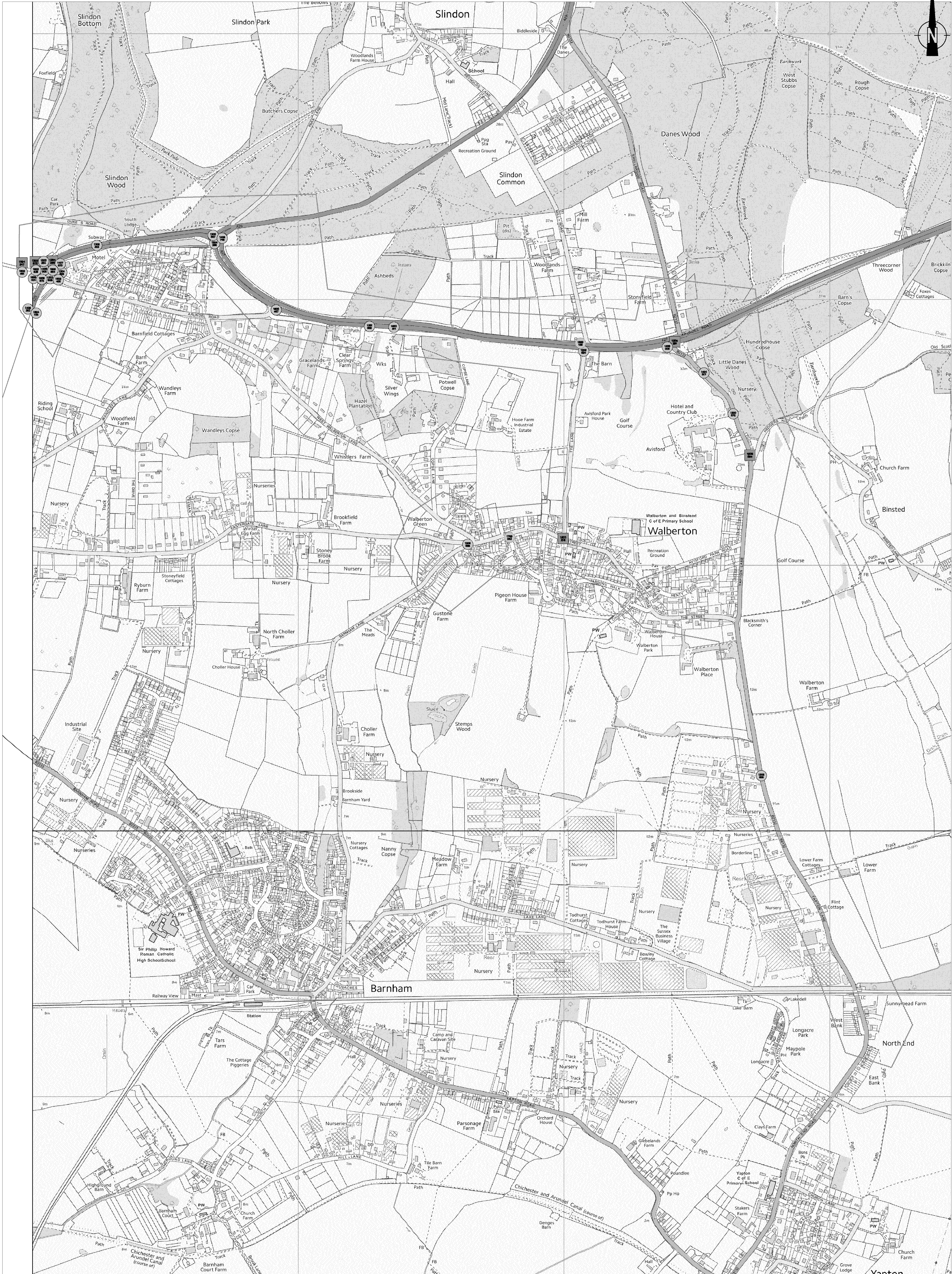
3.3 In summary, all routes likely to be used are suitable for increased walking and cycling useage. However, a series of potential improvements have been identified including the following works:

- Improvement to the eastern bus-stop on Yapton Lane, to include enhanced crossing facilities and waiting area;
- Delivery of improved crossing facilities to PF350 at Blacksmiths Corner;

- Delivery of dropped kerb crossing improvements at:
 - The Street opposite William Booker Yard;
 - The Street outside the Baptist Church; and
 - The Street at Dairy Lane;

APPENDIX E

PERSONAL INJURY ACCIDENT REPORT



REPRODUCED FROM 2015 ORDNANCE SURVEY MASTER MAPPING
WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S
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PROSECUTION OR CIVIL PROCEEDINGS. LICENCE No. W.S.C.C.
100023447

Accident Severity	
	Slight 28
	Serious 6
	Fatal 0

Casualty Severity	
	Slight 39
	Serious 6
	Fatal 0

Casualty Class	
	Driver 29
	P.Riders 3
	Pass. 11
	Ped. 2

Rev	Date	Amendment	Name



West
Sussex
County
Council

PIA Search Ref 17060
Fontwell, Walberton Area
5yrs to 28 Feb 17

AREA		DRG No.
ROUTE No.		SCALE Not Std
FILE No.	17060	
DRAWN	DN	
CHECKED		
DATE	12/4/17	

Matt Davey
Director of Highways and Transport
County Hall, West Street
Chichester,
West Sussex, PO19 1RH
(Tel: 01243 642105)

West Sussex Injury Accident Engineers Report
PIA Search Ref 17060 - Fontwell Walberton Area - 5yrs to 28 Feb 2017

Accident 1 of 34 1202572 Severity: Serious Sun 20/05/2012 at 14:16 on the A27 Police Officer Attend: Yes

A27 Chichester by Pass Fontwell At Junction Of A29 Fontwell Avenue Outside Prior to Fontwell Roundab

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495014 / 107117

Veh 1	Car	Going ahead other	from W to E	Skidded	Impact: Front	Male Aged Between 45-54
Veh 2	Car	Going ahead other	from W to E	No Skid	Impact: Back	Male Aged Between 25-34
Cas 1	Driver or Rider	of veh 1	Serious Male	Aged between	45-54	
Cas 2	Driver or Rider	of veh 2	Slight Male	Aged between	25-34	

V1 Travelling East on A27 Approaching R/A when it was in Collision with V2 Also Travelling East. Occs of V2 Sustained Minor Whiplash Injuries. Driver of V1 Sustained Slight Injuries and Aggravated Old Neck Injury.

Accident 2 of 34 1202824 Severity: Slight Sat 02/06/2012 at 07:40 on the U Police Officer Attend: No

U TYE LANE ARUNDEL AT JUNCTION OF A27

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 60mph

Easting / Northing 497074 / 106806

Veh 1	Goods > 7.5t	Reversing	from W to E	No Skid	Impact: Nearside	Male Aged Between 45-54
Veh 2	Van/Goods < 3.5t	Turning left	from S to W	No Skid	Impact: Offside	Male Aged Between 35-44
Cas 1	Driver or Rider	of veh 2	Slight Male	Aged between	35-44	

VEHICLE 2 TRAVELLING NORTH IN TYE LANE TO THE DUAL CARRIGEWAY JUNCTION OF THE A27 WHERE THE VEHICLE MUST TURN LEFT. AS VEHICLE 2 GETS TO THE JUNCTION HE LOOKS TO HIS RIGHT TO CHECK THE ROAD AND SEES A VEHICLE APPROACHING HIM THAT FLASHES IT'S HEADLIGHTS, DRIVER 2 ASSUMES THAT THIS IS TO ALLOW HIM ONTO THE A27 WHICH HE DOES SO, HOWEVER VEHICLE 1 WHICH WAS ON THE A27 BUT WEST OF THE TYE LANE JUNCTION WAS REVERSING INTO THE TYE LANE, FRONT OFFSIDE OF VEHICLE 2 COLLIDES WITH REAR NEARSIDE OF VEHICL

Accident 3 of 34 1204266 Severity: Slight Mon 20/08/2012 at 01:26 on the A27 Police Officer Attend: Yes

A27 Fontwell At Junction Of A29

Light: Dark/lights lit - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495685 / 107211

Veh 1	M/cycle > 500cc	Stopping	from E to W	No Skid	Impact: Nearside	Male Aged Between 45-54
Cas 1	Driver or Rider	of veh 1	Slight Male	Aged between	45-54	

Vehicle 1, Motorcycle. Travelling West on A27 Approaching Roundabout Junction with A29, Rider Loses Control and Falls off of Motorbike.

Accident 4 of 34 1204288 Severity: Serious Mon 20/08/2012 at 14:41 on the A27 Police Officer Attend: Yes

A27 Fontwell At Junction Of A29

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495043 / 107114

Veh 1	Car	Going ahead other	from W to E	No Skid	Impact: Offside	Male Aged Between 45-54
Veh 2	M/cycle > 500cc	Going ahead other	from W to E	No Skid	Impact: Nearside	Male Aged Between 35-44
Cas 1	Driver or Rider	of veh 2 Serious Male	Aged between 35-44			
V2 Travelling East in Lane 2 Entering Roundabout Intending to Take First Exit, V1 Also Eastbound but in Lane 1 Negotiates Roundabout Whilst on the Roundabout V1 Moves from Lane 1 to Lane 2 Failing to Notice V1. V2 and V1 Collide and the Rider of V2 Sustains an Injury.						
Accident 5 of 34	1204391	Severity: Serious	Sun 26/08/2012 at 07:26	on the A27	Police Officer Attend: Yes	
A27 ARUNDEL ROAD WALBERTON AT JUNCTION OF B2132 YAPTON LANE						
Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph						Easting / Northing 497412 / 106839
Veh 1	Van/Goods < 3.5t	Turning right	from W to S	No Skid	Impact: Nearside	Male Aged Between 17-24
Veh 2	Pedal Cycle	Going ahead other	from E to W	No Skid	Impact: Front	Male Aged Between 45-54
Cas 1	Driver or Rider	of veh 2 Serious Male	Aged between 45-54			
VEH 1 TRAVELLING E/B ON A27 AND APPROACHED EXIT/ONSLIP TO CROSS W/B CARRIAGEWAY WITH THE INTENTION OF GOING STRAIGHT ACROSS TO YAPTON LANE. VEH 2 (PEDAL CYCLE) TRAVELLING W/B ALONG A27 APPROACHING THE JUNCTION, WITH THE INTENTION OF CONTINUING IN THIS DIRECTION, TOWARDS FONTWELL ALONG THE A27. VEH 1 PULLED OUT OF THE JUNCTION TO CROSS THE A27 AND HIT VEH 2 TO THE OFFSIDE.						
Accident 6 of 34	1205567	Severity: Slight	Mon 22/10/2012 at 08:30	on the A29	Police Officer Attend: No	
A29 Fontwell At Junction Of A27 Arundel Road						
Light: Light - Weather: Fog Mist - Road Surface: Wet - Speed Limit: 40mph						Easting / Northing 495680 / 107212
Veh 1	Minibus	Turning left	from SE to W	No Skid	Impact: Front	Female Aged Between 35-44
Veh 2	Car	Going ahead other	from E to W	No Skid	Impact: Nearside	Female Aged Between 17-24
Cas 1	Driver or Rider	of veh 2 Slight Female	Aged between 17-24			
Cas 2	Passenger	of veh 2 Slight Male	Aged between 17-24			
V2 Entered Roundabout from A29. V2 Travelled Around Roundabout Towards the Second Exit. as V2 Passed the First Exit (A27 South East Bound), V1 Pulled out on to the Roundabout, Hitting V2 and Causing Injury and Damage.						
Accident 7 of 34	1206685	Severity: Slight	Tue 11/12/2012 at 13:01	on the U	Police Officer Attend: Yes	
U the Street Walberton At Junction Of U Eastergate Lane						
Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 30mph						Easting / Northing 496638 / 106079
Veh 1	Car	Turning right	from N to W	No Skid	Impact: Offside	Male Aged Between 75-84
Veh 2	M/cycle <= 50cc	Going ahead other	from W to E	No Skid	Impact: Front	Female Aged Between 17-24
Cas 1	Driver or Rider	of veh 2 Slight Female	Aged between 17-24			
Vehicle 2 Travelling the Street Eastbound Approaching Junction with Eastergate Lane. Vehicle 1 in Eastergate Lane Has Pulled out into the Path of V2 Causing V2 to Hit V1 Minor Injury Rtc.						
Accident 8 of 34	1300572	Severity: Slight	Sat 26/01/2013 at 18:05	on the B2132	Police Officer Attend: No	
B2132 Yapton Lane Walberton At Junction Of U Private Drive Outside Hilton Avisford Park Hotel						
Light: Dark/lights lit - Weather: Fine - Road Surface: Dry - Speed Limit: 60mph						Easting / Northing 497637 / 106570

Veh 1	Car	Turning right		from W to S	No Skid	Impact: Front	Female Aged Between 55-64
Veh 2	Car	Going ahead other		from S to N	No Skid	Impact: Front	Male Aged Between 25-34
Cas 1	Driver or Rider	of veh 2	Slight	Male	Aged between	25-34	

Driver Vehicle 1 Pulling out of Hotel Entrance. Driver Vehicle 2 Approaching from Offside. Vehicles Collided and Driver Vehicle 1 Came to Rest in the Ditch.

Accident 9 of 34 1301669 Severity: Slight Tue 02/04/2013 at 12:25 on the A27 Police Officer Attend: No

A27 Arundel Road Fontwell 92M West Of U Copse Lane Outside O/S Engineering Works

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 496268 / 106899

Veh 1	Car	U Turn		from W to W	No Skid	Impact: None	Male Aged Between 65-74
Veh 2	Car	Going ahead other		from E to W	Skidded	Impact: Front	Male Aged Between 17-24
Cas 1	Driver or Rider	of veh 2	Slight	Male	Aged between	17-24	

Apparantly Veh 1 Completed a U Turn at the Central Reservation and Porceeded to Travel Westbound on the Main Dual Carrageway. Veh 2 was Also Travelling West and Had to Take Avoiding Action to Prevent Running into the Rear of Veh 1. Veh 2 then Lost C Ontrol and left the Road Nearside.

Accident 10 of 34 1302303 Severity: Slight Wed 08/05/2013 at 13:30 on the A27 Police Officer Attend: No

A27 Arundel Road Fontwell 96M East Of U Dukes Road Outside Motel

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495242 / 107204

Veh 1	Car	Going ahead other		from SW to NE	No Skid	Impact: Back	Male Aged Between 75-84
Veh 2	Car	Going ahead other		from SW to NE	No Skid	Impact: Back	Male Aged Between 35-44
Veh 3	Goods > 7.5t	Going ahead other		from SW to NE	Skidded	Impact: Front	Male Aged Between 25-34
Cas 1	Driver or Rider	of veh 2	Slight	Male	Aged between	35-44	

Veh1 Swerved from Lane 1 into Lane 2 Causing V2 to Brake Sharpley. V3, Goods Vehicle Collided with Rear of V2. V2 Collided with Rear of V1 which Had Also Braked for Unknown Reason.

Accident 11 of 34 1302806 Severity: Slight Mon 03/06/2013 at 16:10 on the B2132 Police Officer Attend: Yes

B2132 YAPTON LANE WALBERTON 300M SOUTH OF U THE STREET

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 40mph

Easting / Northing 497743 / 105208

Veh 1	Car	Going ahead other		from N to S	No Skid	Impact: Front	Male Aged Between 65-74
Veh 2	Car	Going ahead other		from N to S	No Skid	Impact: Back	Female Aged Between 25-34
Cas 1	Passenger	of veh 2	Slight	Male	Aged between	45-54	
Cas 2	Driver or Rider	of veh 2	Slight	Female	Aged between	25-34	

V2 TRAVELLING SOUTH ON YAPTON LANE A COUNTRY LANE & SLOWS AS SHE SEES A SMALL WHITE DOG AHEAD IN THE ROAD. DRIVER OF VEH1 TRAVELLING BEHIND HAS A MOMENTRY LAPSE OF CONCENTRATION, SEES THE DOG AND THE SLOWING VEHICLE TOO LATE & BRAKES BUT COLLIDES WITH THE REAR OF V2 MINOR DAMAGE TO BOTH VEHICLES HOWEVER THE MALE FRONT SEAT PASSENGER HAS PRE EXISTING MEDICAL CONDITION WITH REGARD TO HIS BACK AND IS EXTRACTED FROM THE VEHICLE BY THE FIRE SERVICE BOTH DRIVER & PASSENGER OF V2 ARE TAKEN TO HOSPITAL

Accident 12 of 34 1303218 Severity: Serious Mon 24/06/2013 at 16:27 on the U Police Officer Attend: Yes

U THE STREET WALBERTON AT JUNCTION OF U TYE LANE

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 30mph

Easting / Northing 496997 / 106101

Veh 1	Car	Turning left	from W to N	No Skid	Impact: Offside	Male Aged Between 65-74
Veh 2	Pedal Cycle	Going ahead other	from W to E	No Skid	Impact: Front	Male Aged Between 25-34
Cas 1	Driver or Rider	of veh 2	Serious Male	Aged between 25-34		

VEH1 PULLED OUT OF JUNCTION, TURNED RIGHT. DROVE SHORT DISTANCE AND INDICATED LEFT TO TURN INTO TYE LANE. CYCLIST TRAVELLING IN SAME DIRECTION UNDERTOOK VEHICLE. DRIVER OF V1 DID NOT SEE CYCLIST, HIT CYCLIST CAUSING POSSIBLE DISLOCATED SHOULDER.

Accident 13 of 34 1303905 Severity: Slight Sat 20/07/2013 at 17:45 on the A27 Police Officer Attend: Yes

A27 FONTWELL AT JUNCTION OF A29

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495041 / 107098

Veh 1	Van/Goods < 3.5t	Changing lane to right	from E to W	No Skid	Impact: Offside	Female Aged Between 25-34
Veh 2	Car	Going ahead other	from E to W	No Skid	Impact: Nearside	Female Aged Between 35-44
Cas 1	Driver or Rider	of veh 2	Slight Female	Aged between 35-44		

VEHICLE 2 TRAVELLING FROM EAST TO WEST ON A27 NEGOTIATING ROUNDABOUT IN OFFSIDE LANE, VEHICLE 1 ALSO TRAVELLING WEST ON THE SAME ROUNDABOUT CHANGES LANES AND VEHICLES COLLIDE.

Accident 14 of 34 1304629 Severity: Slight Mon 02/09/2013 at 20:35 on the A27 Police Officer Attend: Yes

A27 ARUNDEL AT JUNCTION OF C0 ARUNDEL ROAD OUTSIDE LITTLE CHEF

Light: Dark/lights lit - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495080 / 107107

Veh 1	M/cycle <= 50cc	Going ahead other	from SE to NW	Skidded	Impact: Nearside	Male Aged Between 17-24
Cas 1	Driver or Rider	of veh 1	Slight Male	Aged between 17-24		

V1 SLOWING FOR ROUNDABOUT LOST CONTROL DUE TO SPILLAGE IN CARRIAGE WAY. FELL OFF MOPED CAUSING INJURY

Accident 15 of 34 1400009 Severity: Slight Sun 29/12/2013 at 09:00 on the A27 Police Officer Attend: No

A27 WALBERTON AT JUNCTION OF B2132

Light: Light - Weather: Fine - Road Surface: Ice - Speed Limit: 70mph

Easting / Northing 497389 / 106821

Veh 1	Car	Going ahead RH bend	from NE to W	Skidded	Impact: Offside	Male Aged Between 17-24
Cas 1	Driver or Rider	of veh 1	Slight Male	Aged between 17-24		

V1 ONE DRIVING ON ROAD, HIT SOME BLACK ICE LOST CONTROL OF VEHICLE STARTED TO SPIN. MADE CONTACT WITH SHRUBS AND BUSHES. EVENTUALLY CAME TO STOP AGAINST A WALL CAUSING REAR DAMAGE TO VEHICLE AND NO DAMAGE TO THE WALL.

Accident 16 of 34 1404517 Severity: Slight Sat 02/08/2014 at 20:59 on the B2132 Police Officer Attend: Yes

B2132 YAPTON LANE YAPTON AT JUNCTION 5M NORTH OF A27 ARUNDEL ROAD

Light: Dark/no lights - Weather: Fine - Road Surface: Dry - Speed Limit: 30mph

Easting / Northing 497527 / 106724

Veh 1	Car	Going ahead other			from N to S	No Skid	Impact: Nearside	Female Aged Between 55-64
Veh 2	Car	Going ahead other			from S to N	No Skid	Impact: Offside	Male Aged Between 45-54
Cas 1	Driver or Rider	of veh 2	Slight	Male	Aged between	45-54		
Cas 2	Passenger	of veh 2	Slight	Male	Aged between	25-34		

V1 IS FROM AMERICA, THEY HAVE TURNED OF ONTO YAPTON LANE AND HAD A MOMENT, FORGETTING THEY ARE IN ENGLAND, AND DRIVEN ON THE WRONG SIDE OF THE ROAD AND COLLIDED WITH V2. V2 SWERVED TO AVOID CAR AND DAMAGE CAUSED TO OFFSIDE.

Accident 17 of 34 1405606 Severity: Slight Sun 28/09/2014 at 13:50 on the A27 Police Officer Attend: Yes

A27 FONTWELL AT JUNCTION OF A29 FONTWELL AVENUE

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495039 / 107103

Veh 1	Car	U Turn			from E to E	No Skid	Impact: Offside	Male Aged Between 55-64
Veh 2	M/cycle > 500cc	Changing lane to left			from E to W	No Skid	Impact: Nearside	Male Aged Between 45-54
Cas 1	Driver or Rider	of veh 2	Slight	Male	Aged between	45-54		

VEHICLE 1 WESTBOUND ON A27 ENTERS ABOVE ROUNDABOUT JUNCTION IN LANE 1 INTENDING TO CONTINUE WEST ON A27. VEHICLE 2 WESTBOUND ON A27 ALSO ENTERS ABOVE ROUNDABOUT JUNCTION BUT IN LANE INTENDING TO CONTINUE WEST ON A27. AS VEHICLE 1 REACHES WESTBOUND EXIT OF ROUNDABOUT DRIVER REALISES HE IS IN WRONG LANE AND CONTINUES AROUND ROUNDABOUT AND IN DOING SO COLLIDES WITH VEHICLE 2.

Accident 18 of 34 1406363 Severity: Slight Wed 29/10/2014 at 10:20 on the A29 Police Officer Attend: Yes

A29 FONTWELL AVENUE FONTWELL AT JUNCTION OF U FONTWELL RACE COURSE ENTRANCE OUTSIDE AT NORTHERN RACE COURSE ENTRANCE

Light: Light - Weather: Rain - Road Surface: Wet - Speed Limit: 60mph

Easting / Northing 494989 / 106960

Veh 1	Car	Going ahead other			from N to S	Skidded	Impact: Front	Female Aged Between 45-54
Veh 2	Car	Waiting to turn right			from N to W	No Skid	Impact: Back	Male Aged Between 35-44
Cas 1	Driver or Rider	of veh 1	Slight	Female	Aged between	45-54		

V1 AND V2 TRAVELLING SOUTH. V2 STOPPED TO TURN RIGHT IN RACECOURSE ENTRANCE. V1 COLLIDED WITH REAR OF V2.

Accident 19 of 34 1406748 Severity: Slight Sun 16/11/2014 at 01:08 on the A27 Police Officer Attend: Yes

A27 FONTWELL FONTWELL AT JUNCTION OF A29 FONTWELL

Light: Dark/lights lit - Weather: Fine - Road Surface: Wet - Speed Limit: 70mph

Easting / Northing 495714 / 107231

Veh 1	Car	Going ahead other			from W to E	No Skid	Impact: Front	Male Aged Between 17-24
Cas 1	Passenger	of veh 1	Slight	Male	Aged between	17-24		
Cas 2	Passenger	of veh 1	Slight	Female	Aged between	17-24		
Cas 3	Passenger	of veh 1	Slight	Female	Aged between	17-24		

VEHICLE 1 TRAVELLING EASTBOUND ON A27, APPROACHED ROUNDABOUT AND THE DRIVER TOOK THE WRONG TURNING AND IN ORDER TO CORRECT THIS LOST CONTROL AND COLLIDED WITH A LAMP POST.

Accident 20 of 34 1407070 Severity: Slight Sun 30/11/2014 at 15:08 on the A27 Police Officer Attend: Yes

A27 FONTWELL AT JUNCTION OF U ARUNDEL ROAD OUTSIDE ON FONTWELL ROUNDABOUT

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495078 / 107115

Veh 1	Car	Waiting to turn right	from S to W	No Skid	Impact: Offside	Male Aged Between 45-54
Veh 2	Pedal Cycle	Going ahead other	from W to E	No Skid	Impact: Front	Male Aged Between 35-44
Cas 1	Driver or Rider	of veh 2 Slight Male	Aged between 35-44			

V1 TRAVELLING WESTBOUND ON A27 ARUNDEL ROAD, FONTWELL WAITING AT GIVE WAY OF FONTWELL ROUNDABOUT WHEN FAILED TO SEE V2 PEDAL CYCLIST TRAVELLING EASTBOUND ON A27 AND PULLED OUT INTO PATH OF PEDAL CYCLIST CAUSING HIM TO FALL TO THE FLOOR. MINOR INJURIES TO CYCLIST NAMELY GRAZE TO HAND. DRIVER OF V1 HAD REDUCED VIEW OWING TO LOW DAZZLING SUN.

Accident 21 of 34 1503354 Severity: Slight Fri 05/06/2015 at 13:25 on the A27 Police Officer Attend: Yes

A27 ARUNDEL ROAD FONTWELL. AT JUNCTION OF A29 FONTWELL ROAD OUTSIDE AT JUNCTION AS SHOWN ABOVE.

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495035 / 107115

Veh 1	Car	Stopping	from W to E	No Skid	Impact: Front	Male Aged Between 65-74
Veh 2	Car	Stopping	from W to E	No Skid	Impact: Back	Female Aged Between 17-24
Cas 1	Driver or Rider	of veh 2 Slight Female	Aged between 17-24			

V1 FOLLOWING V2 IN LANE 1 OF EASTBOUND A27 ON THE APPROACH THE THE FONTWELL ROUNDABOUT AT THE JUNCTION WITH THE A29. V1 FAILED TO SLOW UP IN TIME AND HAD VERY MINOR IMPACT WITH THE REAR OF V2.

Accident 22 of 34 1504105 Severity: Slight Fri 17/07/2015 at 11:14 on the A29 Police Officer Attend: Yes

A29 FONTWELL AVENUE FONTWELL AT JUNCTION OF U ENTRANCE TO FONTWELL RACE COURSE OUTSIDE OS FONTWELL RACE COURSE ENTRANCE

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 60mph

Easting / Northing 494997 / 106955

Veh 1	Car	Stopping	from N to S	No Skid	Impact: Front	Female Aged Between 65-74
Veh 2	Car	Turning right	from N to W	No Skid	Impact: Back	Female Aged Between 25-34
Veh 3	Car	Turning right	from N to W	No Skid	Impact: Back	Female Aged Between 45-54
Cas 1	Driver or Rider	of veh 2 Slight Female	Aged between 25-34			
Cas 2	Passenger	of veh 2 Slight Male	Aged between 17-24			

V3 TRAVELLING S/B ON FONTWELL AVENUE. V3 STOPS AND WAITS TO TURN RIGHT INTO THE RACE COURSE. V2 STOPPED BEHIND V3. V1 TRAVELLING BEHIND V2. V1 COLLIDES WITH REAR OF V2, WHICH CAUSES V2 TO COLLIDE WITH REAR OF V3

Accident 23 of 34 1504347 Severity: Serious Tue 28/07/2015 at 17:22 on the A27 Police Officer Attend: Yes

A27 FONTWELL AT JUNCTION OF A29 FONTWELL AVENUE OUTSIDE FONTWELL R/A

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 494955 / 107129

Veh 1	Car	Going ahead other	from W to E	No Skid	Impact: Front	Male Aged Between 25-34
Veh 2	Car	Going ahead other	from W to E	No Skid	Impact: Front	Male Aged Between 17-24
Veh 3	Car	Going ahead other	from W to E	No Skid	Impact: Back	Male Aged Between 17-24
Cas 1	Driver or Rider	of veh 2	Serious Male	Aged between 17-24		
VEH (3) APPROCHING R/A L2 VEH (1) BEHIND VEH (3) L2 VEH (2) BEHIND VEH (1) L2 VEH (3) HAS SLOWED AND COME TO STOP IN L2 SHORT OF R/A. ABOVE VEHICLES HAVE IMPACTED IN ORDER MENTIONED IN FORM OF REAR SHUNT.						
Accident 24 of 34	1600159	Severity: Slight	Sun 10/01/2016 at 05:39 on the A27	Police Officer Attend: Yes		
A27 WALBERTON AT JUNCTION OF U MILL ROAD						
Light: Dark/no lights - Weather: Unknown - Road Surface: Wet - Speed Limit: 70mph						Easting / Northing 497062 / 106836
Veh 1	Van/Goods < 3.5t	Going ahead other	from W to E	No Skid	Impact: Nearside	Male Aged Between 35-44
Cas 1	Pedestrian	of veh 1	Slight Male	Aged between 25-34		
VEHICLE TRAVELLING ALONG DUAL CARRAIGE WAY (DARK AND UNLIT). PEDESTRIAN WALKING ALONG THE EDGE OF THE ROAD IN DARK CLOTHES. VEHICLES WING MIRROR CLIPS PEDESTRIAN CAUSING INJURY.						
Accident 25 of 34	1600404	Severity: Slight	Tue 19/01/2016 at 08:00 on the A27	Police Officer Attend: No		
A27 FONTWELL AVENUE ROUNDABOUT FONTWELL AT JUNCTION OF A29 FONTWELL AVENUE						
Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph						Easting / Northing 495035 / 107097
Veh 1	Car	Changing lane to left	from NE to W	No Skid	Impact: Nearside	Female Aged Between 65-74
Veh 2	Car	Going ahead other	from NE to W	No Skid	Impact: Offside	Male Aged Between 25-34
Cas 1	Driver or Rider	of veh 2	Slight Male	Aged between 25-34		
BOTH VEHICLES HAVE TRAVELLED AROUND THE ROUNDABOUT AND CAME OFF TO TRAVEL WEST TOWARDS CHICHESTER. VEHICLE 1 TRAVELLING IN THE OUTSIDE LANE AND PULLED OVER INTO INSIDE LANE INTO THE SIDE OF VEHICLE 2.						
Accident 26 of 34	1602456	Severity: Slight	Thu 28/04/2016 at 06:32 on the A27	Police Officer Attend: Yes		
A27 FONTWELL AT JUNCTION OF A29 OUTSIDE FONTWELL R/A						
Light: Light - Weather: Fine - Road Surface: Wet - Speed Limit: 70mph						Easting / Northing 495076 / 107112
Veh 1	Car	Turning right	from N to W	No Skid	Impact: Offside	Female Aged Between 55-64
Veh 2	M/cycle 125 - 500cc	Turning right	from S to E	No Skid	Impact: Front	Male Aged Between 17-24
Cas 1	Driver or Rider	of veh 2	Slight Male	Aged between 17-24		
V1 APPROACHED THE ROUNDABOUT WITH THE INTENTION OF JOINING THE A27 HEADING WEST, DRIVER FAILED TO GIVE WAY TO V2 WHO WAS ALREADY COMMITTED ON THE ROUNDABOUT.						
Accident 27 of 34	1602854	Severity: Slight	Mon 02/05/2016 at 10:10 on the A27	Police Officer Attend: Yes		
A27 FONTWELL ROUNDABOUT FONTWELL AT JUNCTION OF A29 FONTWELL AVENUE						
Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph						Easting / Northing 495059 / 107091

Veh 1	Car	U Turn			from W to W	No Skid	Impact: Front	Male Aged Between 17-24
Veh 2	Car	Turning right			from W to S	No Skid	Impact: Front	Male Aged Between 45-54
Cas 1	Passenger	of veh 1	Slight	Female	Aged between 45-54			

VEHICLE 1 IS A DANISH REGISTERED VEHICLE/DRIVER AND IN THE CENTRE LANE OF THE WESTBOUND LANES INTENDING TO CARRYOUT A FULL U-TURN AND TRAVEL BACK EAST. VEHICLE 2 IN LANE 3 TURNING RIGHT, WEST TOWARDS CHICHESTER WHEN VEH 1 TURNED ACROSS PATH OF VEH 2.

Accident 28 of 34 1602981 Severity: Slight Fri 20/05/2016 at 20:15 on the A27 Police Officer Attend: Yes

A27 ARUNDEL RD FONTWELL 77M WEST OF A29

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 60mph Easting / Northing 494967 / 107112

Veh 1	Car	Overtaking on nearside			from E to W	No Skid	Impact: Offside	Female Aged Between 25-34
Veh 2	Car	Going ahead other			from E to W	No Skid	Impact: Nearside	Female Aged Between 35-44
Cas 1	Driver or Rider	of veh 2	Slight	Female	Aged between 35-44			

V02 TRAVELLING WESTWARDS ON DUAL CARRIAGE WAY IN OFFSIDE LANE. V01 TRAVELLING WESTWARDS IN NEARSIDE LANE ATTEMPTING TO OVER TAKE ON INSIDE LANE BUT WAS SLOWED BY ANOTHER CAR IN NEARSIDE LANE PULLED INTO OFFSIDE LANE COLLIDING WITH V02. V01 FAILED TO STOP AND NO DEALS EXCHANGED.

Accident 29 of 34 1603511 Severity: Slight Sat 11/06/2016 at 10:08 on the A27 Police Officer Attend: Yes

A27 WALBURTON AT JUNCTION OF U ARUNDEL ROAD

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph Easting / Northing 496360 / 106896

Veh 1	Car	U Turn			from E to E	O/Turn	Impact: Nearside	Female Aged Between 85+
Veh 2	Car	Going ahead other			from E to W	Skidded & O/Turn	Impact: Offside	Female Aged Between 17-24
Cas 1	Driver or Rider	of veh 2	Slight	Female	Aged between 17-24			
Cas 2	Passenger	of veh 2	Slight	Male	Aged between 25-34			

VEHICLE 1 INITIALLY TRAVELLING EAST ALONG A27 TOWARDS ARUNDEL AND REALISED THAT THEY NEEDED TO GO THE OPPOSITE DIRECTION SO USING A CUT THROUGH CARRIED OUT A U TURN IN THE ROAD JOINING WEST BOUND CARRIAGEWAY. VEH 1 PULLED OUT INTO PATH OF VEH 2.

Accident 30 of 34 1603639 Severity: Slight Sat 18/06/2016 at 12:26 on the A27 Police Officer Attend: No

A27 ARUNDEL AT JUNCTION OF A29 OUTSIDE FONTWELL RA

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph Easting / Northing 495021 / 107098

Veh 1	Car	Changing lane to right			from S to NW	No Skid	Impact: Offside	Female Aged Between 17-24
Veh 2	Car	Going ahead other			from NE to W	No Skid	Impact: Nearside	Male Aged Between 25-34
Cas 1	Passenger	of veh 2	Slight	Male	Aged between 0-9			

VEHICLE ONE WAS HEADING EAST ON A27, MISSED EXIT AND WENT ROUND THE ROUNDABOUT AGAIN. WHILST DOING THIS SAME VEHICLE DROVE ACROSS THE EXIT FOR THE A27 WEST BOUND AND DROVE IN TO THE NEARSIDE OF VEHICLE TWO AS THIS SECOND VEHICLE WAS TAKING THE EXIT ON THE OUTSIDE LANE. VEHICLE ONE CLEARLY AT FAULT (INCIDENT WITNESSED BY POLICE)

Accident 31 of 34 1605467 Severity: Slight Fri 09/09/2016 at 17:45 on the A27 Police Officer Attend: Yes

A27 ARUNDEL ROAD FONTWELL AT JUNCTION OF U ARUNDEL ROAD OUTSIDE AT ARUNDEL ROAD JUNCTION

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495917 / 106961

Veh 1	Car	Going ahead other	from E to W	No Skid	Impact: None	u/k Aged Between	N/A
Veh 2	Goods > 7.5t	Going ahead other	from E to W	No Skid	Impact: Offside	Male Aged Between	55-64
Veh 3	Car	Going ahead other	from E to W	Skidded	Impact: Nearside	Male Aged Between	17-24
Cas 1	Driver or Rider	of veh 2	Slight Male	Aged between	55-64		
Cas 2	Driver or Rider	of veh 3	Slight Male	Aged between	17-24		

V1 UNKNOWN TRAVELLING WEST IN LANE 1 INDICATES TO TURN IN TO ARUNDEL ROAD AND TURNS ON TO SLIP. V2 TRAVELLING IN LANE 1 BEGINS TO PASS V1 WHEN IT PULLS BACK OUT IN TO THE MAIN CARRIAGEWAY WITHOUT WARNING. V2 TAKES EVASIVE ACTION TO OFFSIDE COLLIDING WITH V3 WHICH WAS PASSING IN LANE2. V3 LEAVES CARRIAGEWAY TO OFFSIDE COLLIDING WITH SIGN AND ARMCO

Accident 32 of 34 1606672 Severity: Slight Sat 05/11/2016 at 23:25 on the A27 Police Officer Attend: Yes

A27 FONTWELL AT JUNCTION OF A29 FONTWELL AVENUE

Light: Dark/lights lit - Weather: Fine - Road Surface: Dry - Speed Limit: 70mph

Easting / Northing 495042 / 107096

Veh 1	Goods 3.5 - 7.5t	Going ahead other	from E to W	No Skid	Impact: Nearside	Male Aged Between	35-44
Veh 2	Car	Going ahead other	from E to W	No Skid	Impact: Offside	Male Aged Between	17-24
Cas 1	Driver or Rider	of veh 2	Slight Male	Aged between	17-24		
Cas 2	Passenger	of veh 2	Slight Female	Aged between	17-24		

2 VEHICLES INVOLVED WERE BOTH SIDE BY SIDE ON ENTRY TO THE ROUNDABOUT TRAVELLING WEST. AS THE VEHICLES ENTERED ONTO THE DUAL CARRIAGEWAY THE VEHICLE IN LANE TWO PULLED INTO LANE ONE COLLIDING WITH THE OTHER VEHICLE

Accident 33 of 34 1606894 Severity: Serious Thu 17/11/2016 at 02:42 on the B2132 Police Officer Attend: Yes

B2132 YAPTON LANE YAPTON AT JUNCTION OF U HEDGERS HILL OUTSIDE SWISS COTTAGES

Light: Dark/no lights - Weather: Fine - Road Surface: Dry - Speed Limit: 40mph

Easting / Northing 497700 / 106415

Veh 1	Van/Goods < 3.5t	Going ahead RH bend	from N to SW	Skidded	Impact: Front	Male Aged Between	25-34
Veh 2	Van/Goods < 3.5t	Going ahead LH bend	from S to NW	No Skid	Impact: Front	Male Aged Between	25-34
Cas 1	Driver or Rider	of veh 1	Slight Male	Aged between	25-34		
Cas 2	Driver or Rider	of veh 2	Serious Male	Aged between	25-34		

V1 TRAVELLING SOUTH ON THE WRONG SIDE OF THE ROAD, COLLIDES WITH V2 TRAVELLING NORTH.

Accident 34 of 34 1700063 Severity: Slight Tue 03/01/2017 at 15:33 on the U Police Officer Attend: Yes

U POUND ROAD WALBERTON AT JUNCTION OF U THE STREET

Light: Light - Weather: Fine - Road Surface: Dry - Speed Limit: 30mph

Easting / Northing 496795 / 106105

Veh 1	Car	Turning right			from W to S	No Skid	Impact: Front	Female Aged Between 45-54
Cas 1	Pedestrian	of veh 1	Slight	Male	Aged between	10-16		

V1 WAS TURNING RIGHT INTO POUND ROAD FROM THE STREET AS THE PEDESTRAIN WAS CROSSING THE ROAD. THE PEDESTRAIN WAS HALF WAY ACROSS POUND ROAD WHEN V1 MADE THE TURN. V1 HAS THEN DRIVEN INTO THE PEDESTRIAN AT LOW SPEED KNOCKING THEM TO THE GROUND.

APPENDIX F

SITE ACCESS – JUNCTIONS 9 ASSESSMENT

Junctions 9							
PICADY 9 - Priority Intersection Module							
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017							
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk							
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution							

Filename: Site Access Priority Junction.j9

Path: T:\Projects\11000 Series Project Numbers\11324\ITB Land North of Walberton\Tech\Junc Models\Picady\Site Access\2020 & 2031

Report generation date: 11/04/2017 17:21:46

»2020 'With Development', AM
 »2020 'With Development', PM
 »2031 'With Development', AM
 »2031 'With Development', PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2020 'With Development'								
Stream B-AC	0.2	10.13	0.18	B	0.1	7.63	0.08	A
Stream C-AB	0.1	5.82	0.04	A	0.2	4.66	0.10	A
2031 'With Development'								
Stream B-AC	0.2	10.62	0.19	B	0.1	7.79	0.08	A
Stream C-AB	0.1	5.83	0.04	A	0.2	4.58	0.10	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Site Priority Access
Location	Walberton
Site number	
Date	11/04/2017
Version	
Status	
Identifier	
Client	Wates Developments
Jobnumber	ITB11324
Enumerator	RS
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15
D2	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15
D3	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15
D4	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2020 'With Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.23	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Yapton Lane S		Major
B	Site Access		Minor
C	Yapton Lane N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50			200.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.20	19	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	125.249	0.089	0.226	0.142	0.322
1	B-C	161.516	0.097	0.245	-	-
1	C-B	172.446	0.261	0.261	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To			
From		A	B	C	
	A	0.00	2.00	93.00	
	B	6.00	0.00	14.00	
	C	36.00	5.00	0.00	

Demand (Veh/TS)

		To			
From		A	B	C	
	A	0.00	2.00	125.00	
	B	6.00	0.00	14.00	
	C	43.00	5.00	0.00	

Demand (Veh/TS)

		To			
From		A	B	C	
	A	0.00	2.00	136.00	
	B	6.00	0.00	14.00	
	C	45.00	5.00	0.00	

Demand (Veh/TS)

		To			
From		A	B	C	
	A	0.00	2.00	146.00	
	B	6.00	0.00	14.00	
	C	41.00	5.00	0.00	

Vehicle Mix

Heavy Vehicle Percentages

		To			
From		A	B	C	
	A	0	0	2	
	B	0	0	0	
	C	3	0	0	

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.18	10.13	0.2	E
C-AB	0.04	5.82	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	122.41	0.163	19.81	0.2	8.755	A
C-AB	6.33	171.04	0.037	6.28	0.1	5.461	A
C-A	34.67			34.67			
A-B	2.00			2.00			
A-C	93.00			93.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	113.95	0.176	19.98	0.2	9.575	A
C-AB	6.73	167.99	0.040	6.73	0.1	5.580	A
C-A	41.27			41.27			
A-B	2.00			2.00			
A-C	125.00			125.00			

07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	111.06	0.180	19.99	0.2	9.881	A
C-AB	6.86	166.72	0.041	6.86	0.1	5.629	A
C-A	43.14			43.14			
A-B	2.00			2.00			
A-C	136.00			136.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	108.86	0.184	19.99	0.2	10.127	B
C-AB	6.72	161.54	0.042	6.71	0.1	5.817	A
C-A	39.28			39.28			
A-B	2.00			2.00			
A-C	146.00			146.00			

2020 'With Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

		To		
		A	B	C
From	A	0.00	6.00	36.00
	B	3.00	0.00	7.00
	C	90.00	12.00	0.00

Demand (Veh/TS)

17:00 - 17:15

		To		
		A	B	C
From	A	0.00	6.00	47.00
	B	3.00	0.00	7.00
	C	97.00	12.00	0.00

Demand (Veh/TS)

17:15 - 17:30

		To		
		A	B	C
From	A	0.00	6.00	32.00
	B	3.00	0.00	7.00
	C	103.00	12.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		A	B	C
From	A	0.00	6.00	47.00
	B	3.00	0.00	7.00
	C	86.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.08	7.63	0.1	A
C-AB	0.10	4.66	0.2	A
C-A				
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	131.21	0.076	9.92	0.1	7.415	A
C-AB	20.40	218.53	0.093	20.22	0.2	4.538	A
C-A	81.60			81.60			
AB	6.00			6.00			
AC	36.00			36.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	127.88	0.078	10.00	0.1	7.633	A
C-AB	21.50	220.73	0.097	21.48	0.2	4.520	A
C-A	87.50			87.50			
AB	6.00			6.00			
AC	47.00			47.00			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	131.21	0.076	10.00	0.1	7.427	A
C-AB	22.01	227.68	0.097	22.01	0.2	4.380	A
C-A	92.99			92.99			
A-B	6.00			6.00			
A-C	32.00			32.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	128.72	0.078	10.00	0.1	7.580	A
C-AB	20.16	213.66	0.094	20.18	0.2	4.658	A
C-A	77.84			77.84			
A-B	6.00			6.00			
A-C	47.00			47.00			

2031 'With Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D3	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:15 - 07:30

		To		
From		A	B	C
	A	0.00	2.00	103.00
	B	6.00	0.00	14.00
	C	40.00	5.00	0.00

Demand (Veh/TS)

07:30 - 07:45

		To		
From		A	B	C
	A	0.00	2.00	138.00
	B	6.00	0.00	14.00
	C	48.00	5.00	0.00

Demand (Veh/TS)

07:45 - 08:00

		To		
From		A	B	C
	A	0.00	2.00	151.00
	B	6.00	0.00	14.00
	C	50.00	5.00	0.00

Demand (Veh/TS)

08:00 - 08:15

		To		
		A	B	C
From	A	0.00	2.00	161.00
	B	6.00	0.00	14.00
	C	46.00	5.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	2
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.19	10.62	0.2	B
C-AB	0.04	5.83	0.1	A
C-A				
AB				
AC				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	119.65	0.167	19.80	0.2	8.993	A
C-AB	6.52	171.27	0.038	6.47	0.1	5.460	A
C-A	38.48			38.48			
AB	2.00			2.00			
AC	103.00			103.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	110.34	0.181	19.98	0.2	9.957	A
C-AB	7.01	168.32	0.042	7.00	0.1	5.575	A
C-A	45.99			45.99			
AB	2.00			2.00			
AC	138.00			138.00			



07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	106.94	0.187	19.99	0.2	10.349	B
C-AB	7.16	166.63	0.043	7.16	0.1	5.643	A
C-A	47.84			47.84			
A-B	2.00			2.00			
A-C	151.00			151.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	104.74	0.191	19.99	0.2	10.620	B
C-AB	7.01	161.44	0.043	7.01	0.1	5.829	A
C-A	43.99			43.99			
A-B	2.00			2.00			
A-C	161.00			161.00			

2031 'With Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.01	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D4	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

		To		
From		A	B	C
	A	0.00	6.00	40.00
	B	3.00	0.00	7.00
	C	99.00	12.00	0.00

Demand (Veh/TS)

17:00 - 17:15

		To		
From		A	B	C
	A	0.00	6.00	53.00
	B	3.00	0.00	7.00
	C	107.00	12.00	0.00

Demand (Veh/TS)

17:15 - 17:30

		To		
From		A	B	C
	A	0.00	6.00	35.00
	B	3.00	0.00	7.00
	C	114.00	12.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		A	B	C
From	A	0.00	6.00	53.00
	B	3.00	0.00	7.00
	C	95.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.08	7.79	0.1	A
C-AB	0.10	4.58	0.2	A
C-A				
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	129.52	0.077	9.92	0.1	7.520	A
C-AB	21.55	223.43	0.096	21.35	0.2	4.454	A
C-A	89.45			89.45			
AB	6.00			6.00			
AC	40.00			40.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	125.59	0.080	10.00	0.1	7.785	A
C-AB	22.90	225.95	0.101	22.88	0.2	4.434	A
C-A	96.10			96.10			
AB	6.00			6.00			
AC	53.00			53.00			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	129.60	0.077	10.00	0.1	7.524	A
C-AB	23.51	234.07	0.100	23.51	0.2	4.277	A
C-A	102.49			102.49			
A-B	6.00			6.00			
A-C	35.00			35.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	126.52	0.079	10.00	0.1	7.723	A
C-AB	21.34	218.19	0.098	21.36	0.2	4.578	A
C-A	85.66			85.66			
A-B	6.00			6.00			
A-C	53.00			53.00			

APPENDIX G

STAGE 1 ROAD SAFETY AUDIT – SITE ACCESS ARRANGEMENTS

**LAND NORTH OF WALBERTON
WALBERTON**

**PROPOSED VEHICULAR &
PEDESTRIAN/CYCLIST ACCESS
ARRANGEMENTS**

STAGE 1 ROAD SAFETY AUDIT

MAY 2017

GM
Traffic Consultants Ltd
Registered in England No. 07100121.
Registered Office: 7 Bournemouth Rd, Chandlers Ford Eastleigh, Hants, SO53 3DA

Revision Status	Prepared by: (Name)	Checked by: (Name)	Approved by: (Signature)	Date Approved:
Original	Mark Barrett	Ian Medd		26 May 2017
Designer's Response	Tim Wall	Tim Wall	Tim Wall	26 May 2017
Authority's Response				
Audit Response				

Client:
I - Transport

Engineer:
GM
Traffic Consultants Ltd
33 Riverside Gardens
Romsey
SO51 8HN

Date: 26 May 2017

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APPENDIX A Location Plans

APPENDIX B Designers Response

APPENDIX C Local Highway Authority 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 vehicular site access and three pedestrian/cycle accesses associated with a proposed residential development of up to 200 dwellings on land north of Walberton.
- 1.1.2 The access will take the form of a simple priority T-junction on Yapton Road and will also include pedestrian access. An additional pedestrian only access to Avisford Park Road will be provided with additional pedestrian/cycle accesses provided to The Street and Tye Lane. An emergency access which will also provide access for pedestrians and cyclists will be provided to Tye Lane.
- 1.1.3 The RSA was carried out at the request of I-Transport.
- 1.1.4 GM Traffic Consultants Ltd carried out the Audit between 24th May and 25th May 2017. The Auditors were:
Mark Barrett Highways England Cert. of Comp
Ian Medd MCIHT FSoRSA
- 1.1.5 The Audit Team are independent of the project design team and have had no other involvement with the project.
- 1.1.6 The report has been prepared in accordance with the Design Manual for Roads and Bridges (DMRB) Highways Directive (HD) 19/15.
- 1.1.7 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.
- 1.1.8 The Audit consisted of a desk top study and a site visit, which was carried out on Thursday 24th May 2017 at 10:00. Traffic flows were light and the weather sunny and dry.
- 1.1.9 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.
- 1.1.10 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.
- 1.1.11 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.

2.0 ITEMS CONSIDERED

2.1 The Road Safety Audit was undertaken on the scheme detailed in the following documentation.

Drawing No.	Rev	Title
ITB11324-007 TN	-	RSA Brief
Figure 1	-	Site Location Plan
2507 SK	-	Sketch Site Layout
ITB11324-GA-001	F	Proposed Site Access Arrangement
ITB11324-GA-008	A	Swept Path Analysis Large Refuse Vehicle
ITB11324-GA-009	A	Swept Path Analysis Fire Tender
ITB11324-GA-010	A	Swept Path Analysis Estate Car
ITB11324-GA-011	-	Overview Access Strategy
ITB 11324-GA-012	-	Proposed Pedestrian/Cycle/Emergency Access from Tye Lane Long Section

2.2 The Audit Team have not been informed of any Departure from Standards.

3.0 MATTERS ARISING FROM THIS STAGE 1 RSA

3.1 PROBLEM

LOCATION: Tye Lane non-motorised user (NMU) accesses

SUMMARY: Risk of cyclists overshooting junction

The downhill gradient and lack of restraint features may lead to cyclists overshooting the junctions and being struck by passing traffic.

RECOMMENDATION

Provide measures to prevent cyclists from overshooting the junctions and riding in to the carriageway.

4.0 AUDITOR STATEMENT

4.1 We certify that this audit has been carried out in compliance with HD 19/15.

AUDIT TEAM LEADER

Mark Barrett

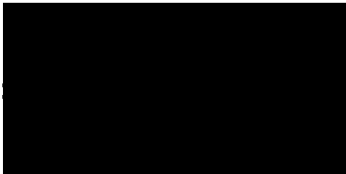
GM Traffic Consultants Ltd

Signed: 

TEL 

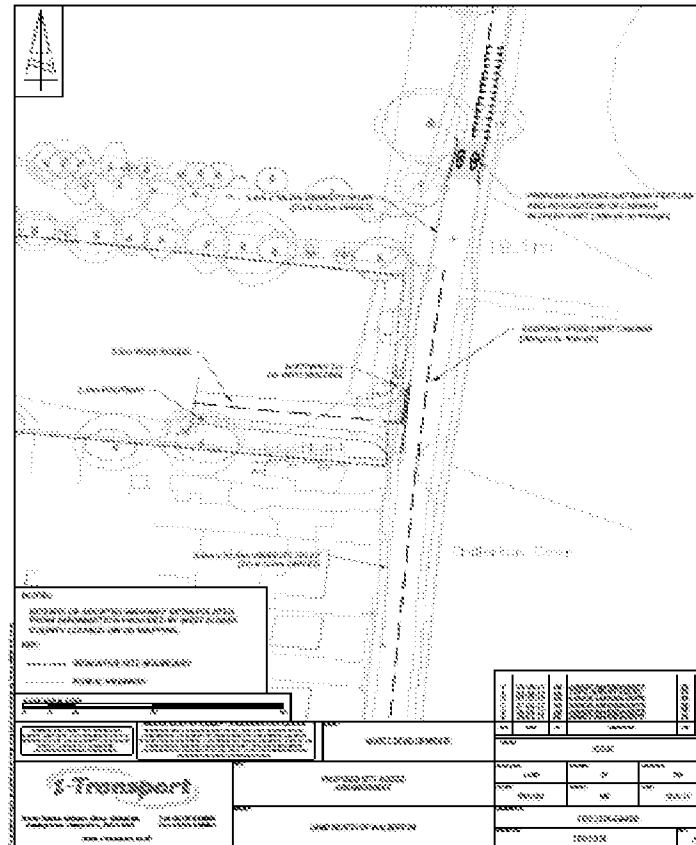
AUDIT TEAM MEMBER

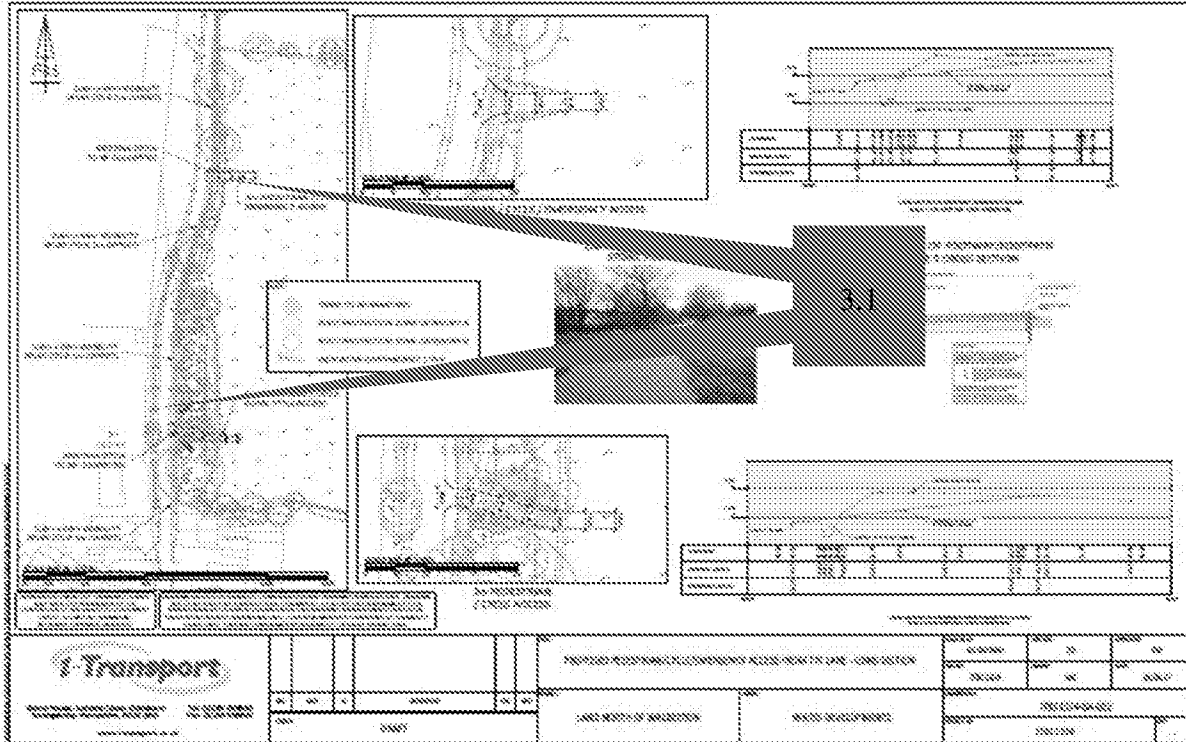
Ian Medd

Signed 

Date: 26 May 2017

APPENDIX A: LOCATION PLAN





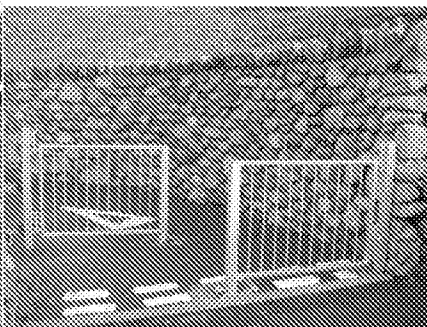
APPENDIX B: DESIGNERS RESPONSE

Auditors: Mark Barrett (Team Leader) and Ian Medd (Team Member).

Scheme: Land North of Walberton - Proposed Vehicular and Pedestrian/Cyclist Site Access Arrangements

Date Audit Completed: 26 May 2017

This response is to a Stage 1 Road Safety Audit to the design standard detailed within HD19/15 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	Yes	Yes	Recommendation accepted. A fixed staggered barrier will be placed on the southern pedestrian and cycle access to Tye Lane (example in left Image). A locked staggered gate will be included to the northern Tye Lane access in view of the potential for emergency vehicle access (example in right image)  

APPENDIX C: LOCAL HIGHWAY AUTHORITY RESPONSE

Principal Engineer's Statement:

Road Safety Audit for Land North of Walberton

Proposed Vehicular and Pedestrian/Cyclist Site Access Arrangements

I certify that I have considered the items that have arisen 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.

..... Date.....

Principal Engineer

Chief Engineer's Decision:

I accept these proposals by the Principal Engineer.

..... Date.....

Chief Engineer



TRAFFIC CONSULTANTS LTD

30 May 2017

**Mr. T Wall
i-Transport**

**33 Riverside Garden
Romsey
Hants
SO51 8HN**

Ref: MB/2017/Walberton

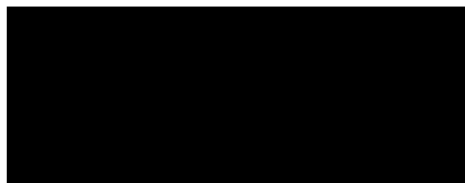
Dear Mr. Wall

LAND NORTH OF WALBERTON – PROPOSED NON MOTORISED ACCESSES

Thank you for the revised drawings (ITB11324-GA-011Rev A and ITB11324-GA-012 Rev A) relating to the above project.

I can confirm the revisions have addressed the issues raised in the Stage 1 Road Safety Audit undertaken in May 2017.

Yours sincerely



Mark Barrett

GM Traffic Consultants Ltd.

APPENDIX H

TRICS ASSESSMENT

Calculation Reference: AUDIT-236601-170411-0446

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLESSelected regions and areas:

02	SOUTH EAST	
	EX ESSEX	1 days
	HC HAMPSHIRE	1 days
	SC SURREY	1 days
	WS WEST SUSSEX	1 days
03	SOUTH WEST	
	CW CORNWALL	1 days
	DC DORSET	1 days
	DV DEVON	2 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	2 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	2 days
06	WEST MIDLANDS	
	SH SHROPSHIRE	2 days
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days
	NY NORTH YORKSHIRE	3 days
	SY SOUTH YORKSHIRE	1 days
08	NORTH WEST	
	CH CHESHIRE	2 days
09	NORTH	
	CB CUMBRIA	1 days
10	WALES	
	CF CARDIFF	1 days
11	SCOTLAND	
	FA FALKIRK	1 days
	FI FIFE	1 days
	SR STIRLING	1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
 Actual Range: 51 to 432 (units:)
 Range Selected by User: 50 to 500 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/04/07 to 29/11/16

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

Selected survey days:

Monday	8 days
Tuesday	7 days
Wednesday	4 days
Thursday	5 days
Friday	4 days

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

Selected survey types:

Manual count	28 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	15
Edge of Town	13

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

Selected Location Sub Categories:

Residential Zone	23
No Sub Category	5

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

Secondary Filtering selection:**Use Class:**

C3	28 days
----	---------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Secondary Filtering selection (Cont.):Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	7 days
10,001 to 15,000	6 days
15,001 to 20,000	8 days
20,001 to 25,000	4 days
25,001 to 50,000	1 days

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

Population within 5 miles:

5,001 to 25,000	3 days
25,001 to 50,000	4 days
50,001 to 75,000	2 days
75,001 to 100,000	5 days
100,001 to 125,000	6 days
125,001 to 250,000	5 days
250,001 to 500,000	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	6 days
1.1 to 1.5	22 days

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

Travel Plan:

Yes	2 days
No	26 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	28 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	CB-03-A-04	SEMI DETACHED		CUMBRIA
	MOORCLOSE ROAD			
	SALTERBACK			
	WORKINGTON			
	Edge of Town			
	No Sub Category			
	Total Number of dwellings:	82		
	Survey date: FRIDAY	24/04/09		Survey Type: MANUAL
2	CF-03-A-02	MIXED HOUSES		CARDIFF
	DROPE ROAD			
	CARDIFF			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	196		
	Survey date: FRIDAY	05/10/07		Survey Type: MANUAL
3	CH-03-A-02	HOUSES/ FLATS		CHESHIRE
	SYDNEY ROAD			
	CREWE			
	Edge of Town			
	Residential Zone			
	Total Number of dwellings:	174		
	Survey date: TUESDAY	14/10/08		Survey Type: MANUAL
4	CH-03-A-06	SEMI-DET./ BUNGALOWS		CHESHIRE
	CREWE ROAD			
	CREWE			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Number of dwellings:	129		
	Survey date: TUESDAY	14/10/08		Survey Type: MANUAL
5	CW-03-A-02	SEMI D./ DETACHED		CORNWALL
	BOSVEAN GARDENS			
	TRURO			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	73		
	Survey date: TUESDAY	18/09/07		Survey Type: MANUAL
6	DC-03-A-01	DETACHED		DORSET
	ISAACS CLOSE			
	POOLE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	51		
	Survey date: WEDNESDAY	16/07/08		Survey Type: MANUAL
7	DV-03-A-02	HOUSES & BUNGALOWS		DEVON
	MILLHEAD ROAD			
	HONITON			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Number of dwellings:	116		
	Survey date: FRIDAY	25/09/15		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	DV-03-A-03	TERRACED & SEMI DETACHED	DEVON
	LOWER BRAND LANE		
	HONITON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	70	
	Survey date: MONDAY	28/09/15	Survey Type: MANUAL
9	EX-03-A-01	SEMI -DET.	ESSEX
	MILTON ROAD		
	CORRINGHAM		
	STANFORD-LE-HOPE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	237	
	Survey date: TUESDAY	13/05/08	Survey Type: MANUAL
10	FA-03-A-02	MIXED HOUSES	FALKIRK
	ROSEBANK AVENUE & SPRINGFIELD DRIVE		
	FALKIRK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	161	
	Survey date: WEDNESDAY	29/05/13	Survey Type: MANUAL
11	FI-03-A-03	MIXED HOUSES	FIFE
	WOODMILL ROAD		
	DUNFERMLINE		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	155	
	Survey date: MONDAY	30/04/07	Survey Type: MANUAL
12	HC-03-A-18	HOUSES & FLATS	HAMPSHIRE
	CANADA WAY		
	LIPHOOK		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	62	
	Survey date: TUESDAY	29/11/16	Survey Type: MANUAL
13	LN-03-A-01	MIXED HOUSES	LINCOLNSHIRE
	BRANT ROAD		
	BRACEBRIDGE		
	LINCOLN		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	150	
	Survey date: TUESDAY	15/05/07	Survey Type: MANUAL
14	LN-03-A-02	MIXED HOUSES	LINCOLNSHIRE
	HYKEHAM ROAD		
	LINCOLN		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	186	
	Survey date: MONDAY	14/05/07	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	NE-03-A-02	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	HANOVER WALK		
	SCUNTHORPE		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	432	
	Survey date: MONDAY	12/05/14	Survey Type: MANUAL
16	NF-03-A-02	HOUSES & FLATS	NORFOLK
	DEREHAM ROAD		
	NORWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	98	
	Survey date: MONDAY	22/10/12	Survey Type: MANUAL
17	NY-03-A-06	BUNGALOWS & SEMI DET.	NORTH YORKSHIRE
	HORSEFAIR		
	BOROUGHBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: FRIDAY	14/10/11	Survey Type: MANUAL
18	NY-03-A-09	MIXED HOUSING	NORTH YORKSHIRE
	GRAMMAR SCHOOL LANE		
	NORTHALLERTON		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	52	
	Survey date: MONDAY	16/09/13	Survey Type: MANUAL
19	NY-03-A-10	HOUSES AND FLATS	NORTH YORKSHIRE
	BOROUGHBRIDGE ROAD		
	RIPON		
	Edge of Town		
	No Sub Category		
	Total Number of dwellings:	71	
	Survey date: TUESDAY	17/09/13	Survey Type: MANUAL
20	SC-03-A-04	DETACHED & TERRACED	SURREY
	HIGH ROAD		
	BYFLEET		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	71	
	Survey date: THURSDAY	23/01/14	Survey Type: MANUAL
21	SF-03-A-01	SEMI DETACHED	SUFFOLK
	A1156 FELIXSTOWE ROAD		
	RACECOURSE		
	IPSWICH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	77	
	Survey date: WEDNESDAY	23/05/07	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

22	SF-03-A-02	SEMI DET./ TERRACED	SUFFOLK
	STOKE PARK DRIVE		
	MAIDENHALL		
	IPSWICH		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	230	
	Survey date: THURSDAY	24/05/07	Survey Type: MANUAL
23	SH-03-A-04	TERRACED	SHROPSHI RE
	ST MICHAEL'S STREET		
	SHREWSBURY		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Number of dwellings:	108	
	Survey date: THURSDAY	11/06/09	Survey Type: MANUAL
24	SH-03-A-05	SEMI -DETACHED/ TERRACED	SHROPSHI RE
	SANDCROFT		
	SUTTON HILL		
	TELFORD		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: THURSDAY	24/10/13	Survey Type: MANUAL
25	SR-03-A-01	DETACHED	STIRLI NG
	BENVIEW		
	STIRLING		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	115	
	Survey date: MONDAY	23/04/07	Survey Type: MANUAL
26	SY-03-A-01	SEMI DETACHED HOUSES	SOUTH YORKSHI RE
	A19 BENTLEY ROAD		
	BENTLEY RISE		
	DONCASTER		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of dwellings:	54	
	Survey date: WEDNESDAY	18/09/13	Survey Type: MANUAL
27	WM-03-A-03	MIXED HOUSI NG	WEST MI DLANDS
	BASELEY WAY		
	ROWLEYS GREEN		
	COVENTRY		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	84	
	Survey date: MONDAY	24/09/07	Survey Type: MANUAL
28	WS-03-A-04	MIXED HOUSES	WEST SUSSEX
	HILLS FARM LANE		
	BROADBRIDGE HEATH		
	HORSHAM		
	Edge of Town		
	Residential Zone		
	Total Number of dwellings:	151	
	Survey date: THURSDAY	11/12/14	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

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

VEHICLES**Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	28	127	0.076	28	127	0.287	28	127	0.363
08:00 - 09:00	28	127	0.143	28	127	0.401	28	127	0.544
09:00 - 10:00	28	127	0.155	28	127	0.190	28	127	0.345
10:00 - 11:00	28	127	0.143	28	127	0.183	28	127	0.326
11:00 - 12:00	28	127	0.162	28	127	0.156	28	127	0.318
12:00 - 13:00	28	127	0.186	28	127	0.167	28	127	0.353
13:00 - 14:00	28	127	0.172	28	127	0.169	28	127	0.341
14:00 - 15:00	28	127	0.170	28	127	0.185	28	127	0.355
15:00 - 16:00	28	127	0.276	28	127	0.191	28	127	0.467
16:00 - 17:00	28	127	0.306	28	127	0.189	28	127	0.495
17:00 - 18:00	28	127	0.364	28	127	0.212	28	127	0.576
18:00 - 19:00	28	127	0.264	28	127	0.197	28	127	0.461
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.417			2.527			4.944

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

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

Parameter summary

Trip rate parameter range selected: 51 - 432 (units:)
 Survey date range: 01/04/07 - 29/11/16
 Number of weekdays (Monday-Friday): 28
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 2
 Surveys manually removed from selection: 0

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

APPENDIX I

TRAFFIC DISTRIBUTION MODEL

Area	Car Mode Split	Proportion by Car		Proportion on Route	Route 1	Route 2	Route 3	Route 4	Time (Mins)
Other North	91%	4.80%	100%	4.80%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	
London	37%	1.55%	50%	0.78%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	
			50%	0.78%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	
Brighton	56%	1.04%	100%	1.04%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	70
			0%	0.00%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	77.5
Other South	100%	0.03%	100%	0.03%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	
Portsmouth	86%	2.56%	100%	2.56%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	40
Other West	67%	0.97%	100%	0.97%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	
Other East	57%	0.14%	100%	0.14%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	
Lewes	94%	0.59%	100%	0.59%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	47.5
			0%	0.00%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	65
Petersfield	95%	0.66%	100%	0.66%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	40
Horndean/Clanfield/Waterlooville	87%	0.93%	100%	0.93%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	40
Fareham/Gosport	91%	0.69%	100%	0.69%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	45
Havant	89%	1.66%	100%	1.7%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	35
Shoreham-by-Sea/Southwick	85%	1.38%	100%	1.4%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	38.5
Arundel	77.4%	4.15%	100%	4.1%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	10
			0%	0.0%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	14
			0%	0.0%	Yapton Lane S	North End Road	-	-	14
Angmering	81%		50%	0.7%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	19
		1.31%	50%	0.7%	Yapton Lane S	North End Road	-	-	23
Walberton/Barnham	54%		0%	0.0%	Yapton Lane S	North End Road	-	-	7
		9.91%	50%	5.0%	Yapton Lane S	Lake Lane W	-	-	8
			50%	5.0%	Yapton Lane S	The Street W	-	-	8
Littlehampton	81%	6.53%	100%	6.5%	Yapton Lane S	North End Road	-	-	14
Yapton	86%	2.83%	100%	2.8%	Yapton Lane S	North End Road	-	-	7
Worthing	85%	5.46%	100%	5.5%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	36
Bognor Regis	77%	11.85%	50%	5.9%	Yapton Lane S	North End Road	-	-	20
			50%	5.9%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A29 Fontwell Avenue	20
Midhurst	100%	0.62%	80%	0.5%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	27
			20%	0.1%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	35
Billinghurst	94%	0.55%	100%	0.6%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	31
			0%	0.0%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	40
Petworth	86%	1.11%	50%	0.6%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	22
			50%	0.6%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	23
Chichester	80%	31.36%	100%	31.4%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	18
Emsworth	80%	1.14%	100%	1.1%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	35
East/West Wittering	71%	0.83%	100%	0.8%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	32
Selsey	79%	0.90%	100%	0.9%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	33
			0%	0.0%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A29 Fontwell Avenue	50
Crawley	73%	1.28%	100%	1.3%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	67.5
			0%	0.0%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	72.5
Horsham	88%	1.31%	100%	1.3%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	50
			0%	0.0%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	58
Partridge Green	100%	0.03%	55%	0.0%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	43
			45%	0.0%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	53
West Chiltington Common/Storrington/Thakeham	91%	1.38%	100%	1.4%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	30
			0%	0.0%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	40
Steyning/Henfield	75%	0.10%	50%	0.1%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	38
			50%	0.1%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	42.5
Haywards Heath	83%	0.17%	70%	0.1%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	63
			30%	0.1%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	75
Burgess Hill	100%	0.17%	70%	0.1%	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	60
			30%	0.1%	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	65
		100.0%		100.00%					

Route 1		Route 2		Route 3		Route 4		
Yapton Lane N	74.15%	A27 Arundel Road W	74.15%	A29 Farmille Bottom	6.29%	A27 Arundel Road W	48.36%	
Yapton Lane S	25.85%	Lake Lane W	4.96%	A27 Arundel Road E	13.57%	A29 Fontwell Avenue	5.92%	
		North End Road	15.94%	A27 Arundel Road W	54.28%	-	45.72%	
		The Street W	4.96%	-	25.85%			
TOTAL		100.00%	TOTAL	100.00%	TOTAL	100.00%	TOTAL	100.00%

	Route 1		Route 2		Route 3		Route 4	
	Yapton Lane N	41%	A27 Arundel Road W	41%	A29 Farmille Bottom	3%	A27 Arundel Road W	27%
	Yapton Lane S	14%	Lake Lane W	3%	A27 Arundel Road E	7%	A29 Fontwell Avenue	3%
			North End Road	9%	A27 Arundel Road W	30%	-	25%
			The Street W	3%	-	14%		
	55%	TOTAL	55.00%	TOTAL	55.00%	TOTAL	55.00%	TOTAL

Location	Route 1	Route 2	Route 3	Route 4	Time (mins)	2011 Census	P/T	P/T*2	% of total	Car driver mode split		% of Car Driver	% of Car Driver (Time)
Portsmouth	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	40	283137	7078	177	14.12%	86%	12.2%	15.42%	15.42%
Petersfield	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	40	14974	374	9	0.75%	95%	0.7%	0.90%	0.90%
Horndean/Clanfield/Waterlooville	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	40	46924	1173	29	2.34%	87%	2.0%	2.59%	2.59%
Fareham/Gosport	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	45	113739	2528	56	4.48%	91%	4.1%	5.17%	5.17%
Havant	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	35	45125	1289	37	2.94%	89%	2.6%	3.32%	3.32%
Shoreham-by-Sea/Southwick	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	38	48487	1276	34	2.68%	85%	2.3%	2.89%	2.89%
Arundel	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	14	3285	235	17	1.34%	77.4%	1.0%	1.31%	1.31%
Angmering	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	19	7614	401	21	1.68%	81%	1.4%	1.73%	0.86%
	Yapton Lane S	North End Road	-	-	23								0.86%
Walberton/Barnham	Yapton Lane S	North End Road	-	-	7	9783	1398	200	15.93%	54%	8.6%	10.91%	0.00%
	Yapton Lane S	Lake Lane W	-	-	8								5.45%
	Yapton Lane S	The Street W	-	-	8								5.45%
Littlehampton	Yapton Lane S	North End Road	-	-	14	27795	1985	142	11.32%	81%	9.1%	11.60%	11.60%
Yapton	Yapton Lane S	North End Road	-	-	7	5459	780	111	8.89%	86%	7.7%	9.74%	9.74%
Worthing	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	36	109120	3031	84	6.72%	85%	5.7%	7.24%	7.24%
Bognor Regis	Yapton Lane S	North End Road	-	-	20	63885	3194	160	12.74%	77%	9.8%	12.44%	6.22%
	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A29 Fontwell Avenue	20								6.22%
Midhurst	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	27	4914	182	7	0.54%	100%	0.5%	0.68%	0.55%
	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	35								0.14%
Billingshurst	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	31	6911	223	7	0.57%	94%	0.5%	0.69%	0.69%
	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	40								0.00%
	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	22		116	5	0.42%	86%	0.4%	0.46%	0.23%
Petworth	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	23	2544							0.23%
Chichester	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	18	31654	1759	98	7.80%	80%	6.3%	7.96%	7.96%
Emsworth	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	35	18777	536	15	1.22%	80%	1.0%	1.25%	1.25%
East/West Wittering	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	32	5533	173	5	0.43%	71%	0.3%	0.39%	0.39%
Selsey	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A27 Arundel Road W	33	10550	320	10	0.77%	79%	0.6%	0.77%	0.77%
	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road W	A29 Fontwell Avenue	50								0.00%
Partridge Green	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	43	2341	54	1	0.10%	100%	0.1%	0.13%	0.07%
	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	53								0.06%
West Chiltington Common/Storrington/Thakeham	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	30	17908	597	20	1.59%	91%	1.4%	1.83%	1.83%
	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	40								0.00%
Steypning/Henfield	Yapton Lane N	A27 Arundel Road W	A29 Farmille Bottom	-	38	11356	299	8	0.63%	75%	0.5%	0.60%	0.30%
	Yapton Lane N	A27 Arundel Road W	A27 Arundel Road E	-	42								0.30%
TOTAL						891815	29000.628	1253.19671	100.00%			100.00%	100.00%

Route 1		Route 2		Route 3		Route 4	
Yapton Lane N	60.67%	A27 Arundel Road W	60.67%	A29 Farmille Bottom	3.25%	A27 Arundel Road W	38.53%
Yapton Lane S	39.33%	Lake Lane W	5.45%	A27 Arundel Road E	12.67%	A29 Fontwell Avenue	6.22%
		North End Road	28.42%	A27 Arundel Road W	44.75%	-	55.25%
		The Street W	5.45%	-	39.33%		
TOTAL	100.00%	TOTAL	100.00%	TOTAL	100.00%	TOTAL	100.00%

	Route 1		Route 2		Route 3		Route 4	
	Yapton Lane N	27%	A27 Arundel Road W	27%	A29 Farmille Bottom	1%	A27 Arundel Road W	17%
	Yapton Lane S	18%	Lake Lane W	2%	A27 Arundel Road E	6%	A29 Fontwell Avenue	3%
			North End Road	13%	A27 Arundel Road W	20%	-	25%
			The Street W	2%	-	18%		
45%	TOTAL	45.00%	TOTAL	45.00%	TOTAL	45.00%	TOTAL	45.00%

i-Transport Project No ITB11324

i-Transport Project Title - Land North of Walberton

Combined Distribution

Employment Trips	Route 1		Route 2		Route 3		Route 4	
	Yapton Lane N	41%	A27 Arundel Road W	41%	A29 Farmille Bottom	3%	A27 Arundel Road W	27%
	Yapton Lane S	14%	Lake Lane W	3%	A27 Arundel Road E	7%	A29 Fontwell Avenue	3%
			North End Road	9%	A27 Arundel Road W	30%	-	25%
			The Street W	3%	-	14%		
55%	TOTAL 55.00%		TOTAL 55.00%		TOTAL 55.00%		TOTAL 55.00%	

Non-Employment Trips	Route 1		Route 2		Route 3		Route 4	
	Yapton Lane N	27%	A27 Arundel Road W	27%	A29 Farmille Bottom	1%	A27 Arundel Road W	17%
	Yapton Lane S	18%	Lake Lane W	2%	A27 Arundel Road E	6%	A29 Fontwell Avenue	3%
			North End Road	13%	A27 Arundel Road W	20%	-	25%
			The Street W	2%	-	18%		
45%	TOTAL 45.00%		TOTAL 45.00%		TOTAL 45.00%		TOTAL 45.00%	

All Purpose Trips	Route 1		Route 2		Route 3		Route 4	
	Yapton Lane N	68%	A27 Arundel Road W	68%	A29 Farmille Bottom	5%	A27 Arundel Road W	44%
	Yapton Lane S	32%	Lake Lane W	5%	A27 Arundel Road E	13%	A29 Fontwell Avenue	6%
			North End Road	22%	A27 Arundel Road W	50%	-	50%
			The Street W	5%	-	32%		
100%	TOTAL 100.00%		TOTAL 100.00%		TOTAL 100.00%		TOTAL 100.00%	

APPENDIX J

OPERATIONAL ASSESSMENT OUTPUTS

Junctions 9							
PICADY 9 - Priority Intersection Module							
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017							
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Filename: Site Access Priority Junction.j9

Path: T:\Projects\11000 Series Project Numbers\11324\ITB Land North of Walberton\Tech\Junc Models\Picady\Site Access\2020 & 2031

Report generation date: 11/04/2017 17:21:46

»2020 'With Development', AM
 »2020 'With Development', PM
 »2031 'With Development', AM
 »2031 'With Development', PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2020 'With Development'								
Stream B-AC	0.2	10.13	0.18	B	0.1	7.63	0.08	A
Stream C-AB	0.1	5.82	0.04	A	0.2	4.66	0.10	A
2031 'With Development'								
Stream B-AC	0.2	10.62	0.19	B	0.1	7.79	0.08	A
Stream C-AB	0.1	5.83	0.04	A	0.2	4.58	0.10	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Site Priority Access
Location	Walberton
Site number	
Date	11/04/2017
Version	
Status	
Identifier	
Client	Wates Developments
Jobnumber	ITB11324
Enumerator	RS
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15
D2	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15
D3	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15
D4	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2020 'With Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.23	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Yapton Lane S		Major
B	Site Access		Minor
C	Yapton Lane N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50			200.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.20	19	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	125.249	0.089	0.226	0.142	0.322
1	B-C	161.516	0.097	0.245	-	-
1	C-B	172.446	0.261	0.261	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:15 - 07:30	To				
		A	B	C	
	From	A	0.00	2.00	93.00
		B	6.00	0.00	14.00
		C	36.00	5.00	0.00

Demand (Veh/TS)

07:30 - 07:45	To				
	From		A	B	C
		A	0.00	2.00	125.00
		B	6.00	0.00	14.00
		C	43.00	5.00	0.00

Demand (Veh/TS)

07:45 - 08:00		To			
	From		A	B	C
		A	0.00	2.00	136.00
		B	6.00	0.00	14.00
		C	45.00	5.00	0.00

Demand (Veh/TS)

08:00 - 08:15		To			
	From		A	B	C
		A	0.00	2.00	146.00
		B	6.00	0.00	14.00
		C	41.00	5.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	0	2
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.18	10.13	0.2	E
C-AB	0.04	5.82	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	122.41	0.163	19.81	0.2	8.755	A
C-AB	6.33	171.04	0.037	6.28	0.1	5.461	A
C-A	34.67			34.67			
A-B	2.00			2.00			
A-C	93.00			93.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	113.95	0.176	19.98	0.2	9.575	A
C-AB	6.73	167.99	0.040	6.73	0.1	5.580	A
C-A	41.27			41.27			
A-B	2.00			2.00			
A-C	125.00			125.00			

07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	111.06	0.180	19.99	0.2	9.881	A
C-AB	6.86	166.72	0.041	6.86	0.1	5.629	A
C-A	43.14			43.14			
A-B	2.00			2.00			
A-C	136.00			136.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	108.86	0.184	19.99	0.2	10.127	B
C-AB	6.72	161.54	0.042	6.71	0.1	5.817	A
C-A	39.28			39.28			
A-B	2.00			2.00			
A-C	146.00			146.00			

2020 'With Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.06	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

		To		
From		A	B	C
	A	0.00	6.00	36.00
	B	3.00	0.00	7.00
	C	90.00	12.00	0.00

Demand (Veh/TS)

17:00 - 17:15

		To		
From		A	B	C
	A	0.00	6.00	47.00
	B	3.00	0.00	7.00
	C	97.00	12.00	0.00

Demand (Veh/TS)

17:15 - 17:30

		To		
From		A	B	C
	A	0.00	6.00	32.00
	B	3.00	0.00	7.00
	C	103.00	12.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		A	B	C
From	A	0.00	6.00	47.00
	B	3.00	0.00	7.00
	C	86.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.08	7.63	0.1	A
C-AB	0.10	4.66	0.2	A
C-A				
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	131.21	0.076	9.92	0.1	7.415	A
C-AB	20.40	218.53	0.093	20.22	0.2	4.538	A
C-A	81.60			81.60			
AB	6.00			6.00			
AC	36.00			36.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	127.88	0.078	10.00	0.1	7.633	A
C-AB	21.50	220.73	0.097	21.48	0.2	4.520	A
C-A	87.50			87.50			
AB	6.00			6.00			
AC	47.00			47.00			



17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	131.21	0.076	10.00	0.1	7.427	A
C-AB	22.01	227.68	0.097	22.01	0.2	4.380	A
C-A	92.99			92.99			
A-B	6.00			6.00			
A-C	32.00			32.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	128.72	0.078	10.00	0.1	7.580	A
C-AB	20.16	213.66	0.094	20.18	0.2	4.658	A
C-A	77.84			77.84			
A-B	6.00			6.00			
A-C	47.00			47.00			

2031 'With Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.18	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D3	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:15 - 07:30

		To		
		A	B	C
From	A	0.00	2.00	103.00
	B	6.00	0.00	14.00
	C	40.00	5.00	0.00

Demand (Veh/TS)

07:30 - 07:45

		To		
		A	B	C
From	A	0.00	2.00	138.00
	B	6.00	0.00	14.00
	C	48.00	5.00	0.00

Demand (Veh/TS)

07:45 - 08:00

		To		
		A	B	C
From	A	0.00	2.00	151.00
	B	6.00	0.00	14.00
	C	50.00	5.00	0.00

Demand (Veh/TS)

08:00 - 08:15

	To			
		A	B	C
	A	0.00	2.00	161.00
	B	6.00	0.00	14.00
	C	46.00	5.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
	A	0	0	2
	B	0	0	0
	C	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.19	10.62	0.2	B
C-AB	0.04	5.83	0.1	A
C-A				
AB				
AC				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	119.65	0.167	19.80	0.2	8.993	A
C-AB	6.52	171.27	0.038	6.47	0.1	5.460	A
C-A	38.48			38.48			
AB	2.00			2.00			
AC	103.00			103.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	110.34	0.181	19.98	0.2	9.957	A
C-AB	7.01	168.32	0.042	7.00	0.1	5.575	A
C-A	45.99			45.99			
AB	2.00			2.00			
AC	138.00			138.00			



07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	106.94	0.187	19.99	0.2	10.349	B
C-AB	7.16	166.63	0.043	7.16	0.1	5.643	A
C-A	47.84			47.84			
A-B	2.00			2.00			
A-C	151.00			151.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	20.00	104.74	0.191	19.99	0.2	10.620	B
C-AB	7.01	161.44	0.043	7.01	0.1	5.829	A
C-A	43.99			43.99			
A-B	2.00			2.00			
A-C	161.00			161.00			

2031 'With Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	1.01	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D4	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A		✓	100.000
B		✓	100.000
C		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

		To		
From		A	B	C
	A	0.00	6.00	40.00
	B	3.00	0.00	7.00
	C	99.00	12.00	0.00

Demand (Veh/TS)

17:00 - 17:15

		To		
From		A	B	C
	A	0.00	6.00	53.00
	B	3.00	0.00	7.00
	C	107.00	12.00	0.00

Demand (Veh/TS)

17:15 - 17:30

		To		
From		A	B	C
	A	0.00	6.00	35.00
	B	3.00	0.00	7.00
	C	114.00	12.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		A	B	C
From	A	0.00	6.00	53.00
	B	3.00	0.00	7.00
	C	95.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A	B	C
From	A	0	0	3
	B	0	0	0
	C	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.08	7.79	0.1	A
C-AB	0.10	4.58	0.2	A
C-A				
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	129.52	0.077	9.92	0.1	7.520	A
C-AB	21.55	223.43	0.096	21.35	0.2	4.454	A
C-A	89.45			89.45			
AB	6.00			6.00			
AC	40.00			40.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	125.59	0.080	10.00	0.1	7.785	A
C-AB	22.90	225.95	0.101	22.88	0.2	4.434	A
C-A	96.10			96.10			
AB	6.00			6.00			
AC	53.00			53.00			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	129.60	0.077	10.00	0.1	7.524	A
C-AB	23.51	234.07	0.100	23.51	0.2	4.277	A
C-A	102.49			102.49			
A-B	6.00			6.00			
A-C	35.00			35.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	10.00	126.52	0.079	10.00	0.1	7.723	A
C-AB	21.34	218.19	0.098	21.36	0.2	4.578	A
C-A	85.66			85.66			
A-B	6.00			6.00			
A-C	53.00			53.00			

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017			
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk			
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Filename: A27-A29 West-AM-Cal.j9

Path: T:\Projects\11000 Series Project Numbers\11324\TB Land North of Walberton\Tech\Junc Models\Arcady\A27-A29 West\Saturn

Report generation date: 16/05/2017 16:09:05

»2031 LP with MIT, AM

»2031 LP with MIT + Dev, AM

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
2031 LP with MIT				
1 - A29 (N)	2.0	3.92	0.66	A
2 - Arundel Road	2.1	15.18	0.68	C
3 - A29	2.7	19.96	0.74	C
4 - A27 (W)	1.8	3.55	0.64	A
2031 LP with MIT + Dev				
1 - A29 (N)	2.1	4.12	0.68	A
2 - Arundel Road	2.3	17.01	0.70	C
3 - A29	3.2	23.24	0.77	C
4 - A27 (W)	1.8	3.61	0.65	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tablet, for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	A27-A29 West
Location	
Site number	
Date	16/05/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	A27-A29 Western roundabout junction - Calibrated - SATURN

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	mph	PCU	PCU	perHour	s	-Hour	perHour

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	AM	2031 Local Plan with Mitigaion (Without Development)	ONE HOUR	07:00	08:30	15	✓
D2	2031 LP with MIT + Dev	AM	2031 Local Plan with Mitigalton + Development	ONE HOUR	07:00	08:30	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2031 LP with MIT, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (W)	Standard Roundabout	1,2,3,4	6.77	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A29 (N)	
2	Arundel Road	
3	A29	
4	A27 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - A29 (N)	7.40	11.30	22.0	42.0	56.0	23.0	
2 - Arundel Road	4.50	6.70	3.9	28.0	56.0	22.0	
3 - A29	3.70	7.70	22.0	19.0	56.0	24.0	
4 - A27 (W)	8.00	11.80	15.0	28.0	56.0	19.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - A29 (N)	None		
2 - Arundel Road	Direct	Queue length survey	320
3 - A29	Direct	Queue length survey	68
4 - A27 (W)	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A29 (N)	0.853	3146
2 - Arundel Road	0.585	1988
3 - A29	0.624	1990
4 - A27 (W)	0.867	3219

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	AM	2031 Local Plan with Mitigation (Without Development)	ONE HOUR	07:00	08:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A29 (N)		ONE HOUR	✓	1651	100.000
2 - Arundel Road		ONE HOUR	✓	455	100.000
3 - A29		ONE HOUR	✓	466	100.000
4 - A27 (W)		ONE HOUR	✓	1634	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - A29 (N)	2 - Arundel Road	3 - A29	4 - A27 (W)
From	1 - A29 (N)	0	0	214	1437
	2 - Arundel Road	0	0	2	453
	3 - A29	428	0	0	38
	4 - A27 (W)	1198	144	292	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - A29 (N)	2 - Arundel Road	3 - A29	4 - A27 (W)
From	1 - A29 (N)	0	0	0	0
	2 - Arundel Road	0	0	0	0
	3 - A29	0	0	0	0
	4 - A27 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A29 (N)	0.66	3.92	2.0	A	1515	2272
2 - Arundel Road	0.68	15.18	2.1	C	418	626
3 - A29	0.74	19.96	2.7	C	428	641
4 - A27 (W)	0.64	3.55	1.8	A	1499	2249

Main Results for each time segment

07:00 - 07:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1243	311	327	2866	0.434	1240	1220	0.0	0.8	2.210	A
2 - Arundel Road	343	86	1459	1135	0.302	341	108	0.0	0.4	4.525	A
3 - A29	351	88	1419	1105	0.318	349	382	0.0	0.5	4.752	A
4 - A27 (W)	1230	308	321	2942	0.418	1227	1447	0.0	0.7	2.096	A

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1484	371	392	2812	0.528	1483	1460	0.8	1.1	2.707	A
2 - Arundel Road	409	102	1745	968	0.423	408	129	0.4	0.7	6.418	A
3 - A29	419	105	1697	931	0.450	418	456	0.5	0.8	6.992	A
4 - A27 (W)	1469	367	383	2887	0.509	1468	1731	0.7	1.0	2.534	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1818	454	479	2737	0.664	1814	1782	1.1	2.0	3.889	A
2 - Arundel Road	501	125	2135	739	0.677	496	158	0.7	2.0	14.485	B
3 - A29	513	128	2073	696	0.737	506	558	0.8	2.6	18.268	C
4 - A27 (W)	1799	450	465	2817	0.639	1796	2114	1.0	1.7	3.517	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1818	454	480	2736	0.664	1818	1790	2.0	2.0	3.919	A
2 - Arundel Road	501	125	2139	737	0.680	501	159	2.0	2.1	15.181	C
3 - A29	513	128	2081	692	0.742	512	559	2.6	2.7	19.964	C
4 - A27 (W)	1799	450	471	2811	0.640	1799	2122	1.7	1.8	3.555	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1484	371	393	2811	0.528	1488	1471	2.0	1.1	2.727	A
2 - Arundel Road	409	102	1751	964	0.424	414	130	2.1	0.7	6.603	A
3 - A29	419	105	1707	924	0.453	427	458	2.7	0.8	7.338	A
4 - A27 (W)	1469	367	392	2880	0.510	1472	1742	1.8	1.0	2.561	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1243	311	329	2865	0.434	1244	1226	1.1	0.8	2.224	A
2 - Arundel Road	343	86	1464	1132	0.303	344	109	0.7	0.4	4.577	A
3 - A29	351	88	1425	1100	0.319	352	383	0.8	0.5	4.821	A
4 - A27 (W)	1230	308	324	2939	0.419	1231	1454	1.0	0.7	2.111	A

2031 LP with MIT + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (W)	Standard Roundabout	1,2,3,4	7.40	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 LP with MIT + Dev	AM	2031 Local Plan with Mitigation + Development	ONE HOUR	07:00	08:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A29 (N)		ONE HOUR	✓	1691	100.000
2 - Arundel Road		ONE HOUR	✓	455	100.000
3 - A29		ONE HOUR	✓	468	100.000
4 - A27 (W)		ONE HOUR	✓	1647	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - A29 (N)	2 - Arundel Road	3 - A29	4 - A27 (W)
From	1 - A29 (N)	0	0	219	1472
	2 - Arundel Road	0	0	2	453
	3 - A29	430	0	0	38
	4 - A27 (W)	1211	144	292	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - A29 (N)	2 - Arundel Road	3 - A29	4 - A27 (W)
	1 - A29 (N)	0	0	0	0
	2 - Arundel Road	0	0	0	0
	3 - A29	0	0	0	0
	4 - A27 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A29 (N)	0.68	4.12	2.1	A	1552	2328
2 - Arundel Road	0.70	17.01	2.3	C	418	626
3 - A29	0.77	23.24	3.2	C	429	644
4 - A27 (W)	0.65	3.61	1.8	A	1511	2267

Main Results for each time segment

07:00 - 07:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1273	318	327	2866	0.444	1270	1232	0.0	0.8	2.250	A
2 - Arundel Road	343	86	1489	1117	0.307	341	108	0.0	0.4	4.626	A
3 - A29	352	88	1445	1088	0.324	350	385	0.0	0.5	4.866	A
4 - A27 (W)	1240	310	322	2940	0.422	1237	1473	0.0	0.7	2.110	A

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1520	380	392	2812	0.541	1519	1473	0.8	1.2	2.782	A
2 - Arundel Road	409	102	1781	947	0.432	408	129	0.4	0.8	6.666	A
3 - A29	421	105	1728	912	0.462	419	461	0.5	0.8	7.290	A
4 - A27 (W)	1481	370	385	2886	0.513	1479	1762	0.7	1.0	2.557	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1862	465	479	2737	0.680	1858	1797	1.2	2.1	4.079	A
2 - Arundel Road	501	125	2179	714	0.702	495	158	0.8	2.2	16.041	C
3 - A29	515	129	2110	673	0.766	507	564	0.8	3.0	20.704	C
4 - A27 (W)	1813	453	466	2816	0.644	1810	2152	1.0	1.8	3.570	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1862	465	480	2736	0.680	1862	1806	2.1	2.1	4.116	A
2 - Arundel Road	501	125	2183	711	0.704	501	159	2.2	2.3	17.009	C
3 - A29	515	129	2119	668	0.772	514	565	3.0	3.2	23.237	C
4 - A27 (W)	1813	453	473	2810	0.645	1813	2161	1.8	1.8	3.612	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1520	380	393	2811	0.541	1524	1486	2.1	1.2	2.807	A
2 - Arundel Road	409	102	1787	943	0.434	415	130	2.3	0.8	6.895	A
3 - A29	421	105	1740	904	0.465	430	462	3.2	0.9	7.733	A
4 - A27 (W)	1481	370	395	2877	0.515	1484	1775	1.8	1.1	2.590	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1273	318	329	2865	0.444	1275	1238	1.2	0.8	2.264	A
2 - Arundel Road	343	86	1495	1114	0.307	344	109	0.8	0.4	4.681	A
3 - A29	352	88	1452	1084	0.325	354	387	0.9	0.5	4.944	A
4 - A27 (W)	1240	310	325	2938	0.422	1241	1481	1.1	0.7	2.123	A

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017			
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Filename: A27-A29 West-PM-Cal.j9

Path: T:\Projects\11000 Series Project Numbers\11324\TB Land North of Walberton\Tech\Junc Models\Arcady\A27-A29 West\Saturn

Report generation date: 16/05/2017 16:58:25

»2031 LP with MIT, PM

»2031 LP with MIT + Dev, PM

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
2031 LP with MIT				
1 - A29 (N)	53.6	92.61	1.04	F
2 - Arundel Road	118.1	2599.60	2.94	F
3 - A29	0.7	5.38	0.42	A
4 - A27 (W)	12.1	15.60	0.93	C
2031 LP with MIT + Dev				
1 - A29 (N)	62.7	108.25	1.06	F
2 - Arundel Road	126.2	2686.43	3.00	F
3 - A29	0.7	5.45	0.42	A
4 - A27 (W)	14.3	18.28	0.94	C

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tablet, for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	A27-A29 West
Location	
Site number	
Date	16/05/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	A27-A29 Western roundabout junction - Calibrated - SATURN

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	mph	PCU	PCU	perHour	s	-Hour	perHour

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	PM	2031 Local Plan with Mitigaion (Without Development)	ONE HOUR	16:30	18:00	15	✓
D2	2031 LP with MIT + Dev	PM	2031 Local Plan with Mitigalton + Development	ONE HOUR	16:30	18:00	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2031 LP with MIT, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (W)	Standard Roundabout	1,2,3,4	190.60	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A29 (N)	
2	Arundel Road	
3	A29	
4	A27 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - A29 (N)	7.40	11.30	22.0	42.0	56.0	23.0	
2 - Arundel Road	4.50	6.70	3.9	28.0	56.0	22.0	
3 - A29	3.70	7.70	22.0	19.0	56.0	24.0	
4 - A27 (W)	8.00	11.80	15.0	28.0	56.0	19.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - A29 (N)	Direct	Queue length survey	-260
2 - Arundel Road	None		
3 - A29	None		
4 - A27 (W)	Direct	Queue length survey	320

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A29 (N)	0.853	2886
2 - Arundel Road	0.585	1668
3 - A29	0.624	1922
4 - A27 (W)	0.867	3539

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	PM	2031 Local Plan with Mitigation (Without Development)	ONE HOUR	16:30	18:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A29 (N)		ONE HOUR	✓	1712	100.000
2 - Arundel Road		ONE HOUR	✓	299	100.000
3 - A29		ONE HOUR	✓	435	100.000
4 - A27 (W)		ONE HOUR	✓	2691	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - A29 (N)	2 - Arundel Road	3 - A29	4 - A27 (W)
From	1 - A29 (N)	0	0	634	1078
	2 - Arundel Road	0	0	7	292
	3 - A29	376	0	0	59
	4 - A27 (W)	1542	362	787	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
		1 - A29 (N)	2 - Arundel Road	3 - A29	4 - A27 (W)
From	1 - A29 (N)	0	0	0	0
	2 - Arundel Road	0	0	0	0
	3 - A29	0	0	0	0
	4 - A27 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A29 (N)	1.04	92.51	83.6	F	1571	2356
2 - Arundel Road	2.94	2859.50	118.1	F	274	412
3 - A29	0.42	5.38	0.7	A	399	599
4 - A27 (W)	9.93	15.60	12.1	C	2469	3704

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1289	322	862	2150	0.599	1283	1439	0.0	1.5	4.124	A
2 - Arundel Road	225	56	1874	573	0.393	223	272	0.0	0.6	10.215	B
3 - A29	327	82	1025	1282	0.255	326	1071	0.0	0.3	3.761	A
4 - A27 (W)	2026	506	282	3295	0.615	2020	1069	0.0	1.6	2.809	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1539	385	1031	2006	0.767	1532	1721	1.5	3.2	7.485	A
2 - Arundel Road	269	67	2238	359	0.748	261	325	0.6	2.6	34.326	D
3 - A29	391	98	1220	1161	0.337	390	1280	0.3	0.5	4.669	A
4 - A27 (W)	2419	605	337	3247	0.745	2414	1273	1.6	2.9	4.296	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1885	471	1251	1819	1.006	1772	2092	3.2	31.4	44.666	E
2 - Arundel Road	329	82	2629	131	2.514	130	394	2.6	52.4	808.836	F
3 - A29	479	120	1243	1146	0.418	478	1516	0.5	0.7	5.381	A
4 - A27 (W)	2963	741	413	3181	0.931	2930	1308	2.9	11.1	12.919	B

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1885	471	1263	1808	1.043	1796	2109	31.4	53.6	92.613	F
2 - Arundel Road	329	82	2662	112	2.346	112	398	52.4	106.7	2539.800	F
3 - A29	479	120	1240	1148	0.417	479	1533	0.7	0.7	5.381	A
4 - A27 (W)	2963	741	414	3181	0.932	2959	1305	11.1	12.1	15.597	C

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1539	385	1049	1991	0.773	1739	1746	53.6	3.6	26.799	D
2 - Arundel Road	269	67	2457	231	1.161	231	330	106.7	116.1	1251.625	F
3 - A29	391	98	1321	1098	0.356	392	1368	0.7	0.6	5.103	A
4 - A27 (W)	2419	605	339	3246	0.745	2456	1374	12.1	3.0	4.763	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1289	322	867	2146	0.601	1297	1448	3.6	1.5	4.283	A
2 - Arundel Road	225	56	1891	562	0.400	557	273	116.1	33.0	486.076	F
3 - A29	327	82	1361	1072	0.305	328	1088	0.6	0.4	4.838	A
4 - A27 (W)	2026	506	283	3294	0.615	2031	1406	3.0	1.6	2.865	A

2031 LP with MIT + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (W)	Standard Roundabout	1,2,3,4	299.37	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 LP with MIT + Dev	PM	2031 Local Plan with Mitigation + Development	ONE HOUR	16:30	18:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A29 (N)		ONE HOUR	✓	1734	100.000
2 - Arundel Road		ONE HOUR	✓	299	100.000
3 - A29		ONE HOUR	✓	439	100.000
4 - A27 (W)		ONE HOUR	✓	2723	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		1 - A29 (N)	2 - Arundel Road	3 - A29	4 - A27 (W)
From	1 - A29 (N)	0	0	637	1097
	2 - Arundel Road	0	0	7	292
	3 - A29	380	0	0	59
	4 - A27 (W)	1574	362	787	0

Vehicle Mix

Heavy Vehicle Percentages

	To				
From		1 - A29 (N)	2 - Arundel Road	3 - A29	4 - A27 (W)
	1 - A29 (N)	0	0	0	0
	2 - Arundel Road	0	0	0	0
	3 - A29	0	0	0	0
	4 - A27 (W)	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A29 (N)	1.06	168.25	62.7	F	1591	2387
2 - Arundel Road	3.09	2696.43	129.2	F	274	412
3 - A29	0.42	5.45	0.7	A	403	604
4 - A27 (W)	0.94	18.28	14.3	C	2499	3748

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1305	326	862	2150	0.607	1299	1466	0.0	1.5	4.201	A
2 - Arundel Road	225	56	1890	563	0.400	222	272	0.0	0.7	10.496	E
3 - A29	331	83	1039	1273	0.260	329	1073	0.0	0.3	3.808	A
4 - A27 (W)	2050	513	285	3292	0.623	2043	1084	0.0	1.6	2.867	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1559	390	1031	2007	0.777	1552	1753	1.5	3.4	7.788	A
2 - Arundel Road	269	67	2257	348	0.772	260	325	0.7	2.8	37.767	E
3 - A29	395	99	1235	1151	0.343	394	1282	0.3	0.5	4.752	A
4 - A27 (W)	2448	612	341	3244	0.755	2442	1288	1.6	3.0	4.461	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1909	477	1248	1821	1.049	1781	2128	3.4	35.5	48.754	E
2 - Arundel Road	329	82	2636	127	2.592	126	393	2.8	53.6	854.046	F
3 - A29	483	121	1250	1142	0.423	483	1512	0.5	0.7	5.452	A
4 - A27 (W)	2998	750	418	3177	0.944	2959	1314	3.0	12.8	14.447	B

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1909	477	1263	1809	1.056	1800	2148	35.5	62.7	106.253	F
2 - Arundel Road	329	82	2665	110	2.993	110	398	53.6	108.6	2696.430	F
3 - A29	483	121	1246	1144	0.422	483	1529	0.7	0.7	5.446	A
4 - A27 (W)	2998	750	418	3177	0.944	2992	1311	12.8	14.3	18.276	C

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1559	390	1052	1988	0.784	1794	1783	62.7	3.9	39.004	E
2 - Arundel Road	269	67	2514	198	1.358	198	331	108.5	128.2	1351.523	F
3 - A29	395	99	1328	1093	0.361	395	1384	0.7	0.6	5.163	A
4 - A27 (W)	2448	612	342	3243	0.755	2493	1381	14.3	3.1	5.080	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (N)	1305	326	868	2146	0.608	1315	1475	3.9	1.6	4.380	A
2 - Arundel Road	225	56	1909	552	0.408	547	273	128.2	48.8	558.773	F
3 - A29	331	83	1366	1069	0.309	331	1090	0.6	0.5	4.879	A
4 - A27 (W)	2050	513	286	3291	0.623	2056	1411	3.1	1.7	2.930	A

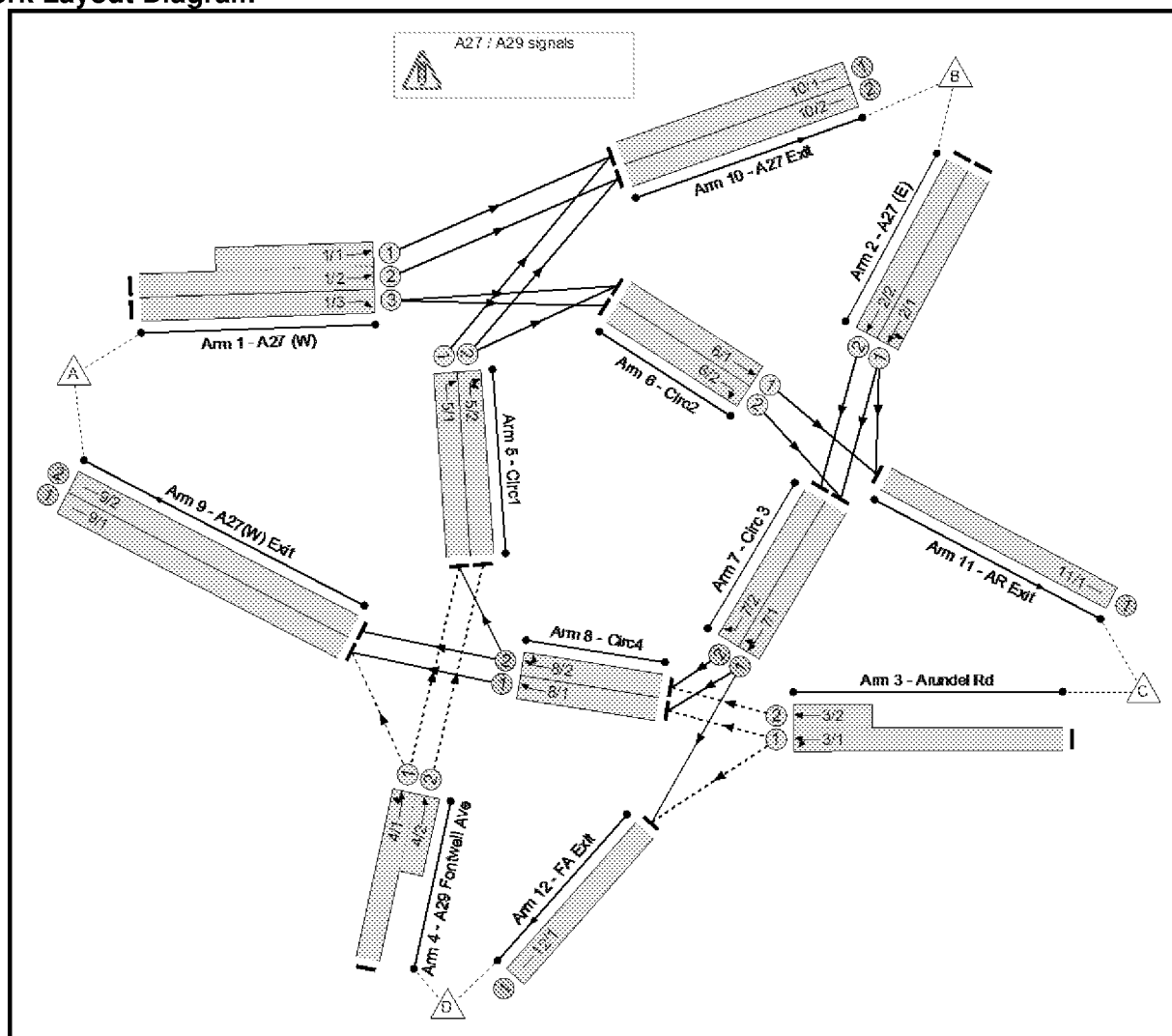
Full Input Data And Results

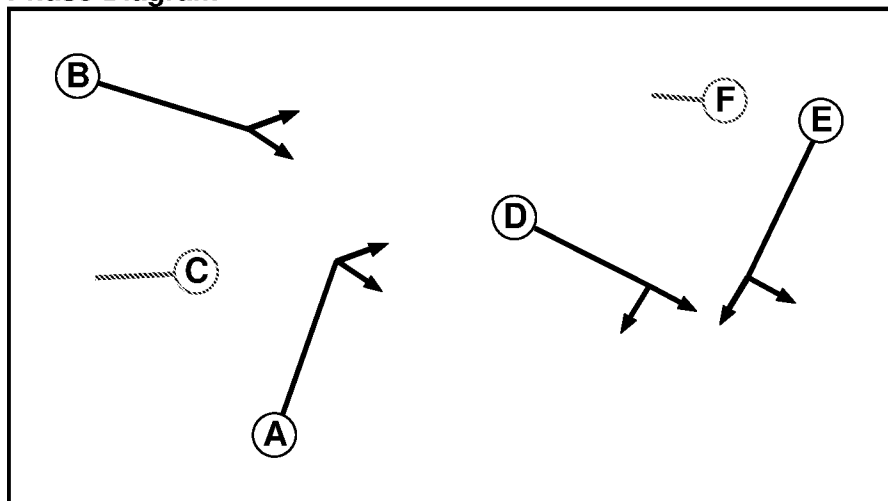
Full Input Data And Results

User and Project Details

Project:	ITB11324 Walberton
Title:	A27 / A29 signals (Fontwell Western Rbt)
Location:	
File name:	A27_A29 Fontwell W Rbt.lsg3x
Author:	AL
Company:	i-T
Address:	
Notes:	To PJA dwg 1186-05

Network Layout Diagram



Phase Diagram**Phase Input Data**

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		-9999	7
B	Traffic	1		-9999	7
C	Dummy	1		-9999	2
D	Traffic	2		-9999	7
E	Traffic	2		-9999	7
F	Dummy	2		-9999	2

Phase Intergreens Matrix

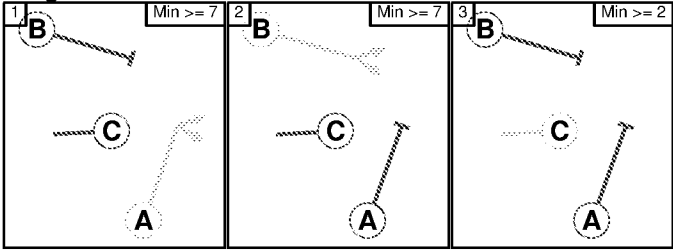
		Starting Phase					
Terminating Phase		A	B	C	D	E	F
	A		5	3	-	-	-
	B	6		3	-	-	-
	C	2	2		-	-	-
	D	-	-	-		5	3
	E	-	-	-	6		3
	F	-	-	-	2	2	

Phases in Stage

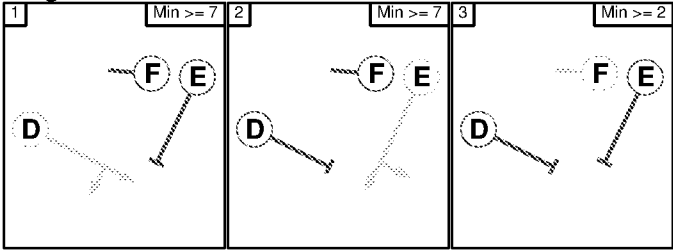
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
1	3	C
2	1	D
2	2	E
2	3	F

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

Term.	Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined						

Stage Stream: 2

Term.	Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined						

Prohibited Stage Change

Stage Stream: 1

		To Stage		
From Stage		1	2	3
	1		5	3
	2	6		3
	3	2	2	

Stage Stream: 2

		To Stage		
From Stage		1	2	3
	1		5	3
	2	6		3
	3	2	2	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A27 / A29 signals											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
3/1 (Arundel Rd)	8/1 (Ahead)	925	0	7/1	1.00	All	-	-	-	-	-
				7/2	1.00	All					
	12/1 (Left)	925	0	7/1	1.00	All					
3/2 (Arundel Rd)	8/2 (Ahead)	925	0	7/2	1.00	All	-	-	-	-	-
				7/1	1.00	All					
4/1 (A29 Fontwell Ave)	5/1 (Ahead)	1020	0	8/1	1.00	All	-	-	-	-	-
				8/2	1.00	All					
	9/1 (Left)	1020	0	8/1	1.00	All					
4/2 (A29 Fontwell Ave)	5/2 (Ahead)	1020	0	8/1	1.00	All	-	-	-	-	-
				8/2	1.00	All					

Full Input Data And Results

Lane Input Data

Junction: A27 / A29 signals												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A27 (W))	U	B	2	3	10.0	User	1900	-	-	-	-	-
1/2 (A27 (W))	U	B	2	3	60.0	User	1900	-	-	-	-	-
1/3 (A27 (W))	U	B	2	3	60.0	User	1900	-	-	-	-	-
2/1 (A27 (E))	U	E	2	3	60.0	User	1900	-	-	-	-	-
2/2 (A27 (E))	U	E	2	3	60.0	User	1900	-	-	-	-	-
3/1 (Arundel Rd)	O		2	3	60.0	User	1900	-	-	-	-	-
3/2 (Arundel Rd)	O		2	3	5.0	User	1900	-	-	-	-	-
4/1 (A29 Fontwell Ave)	O		2	3	60.0	User	1900	-	-	-	-	-
4/2 (A29 Fontwell Ave)	O		2	3	5.0	User	1900	-	-	-	-	-
5/1 (Circ1)	U	A	2	3	5.0	User	1900	-	-	-	-	-
5/2 (Circ1)	U	A	2	3	5.0	User	1900	-	-	-	-	-
6/1 (Circ2)	U	D	2	3	7.5	User	1900	-	-	-	-	-
6/2 (Circ2)	U	D	2	3	7.5	User	1900	-	-	-	-	-
7/1 (Circ 3)	U		2	3	7.5	Inf	-	-	-	-	-	-
7/2 (Circ 3)	U		2	3	7.5	Inf	-	-	-	-	-	-
8/1 (Circ4)	U		2	3	5.0	Inf	-	-	-	-	-	-
8/2 (Circ4)	U		2	3	5.0	Inf	-	-	-	-	-	-
9/1 (A27(W) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/2 (A27(W) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1 (A27 Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/2 (A27 Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
11/1 (AR Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
12/1 (FA Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 AM LP with MIT'	07:15	08:15	01:00	
2: '2031 PM LP with MIT'	16:45	17:45	01:00	
3: '2031 AM LP with MIT + Dev'	07:15	08:15	01:00	
4: '2031 PM LP with MIT + Dev'	16:45	17:45	01:00	

Scenario 1: '1' (FG1: '2031 AM LP with MIT', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1198	144	292	1634
	B	1437	0	0	214	1651
	C	453	0	0	2	455
	D	38	428	0	0	466
	Tot.	1928	1626	144	508	4206

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 1
Junction: A27 / A29 signals	
1/1 (short)	599
1/2 (with short)	1198(In) 599(Out)
1/3	436
2/1	826
2/2	825
3/1 (with short)	455(In) 228(Out)
3/2 (short)	227
4/1 (with short)	466(In) 233(Out)
4/2 (short)	233
5/1	195
5/2	233
6/1	144
6/2	292
7/1	1118
7/2	825
8/1	838
8/2	1052
9/1	876
9/2	1052
10/1	794
10/2	832
11/1	144
12/1	508

Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (Arundel Rd Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Arundel Rd Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A29 Fontwell Ave Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (A29 Fontwell Ave Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
6/1 (Circ2 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ2 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (Circ 3 Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (Circ 3 Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (Circ4 Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (Circ4 Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A27 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A27 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
11/1 (AR Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (FA Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 2: '2' (FG2: '2031 PM LP with MIT', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1542	362	787	2691
	B	1078	0	0	634	1712
	C	292	0	0	7	299
	D	59	376	0	0	435
	Tot.	1429	1918	362	1428	5137

Traffic Lane Flows

Lane	Scenario 2: 2
Junction: A27 / A29 signals	
1/1 (short)	771
1/2 (with short)	1542(In) 771(Out)
1/3	1149
2/1	856
2/2	856
3/1 (with short)	299(In) 150(Out)
3/2 (short)	149
4/1 (with short)	435(In) 218(Out)
4/2 (short)	217
5/1	159
5/2	217
6/1	362
6/2	787
7/1	1643
7/2	856
8/1	365
8/2	1005
9/1	424
9/2	1005
10/1	930
10/2	988
11/1	362
12/1	1428

Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (Arundel Rd Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Arundel Rd Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A29 Fontwell Ave Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (A29 Fontwell Ave Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
6/1 (Circ2 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ2 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (Circ 3 Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (Circ 3 Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (Circ4 Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (Circ4 Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A27 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A27 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
11/1 (AR Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (FA Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: '3' (FG3: '2031 AM LP with MIT + Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1211	144	292	1647
	B	1472	0	0	219	1691
	C	453	0	0	2	455
	D	38	430	0	0	468
	Tot.	1963	1641	144	513	4261

Traffic Lane Flows

Lane	Scenario 3: 3
Junction: A27 / A29 signals	
1/1 (short)	605
1/2 (with short)	1211(In) 606(Out)
1/3	436
2/1	846
2/2	845
3/1 (with short)	455(In) 228(Out)
3/2 (short)	227
4/1 (with short)	468(In) 234(Out)
4/2 (short)	234
5/1	196
5/2	234
6/1	144
6/2	292
7/1	1138
7/2	845
8/1	853
8/2	1072
9/1	891
9/2	1072
10/1	801
10/2	840
11/1	144
12/1	513

Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (Arundel Rd Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Arundel Rd Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A29 Fontwell Ave Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (A29 Fontwell Ave Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
6/1 (Circ2 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ2 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (Circ 3 Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (Circ 3 Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (Circ4 Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (Circ4 Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A27 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A27 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
11/1 (AR Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (FA Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 4: '4' (FG4: '2031 PM LP with MIT + Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1574	362	787	2723
	B	1097	0	0	637	1734
	C	292	0	0	7	299
	D	59	380	0	0	439
	Tot.	1448	1954	362	1431	5195

Traffic Lane Flows

Lane	Scenario 4: 4
Junction: A27 / A29 signals	
1/1 (short)	787
1/2 (with short)	1574(In) 787(Out)
1/3	1149
2/1	867
2/2	867
3/1 (with short)	299(In) 150(Out)
3/2 (short)	149
4/1 (with short)	439(In) 220(Out)
4/2 (short)	219
5/1	161
5/2	219
6/1	362
6/2	787
7/1	1654
7/2	867
8/1	373
8/2	1016
9/1	432
9/2	1016
10/1	948
10/2	1006
11/1	362
12/1	1431

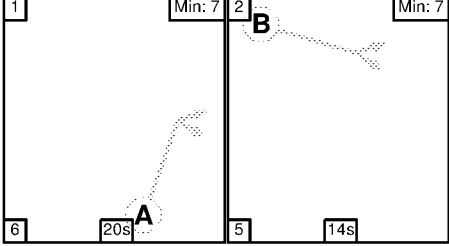
Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (Arundel Rd Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Arundel Rd Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A29 Fontwell Ave Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (A29 Fontwell Ave Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
6/1 (Circ2 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ2 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (Circ 3 Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (Circ 3 Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (Circ4 Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (Circ4 Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A27 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A27 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
11/1 (AR Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
12/1 (FA Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

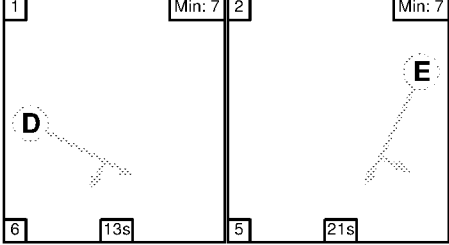
Scenario 1: '1' (FG1: '2031 AM LP with MIT', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

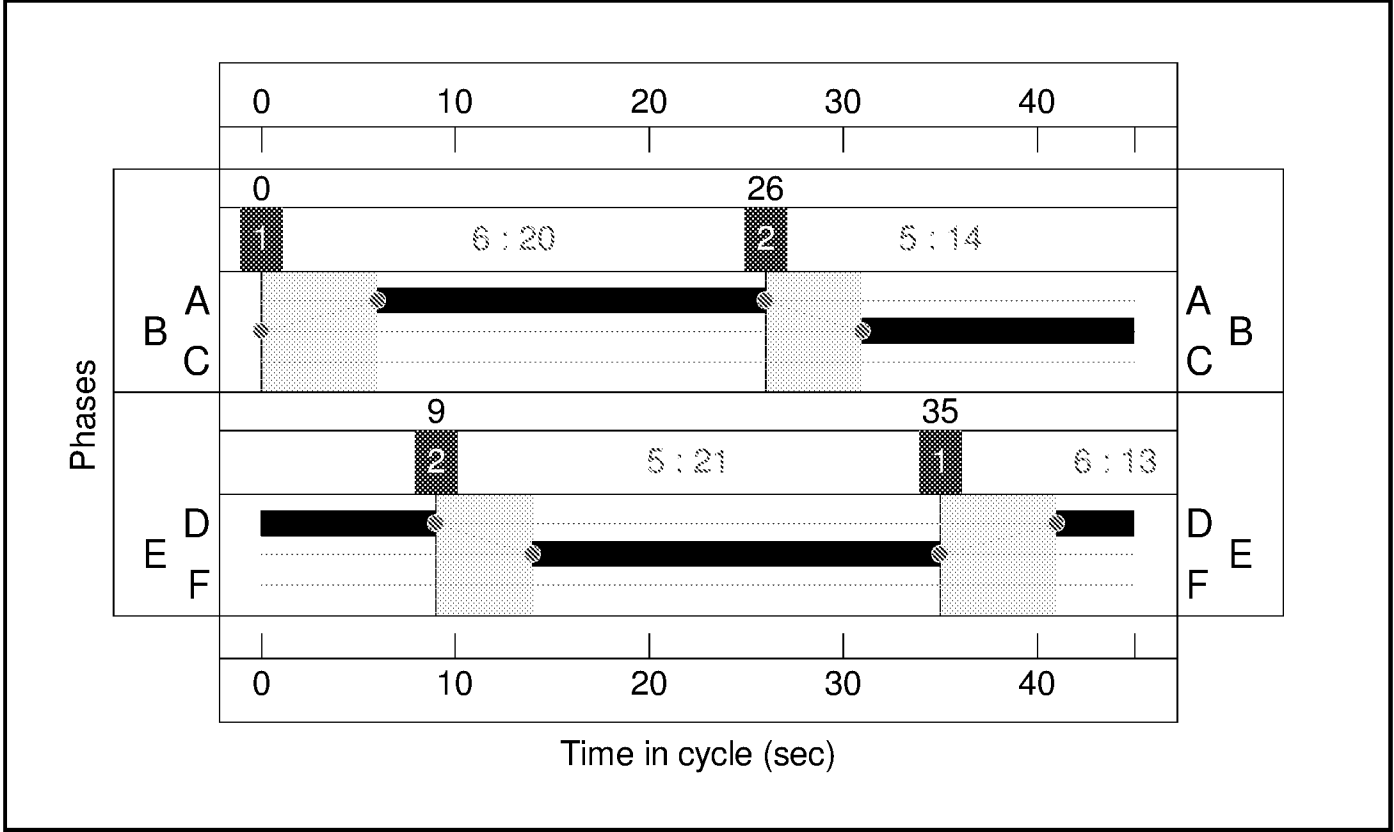
Stage Stream: 1

Stage	1	2
Duration	20	14
Change Point	0	26

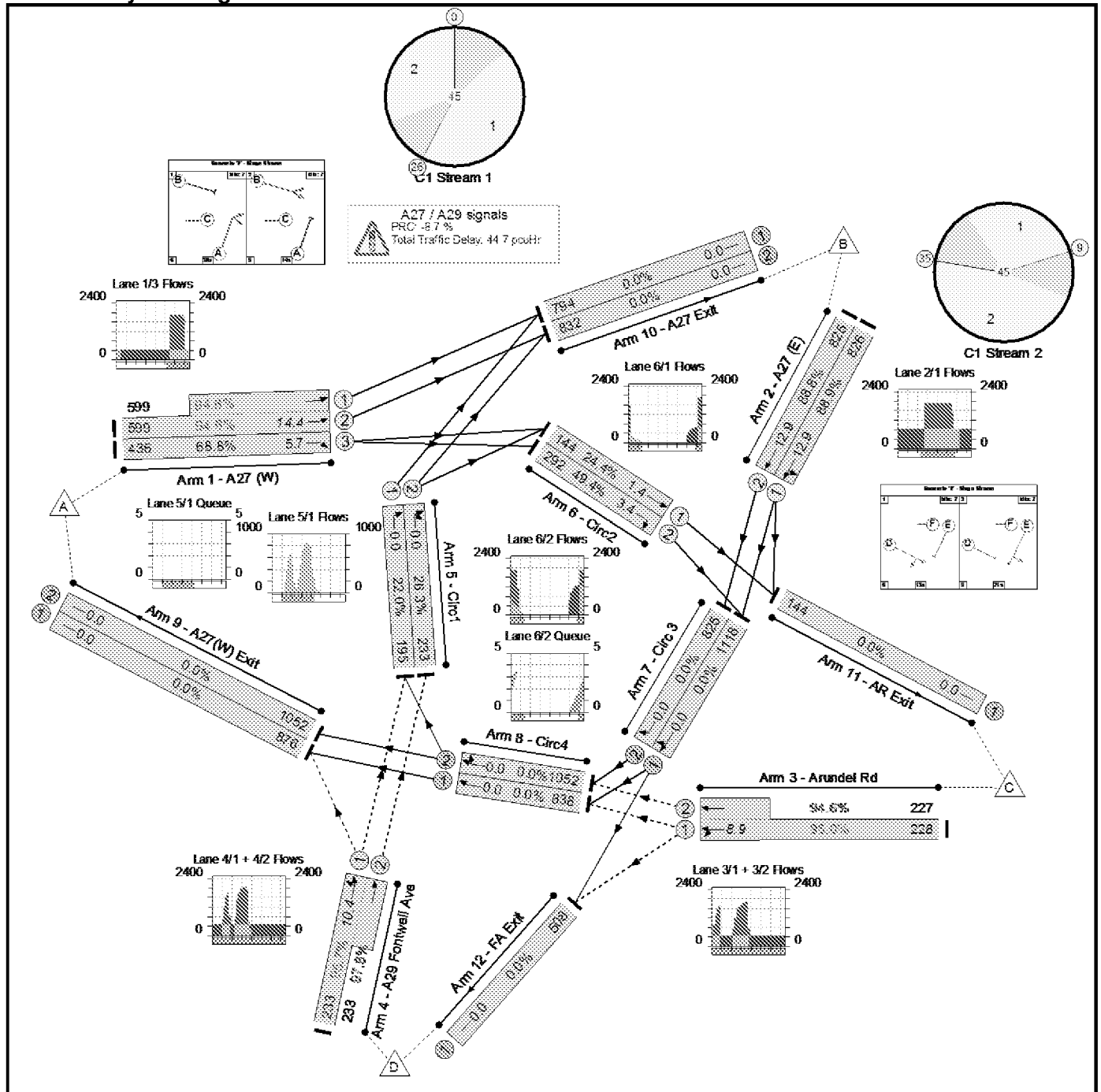
Stage Stream: 2

Stage	1	2
Duration	13	21
Change Point	35	9

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	97.8%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	97.8%
1/2+1/1	A27 (W) Ahead	U	1	N/A	B		1	14	-	1198	1900:1900	633+633	94.6 : 94.6%
1/3	A27 (W) Ahead	U	1	N/A	B		1	14	-	436	1900	633	68.8%
2/1	A27 (E) Ahead Left	U	2	N/A	E		1	21	-	826	1900	929	88.9%
2/2	A27 (E) Ahead	U	2	N/A	E		1	21	-	825	1900	929	88.8%
3/1+3/2	Arundel Rd Ahead Left	O	N/A	N/A	-		-	-	-	455	1900:1900	240+240	95.0 : 94.6%
4/1+4/2	A29 Fontwell Ave Ahead Left	O	N/A	N/A	-		-	-	-	466	1900:1900	243+238	95.7 : 97.8%
5/1	Circ1 Right	U	1	N/A	A		1	20	-	195	1900	887	22.0%
5/2	Circ1 Right Right2	U	1	N/A	A		1	20	-	233	1900	887	26.3%
6/1	Circ2 Ahead	U	2	N/A	D		1	13	-	144	1900	591	24.4%
6/2	Circ2 Right	U	2	N/A	D		1	13	-	292	1900	591	49.4%
7/1	Circ 3 Right Ahead	U	N/A	N/A	-		-	-	-	1118	Inf	Inf	0.0%
7/2	Circ 3 Right	U	N/A	N/A	-		-	-	-	825	Inf	Inf	0.0%
8/1	Circ4 Ahead	U	N/A	N/A	-		-	-	-	638	Inf	Inf	0.0%
8/2	Circ4 Right Ahead	U	N/A	N/A	-		-	-	-	1052	Inf	Inf	0.0%
9/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%
9/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	1052	Inf	Inf	0.0%
10/1	A27 Exit	U	N/A	N/A	-		-	-	-	794	Inf	Inf	0.0%
10/2	A27 Exit	U	N/A	N/A	-		-	-	-	632	Inf	Inf	0.0%
11/1	AR Exit	U	N/A	N/A	-		-	-	-	144	Inf	Inf	0.0%

Full Input Data And Results

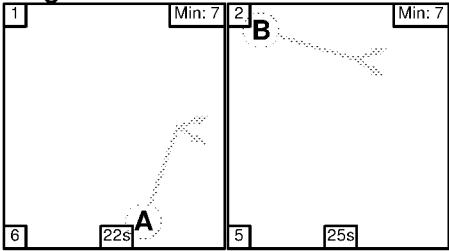
12/1	FA Exit	U	N/A	N/A	-		-	-	-	508	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	1842	0	0	15.3	29.4	0.0	44.7	-	-	-	-
A27 / A29 signals	-	-	1842	0	0	15.3	29.4	0.0	44.7	-	-	-	-
1/2+1/1	1198	1198	-	-	-	4.9	7.2	-	12.1 (6.0+6.0)	36.3 (36.3:36.3)	7.2	7.2	14.4
1/3	436	436	-	-	-	1.6	1.1	-	2.7	22.0	4.6	1.1	5.7
2/1	826	826	-	-	-	2.4	3.7	-	6.1	26.7	9.2	3.7	12.9
2/2	825	825	-	-	-	2.4	3.7	-	6.1	26.6	9.2	3.7	12.9
3/1+3/2	455	455	910	0	0	1.7	6.1	-	7.8 (3.9+3.9)	61.8 (61.9:61.8)	2.8	6.1	8.9
4/1+4/2	466	466	932	0	0	1.9	7.6	-	9.5 (4.7+4.8)	73.3 (73.2:73.4)	2.8	7.6	10.4
5/1	195	195	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	233	233	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	144	144	-	-	-	0.1	0.0	-	0.1	2.7	1.4	0.0	1.4
6/2	292	292	-	-	-	0.3	0.0	-	0.3	4.0	3.4	0.0	3.4
7/1	1118	1118	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	825	825	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	898	898	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	1052	1052	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	876	876	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	1052	1052	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	794	794	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	882	882	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	144	144	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	508	508	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

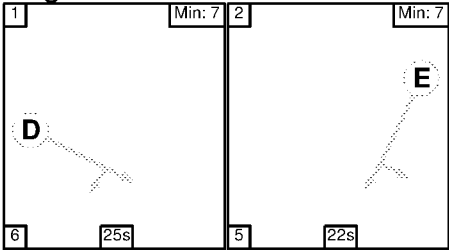
C1	Stream: 1	PRC for Signalled Lanes (%)	-5.1	Total Delay for Signalled Lanes (pcuHr)	14.74	Cycle Time (s)	45
C1	Stream: 2	PRC for Signalled Lanes (%)	1.2	Total Delay for Signalled Lanes (pcuHr)	12.65	Cycle Time (s)	45
		PRC Over All Lanes (%)	-8.7	Total Delay Over All Lanes(pcuHr)	44.70		

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

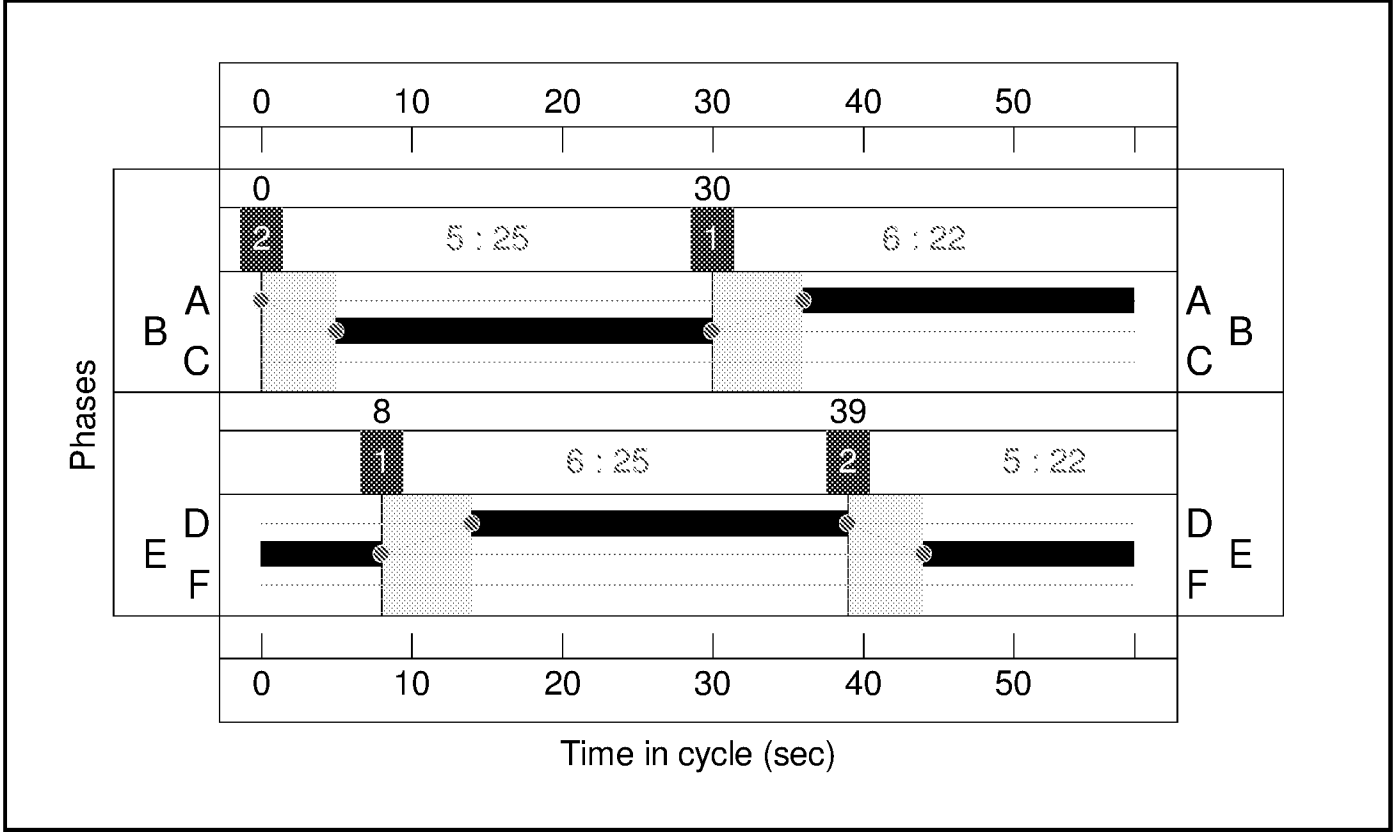
Stage Stream: 1

Stage	1	2
Duration	22	25
Change Point	30	0

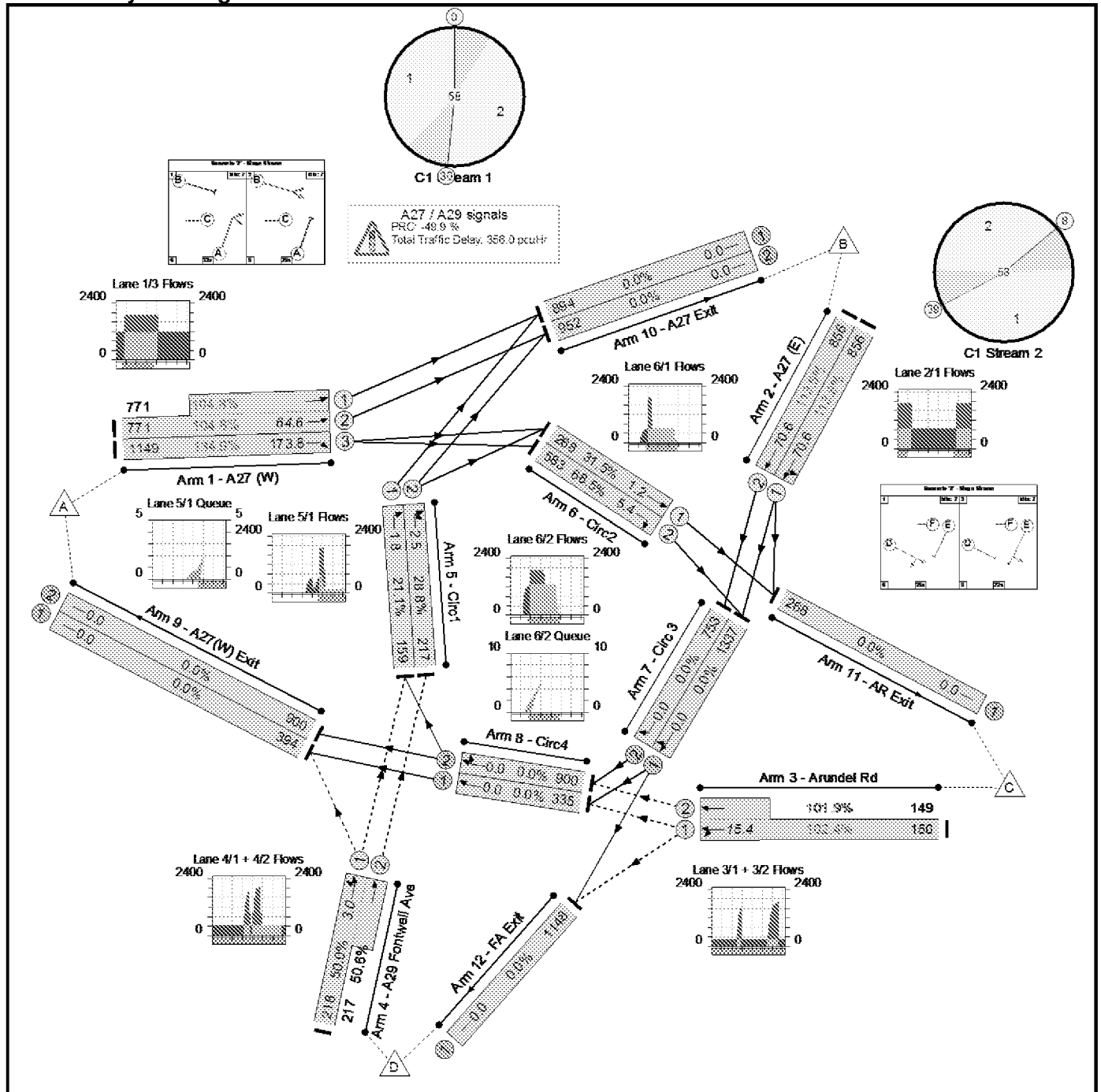
Stage Stream: 2

Stage	1	2
Duration	25	22
Change Point	8	39

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	134.9%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	134.9%
1/2+1/1	A27 (W) Ahead	U	1	N/A	B		1	25	-	1542	1900:1900	735+735	104.8 : 104.8%
1/3	A27 (W) Ahead	U	1	N/A	B		1	25	-	1149	1900	852	134.9%
2/1	A27 (E) Ahead Left	U	2	N/A	E		1	22	-	856	1900	753	113.6%
2/2	A27 (E) Ahead	U	2	N/A	E		1	22	-	856	1900	753	113.6%
3/1+3/2	Arundel Rd Ahead Left	O	N/A	N/A	-		-	-	-	299	1900:1900	146+146	102.4 : 101.9%
4/1+4/2	A29 Fontwell Ave Ahead Left	O	N/A	N/A	-		-	-	-	435	1900:1900	436+428	50.0 : 50.6%
5/1	Circ1 Right	U	1	N/A	A		1	22	-	159	1900	753	21.1%
5/2	Circ1 Right Right2	U	1	N/A	A		1	22	-	217	1900	753	28.8%
6/1	Circ2 Ahead	U	2	N/A	D		1	25	-	362	1900	852	31.5%
6/2	Circ2 Right	U	2	N/A	D		1	25	-	787	1900	852	68.5%
7/1	Circ 3 Right Ahead	U	N/A	N/A	-		-	-	-	1643	Inf	Inf	0.0%
7/2	Circ 3 Right	U	N/A	N/A	-		-	-	-	856	Inf	Inf	0.0%
8/1	Circ4 Ahead	U	N/A	N/A	-		-	-	-	365	Inf	Inf	0.0%
8/2	Circ4 Right Ahead	U	N/A	N/A	-		-	-	-	1005	Inf	Inf	0.0%
9/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	424	Inf	Inf	0.0%
9/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	1005	Inf	Inf	0.0%
10/1	A27 Exit	U	N/A	N/A	-		-	-	-	950	Inf	Inf	0.0%
10/2	A27 Exit	U	N/A	N/A	-		-	-	-	958	Inf	Inf	0.0%

Full Input Data And Results

11/1	AR Exit	U	N/A	N/A	-		-	-	-	362	Inf	Inf	0.0%
12/1	FA Exit	U	N/A	N/A	-		-	-	-	1428	Inf	Inf	0.0%

Full Input Data And Results

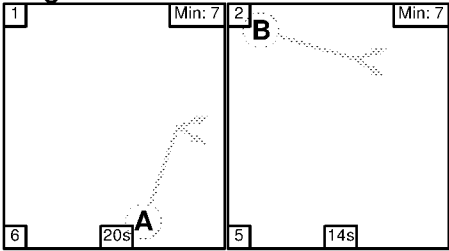
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	1455	0	0	39.9	316.1	0.0	356.0	-	-	-	-
A27 / A29 signals	-	-	1455	0	0	39.9	316.1	0.0	356.0	-	-	-	-
1/2+1/1	1542	1471	-	-	-	8.2	44.3	-	52.5 (26.3+26.3)	122.6 (122.6:122.6)	20.3	44.3	64.6
1/3	1149	852	-	-	-	13.1	150.5	-	163.6	512.7	23.3	150.5	173.6
2/1	856	753	-	-	-	7.5	55.2	-	62.6	263.5	15.4	55.2	70.6
2/2	856	753	-	-	-	7.5	55.2	-	62.6	263.5	15.4	55.2	70.6
3/1+3/2	299	293	585	0	0	1.7	10.4	-	12.1 (6.2+5.8)	145.3 (149.7:140.9)	5.0	10.4	15.4
4/1+4/2	435	435	870	0	0	1.3	0.5	-	1.8 (0.9+0.9)	14.8 (14.6:14.9)	2.5	0.5	3.0
5/1	159	159	-	-	-	0.2	0.0	-	0.2	3.4	1.8	0.0	1.8
5/2	217	217	-	-	-	0.2	0.0	-	0.2	3.6	2.5	0.0	2.5
6/1	268	268	-	-	-	0.1	0.0	-	0.1	0.8	1.2	0.0	1.2
6/2	583	583	-	-	-	0.3	0.0	-	0.3	1.6	5.4	0.0	5.4
7/1	1337	1337	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	753	753	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	935	935	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	900	900	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	394	394	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	900	900	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	894	894	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	952	952	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	268	268	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	1148	1148	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

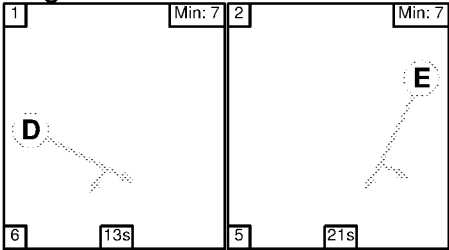
C1	Stream: 1	PRC for Signalled Lanes (%)	-49.9	Total Delay for Signalled Lanes (pcuHr)	216.50	Cycle Time (s)	58
C1	Stream: 2	PRC for Signalled Lanes (%)	-26.2	Total Delay for Signalled Lanes (pcuHr)	125.61	Cycle Time (s)	58
		PRC Over All Lanes (%)	-49.9	Total Delay Over All Lanes(pcuHr)	355.96		

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

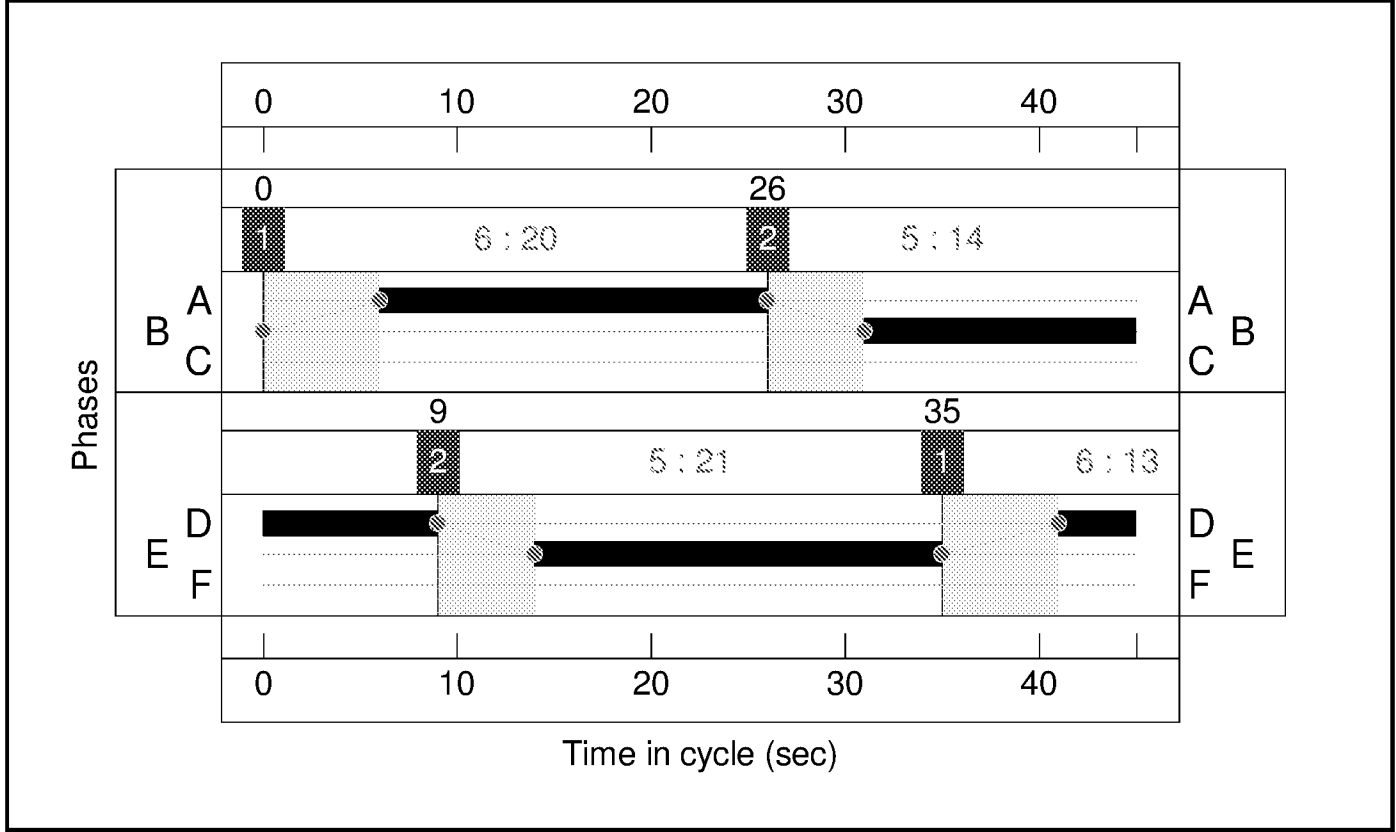
Stage Stream: 1

Stage	1	2
Duration	20	14
Change Point	0	26

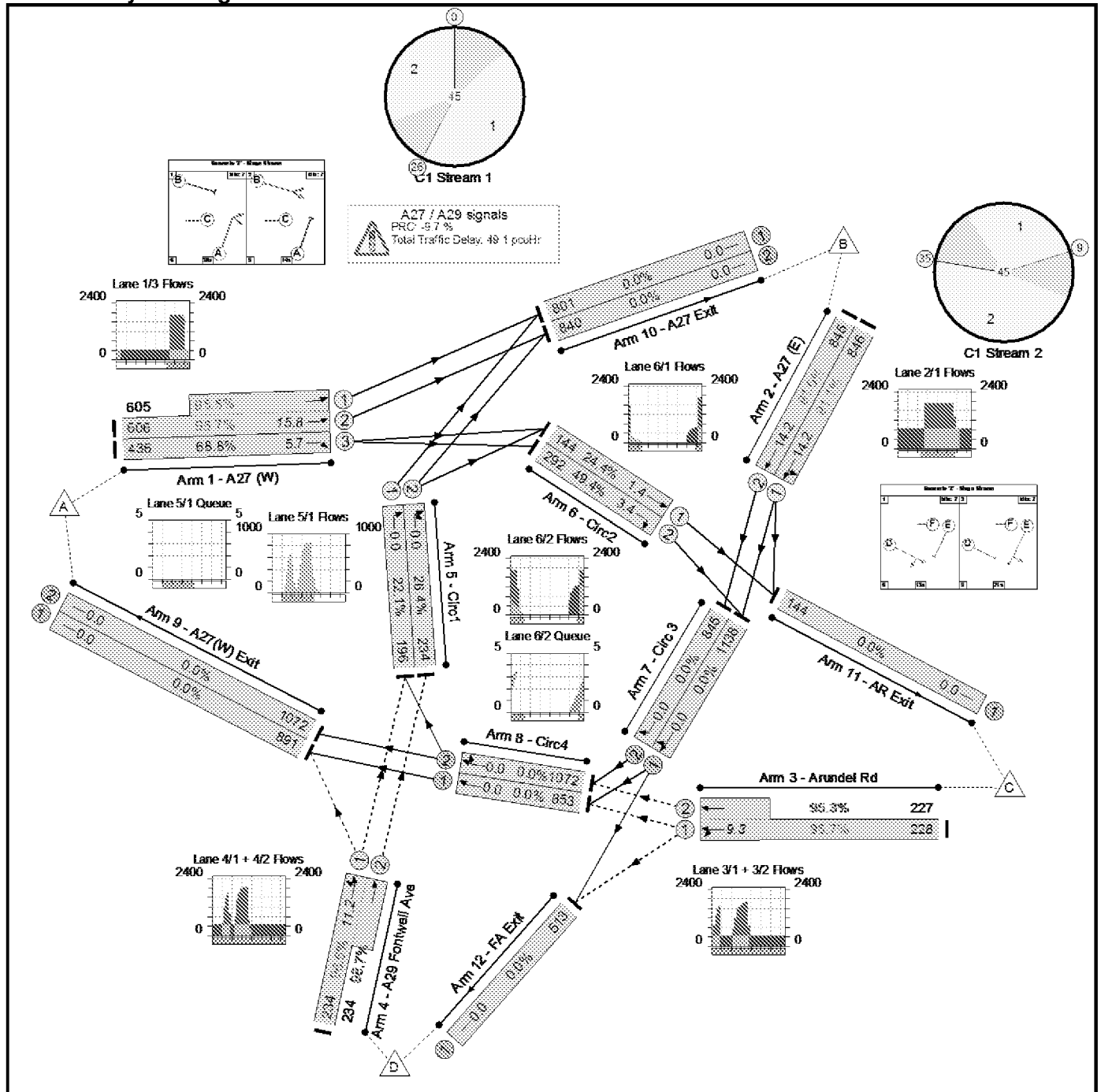
Stage Stream: 2

Stage	1	2
Duration	13	21
Change Point	35	9

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	98.7%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	98.7%
1/2+1/1	A27 (W) Ahead	U	1	N/A	B		1	14	-	1211	1900:1900	633+633	95.7 : 95.5%
1/3	A27 (W) Ahead	U	1	N/A	B		1	14	-	436	1900	633	68.8%
2/1	A27 (E) Ahead Left	U	2	N/A	E		1	21	-	846	1900	929	91.1%
2/2	A27 (E) Ahead	U	2	N/A	E		1	21	-	845	1900	929	91.0%
3/1+3/2	Arundel Rd Ahead Left	O	N/A	N/A	-		-	-	-	455	1900:1900	238+238	95.7 : 95.5%
4/1+4/2	A29 Fontwell Ave Ahead Left	O	N/A	N/A	-		-	-	-	468	1900:1900	242+237	96.6 : 98.7%
5/1	Circ1 Right	U	1	N/A	A		1	20	-	196	1900	887	22.1%
5/2	Circ1 Right Right2	U	1	N/A	A		1	20	-	234	1900	887	26.4%
6/1	Circ2 Ahead	U	2	N/A	D		1	13	-	144	1900	591	24.4%
6/2	Circ2 Right	U	2	N/A	D		1	13	-	292	1900	591	49.4%
7/1	Circ 3 Right Ahead	U	N/A	N/A	-		-	-	-	1138	Inf	Inf	0.0%
7/2	Circ 3 Right	U	N/A	N/A	-		-	-	-	845	Inf	Inf	0.0%
8/1	Circ4 Ahead	U	N/A	N/A	-		-	-	-	853	Inf	Inf	0.0%
8/2	Circ4 Right Ahead	U	N/A	N/A	-		-	-	-	1072	Inf	Inf	0.0%
9/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	891	Inf	Inf	0.0%
9/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	1072	Inf	Inf	0.0%
10/1	A27 Exit	U	N/A	N/A	-		-	-	-	801	Inf	Inf	0.0%
10/2	A27 Exit	U	N/A	N/A	-		-	-	-	840	Inf	Inf	0.0%
11/1	AR Exit	U	N/A	N/A	-		-	-	-	144	Inf	Inf	0.0%

Full Input Data And Results

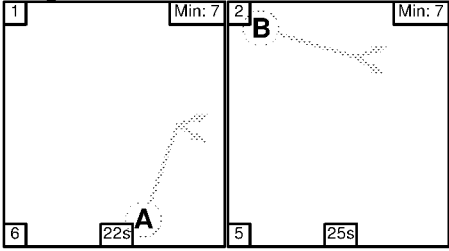
12/1	FA Exit	U	N/A	N/A	-		-	-	-	513	Inf	Inf	0.0%
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	1846	0	0	15.6	33.5	0.0	49.1	-	-	-	-
A27 / A29 signals	-	-	1846	0	0	15.6	33.5	0.0	49.1	-	-	-	-
1/2+1/1	1211	1211	-	-	-	4.9	8.4	-	13.3 (6.7+6.6)	39.5 (39.5:39.5)	7.4	8.4	15.8
1/3	436	436	-	-	-	1.6	1.1	-	2.7	22.0	4.6	1.1	5.7
2/1	846	846	-	-	-	2.5	4.6	-	7.1	30.1	9.6	4.6	14.2
2/2	845	845	-	-	-	2.5	4.5	-	7.0	29.9	9.6	4.5	14.2
3/1+3/2	455	455	910	0	0	1.7	6.5	-	8.3 (4.2+4.1)	65.5 (65.5:65.5)	2.8	6.5	9.3
4/1+4/2	468	468	936	0	0	1.9	8.3	-	10.3 (5.1+5.1)	79.0 (78.8:79.1)	2.9	8.3	11.2
5/1	196	196	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	234	234	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	144	144	-	-	-	0.1	0.0	-	0.1	2.7	1.4	0.0	1.4
6/2	292	292	-	-	-	0.3	0.0	-	0.3	4.0	3.4	0.0	3.4
7/1	1136	1136	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	345	345	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	853	853	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	1072	1072	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	891	891	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	1072	1072	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	801	801	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	340	340	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	144	144	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	513	513	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

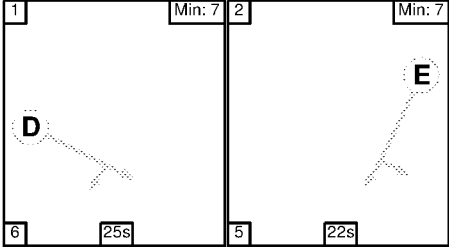
C1	Stream: 1	PRC for Signalled Lanes (%)	-6.3	Total Delay for Signalled Lanes (pcuHr)	15.97	Cycle Time (s)	45
C1	Stream: 2	PRC for Signalled Lanes (%)	-1.2	Total Delay for Signalled Lanes (pcuHr)	14.55	Cycle Time (s)	45
		PRC Over All Lanes (%)	-9.7	Total Delay Over All Lanes(pcuHr)	49.07		

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

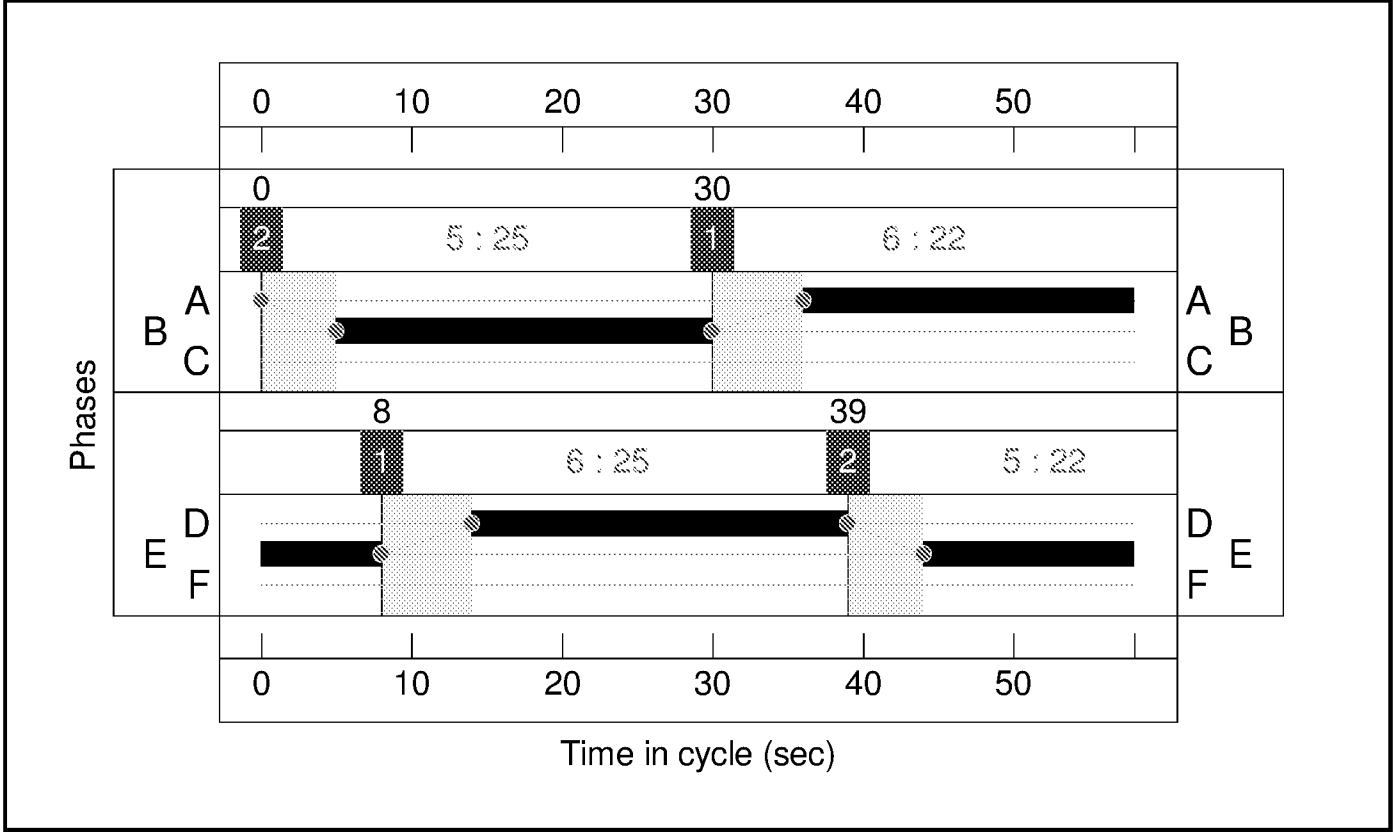
Stage Stream: 1

Stage	1	2
Duration	22	25
Change Point	30	0

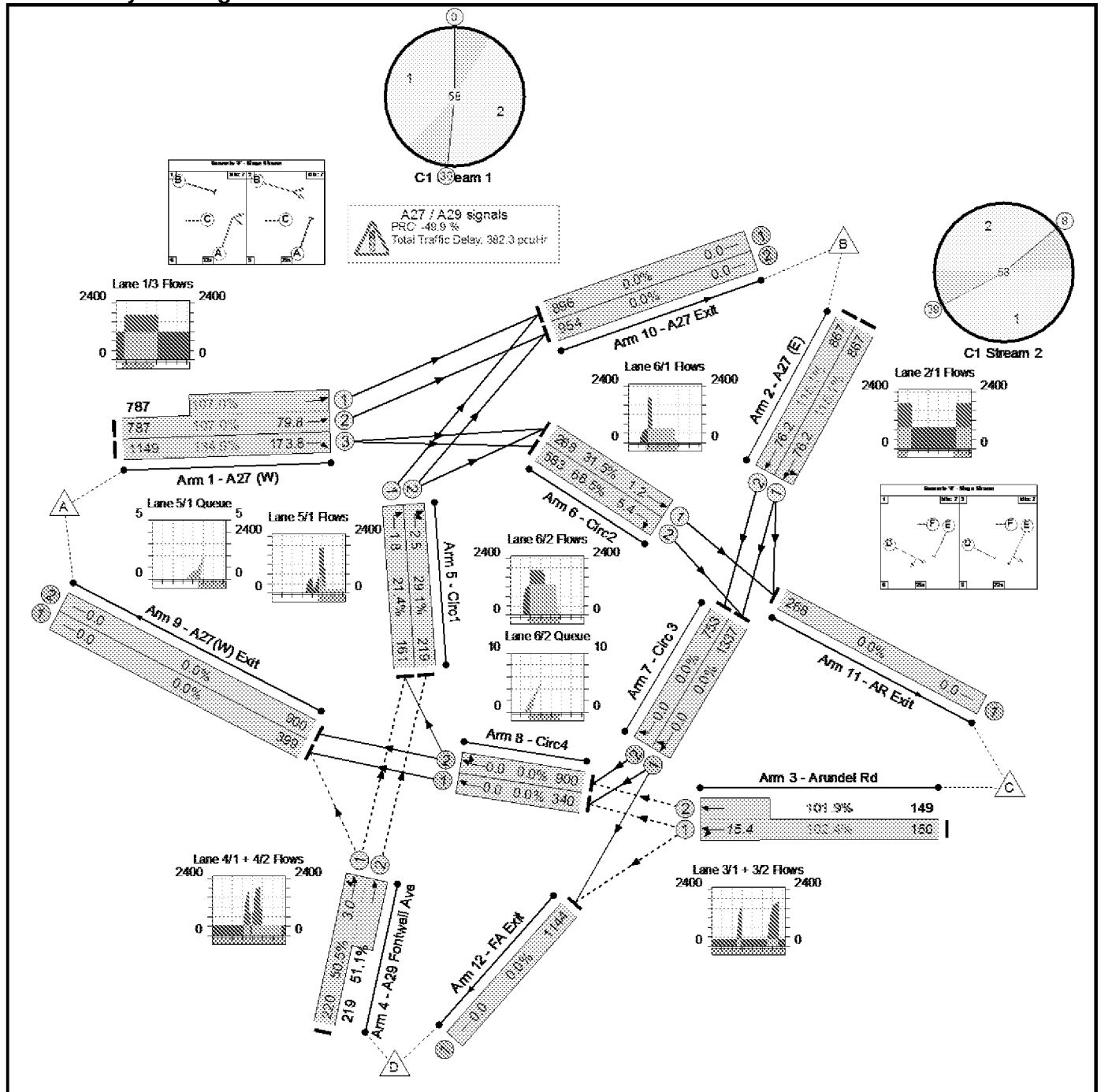
Stage Stream: 2

Stage	1	2
Duration	25	22
Change Point	8	39

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	134.9%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	134.9%
1/2+1/1	A27 (W) Ahead	U	1	N/A	B		1	25	-	1574	1900:1900	735+735	107.0 : 107.0%
1/3	A27 (W) Ahead	U	1	N/A	B		1	25	-	1149	1900	852	134.9%
2/1	A27 (E) Ahead Left	U	2	N/A	E		1	22	-	867	1900	753	115.1%
2/2	A27 (E) Ahead	U	2	N/A	E		1	22	-	867	1900	753	115.1%
3/1+3/2	Arundel Rd Ahead Left	O	N/A	N/A	-		-	-	-	299	1900:1900	146+146	102.4 : 101.9%
4/1+4/2	A29 Fontwell Ave Ahead Left	O	N/A	N/A	-		-	-	-	439	1900:1900	436+428	50.5 : 51.1%
5/1	Circ1 Right	U	1	N/A	A		1	22	-	161	1900	753	21.4%
5/2	Circ1 Right Right2	U	1	N/A	A		1	22	-	219	1900	753	29.1%
6/1	Circ2 Ahead	U	2	N/A	D		1	25	-	362	1900	852	31.5%
6/2	Circ2 Right	U	2	N/A	D		1	25	-	787	1900	852	68.5%
7/1	Circ 3 Right Ahead	U	N/A	N/A	-		-	-	-	1654	Inf	Inf	0.0%
7/2	Circ 3 Right	U	N/A	N/A	-		-	-	-	867	Inf	Inf	0.0%
8/1	Circ4 Ahead	U	N/A	N/A	-		-	-	-	373	Inf	Inf	0.0%
8/2	Circ4 Right Ahead	U	N/A	N/A	-		-	-	-	1016	Inf	Inf	0.0%
9/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	432	Inf	Inf	0.0%
9/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	1016	Inf	Inf	0.0%
10/1	A27 Exit	U	N/A	N/A	-		-	-	-	948	Inf	Inf	0.0%
10/2	A27 Exit	U	N/A	N/A	-		-	-	-	1006	Inf	Inf	0.0%

Full Input Data And Results

11/1	AR Exit	U	N/A	N/A	-		-	-	-	362	Inf	Inf	0.0%
12/1	FA Exit	U	N/A	N/A	-		-	-	-	1431	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	1463	0	0	41.7	340.5	0.0	382.3	-	-	-	-
A27 / A29 signals	-	-	1463	0	0	41.7	340.5	0.0	382.3	-	-	-	-
1/2+1/1	1574	1471	-	-	-	9.2	58.4	-	67.6 (33.8+33.8)	154.5 (154.5:154.5)	21.4	58.4	79.8
1/3	1149	852	-	-	-	13.1	150.5	-	163.6	512.7	23.3	150.5	173.6
2/1	867	753	-	-	-	7.9	60.4	-	68.3	283.5	15.8	60.4	76.2
2/2	867	753	-	-	-	7.9	60.4	-	68.3	283.5	15.8	60.4	76.2
3/1+3/2	299	293	585	0	0	1.7	10.4	-	12.1 (6.2+5.8)	145.3 (149.7:140.9)	5.0	10.4	15.4
4/1+4/2	439	439	878	0	0	1.3	0.5	-	1.8 (0.9+0.9)	14.8 (14.7:15.0)	2.5	0.5	3.0
5/1	161	161	-	-	-	0.2	0.0	-	0.2	3.4	1.8	0.0	1.8
5/2	219	219	-	-	-	0.2	0.0	-	0.2	3.6	2.5	0.0	2.5
6/1	268	268	-	-	-	0.1	0.0	-	0.1	0.8	1.2	0.0	1.2
6/2	583	583	-	-	-	0.3	0.0	-	0.3	1.6	5.4	0.0	5.4
7/1	1337	1337	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	753	753	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	340	340	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	900	900	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	399	399	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	900	900	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	896	896	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	954	954	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	268	268	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	1144	1144	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	-49.9	Total Delay for Signalled Lanes (pcuHr)	231.54	Cycle Time (s)	58
C1	Stream: 2	PRC for Signalled Lanes (%)	-27.9	Total Delay for Signalled Lanes (pcuHr)	136.85	Cycle Time (s)	58
		PRC Over All Lanes (%)	-49.9	Total Delay Over All Lanes(pcuHr)	382.27		

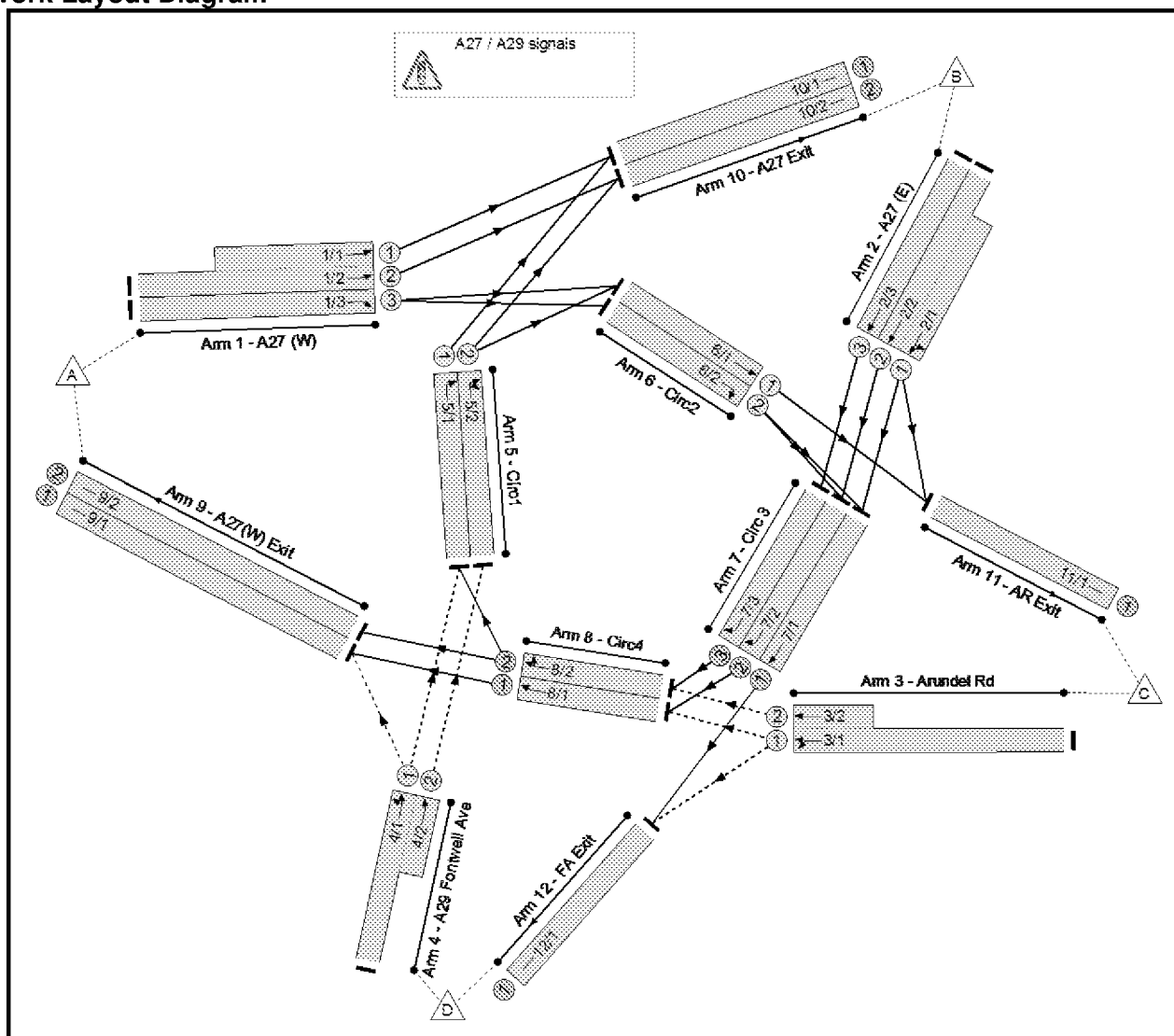
Full Input Data And Results

Full Input Data And Results

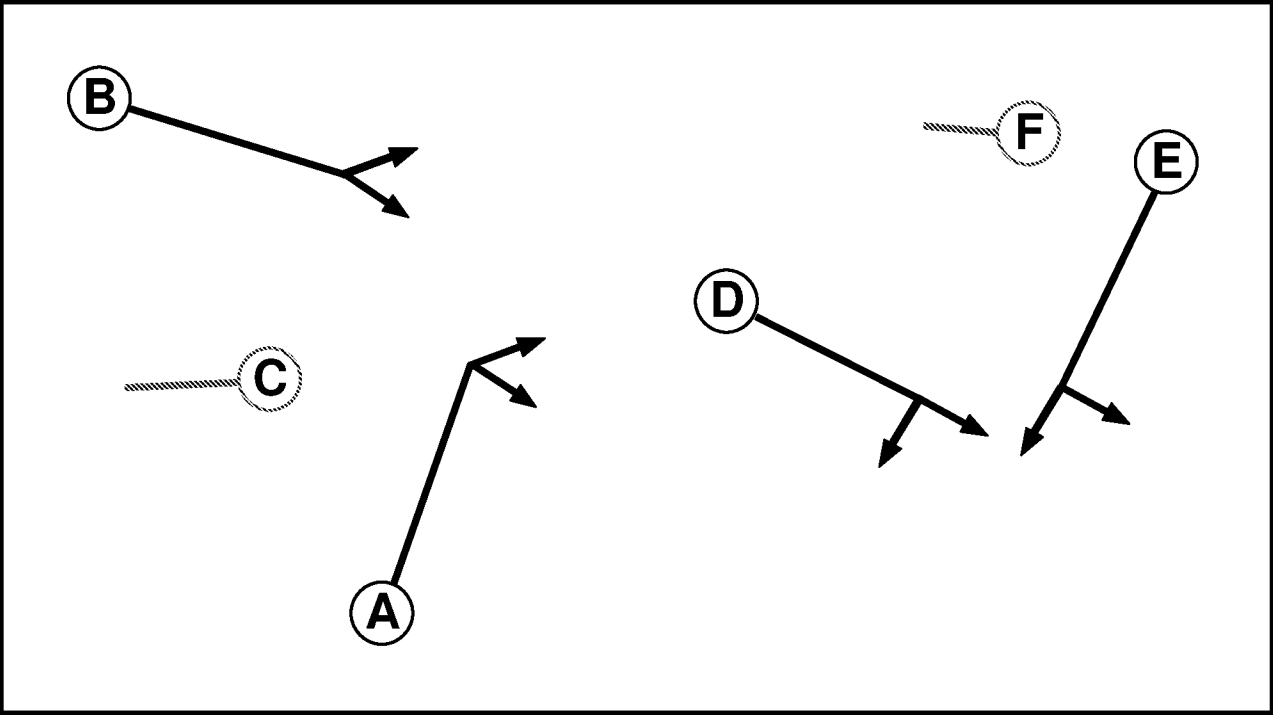
User and Project Details

Project:	ITB11324 Walberton
Title:	A27 / A29 signals (Fontwell Western Rbt)
Location:	
File name:	A27_A29 Fontwell W Rbt - iT scheme.lsg3x
Author:	AL
Company:	i-T
Address:	
Notes:	To PJA dwg 1186-05 + i-Transport additions

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		-9999	7
B	Traffic	1		-9999	7
C	Dummy	1		-9999	2
D	Traffic	2		-9999	7
E	Traffic	2		-9999	7
F	Dummy	2		-9999	2

Full Input Data And Results

Phase Intergreens Matrix

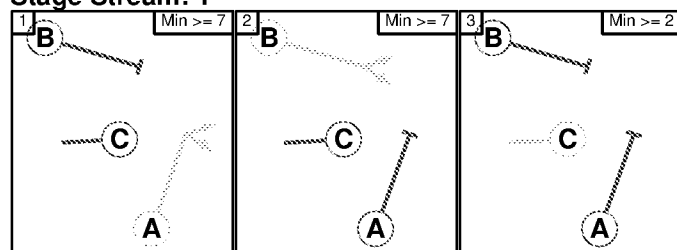
		Starting Phase					
Terminating Phase		A	B	C	D	E	F
	A		5	3	-	-	-
	B	6		3	-	-	-
	C	2	2		-	-	-
	D	-	-	-		7	3
	E	-	-	-	7		3
	F	-	-	-	2	2	

Phases in Stage

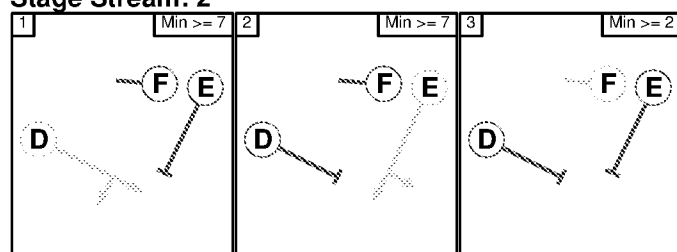
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
1	3	C
2	1	D
2	2	E
2	3	F

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Stage Stream: 2

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change
Stage Stream: 1

		To Stage		
From Stage		1	2	3
	1		5	3
	2	6		3
	3	2	2	

Stage Stream: 2

		To Stage		
From Stage		1	2	3
	1		7	3
	2	7		3
	3	2	2	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A27 / A29 signals											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
3/1 (Arundel Rd)	8/1 (Ahead)	925	0	7/2	1.00	All	-	-	-	-	-
				7/3	1.00	All					
				7/1	1.00	All					
	12/1 (Left)	925	0	7/1	1.00	All					
3/2 (Arundel Rd)	8/2 (Ahead)	925	0	7/3	1.00	All	-	-	-	-	-
				7/2	1.00	All					
				7/1	1.00	All					
4/1 (A29 Fontwell Ave)	5/1 (Ahead)	1020	0	8/1	1.00	All	-	-	-	-	-
				8/2	1.00	All					
	9/1 (Left)	1020	0	8/1	1.00	All					
4/2 (A29 Fontwell Ave)	5/2 (Ahead)	1020	0	8/1	1.00	All	-	-	-	-	-
				8/2	1.00	All					

Lane Input Data

Junction: A27 / A29 signals												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A27 (W))	U	B	2	3	10.0	User	1900	-	-	-	-	-
1/2 (A27 (W))	U	B	2	3	60.0	User	1900	-	-	-	-	-
1/3 (A27 (W))	U	B	2	3	60.0	User	1900	-	-	-	-	-
2/1 (A27 (E))	U	E	2	3	13.3	User	1900	-	-	-	-	-
2/2 (A27 (E))	U	E	2	3	60.0	User	1900	-	-	-	-	-
2/3 (A27 (E))	U	E	2	3	60.0	User	1900	-	-	-	-	-
3/1 (Arundel Rd)	O		2	3	60.0	User	1900	-	-	-	-	-
3/2 (Arundel Rd)	O		2	3	5.0	User	1900	-	-	-	-	-
4/1 (A29 Fontwell Ave)	O		2	3	60.0	User	1900	-	-	-	-	-
4/2 (A29 Fontwell Ave)	O		2	3	5.0	User	1900	-	-	-	-	-
5/1 (Circ1)	U	A	2	3	5.0	User	1900	-	-	-	-	-
5/2 (Circ1)	U	A	2	3	5.0	User	1900	-	-	-	-	-
6/1 (Circ2)	U	D	2	3	7.5	User	1900	-	-	-	-	-
6/2 (Circ2)	U	D	2	3	7.5	User	1900	-	-	-	-	-
7/1 (Circ 3)	U		2	3	7.5	Inf	-	-	-	-	-	-
7/2 (Circ 3)	U		2	3	7.5	Inf	-	-	-	-	-	-
7/3 (Circ 3)	U		2	3	7.5	Inf	-	-	-	-	-	-
8/1 (Circ4)	U		2	3	5.0	Inf	-	-	-	-	-	-
8/2 (Circ4)	U		2	3	5.0	Inf	-	-	-	-	-	-
9/1 (A27(W) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/2 (A27(W) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1 (A27 Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/2 (A27 Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

11/1 (AR Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
12/1 (FA Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 AM LP with MIT'	07:15	08:15	01:00	
2: '2031 PM LP with MIT'	16:45	17:45	01:00	
3: '2031 AM LP with MIT + Dev'	07:15	08:15	01:00	
4: '2031 PM LP with MIT + Dev'	16:45	17:45	01:00	

Scenario 1: '3' (FG3: '2031 AM LP with MIT + Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1211	144	292	1647
	B	1472	0	0	219	1691
	C	453	0	0	2	455
	D	38	430	0	0	468
	Tot.	1963	1641	144	513	4261

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 3
Junction: A27 / A29 signals	
1/1 (short)	605
1/2 (with short)	1211(In) 606(Out)
1/3	436
2/1 (short)	219
2/2 (with short)	955(In) 736(Out)
2/3	736
3/1 (with short)	455(In) 228(Out)
3/2 (short)	227
4/1 (with short)	468(In) 234(Out)
4/2 (short)	234
5/1	196
5/2	234
6/1	144
6/2	292
7/1	511
7/2	736
7/3	736
8/1	962
8/2	963
9/1	1000
9/2	963
10/1	801
10/2	840
11/1	144
12/1	513

Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/3 (A27 (E) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (Arundel Rd Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Arundel Rd Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A29 Fontwell Ave Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (A29 Fontwell Ave Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
6/1 (Circ2 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ2 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (Circ 3 Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (Circ 3 Lane 2)	Infinite Saturation Flow						Inf	Inf
7/3 (Circ 3 Lane 3)	Infinite Saturation Flow						Inf	Inf
8/1 (Circ4 Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (Circ4 Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A27 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A27 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

11/1 (AR Exit Lane 1)	Infinite Saturation Flow	Inf	Inf
12/1 (FA Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

Scenario 2: '4' (FG4: '2031 PM LP with MIT + Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1574	362	787	2723
	B	1097	0	0	637	1734
	C	292	0	0	7	299
	D	59	380	0	0	439
	Tot.	1448	1954	362	1431	5195

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 4
Junction: A27 / A29 signals	
1/1 (short)	787
1/2 (with short)	1574(In) 787(Out)
1/3	1149
2/1 (short)	637
2/2 (with short)	1093(In) 456(Out)
2/3	641
3/1 (with short)	299(In) 150(Out)
3/2 (short)	149
4/1 (with short)	439(In) 249(Out)
4/2 (short)	190
5/1	190
5/2	190
6/1	362
6/2	787
7/1	1424
7/2	456
7/3	641
8/1	599
8/2	790
9/1	658
9/2	790
10/1	977
10/2	977
11/1	362
12/1	1431

Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
2/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
2/3 (A27 (E) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (Arundel Rd Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Arundel Rd Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A29 Fontwell Ave Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (A29 Fontwell Ave Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
6/1 (Circ2 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ2 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (Circ 3 Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (Circ 3 Lane 2)	Infinite Saturation Flow						Inf	Inf
7/3 (Circ 3 Lane 3)	Infinite Saturation Flow						Inf	Inf
8/1 (Circ4 Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (Circ4 Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A27 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A27 Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

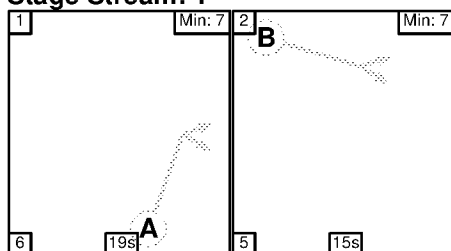
Full Input Data And Results

11/1 (AR Exit Lane 1)	Infinite Saturation Flow	Inf	Inf
12/1 (FA Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

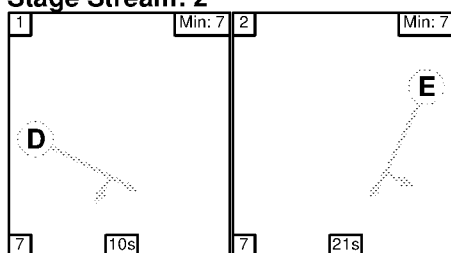
Scenario 1: '3' (FG3: '2031 AM LP with MIT + Dev', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

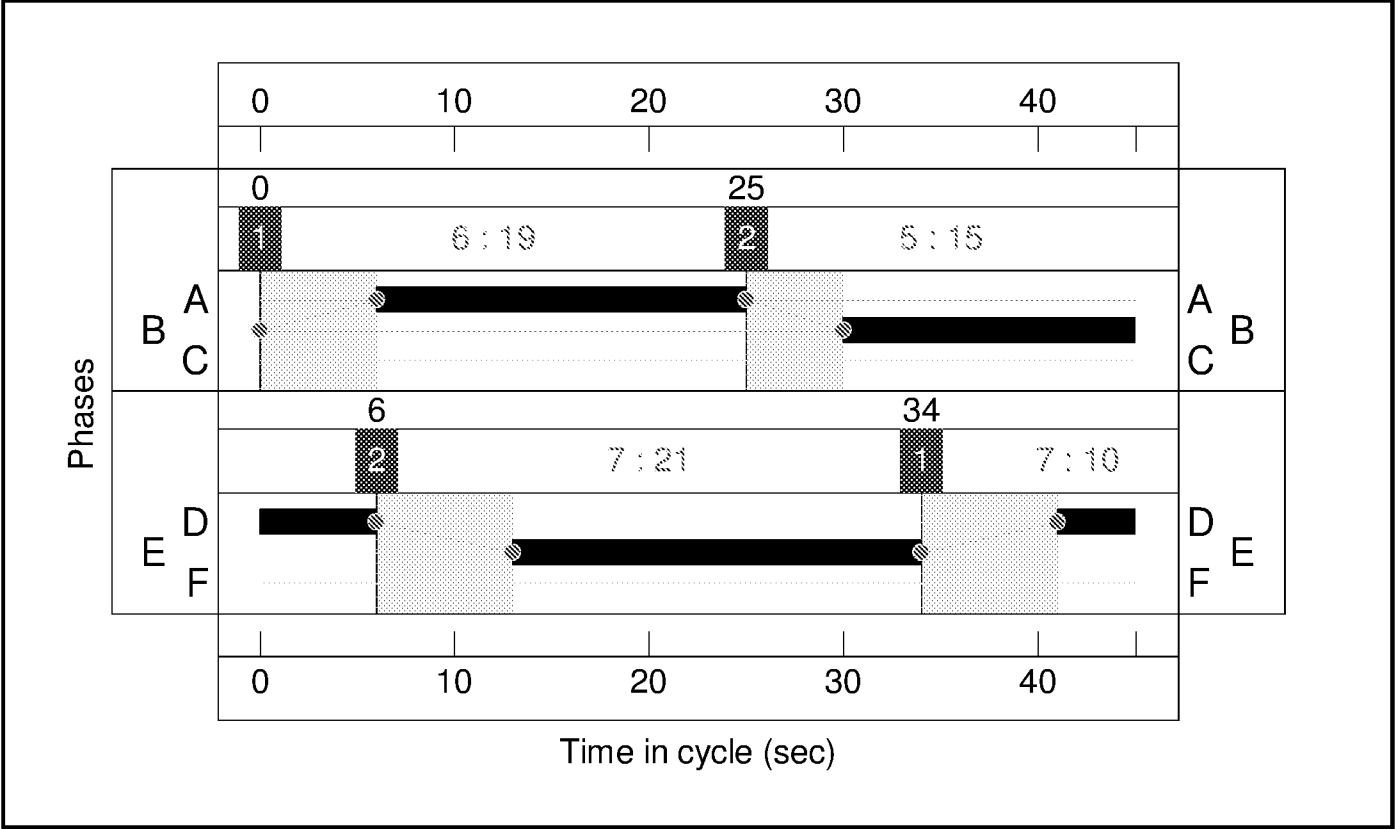
Stage Stream: 1

Stage	1	2
Duration	19	15
Change Point	0	25

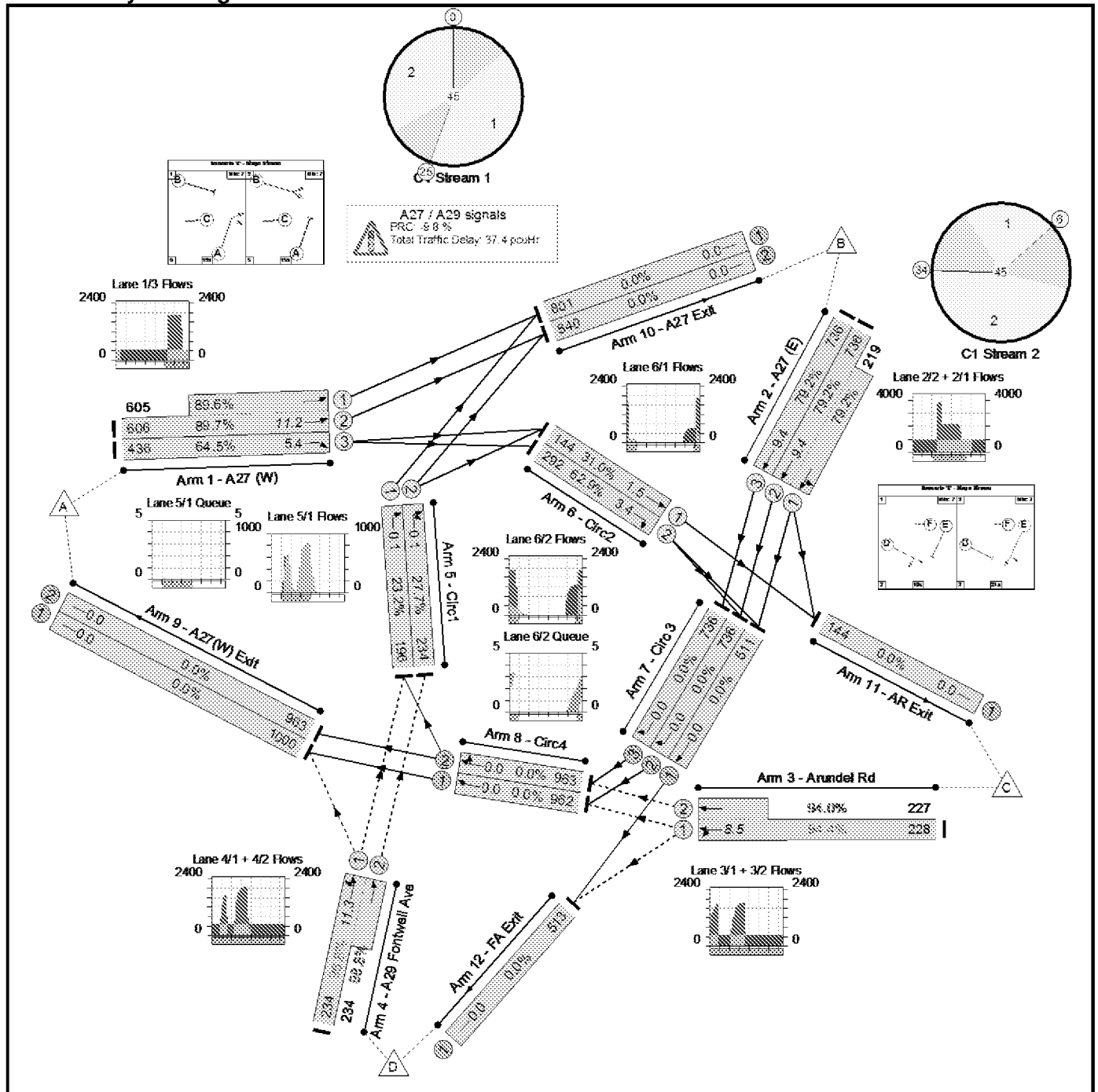
Stage Stream: 2

Stage	1	2
Duration	10	21
Change Point	34	6

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	98.8%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	98.8%
1/2+1/1	A27 (W) Ahead	U	1	N/A	B		1	15	-	1211	1900:1900	676+676	89.7 : 89.6%
1/3	A27 (W) Ahead	U	1	N/A	B		1	15	-	436	1900	676	64.5%
2/2+2/1	A27 (E) Ahead Left	U	2	N/A	E		1	21	-	955	1900:1900	929+276	79.2 : 79.2%
2/3	A27 (E) Ahead	U	2	N/A	E		1	21	-	736	1900	929	79.2%
3/1+3/2	Arundel Rd Ahead Left	O	N/A	N/A	-		-	-	-	455	1900:1900	242+242	94.4 : 94.0%
4/1+4/2	A29 Fontwell Ave Ahead Left	O	N/A	N/A	-		-	-	-	468	1900:1900	242+237	96.3 : 96.8%
5/1	Circ1 Right	U	1	N/A	A		1	19	-	196	1900	844	23.2%
5/2	Circ1 Right Right2	U	1	N/A	A		1	19	-	234	1900	844	27.7%
6/1	Circ2 Ahead	U	2	N/A	D		1	10	-	144	1900	464	31.0%
6/2	Circ2 Right	U	2	N/A	D		1	10	-	292	1900	464	62.9%
7/1	Circ 3 Ahead	U	N/A	N/A	-		-	-	-	511	Inf	Inf	0.0%
7/2	Circ 3 Right	U	N/A	N/A	-		-	-	-	736	Inf	Inf	0.0%
7/3	Circ 3 Right	U	N/A	N/A	-		-	-	-	736	Inf	Inf	0.0%
8/1	Circ4 Ahead	U	N/A	N/A	-		-	-	-	962	Inf	Inf	0.0%
8/2	Circ4 Right Ahead	U	N/A	N/A	-		-	-	-	963	Inf	Inf	0.0%
9/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	1000	Inf	Inf	0.0%
9/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	963	Inf	Inf	0.0%
10/1	A27 Exit	U	N/A	N/A	-		-	-	-	801	Inf	Inf	0.0%
10/2	A27 Exit	U	N/A	N/A	-		-	-	-	840	Inf	Inf	0.0%

Full Input Data And Results

11/1	AR Exit	U	N/A	N/A	-		-	-	-	144	Inf	Inf	0.0%
12/1	FA Exit	U	N/A	N/A	-		-	-	-	513	Inf	Inf	0.0%

Full Input Data And Results

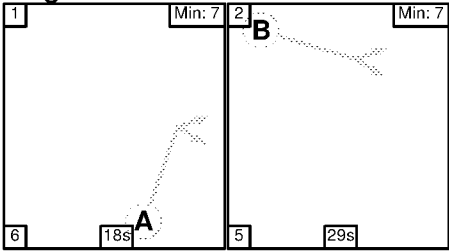
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	1846	0	0	14.4	23.0	0.0	37.4	-	-	-	-
A27 / A29 signals	-	-	1846	0	0	14.4	23.0	0.0	37.4	-	-	-	-
1/2+1/1	1211	1211	-	-	-	4.6	4.1	-	8.7 (4.4+4.3)	25.9 (25.9:25.9)	7.1	4.1	11.2
1/3	436	436	-	-	-	1.5	0.9	-	2.4	19.6	4.5	0.9	5.4
2/2+2/1	955	955	-	-	-	2.4	1.9	-	4.2 (3.4+0.8)	16.0 (16.7:13.7)	7.6	1.9	9.4
2/3	736	736	-	-	-	2.0	1.9	-	3.8	18.8	7.6	1.9	9.4
3/1+3/2	455	455	910	0	0	1.6	5.7	-	7.3 (3.7+3.7)	58.0 (58.0:58.0)	2.8	5.7	8.5
4/1+4/2	468	468	936	0	0	1.9	8.5	-	10.4 (5.2+5.2)	79.7 (79.5:79.8)	2.9	8.5	11.3
5/1	196	196	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
5/2	234	234	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
6/1	144	144	-	-	-	0.1	0.0	-	0.1	3.6	1.5	0.0	1.5
6/2	292	292	-	-	-	0.4	0.0	-	0.4	5.0	3.4	0.0	3.4
7/1	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	736	736	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/3	736	736	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	962	962	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	963	963	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	1000	1000	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	963	963	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	801	801	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	840	840	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	144	144	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/1	513	513	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

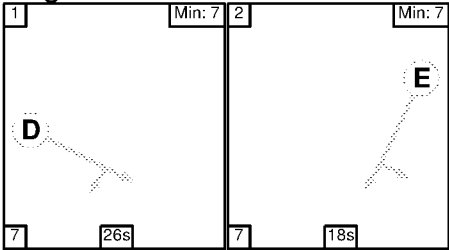
C1	Stream: 1	PRC for Signalled Lanes (%)	0.3	Total Delay for Signalled Lanes (pcuHr)	11.09	Cycle Time (s)	45
C1	Stream: 2	PRC for Signalled Lanes (%)	13.6	Total Delay for Signalled Lanes (pcuHr)	8.63	Cycle Time (s)	45
		PRC Over All Lanes (%)	-9.8	Total Delay Over All Lanes(pcuHr)	37.40		

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

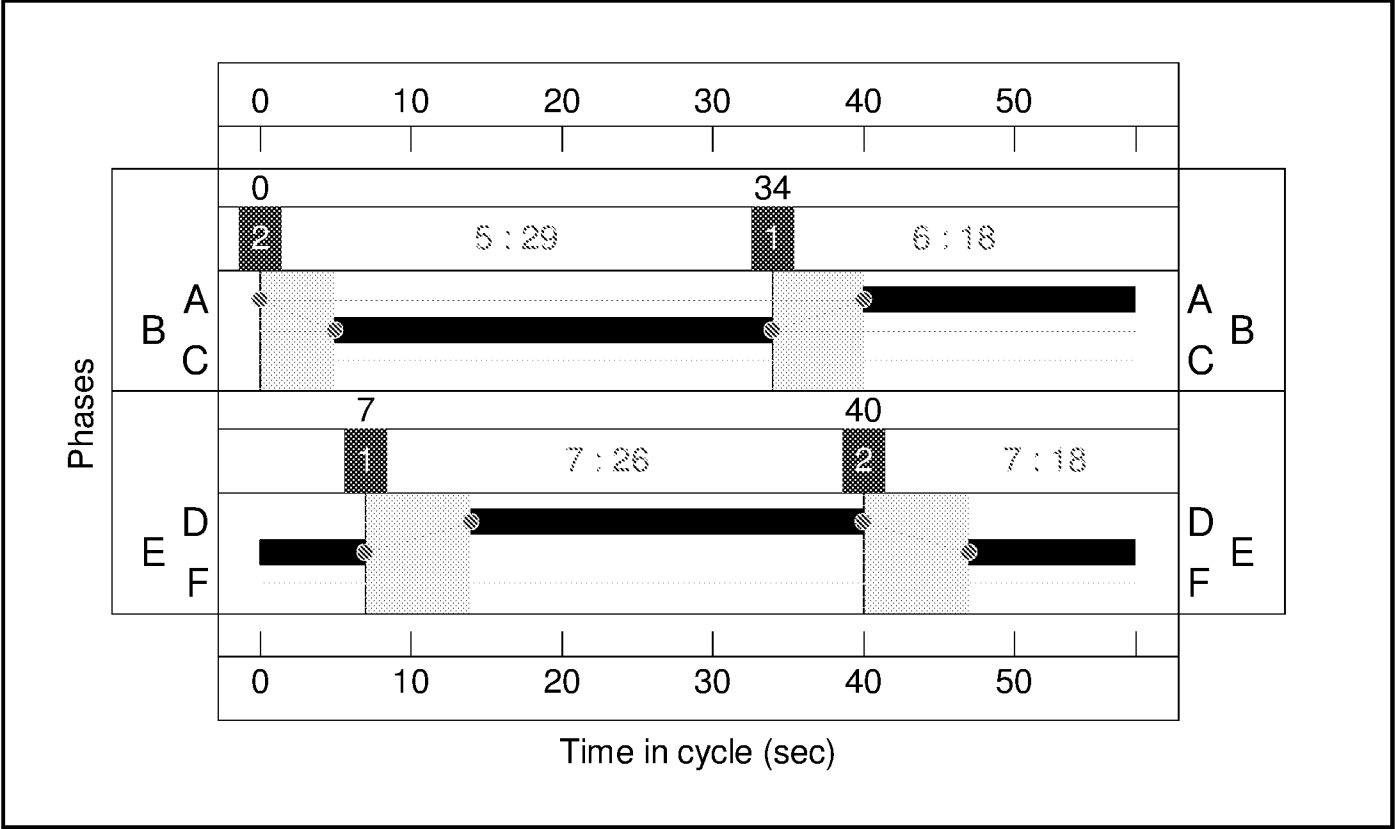
Stage Stream: 1

Stage	1	2
Duration	18	29
Change Point	34	0

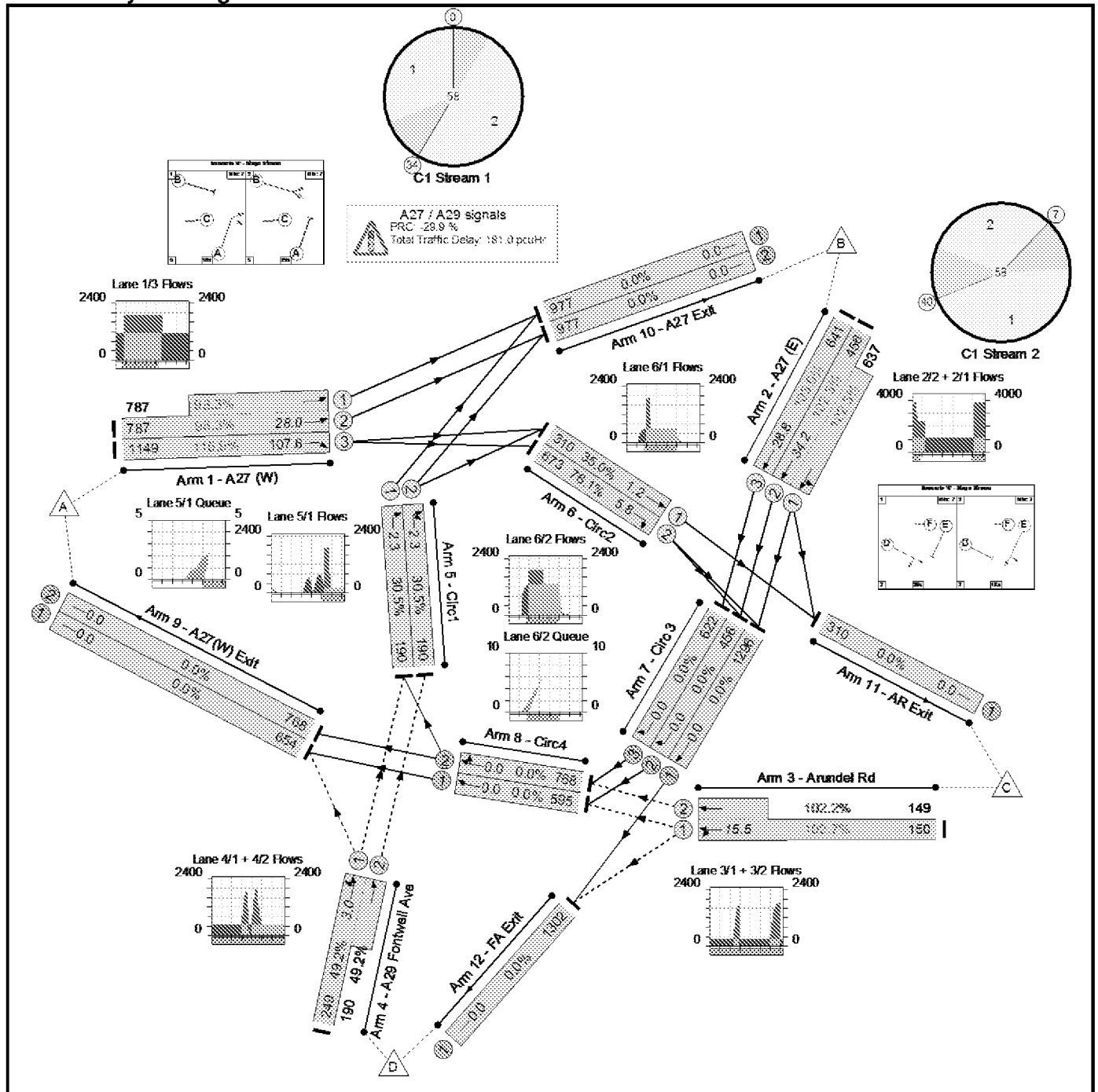
Stage Stream: 2

Stage	1	2
Duration	26	18
Change Point	7	40

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	116.9%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	116.9%
1/2+1/1	A27 (W) Ahead	U	1	N/A	B		1	29	-	1574	1900:1900	801+801	98.3 : 98.3%
1/3	A27 (W) Ahead	U	1	N/A	B		1	29	-	1149	1900	983	116.9%
2/2+2/1	A27 (E) Ahead Left	U	2	N/A	E		1	18	-	1093	1900:1900	446+622	102.3 : 102.3%
2/3	A27 (E) Ahead	U	2	N/A	E		1	18	-	641	1900	622	103.0%
3/1+3/2	Arundel Rd Ahead Left	O	N/A	N/A	-		-	-	-	299	1900:1900	146+146	102.7 : 102.2%
4/1+4/2	A29 Fontwell Ave Ahead Left	O	N/A	N/A	-		-	-	-	439	1900:1900	506+386	49.2 : 49.2%
5/1	Circ1 Right	U	1	N/A	A		1	18	-	190	1900	622	30.5%
5/2	Circ1 Right Right2	U	1	N/A	A		1	18	-	190	1900	622	30.5%
6/1	Circ2 Ahead	U	2	N/A	D		1	26	-	362	1900	884	35.0%
6/2	Circ2 Right	U	2	N/A	D		1	26	-	787	1900	884	76.1%
7/1	Circ 3 Ahead	U	N/A	N/A	-		-	-	-	1424	Inf	Inf	0.0%
7/2	Circ 3 Right	U	N/A	N/A	-		-	-	-	456	Inf	Inf	0.0%
7/3	Circ 3 Right	U	N/A	N/A	-		-	-	-	641	Inf	Inf	0.0%
8/1	Circ4 Ahead	U	N/A	N/A	-		-	-	-	593	Inf	Inf	0.0%
8/2	Circ4 Right Ahead	U	N/A	N/A	-		-	-	-	790	Inf	Inf	0.0%
9/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	658	Inf	Inf	0.0%
9/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	790	Inf	Inf	0.0%
10/1	A27 Exit	U	N/A	N/A	-		-	-	-	977	Inf	Inf	0.0%
10/2	A27 Exit	U	N/A	N/A	-		-	-	-	977	Inf	Inf	0.0%

Full Input Data And Results

11/1	AR Exit	U	N/A	N/A	-		-	-	-	362	Inf	Inf	0.0%
12/1	FA Exit	U	N/A	N/A	-		-	-	-	1431	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Western Rbt)	-	-	1462	0	0	27.3	153.7	0.0	181.0	-	-	-	-
A27 / A29 signals	-	-	1462	0	0	27.3	153.7	0.0	181.0	-	-	-	-
1/2+1/1	1574	1574	-	-	-	5.1	14.1	-	19.2 (9.6+9.6)	43.8 (43.8:43.8)	13.9	14.1	28.0
1/3	1149	983	-	-	-	8.8	86.4	-	95.3	298.5	21.2	86.4	107.6
2/2+2/1	1093	1078	-	-	-	5.9	23.9	-	29.8 (12.2+17.6)	98.2 (96.1:99.7)	10.3	23.9	34.2
2/3	641	622	-	-	-	4.1	18.1	-	22.2	124.7	10.6	18.1	28.8
3/1+3/2	299	292	584	0	0	1.5	10.6	-	12.1 (6.2+5.9)	145.7 (149.7:141.7)	4.9	10.6	15.5
4/1+4/2	439	439	878	0	0	0.9	0.5	-	1.4 (0.8+0.6)	11.6 (12.0:11.2)	2.6	0.5	3.0
5/1	190	190	-	-	-	0.3	0.0	-	0.3	6.6	2.3	0.0	2.3
5/2	190	190	-	-	-	0.4	0.0	-	0.4	7.4	2.3	0.0	2.3
6/1	310	310	-	-	-	0.1	0.0	-	0.1	0.8	1.2	0.0	1.2
6/2	673	673	-	-	-	0.3	0.0	-	0.3	1.5	5.8	0.0	5.8
7/1	1296	1296	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	456	456	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/3	622	622	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	595	595	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	768	768	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	654	654	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	768	768	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	977	977	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	977	977	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	310	310	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

12/1	1302	1302	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1Stream: 1 PRC for Signalled Lanes (%) : -29.9Total Delay for Signalled Lanes (pcuHr): 115.17Cycle Time (s): 58 C1Stream: 2 PRC for Signalled Lanes (%) : -14.4Total Delay for Signalled Lanes (pcuHr): 52.36Cycle Time (s): 58 PRC Over All Lanes (%) : -29.9Total Delay Over All Lanes(pcuHr): 181.05													

Junctions 9	
ARCADY 9 - Roundabout Module	
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017	
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Filename: A27 - A29 East-AM-Cal.j9

Path: T:\Projects\11000 Series Project Numbers\11324\TB Land North of Walberton\Tech\Junc Models\Arcady\A27-A29 East\Saturn

Report generation date: 16/05/2017 16:04:19

»2031 LP with MIT, AM

»2031 LP with MIT + Dev, AM

Summary of junction performance

AM				
	Queue (PCU)	Delay (s)	RFC	LOS
2031 LP with MIT				
1 - A29 (E)	50.0	189.98	1.12	F
2 - A27 (S)	3.6	6.90	0.79	A
3 - A27 (W)	8.8	18.60	0.91	C
2031 LP with MIT + Dev				
1 - A29 (E)	55.8	222.83	1.15	F
2 - A27 (S)	4.1	7.49	0.81	A
3 - A27 (W)	10.1	21.41	0.92	C

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	A27-A29 East
Location	
Site number	
Date	19/04/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	A27-A29 Eastern roundabout junction - calibrated - SATURN

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	mph	PCU	PCU	perHour	s	-Hour	perHour

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	AM	2031 Local Plan with Mitigaion (Without Development)	ONE HOUR	07:00	08:30	15	✓
D2	2031 LP with MIT + Dev	AM	2031 Local Plan with Mitigaion + Development	ONE HOUR	07:00	08:30	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2031 LP with MIT, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - A29 (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (E)	Standard Roundabout	1,2,3	45.47	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A29 (E)	
2	A27 (S)	
3	A27 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - A29 (E)	3.50	8.50	50.0	42.0	46.0	20.0	
2 - A27 (S)	8.00	11.20	13.4	34.0	46.0	19.0	
3 - A27 (W)	8.10	8.80	9.0	45.0	46.0	19.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - A29 (E)	Direct	Queue length survey	-492
2 - A27 (S)	None		
3 - A27 (W)	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A29 (E)	0.767	1849
2 - A27 (S)	0.923	3147
3 - A27 (W)	0.856	2796

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	AM	2031 Local Plan with Mitigation (Without Development)	ONE HOUR	07:00	08:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A29 (E)		ONE HOUR	✓	770	100.000
2 - A27 (S)		ONE HOUR	✓	1752	100.000
3 - A27 (W)		ONE HOUR	✓	1626	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
From	1 - A29 (E)	0	0	770
	2 - A27 (S)	660	211	881
	3 - A27 (W)	544	1082	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
From	1 - A29 (E)	0	0	0
	2 - A27 (S)	0	0	0
	3 - A27 (W)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A29 (E)	1.12	188.98	50.0	F	707	1060
2 - A27 (S)	0.79	6.90	3.6	A	1608	2411
3 - A27 (W)	0.81	18.60	8.8	C	1492	2238

Main Results for each time segment

07:00 - 07:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	580	145	970	1106	0.524	575	903	0.0	1.1	6.733	A
2 - A27 (S)	1319	330	575	2616	0.504	1315	970	0.0	1.0	2.759	A
3 - A27 (W)	1224	306	654	2236	0.548	1219	1237	0.0	1.2	3.527	A

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	692	173	1160	960	0.721	687	1080	1.1	2.5	12.900	B
2 - A27 (S)	1575	394	687	2513	0.627	1572	1160	1.0	1.7	3.814	A
3 - A27 (W)	1462	365	782	2126	0.688	1458	1477	1.2	2.2	5.356	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	848	212	1407	771	1.199	750	1315	2.5	27.0	85.865	F
2 - A27 (S)	1929	482	750	2456	0.786	1921	1407	1.7	3.5	6.649	A
3 - A27 (W)	1790	448	955	1978	0.995	1767	1716	2.2	8.0	15.611	C

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	848	212	1422	759	1.116	756	1325	27.0	50.0	189.380	F
2 - A27 (S)	1929	482	756	2450	0.787	1929	1422	3.5	3.6	6.901	A
3 - A27 (W)	1790	448	959	1974	0.997	1787	1726	8.0	8.8	18.603	C

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	692	173	1180	944	0.733	879	1093	50.0	3.2	92.687	F
2 - A27 (S)	1575	394	879	2336	0.674	1581	1180	3.6	2.1	4.807	A
3 - A27 (W)	1462	365	786	2122	0.689	1488	1674	8.8	2.3	5.899	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	580	145	977	1101	0.527	588	909	3.2	1.1	7.138	A
2 - A27 (S)	1319	330	588	2604	0.506	1323	977	2.1	1.0	2.818	A
3 - A27 (W)	1224	306	658	2232	0.548	1228	1254	2.3	1.2	3.599	A

2031 LP with MIT + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - A29 (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (E)	Standard Roundabout	1,2,3	52.25	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 LP with MIT + Dev	AM	2031 Local Plan with Mitigation + Development	ONE HOUR	07:00	08:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A29 (E)		ONE HOUR	✓	771	100.000
2 - A27 (S)		ONE HOUR	✓	1806	100.000
3 - A27 (W)		ONE HOUR	✓	1640	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
From	1 - A29 (E)	0	1	770
	2 - A27 (S)	664	221	921
	3 - A27 (W)	544	1096	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
	1 - A29 (E)	0	0	0
	2 - A27 (S)	0	0	0
	3 - A27 (W)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A29 (E)	1.15	222.89	58.8	F	707	1061
2 - A27 (S)	0.81	7.49	4.1	A	1657	2486
3 - A27 (W)	0.92	21.41	10.1	C	1505	2257

Main Results for each time segment

07:00 - 07:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	580	145	988	1092	0.531	576	906	0.0	1.1	6.916	A
2 - A27 (S)	1360	340	575	2616	0.520	1355	988	0.0	1.1	2.846	A
3 - A27 (W)	1235	309	664	2227	0.554	1230	1266	0.0	1.2	3.593	A

07:15 - 07:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	693	173	1181	944	0.734	687	1084	1.1	2.6	13.701	B
2 - A27 (S)	1624	406	686	2514	0.646	1621	1182	1.1	1.8	4.017	A
3 - A27 (W)	1474	369	794	2115	0.697	1470	1513	1.2	2.3	5.544	A

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	849	212	1431	752	1.128	735	1318	2.6	31.0	97.315	F
2 - A27 (S)	1988	497	734	2469	0.805	1980	1432	1.8	4.0	7.225	A
3 - A27 (W)	1806	451	970	1965	0.919	1778	1744	2.3	9.1	17.269	C

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	849	212	1447	740	1.147	738	1329	31.0	58.8	222.890	F
2 - A27 (S)	1988	497	737	2467	0.806	1988	1448	4.0	4.1	7.493	A
3 - A27 (W)	1806	451	974	1961	0.921	1802	1750	9.1	10.1	21.408	C

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	693	173	1205	925	0.749	909	1099	5.88	4.8	133.045	F
2 - A27 (S)	1624	406	908	2309	0.703	1630	1207	4.1	2.4	5.351	A
3 - A27 (W)	1474	369	799	2111	0.698	1505	1739	10.1	2.4	6.235	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	580	145	995	1086	0.534	595	913	4.8	1.2	7.538	A
2 - A27 (S)	1360	340	594	2599	0.523	1365	996	2.4	1.1	2.931	A
3 - A27 (W)	1235	309	669	2223	0.555	1239	1290	2.4	1.3	3.674	A

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017			
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk			
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution			

Filename: A27 - A29 East-PM-Cal.j9

Path: T:\Projects\11000 Series Project Numbers\11324\TB Land North of Walberton\Tech\Junc Models\Arcady\A27-A29 East\Saturn

Report generation date: 16/05/2017 15:58:13

»2031 LP with MIT, PM

»2031 LP with MIT + Dev, PM

Summary of junction performance

PM				
	Queue (PCU)	Delay (s)	RFC	LOS
2031 LP with MIT				
1 - A29 (E)	24.7	88.02	1.01	F
2 - A27 (S)	1.0	3.25	0.51	A
3 - A27 (W)	2.8	4.81	0.74	A
2031 LP with MIT + Dev				
1 - A29 (E)	37.7	123.23	1.05	F
2 - A27 (S)	1.1	3.27	0.51	A
3 - A27 (W)	3.0	5.14	0.75	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	A27-A29 East
Location	
Site number	
Date	16/05/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	A27-A29 Eastern roundabout junction - calibrated - SATURN

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	mph	PCU	PCU	perHour	s	-Hour	perHour

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	PM	2031 Local Plan with Mitigaion (Without Development)	ONE HOUR	16:30	18:00	15	✓
D2	2031 LP with MIT + Dev	PM	2031 Local Plan with Mitigaion + Development	ONE HOUR	16:30	18:00	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2031 LP with MIT, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - A29 (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (E)	Standard Roundabout	1,2,3	23.71	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A29 (E)	
2	A27 (S)	
3	A27 (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - A29 (E)	3.50	8.50	50.0	42.0	46.0	20.0	
2 - A27 (S)	8.00	11.20	13.4	34.0	46.0	19.0	
3 - A27 (W)	9.60	9.60	0.0	45.0	46.0	19.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
1 - A29 (E)	Direct	Queue length survey	-300
2 - A27 (S)	None		
3 - A27 (W)	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A29 (E)	0.767	2041
2 - A27 (S)	0.923	3147
3 - A27 (W)	0.915	3099

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	PM	2031 Local Plan with Mitigation (Without Development)	ONE HOUR	16:30	18:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A29 (E)		ONE HOUR	✓	920	100.000
2 - A27 (S)		ONE HOUR	✓	1030	100.000
3 - A27 (W)		ONE HOUR	✓	1918	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
From	1 - A29 (E)	0	0	920
	2 - A27 (S)	222	16	792
	3 - A27 (W)	703	1215	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
From	1 - A29 (E)	0	0	0
	2 - A27 (S)	0	0	0
	3 - A27 (W)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A29 (E)	1.01	88.08	24.7	F	844	1266
2 - A27 (S)	0.51	3.25	1.0	A	945	1418
3 - A27 (W)	0.74	4.81	2.8	A	1760	2640

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	693	173	924	1333	0.520	688	695	0.0	1.1	5.550	A
2 - A27 (S)	775	194	688	2512	0.309	774	924	0.0	0.4	2.069	A
3 - A27 (W)	1444	361	179	2935	0.492	1440	1283	0.0	1.0	2.402	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	827	207	1105	1194	0.693	823	831	1.1	2.2	9.582	A
2 - A27 (S)	926	231	823	2388	0.388	925	1105	0.4	0.6	2.459	A
3 - A27 (W)	1724	431	214	2903	0.594	1722	1534	1.0	1.5	3.043	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	1013	253	1352	1005	1.008	955	1016	2.2	16.7	48.364	E
2 - A27 (S)	1134	284	955	2266	0.500	1133	1352	0.6	1.0	3.172	A
3 - A27 (W)	2112	528	262	2859	0.739	2106	1826	1.5	2.8	4.749	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	1013	253	1355	1002	1.011	981	1018	16.7	24.7	88.018	F
2 - A27 (S)	1134	284	981	2242	0.506	1134	1355	1.0	1.0	3.248	A
3 - A27 (W)	2112	528	262	2859	0.739	2112	1853	2.8	2.8	4.815	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	827	207	1110	1190	0.695	916	834	24.7	2.4	17.619	C
2 - A27 (S)	926	231	916	2302	0.402	927	1110	1.0	0.7	2.621	A
3 - A27 (W)	1724	431	214	2903	0.594	1730	1629	2.8	1.5	3.081	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	693	173	928	1330	0.521	698	697	2.4	1.1	5.741	A
2 - A27 (S)	775	194	698	2503	0.310	776	928	0.7	0.5	2.085	A
3 - A27 (W)	1444	361	179	2935	0.492	1446	1295	1.5	1.0	2.422	A

2031 LP with MIT + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - A29 (E) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	A27/A29 (E)	Standard Roundabout	1,2,3	32.35	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 LP with MIT + Dev	PM	2031 Local Plan with Mitigation + Development	ONE HOUR	16:30	18:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - A29 (E)		ONE HOUR	✓	924	100.000
2 - A27 (S)		ONE HOUR	✓	1059	100.000
3 - A27 (W)		ONE HOUR	✓	1954	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
From	1 - A29 (E)	0	4	920
	2 - A27 (S)	224	22	813
	3 - A27 (W)	703	1251	0

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		1 - A29 (E)	2 - A27 (S)	3 - A27 (W)
	1 - A29 (E)	0	0	0
	2 - A27 (S)	0	0	0
	3 - A27 (W)	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A29 (E)	1.05	123.23	37.7	F	848	1272
2 - A27 (S)	0.51	3.27	1.1	A	972	1458
3 - A27 (W)	0.75	5.14	3.0	A	1793	2690

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	696	174	956	1309	0.532	691	696	0.0	1.1	5.789	A
2 - A27 (S)	797	199	688	2512	0.317	795	959	0.0	0.5	2.095	A
3 - A27 (W)	1471	368	185	2930	0.502	1467	1299	0.0	1.0	2.455	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	831	208	1143	1165	0.713	826	832	1.1	2.4	10.449	B
2 - A27 (S)	952	238	822	2389	0.399	951	1147	0.5	0.7	2.503	A
3 - A27 (W)	1757	439	221	2897	0.606	1755	1552	1.0	1.5	3.147	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	1017	254	1398	970	1.048	936	1018	2.4	32.7	61.747	F
2 - A27 (S)	1166	291	932	2287	0.510	1164	1402	0.7	1.0	3.202	A
3 - A27 (W)	2151	538	271	2851	0.755	2145	1826	1.5	3.0	5.058	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	1017	254	1402	967	1.052	958	1021	22.7	37.7	123.238	F
2 - A27 (S)	1166	291	953	2267	0.514	1166	1406	1.0	1.1	3.267	A
3 - A27 (W)	2151	538	271	2851	0.755	2151	1848	3.0	3.0	5.143	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	831	208	1148	1161	0.715	971	836	37.7	2.7	33.520	C
2 - A27 (S)	952	238	966	2255	0.422	953	1152	1.1	0.7	2.769	A
3 - A27 (W)	1757	439	221	2896	0.607	1763	1698	3.0	1.6	3.191	A

17:45 - 18:00

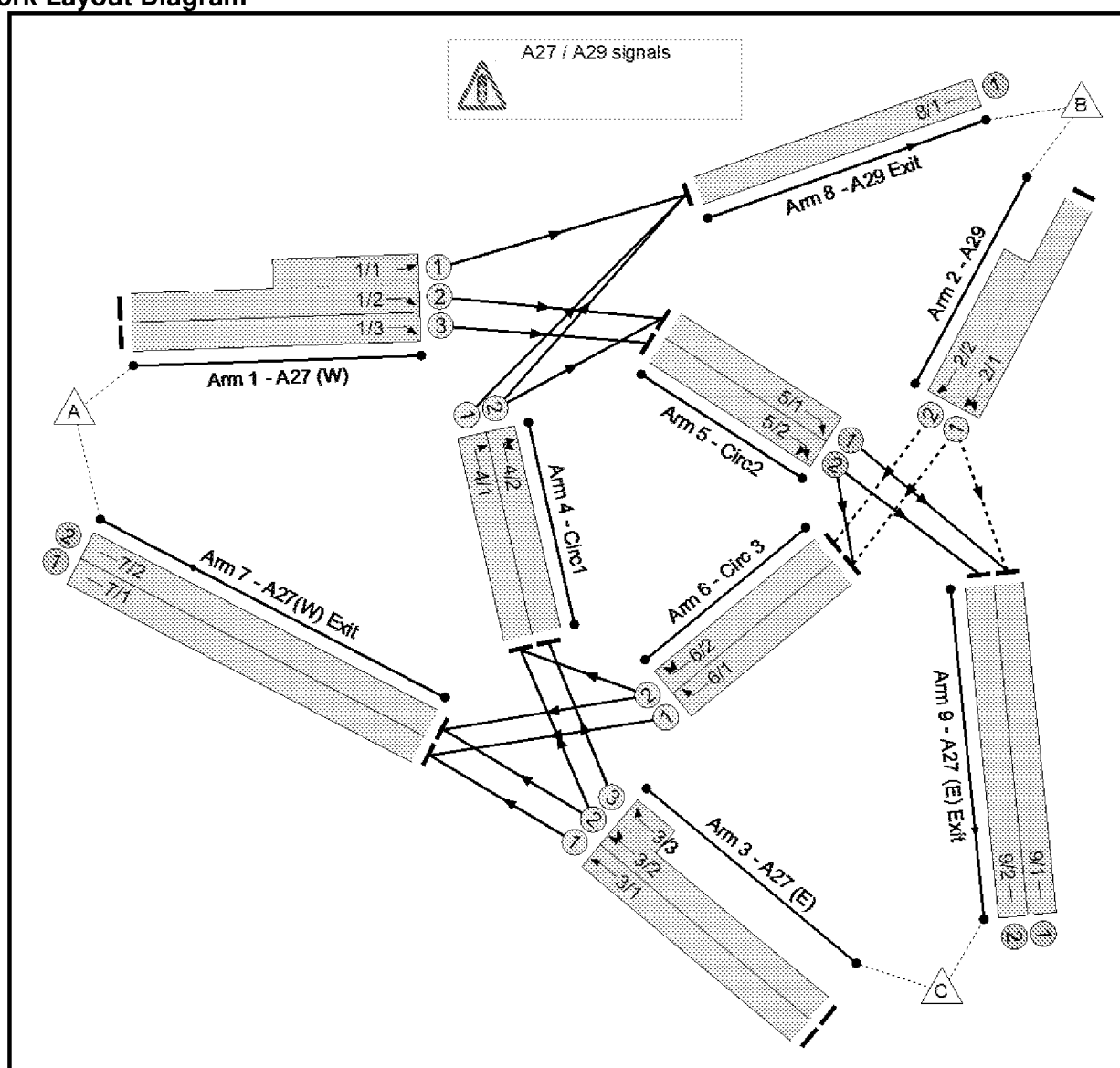
Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A29 (E)	696	174	960	1306	0.533	702	699	2.7	1.2	6.020	A
2 - A27 (S)	797	199	699	2502	0.319	798	963	0.7	0.5	2.113	A
3 - A27 (W)	1471	368	185	2929	0.502	1473	1312	1.6	1.0	2.477	A

Full Input Data And Results
Full Input Data And Results

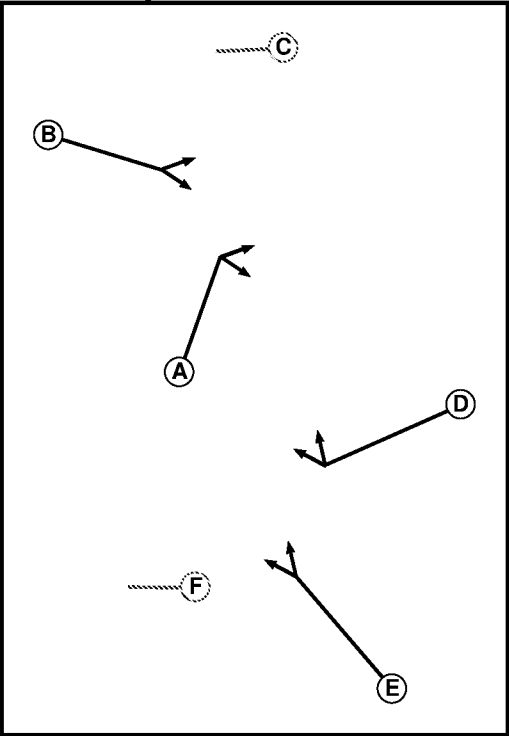
User and Project Details

Project:	ITB11324 Walberton
Title:	A27 / A29 signals (Fontwell Eastern Rbt)
Location:	
File name:	A27_A29 Fontwell E Rbt.lsg3x
Author:	AL
Company:	i-T
Address:	
Notes:	To Systra dwg 103800_D007

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		-9999	7
B	Traffic	1		-9999	7
C	Dummy	1		-9999	2
D	Traffic	2		-9999	7
E	Traffic	2		-9999	7
F	Dummy	2		-9999	2

Full Input Data And Results

Phase Intergreens Matrix

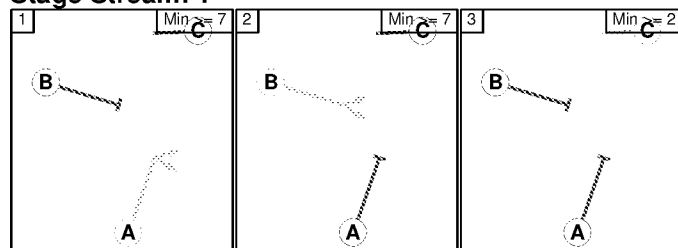
Terminating Phase	Starting Phase						
		A	B	C	D	E	F
	A		6	3	-	-	-
	B	6		3	-	-	-
	C	2	2		-	-	-
	D	-	-	-		6	3
	E	-	-	-	6		3
	F	-	-	-	2	2	

Phases in Stage

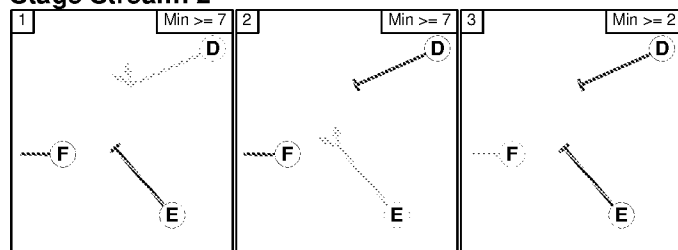
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
1	3	C
2	1	D
2	2	E
2	3	F

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Stage Stream: 2

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change
Stage Stream: 1

	To Stage			
From Stage		1	2	3
	1		6	3
	2	6		3
	3	2	2	

Stage Stream: 2

	To Stage			
From Stage		1	2	3
	1		6	3
	2	6		3
	3	2	2	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A27 / A29 signals											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
2/1 (A29)	6/1 (Ahead)	1170	0	5/1	1.00	All	-	-	-	-	-
				5/2	1.00	All					
	9/1 (Ahead)	1170	0	5/1	1.00	All					
				5/2	1.00	All					
2/2 (A29)	6/2 (Ahead)	1170	0	5/1	1.00	All	-	-	-	-	-
				5/2	1.00	All					

Full Input Data And Results

Lane Input Data

Junction: A27 / A29 signals												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A27 (W))	U	B	2	3	7.5	User	1900	-	-	-	-	-
1/2 (A27 (W))	U	B	2	3	60.0	User	1900	-	-	-	-	-
1/3 (A27 (W))	U	B	2	3	60.0	User	1900	-	-	-	-	-
2/1 (A29)	O		2	3	60.0	Inf	-	-	-	-	-	-
2/2 (A29)	O		2	3	8.3	Inf	-	-	-	-	-	-
3/1 (A27 (E))	U	E	2	3	60.0	User	1900	-	-	-	-	-
3/2 (A27 (E))	U	E	2	3	60.0	User	1900	-	-	-	-	-
3/3 (A27 (E))	U	E	2	3	2.5	User	1900	-	-	-	-	-
4/1 (Circ1)	U	A	2	3	6.7	User	1900	-	-	-	-	-
4/2 (Circ1)	U	A	2	3	6.7	User	1900	-	-	-	-	-
5/1 (Circ2)	U		2	3	6.8	Inf	-	-	-	-	-	-
5/2 (Circ2)	U		2	3	6.8	Inf	-	-	-	-	-	-
6/1 (Circ 3)	U	D	2	3	6.7	User	1900	-	-	-	-	-
6/2 (Circ 3)	U	D	2	3	6.7	User	1900	-	-	-	-	-
7/1 (A27(W) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/2 (A27(W) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (A29 Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1 (A27 (E) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/2 (A27 (E) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 AM LP with MIT'	07:15	08:15	01:00	
2: '2031 PM LP with MIT'	16:45	17:45	01:00	
3: '2031 AM LP with MIT + Dev'	07:15	08:15	01:00	
4: '2031 PM LP with MIT + Dev'	16:45	17:45	01:00	

Full Input Data And Results

Scenario 1: '1' (FG1: '2031 AM LP with MIT', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	544	1082	1626
	B	770	0	0	770
	C	881	660	211	1752
	Tot.	1651	1204	1293	4148

Traffic Lane Flows

Lane	Scenario 1: 1
Junction: A27 / A29 signals	
1/1 (short)	544
1/2 (with short)	1124(In) 580(Out)
1/3	502
2/1 (with short)	770(In) 385(Out)
2/2 (short)	385
3/1	765
3/2 (with short)	987(In) 551(Out)
3/3 (short)	436
4/1	435
4/2	436
5/1	791
5/2	502
6/1	385
6/2	385
7/1	1150
7/2	501
8/1	1204
9/1	791
9/2	502

Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A29 Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A29 Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A27 (E) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Circ 3 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ 3 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (A29 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A27 (E) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27 (E) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 2: '2' (FG2: '2031 PM LP with MIT', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	703	1215	1918
	B	920	0	0	920
	C	792	222	16	1030
	Tot.	1712	925	1231	3868

Traffic Lane Flows

Lane	Scenario 2: 2
Junction: A27 / A29 signals	
1/1 (short)	703
1/2 (with short)	1267(In) 564(Out)
1/3	651
2/1 (with short)	920(In) 460(Out)
2/2 (short)	460
3/1	474
3/2 (with short)	556(In) 437(Out)
3/3 (short)	119
4/1	119
4/2	119
5/1	580
5/2	651
6/1	460
6/2	460
7/1	934
7/2	778
8/1	925
9/1	580
9/2	651

Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A29 Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A29 Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A27 (E) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Circ 3 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ 3 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (A29 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A27 (E) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27 (E) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: '3' (FG3: '2031 AM LP with MIT + Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	544	1096	1640
	B	770	0	1	771
	C	921	664	221	1806
	Tot.	1691	1208	1318	4217

Traffic Lane Flows

Lane	Scenario 3: 3
Junction: A27 / A29 signals	
1/1 (short)	544
1/2 (with short)	1129(In) 585(Out)
1/3	511
2/1 (with short)	771(In) 386(Out)
2/2 (short)	385
3/1	797
3/2 (with short)	1009(In) 566(Out)
3/3 (short)	443
4/1	442
4/2	443
5/1	806
5/2	511
6/1	385
6/2	385
7/1	1182
7/2	509
8/1	1208
9/1	807
9/2	511

Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A29 Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A29 Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A27 (E) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Circ 3 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ 3 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (A29 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A27 (E) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27 (E) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 4: '4' (FG4: '2031 PM LP with MIT + Dev', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination				
		A	B	C	Tot.
Origin	A	0	703	1251	1954
	B	920	0	4	924
	C	813	224	22	1059
	Tot.	1733	927	1277	3937

Traffic Lane Flows

Lane	Scenario 4: 4
Junction: A27 / A29 signals	
1/1 (short)	703
1/2 (with short)	1295(In) 592(Out)
1/3	659
2/1 (with short)	924(In) 463(Out)
2/2 (short)	461
3/1	488
3/2 (with short)	571(In) 448(Out)
3/3 (short)	123
4/1	123
4/2	123
5/1	614
5/2	659
6/1	459
6/2	461
7/1	947
7/2	786
8/1	927
9/1	618
9/2	659

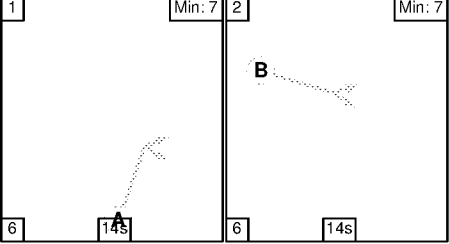
Lane Saturation Flows

Junction: A27 / A29 signals								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A27 (W) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
1/2 (A27 (W) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
1/3 (A27 (W) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
2/1 (A29 Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A29 Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (A27 (E) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (A27 (E) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/3 (A27 (E) Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (Circ1 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/2 (Circ1 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (Circ 3 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Circ 3 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
7/1 (A27(W) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (A27(W) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (A29 Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A27 (E) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A27 (E) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

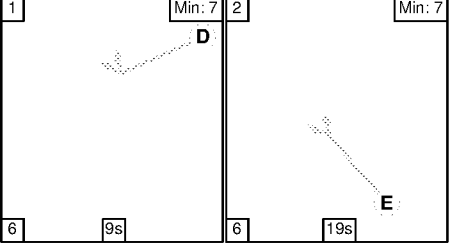
Scenario 1: '1' (FG1: '2031 AM LP with MIT', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

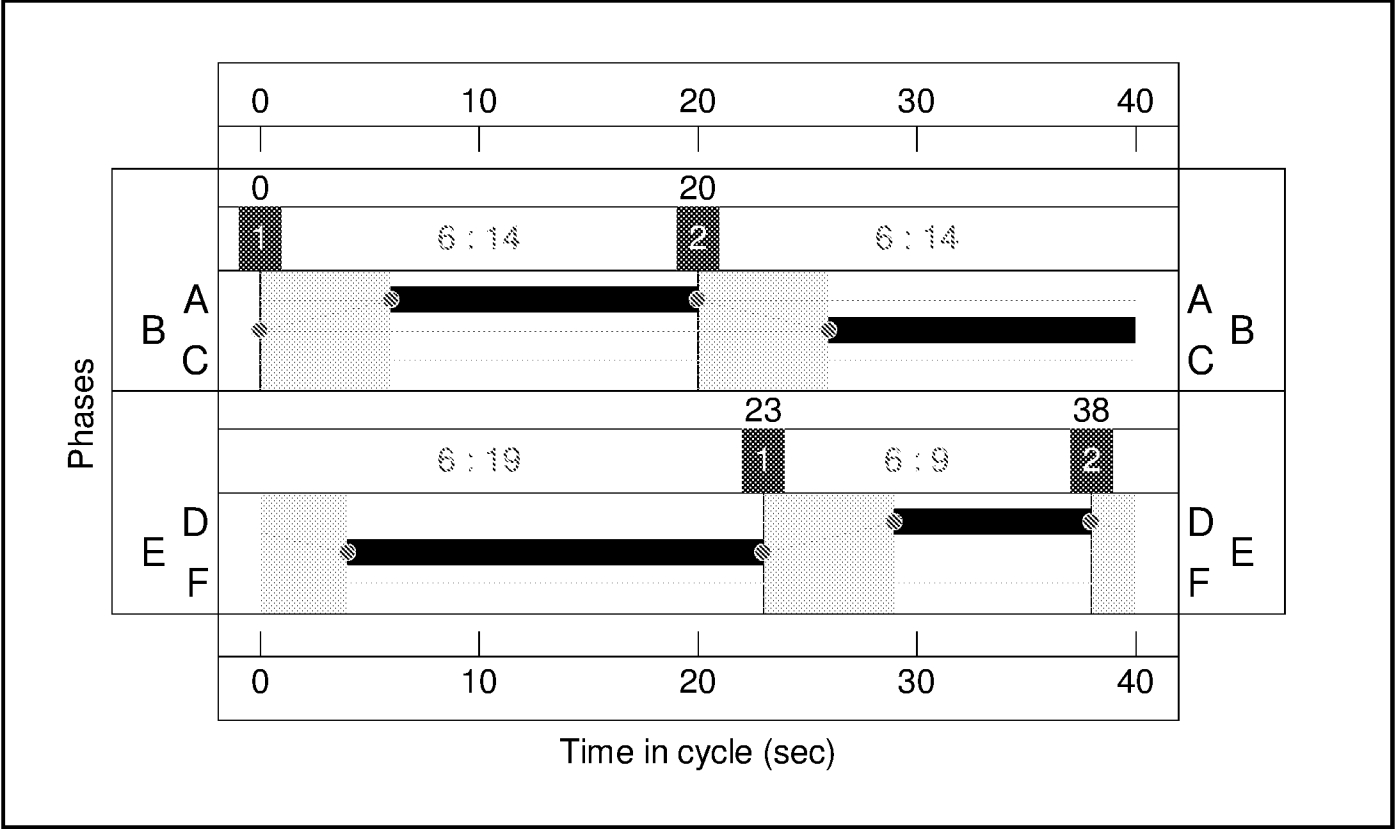
Stage Stream: 1

Stage	1	2
Duration	14	14
Change Point	0	20

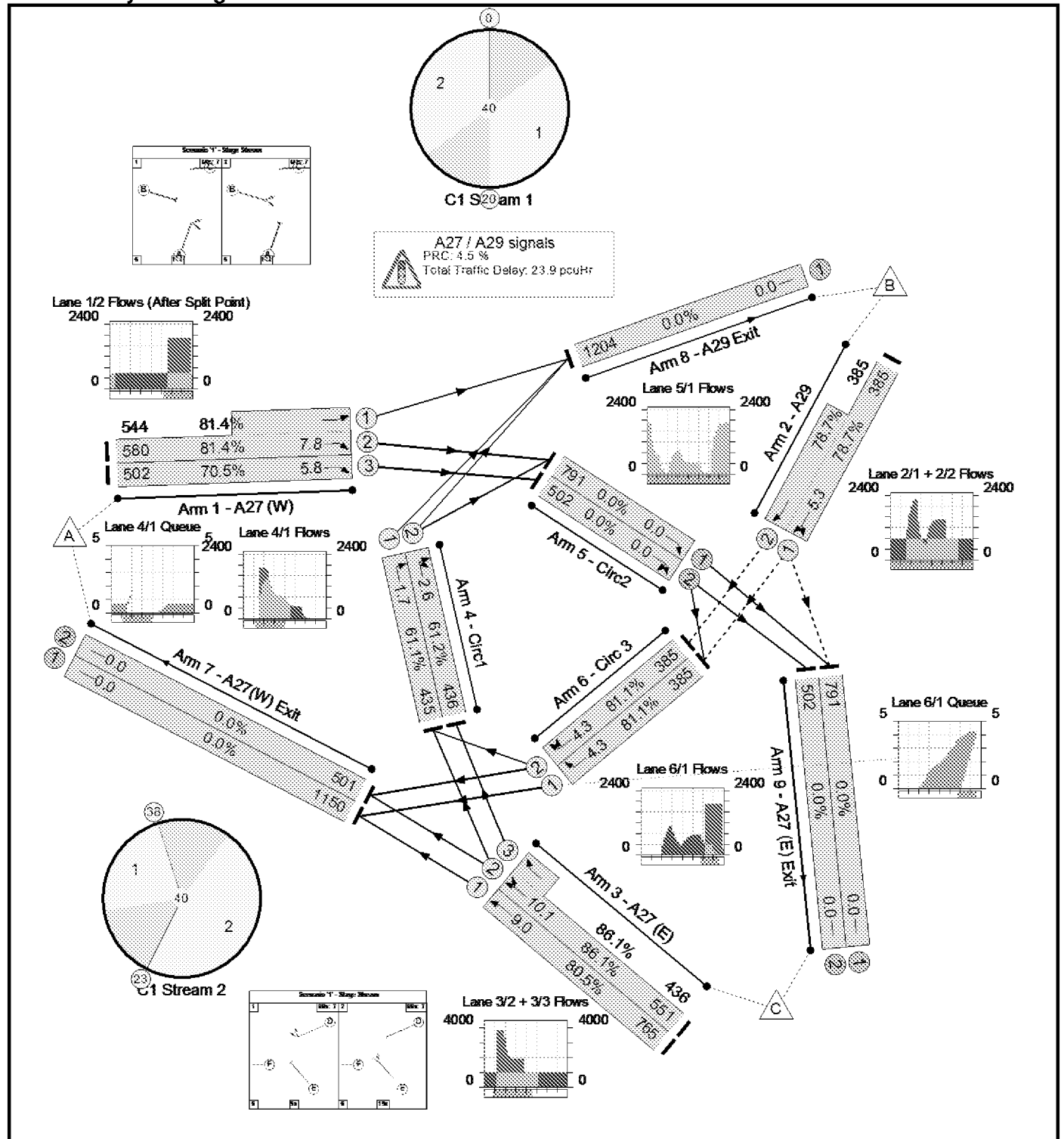
Stage Stream: 2

Stage	1	2
Duration	9	19
Change Point	23	38

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

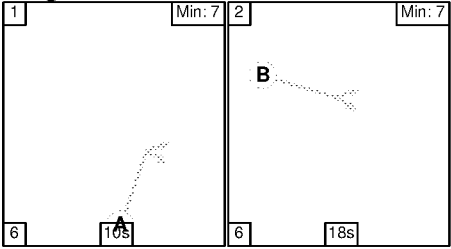
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Eastern Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	86.1%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	86.1%
1/2+1/1	A27 (W) Ahead Ahead2	U	1	N/A	B		1	14	-	1124	1900:1900	713+668	81.4 : 81.4%
1/3	A27 (W) Ahead	U	1	N/A	B		1	14	-	502	1900	713	70.5%
2/1+2/2	A29 Ahead Ahead2	O	N/A	N/A	-		-	-	-	770	Inf : Inf	489+489	78.7 : 78.7%
3/1	A27 (E) Ahead	U	2	N/A	E		1	19	-	765	1900	950	80.5%
3/2+3/3	A27 (E) Ahead Ahead2	U	2	N/A	E		1	19	-	987	1900:1900	640+506	86.1 : 86.1%
4/1	Circ1 Right	U	1	N/A	A		1	14	-	435	1900	713	61.1%
4/2	Circ1 U-Turn Right	U	1	N/A	A		1	14	-	436	1900	713	61.2%
5/1	Circ2 Right	U	N/A	N/A	-		-	-	-	791	Inf	Inf	0.0%
5/2	Circ2 Right Right2	U	N/A	N/A	-		-	-	-	502	Inf	Inf	0.0%
6/1	Circ 3 Right	U	2	N/A	D		1	9	-	385	1900	475	81.1%
6/2	Circ 3 Right Right2	U	2	N/A	D		1	9	-	385	1900	475	81.1%
7/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	1150	Inf	Inf	0.0%
7/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	501	Inf	Inf	0.0%
8/1	A29 Exit	U	N/A	N/A	-		-	-	-	1204	Inf	Inf	0.0%
9/1	A27 (E) Exit	U	N/A	N/A	-		-	-	-	791	Inf	Inf	0.0%
9/2	A27 (E) Exit	U	N/A	N/A	-		-	-	-	502	Inf	Inf	0.0%

Full Input Data And Results

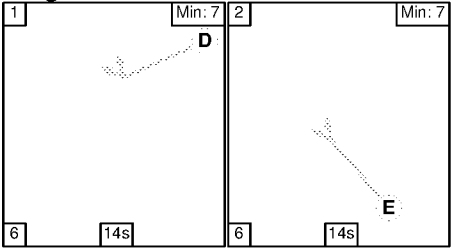
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Eastern Rbt)	-	-	1540	0	0	13.7	10.2	0.0	23.9	-	-	-	-
A27 / A29 signals	-	-	1540	0	0	13.7	10.2	0.0	23.9	-	-	-	-
1/2+1/1	1124	1124	-	-	-	3.5	2.2	-	5.6 (2.9+2.7)	18.0 (18.1:17.8)	5.6	2.2	7.8
1/3	502	502	-	-	-	1.5	1.2	-	2.7	19.1	4.6	1.2	5.8
2/1+2/2	770	770	1540	0	0	1.3	1.8	-	3.1 (1.6+1.6)	14.7 (14.7:14.7)	3.5	1.8	5.3
3/1	765	765	-	-	-	1.8	2.0	-	3.8	17.9	7.0	2.0	9.0
3/2+3/3	987	987	-	-	-	2.0	3.0	-	5.0 (2.8+2.2)	18.3 (18.4:18.2)	7.1	3.0	10.1
4/1	435	435	-	-	-	0.4	0.0	-	0.4	3.4	1.7	0.0	1.7
4/2	436	436	-	-	-	0.4	0.0	-	0.4	3.6	2.6	0.0	2.6
5/1	791	791	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	502	502	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	385	385	-	-	-	1.4	0.0	-	1.4	13.2	4.3	0.0	4.3
6/2	385	385	-	-	-	1.4	0.0	-	1.4	13.2	4.3	0.0	4.3
7/1	1150	1150	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	501	501	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1204	1204	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	791	791	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	502	502	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 Stream: 1 PRC for Signalled Lanes (%): 10.6 C1 Stream: 2 PRC for Signalled Lanes (%): 4.5 PRC Over All Lanes (%): 4.5 Total Delay for Signalled Lanes (pcuHr): 9.13 Total Delay for Signalled Lanes (pcuHr): 11.64 Total Delay Over All Lanes(pcuHr): 23.91 Cycle Time (s): 40 Cycle Time (s): 40													

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

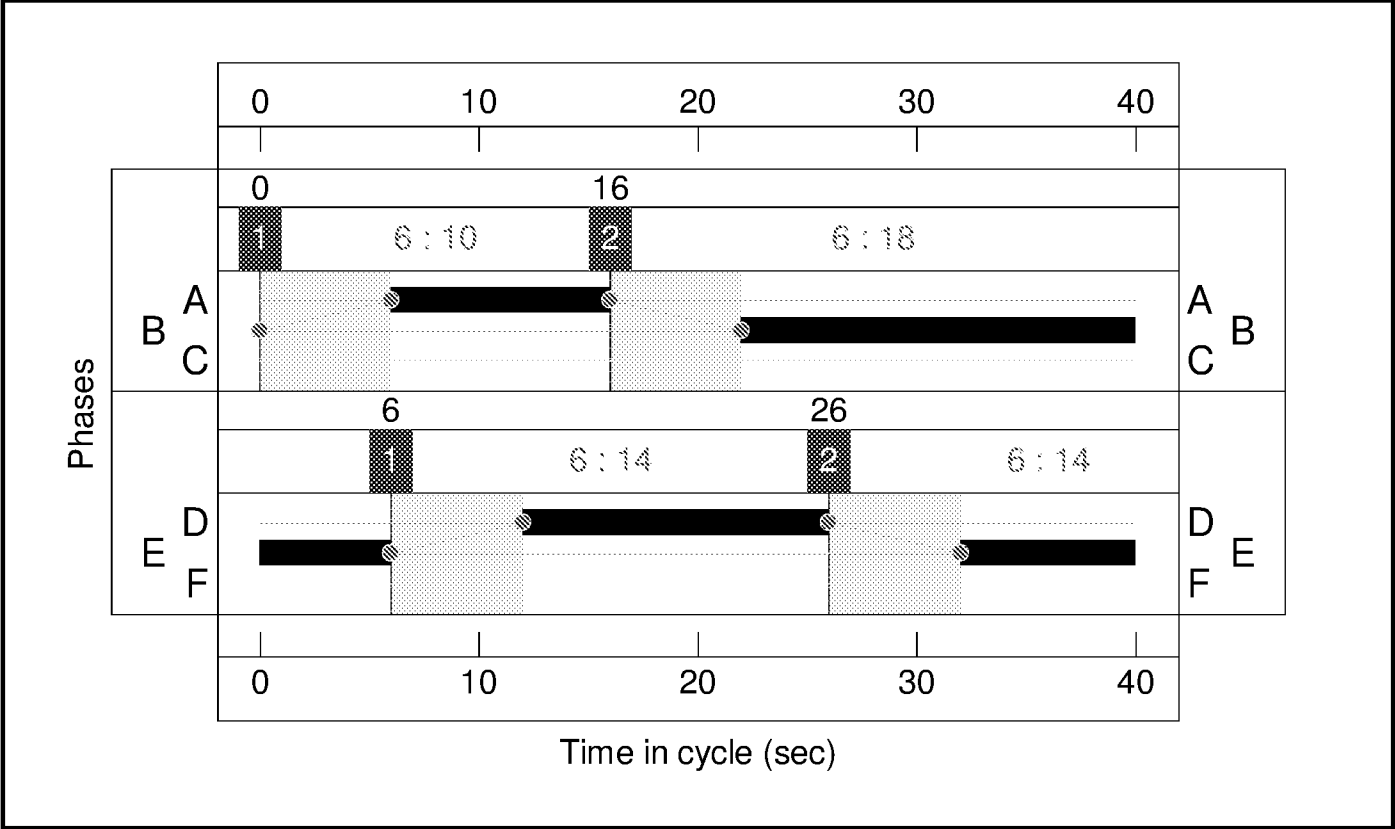
Stage Stream: 1

Stage	1	2
Duration	10	18
Change Point	0	16

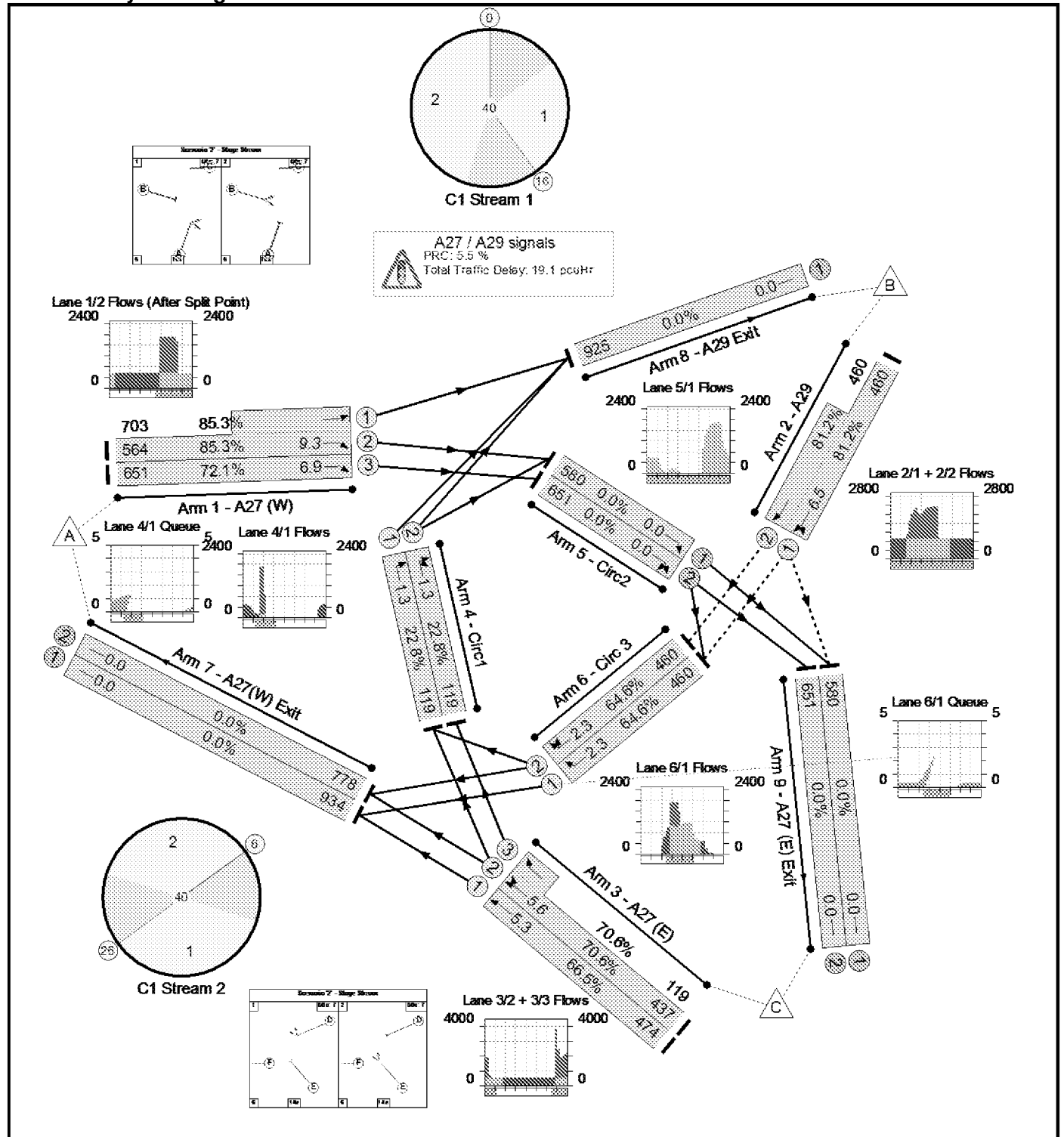
Stage Stream: 2

Stage	1	2
Duration	14	14
Change Point	6	26

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

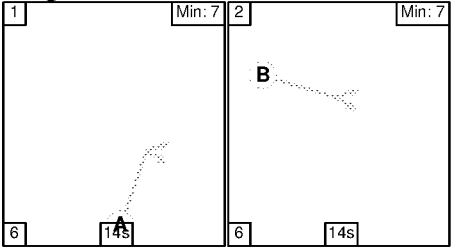
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Eastern Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	85.3%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	85.3%
1/2+1/1	A27 (W) Ahead Ahead2	U	1	N/A	B		1	18	-	1267	1900:1900	661+824	85.3 : 85.3%
1/3	A27 (W) Ahead	U	1	N/A	B		1	18	-	651	1900	903	72.1%
2/1+2/2	A29 Ahead Ahead2	O	N/A	N/A	-		-	-	-	920	Inf : Inf	566+566	81.2 : 81.2%
3/1	A27 (E) Ahead	U	2	N/A	E		1	14	-	474	1900	713	66.5%
3/2+3/3	A27 (E) Ahead Ahead2	U	2	N/A	E		1	14	-	556	1900:1900	619+169	70.6 : 70.6%
4/1	Circ1 Right	U	1	N/A	A		1	10	-	119	1900	523	22.8%
4/2	Circ1 U-Turn Right	U	1	N/A	A		1	10	-	119	1900	523	22.8%
5/1	Circ2 Right	U	N/A	N/A	-		-	-	-	580	Inf	Inf	0.0%
5/2	Circ2 Right Right2	U	N/A	N/A	-		-	-	-	651	Inf	Inf	0.0%
6/1	Circ 3 Right	U	2	N/A	D		1	14	-	460	1900	713	64.6%
6/2	Circ 3 Right Right2	U	2	N/A	D		1	14	-	460	1900	713	64.6%
7/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	934	Inf	Inf	0.0%
7/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	778	Inf	Inf	0.0%
8/1	A29 Exit	U	N/A	N/A	-		-	-	-	925	Inf	Inf	0.0%
9/1	A27 (E) Exit	U	N/A	N/A	-		-	-	-	580	Inf	Inf	0.0%
9/2	A27 (E) Exit	U	N/A	N/A	-		-	-	-	651	Inf	Inf	0.0%

Full Input Data And Results

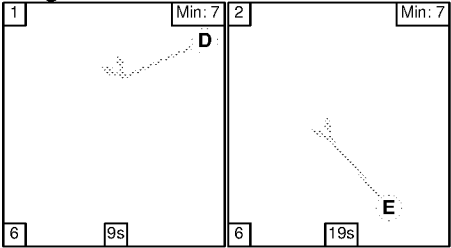
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Eastern Rbt)	-	-	1840	0	0	10.7	8.4	0.0	19.1	-	-	-	-
A27 / A29 signals	-	-	1840	0	0	10.7	8.4	0.0	19.1	-	-	-	-
1/2+1/1	1267	1267	-	-	-	2.9	2.8	-	5.8 (2.5+3.3)	16.4 (15.9:16.8)	6.4	2.8	9.3
1/3	651	651	-	-	-	1.5	1.3	-	2.8	15.5	5.6	1.3	6.9
2/1+2/2	920	920	1840	0	0	2.2	2.1	-	4.3 (2.1+2.1)	16.8 (16.8:16.8)	4.3	2.1	6.5
3/1	474	474	-	-	-	1.4	1.0	-	2.4	17.9	4.3	1.0	5.3
3/2+3/3	556	556	-	-	-	1.5	1.2	-	2.7 (2.2+0.6)	17.7 (17.9:17.0)	4.4	1.2	5.6
4/1	119	119	-	-	-	0.2	0.0	-	0.2	7.4	1.3	0.0	1.3
4/2	119	119	-	-	-	0.3	0.0	-	0.3	8.3	1.3	0.0	1.3
5/1	580	580	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	651	651	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	460	460	-	-	-	0.3	0.0	-	0.3	2.4	2.3	0.0	2.3
6/2	460	460	-	-	-	0.3	0.0	-	0.3	2.4	2.3	0.0	2.3
7/1	934	934	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	778	778	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	925	925	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	580	580	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	651	651	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 Stream: 1 PRC for Signalled Lanes (%): 5.5 C1 Stream: 2 PRC for Signalled Lanes (%): 27.5 PRC Over All Lanes (%): 5.5 Total Delay for Signalled Lanes (pcuHr): 9.09 Total Delay for Signalled Lanes (pcuHr): 5.69 Total Delay Over All Lanes(pcuHr): 19.08 Cycle Time (s): 40 Cycle Time (s): 40													

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

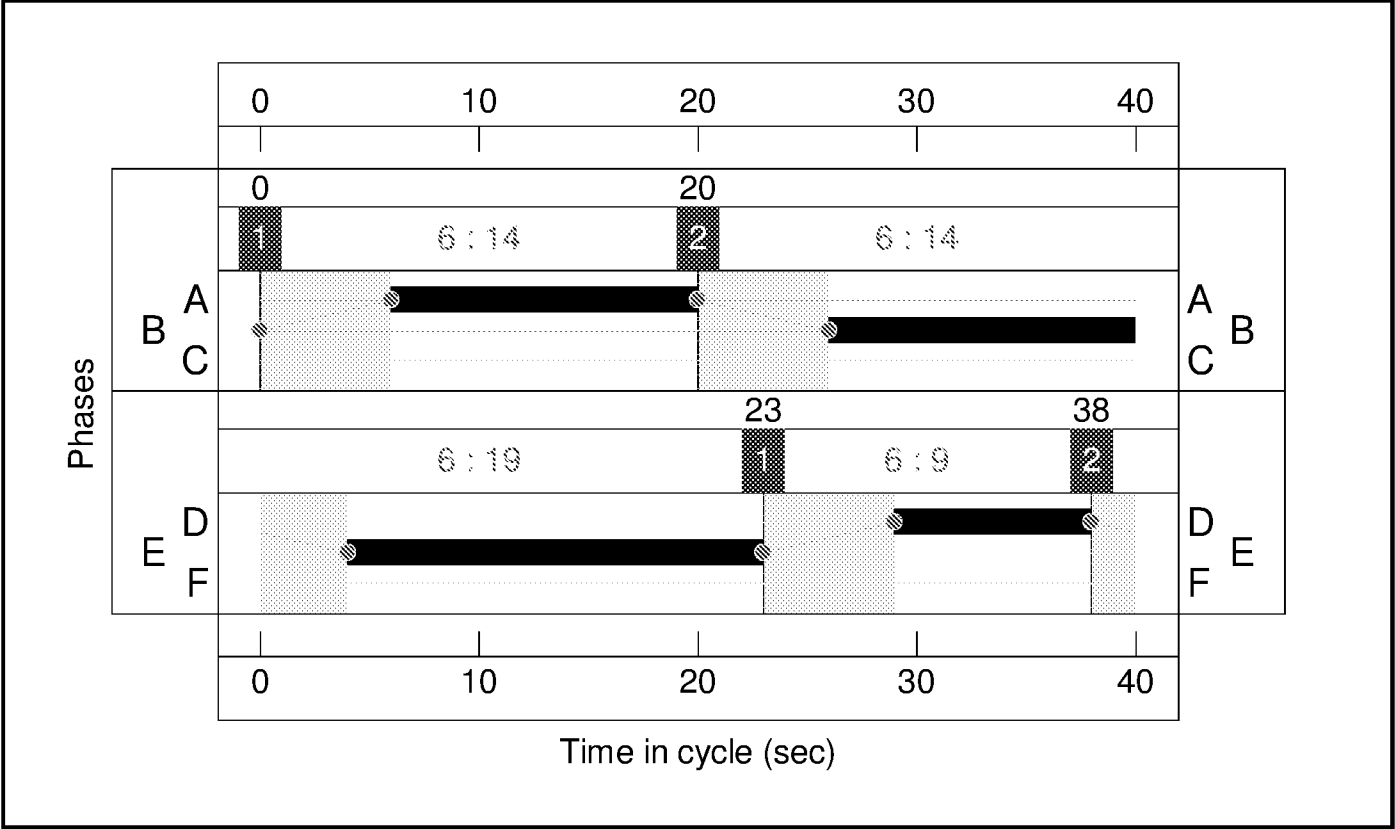
Stage Stream: 1

Stage	1	2
Duration	14	14
Change Point	0	20

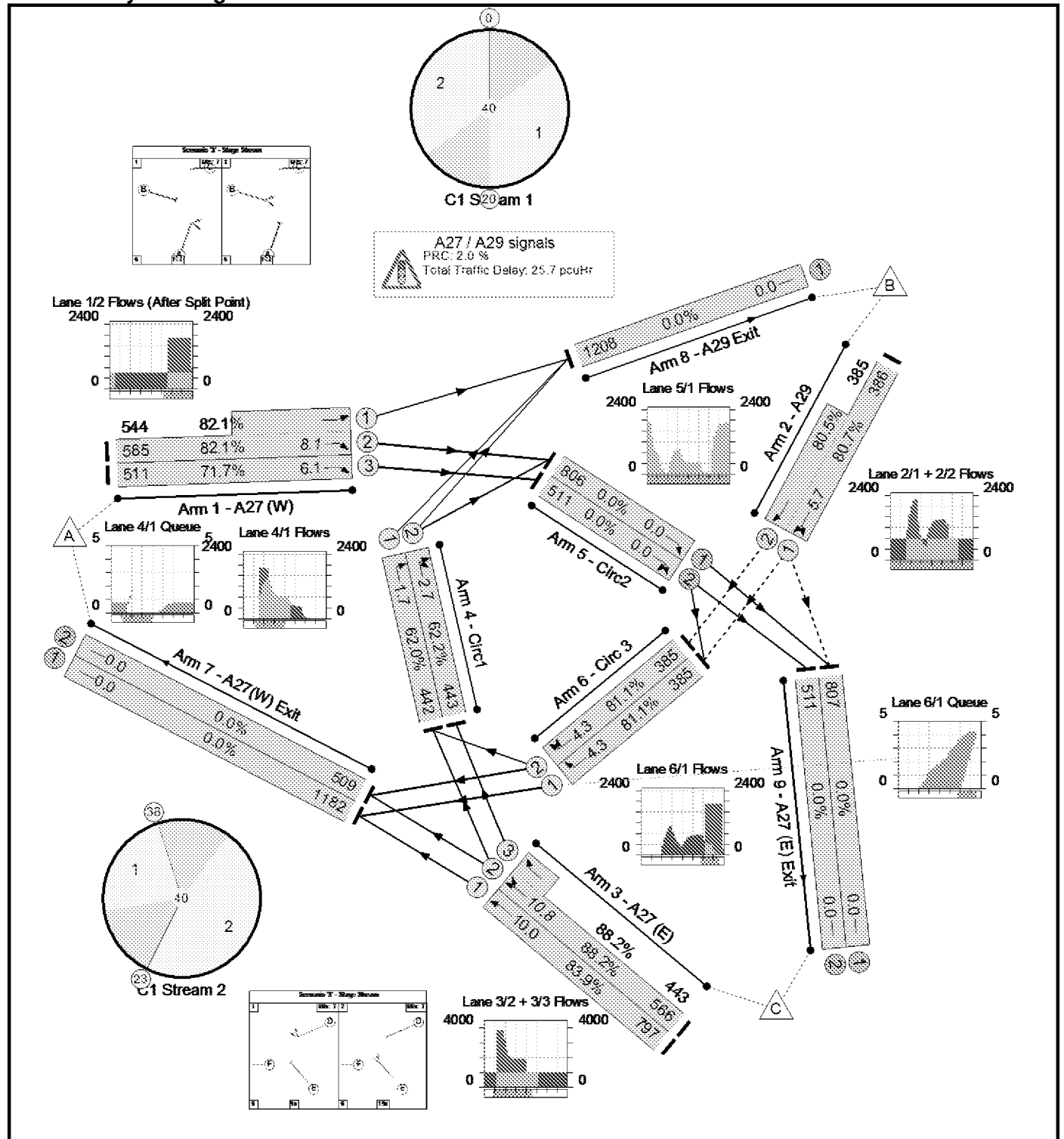
Stage Stream: 2

Stage	1	2
Duration	9	19
Change Point	23	38

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

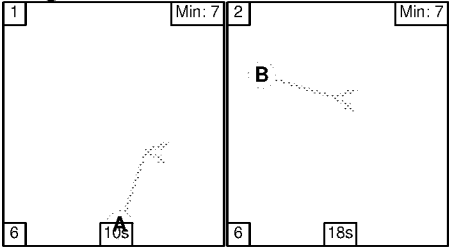
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Eastern Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	88.2%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	88.2%
1/2+1/1	A27 (W) Ahead Ahead2	U	1	N/A	B		1	14	-	1129	1900:1900	713+663	82.1 : 82.1%
1/3	A27 (W) Ahead	U	1	N/A	B		1	14	-	511	1900	713	71.7%
2/1+2/2	A29 Ahead Ahead2	O	N/A	N/A	-		-	-	-	771	Inf : Inf	478+478	80.7 : 80.5%
3/1	A27 (E) Ahead	U	2	N/A	E		1	19	-	797	1900	950	83.9%
3/2+3/3	A27 (E) Ahead Ahead2	U	2	N/A	E		1	19	-	1009	1900:1900	642+502	88.2 : 88.2%
4/1	Circ1 Right	U	1	N/A	A		1	14	-	442	1900	713	62.0%
4/2	Circ1 U-Turn Right	U	1	N/A	A		1	14	-	443	1900	713	62.2%
5/1	Circ2 Right	U	N/A	N/A	-		-	-	-	506	Inf	Inf	0.0%
5/2	Circ2 Right Right2	U	N/A	N/A	-		-	-	-	511	Inf	Inf	0.0%
6/1	Circ 3 Right	U	2	N/A	D		1	9	-	385	1900	475	81.1%
6/2	Circ 3 Right Right2	U	2	N/A	D		1	9	-	385	1900	475	81.1%
7/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	1182	Inf	Inf	0.0%
7/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	509	Inf	Inf	0.0%
8/1	A29 Exit	U	N/A	N/A	-		-	-	-	1208	Inf	Inf	0.0%
9/1	A27 (E) Exit	U	N/A	N/A	-		-	-	-	307	Inf	Inf	0.0%
9/2	A27 (E) Exit	U	N/A	N/A	-		-	-	-	511	Inf	Inf	0.0%

Full Input Data And Results

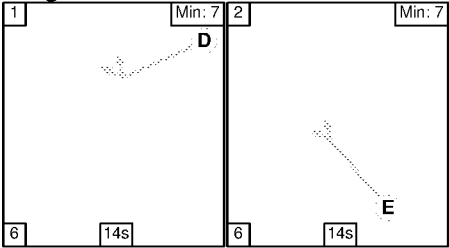
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Eastern Rbt)	-	-	1542	0	0	14.1	11.6	0.0	25.7	-	-	-	-
A27 / A29 signals	-	-	1542	0	0	14.1	11.6	0.0	25.7	-	-	-	-
1/2+1/1	1129	1129	-	-	-	3.5	2.3	-	5.7 (3.0+2.7)	18.3 (18.5:18.1)	5.9	2.3	8.1
1/3	511	511	-	-	-	1.5	1.3	-	2.8	19.5	4.8	1.3	6.1
2/1+2/2	771	771	1542	0	0	1.4	2.0	-	3.4 (1.7+1.7)	15.8 (15.8:15.8)	3.6	2.0	5.7
3/1	797	797	-	-	-	1.9	2.5	-	4.4	20.0	7.5	2.5	10.0
3/2+3/3	1009	1009	-	-	-	2.1	3.5	-	5.7 (3.2+2.5)	20.2 (20.3:20.1)	7.3	3.5	10.8
4/1	442	442	-	-	-	0.4	0.0	-	0.4	3.5	1.7	0.0	1.7
4/2	443	443	-	-	-	0.5	0.0	-	0.5	3.7	2.7	0.0	2.7
5/1	806	806	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	385	385	-	-	-	1.4	0.0	-	1.4	13.0	4.3	0.0	4.3
6/2	385	385	-	-	-	1.4	0.0	-	1.4	13.0	4.3	0.0	4.3
7/1	1182	1182	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	509	509	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1206	1206	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	807	807	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 Stream: 1 PRC for Signalled Lanes (%): 9.6 C1 Stream: 2 PRC for Signalled Lanes (%): 2.0 PRC Over All Lanes (%): 2.0 Total Delay for Signalled Lanes (pcuHr): 9.40 Total Delay for Signalled Lanes (pcuHr): 12.88 Total Delay Over All Lanes(pcuHr): 25.67 Cycle Time (s): 40 Cycle Time (s): 40													

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

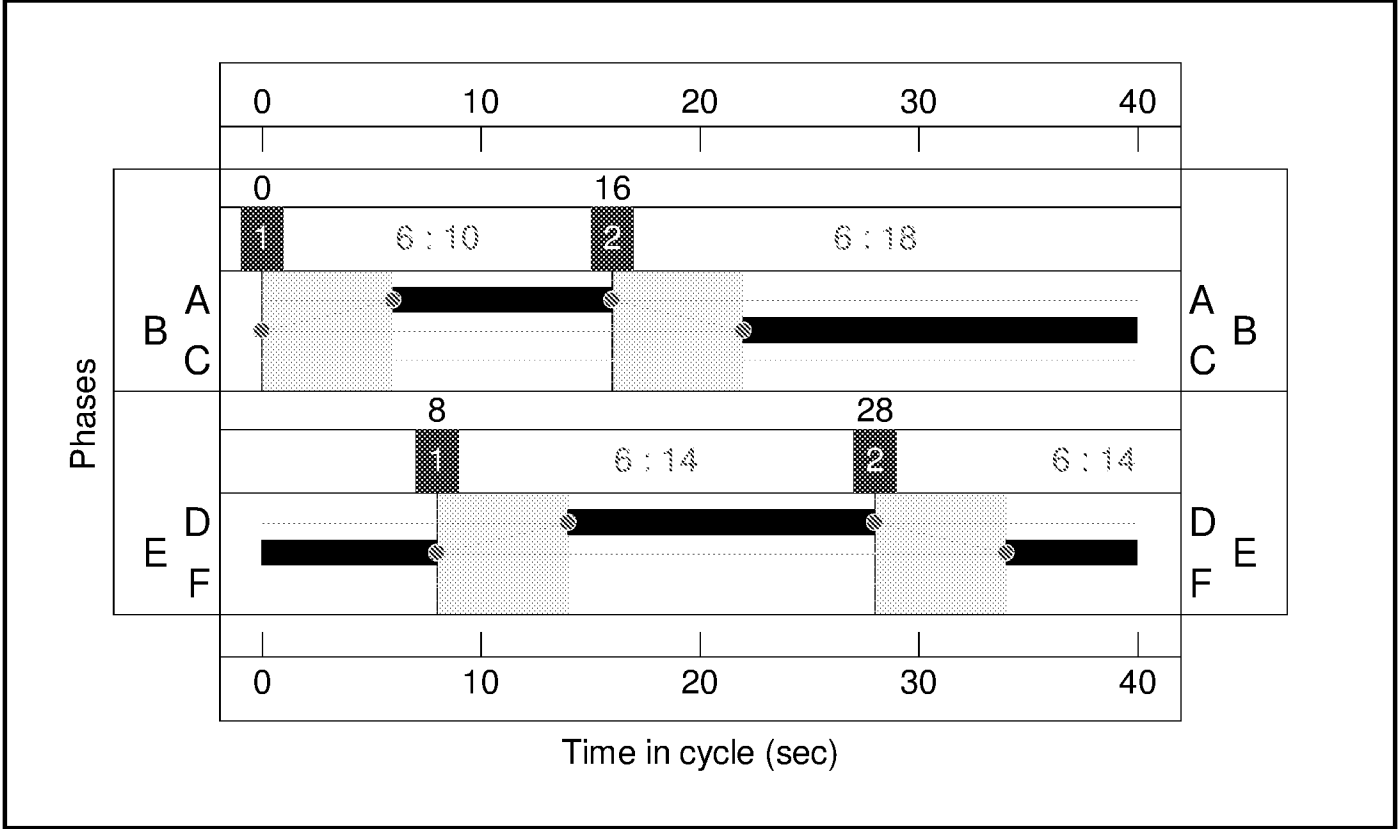
Stage Stream: 1

Stage	1	2
Duration	10	18
Change Point	0	16

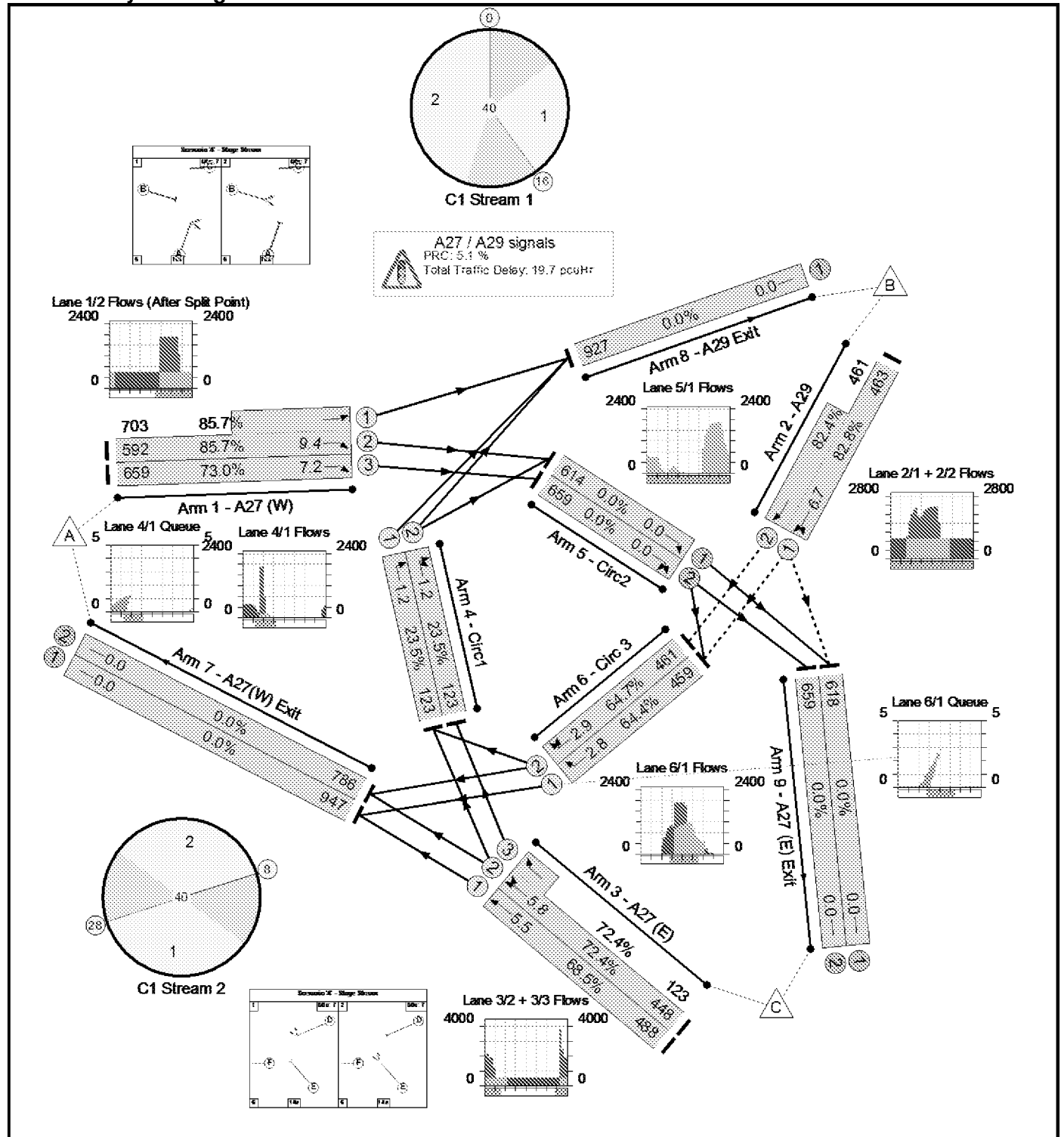
Stage Stream: 2

Stage	1	2
Duration	14	14
Change Point	8	28

Signal Timings Diagram



Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A27 / A29 signals (Fontwell Eastern Rbt)	-	-	N/A	-	-		-	-	-	-	-	-	85.7%
A27 / A29 signals	-	-	N/A	-	-		-	-	-	-	-	-	85.7%
1/2+1/1	A27 (W) Ahead Ahead2	U	1	N/A	B		1	18	-	1295	1900:1900	691+821	85.7 : 85.7%
1/3	A27 (W) Ahead	U	1	N/A	B		1	18	-	659	1900	903	73.0%
2/1+2/2	A29 Ahead Ahead2	O	N/A	N/A	-		-	-	-	924	Inf : Inf	559+559	82.8 : 82.4%
3/1	A27 (E) Ahead	U	2	N/A	E		1	14	-	488	1900	713	68.5%
3/2+3/3	A27 (E) Ahead Ahead2	U	2	N/A	E		1	14	-	571	1900:1900	619+170	72.4 : 72.4%
4/1	Circ1 Right	U	1	N/A	A		1	10	-	123	1900	523	23.5%
4/2	Circ1 U-Turn Right	U	1	N/A	A		1	10	-	123	1900	523	23.5%
5/1	Circ2 Right	U	N/A	N/A	-		-	-	-	614	Inf	Inf	0.0%
5/2	Circ2 Right Right2	U	N/A	N/A	-		-	-	-	659	Inf	Inf	0.0%
6/1	Circ 3 Right	U	2	N/A	D		1	14	-	459	1900	713	64.4%
6/2	Circ 3 Right Right2	U	2	N/A	D		1	14	-	461	1900	713	64.7%
7/1	A27(W) Exit	U	N/A	N/A	-		-	-	-	947	Inf	Inf	0.0%
7/2	A27(W) Exit	U	N/A	N/A	-		-	-	-	736	Inf	Inf	0.0%
8/1	A29 Exit	U	N/A	N/A	-		-	-	-	927	Inf	Inf	0.0%
9/1	A27 (E) Exit	U	N/A	N/A	-		-	-	-	619	Inf	Inf	0.0%
9/2	A27 (E) Exit	U	N/A	N/A	-		-	-	-	659	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: A27 / A29 signals (Fontwell Eastern Rbt)	-	-	1848	0	0	10.7	8.9	0.0	19.7	-	-	-	-
A27 / A29 signals	-	-	1848	0	0	10.7	8.9	0.0	19.7	-	-	-	-
1/2+1/1	1295	1295	-	-	-	3.0	2.9	-	5.9 (2.6+3.3)	16.5 (16.1:16.8)	6.4	2.9	9.4
1/3	659	659	-	-	-	1.5	1.3	-	2.9	15.8	5.9	1.3	7.2
2/1+2/2	924	924	1848	0	0	2.2	2.3	-	4.5 (2.3+2.3)	17.7 (17.7:17.7)	4.4	2.3	6.7
3/1	488	488	-	-	-	1.4	1.1	-	2.5	18.5	4.5	1.1	5.5
3/2+3/3	571	571	-	-	-	1.6	1.3	-	2.9 (2.3+0.6)	18.3 (18.5:17.6)	4.5	1.3	5.8
4/1	123	123	-	-	-	0.2	0.0	-	0.2	5.5	1.2	0.0	1.2
4/2	123	123	-	-	-	0.2	0.0	-	0.2	6.3	1.2	0.0	1.2
5/1	614	614	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	659	659	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	459	459	-	-	-	0.2	0.0	-	0.2	1.9	2.8	0.0	2.8
6/2	461	461	-	-	-	0.2	0.0	-	0.2	1.9	2.9	0.0	2.9
7/1	947	947	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	786	786	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	927	927	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	618	618	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	659	659	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 Stream: 1 PRC for Signalled Lanes (%): 5.1 C1 Stream: 2 PRC for Signalled Lanes (%): 24.3 PRC Over All Lanes (%): 5.1 Total Delay for Signalled Lanes (pcuHr): 9.23 Total Delay for Signalled Lanes (pcuHr): 5.88 Total Delay Over All Lanes(pcuHr): 19.65 Cycle Time (s): 40 Cycle Time (s): 40													

Junctions 9			
PICADY 9 - Priority Intersection Module			
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017			
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Filename: A27-Yapton-AM.j9

Path: T:\Projects\11000 Series Project Numbers\11324\ITB Land North of Walberton\Tech\Junc Models\Picady\A27-Yapton\Saturn

Report generation date: 17/05/2017 09:15:39

»2031 LP with MIT, AM

»2031 LP with MIT + Dev, AM

Summary of junction performance

	AM			
	Queue (PCU)	Delay (s)	RFC	LOS
2031 LP with MIT				
Stream B-AC	0.5	8.68	0.35	A
Stream C-AB	0.3	7.47	0.22	A
2031 LP with MIT + Dev				
Stream B-AC	0.8	10.17	0.45	B
Stream C-AB	0.3	7.77	0.25	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Existing Arrangement
Location	
Site number	
Date	17/05/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	A27 - Yapton Lane - SATURN

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	mph	PCU	PCU	perHour	s	-Hour	perHour

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	AM	2031 Local Plan with Mitigaion (Without Development)	ONE HOUR	07:00	08:30	15	✓
D2	2031 LP with MIT + Dev	AM	2031 Local Plan with Mitigaion + Development	ONE HOUR	07:00	08:30	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2031 LP with MIT, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	A27 / Yapton Lane	T-Junction	Two-way	0.99	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A27 (E)		Major
B	Yapton Lane		Minor
C	A27 (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A27 (W)	14.60	✓	7.00	✓	4.48	250.0	✓	20.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Yapton Lane	One lane	4.96	250	250

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	964	0.095	0.240	0.151	0.343
1	B-C	935	0.090	0.227	-	-
1	C-B	897	0.218	0.218	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2031 LP with MIT	AM	2031 Local Plan with Mitigation (Without Development)	ONE HOUR	07:00	08:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A27 (E)		ONE HOUR	✓	1174	100.000
B - Yapton Lane		ONE HOUR	✓	206	100.000
C - A27 (W)		ONE HOUR	✓	1342	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A27 (E)	B - Yapton Lane	C - A27 (W)
From	A - A27 (E)	0	0	1174
	B - Yapton Lane	0	0	206
	C - A27 (W)	1220	122	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - A27 (E)	B - Yapton Lane	C - A27 (W)
From	A - A27 (E)	0	0	0
	B - Yapton Lane	0	0	0
	C - A27 (W)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.35	8.68	0.5	A	189	284
C-AB	0.22	7.47	0.3	A	112	168
C-A					1119	1679
AB					0	0
AC					1077	1616

Main Results for each time segment

07:00 - 07:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	155	39	734	0.211	154	0.0	0.3	6.192	A
C-AB	92	23	705	0.130	91	0.0	0.1	5.863	A
C-A	918	230			918				
AB	0	0			0				
AC	884	221			884				

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	185	46	695	0.266	185	0.3	0.4	7.046	A
C-AB	110	27	668	0.164	109	0.1	0.2	6.450	A
C-A	1097	274			1097				
AB	0	0			0				
AC	1055	264			1055				

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	227	57	642	0.353	226	0.4	0.5	8.648	A
C-AB	134	34	616	0.218	134	0.2	0.3	7.465	A
C-A	1343	336			1343				
AB	0	0			0				
AC	1293	323			1293				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	227	57	642	0.353	227	0.5	0.5	8.676	A
C-AB	134	34	616	0.218	134	0.3	0.3	7.474	A
C-A	1343	336			1343				
AB	0	0			0				
AC	1293	323			1293				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	185	46	695	0.266	186	0.5	0.4	7.073	A
C-AB	110	27	668	0.164	110	0.3	0.2	6.462	A
C-A	1097	274			1097				
AB	0	0			0				
AC	1055	264			1055				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	155	39	734	0.211	155	0.4	0.3	6.225	A
C-AB	92	23	705	0.130	92	0.2	0.2	5.878	A
C-A	918	230			918				
AB	0	0			0				
AC	884	221			884				

2031 LP with MIT + Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	A27 / Yapton Lane	T-Junction	Two-way	1.33	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2031 LP with MIT + Dev	AM	2031 Local Plan with Mitigation + Development	ONE HOUR	07:00	08:30	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A27 (E)		ONE HOUR	✓	1178	100.000
B - Yapton Lane		ONE HOUR	✓	261	100.000
C - A27 (W)		ONE HOUR	✓	1368	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
From		A - A27 (E)	B - Yapton Lane	C - A27 (W)
	A - A27 (E)	0	4	1174
	B - Yapton Lane	0	0	261
	C - A27 (W)	1230	138	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A - A27 (E)	B - Yapton Lane	C - A27 (W)
	A - A27 (E)	0	0	0
	B - Yapton Lane	0	0	0
	C - A27 (W)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.45	10.17	0.8	B	239	359
C-AB	0.25	7.77	0.3	A	127	190
C-A					1129	1693
AB					4	6
AC					1077	1616

Main Results for each time segment

07:00 - 07:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	196	49	734	0.268	195	0.0	0.4	6.662	A
C-AB	104	26	704	0.148	103	0.0	0.2	5.984	A
C-A	926	232			926				
AB	3	0.75			3				
AC	884	221			884				

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	235	59	695	0.338	234	0.4	0.5	7.799	A
C-AB	124	31	667	0.186	124	0.2	0.2	6.627	A
C-A	1106	276			1106				
AB	4	0.90			4				
AC	1055	264			1055				

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	287	72	641	0.448	286	0.5	0.8	10.103	B
C-AB	152	38	615	0.247	152	0.2	0.3	7.762	A
C-A	1354	339			1354				
AB	4	1			4				
AC	1293	323			1293				

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	287	72	641	0.448	287	0.8	0.8	10.169	B
C-AB	152	38	615	0.247	152	0.3	0.3	7.774	A
C-A	1354	339			1354				
AB	4	1			4				
AC	1293	323			1293				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	235	59	695	0.338	236	0.8	0.5	7.858	A
C-AB	124	31	667	0.186	124	0.3	0.2	6.645	A
C-A	1106	276			1106				
A-B	4	0.90			4				
A-C	1055	264			1055				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	196	49	734	0.268	197	0.5	0.4	6.713	A
C-AB	104	26	704	0.148	104	0.2	0.2	6.003	A
C-A	926	232			926				
A-B	3	0.75			3				
A-C	884	221			884				

Junctions 9			
PICADY 9 - Priority Intersection Module			
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017			
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Filename: A27-Yapton-PM.j9

Path: T:\Projects\11000 Series Project Numbers\11324\ITB Land North of Walberton\Tech\Junc Models\Picady\A27-Yapton\Saturn

Report generation date: 17/05/2017 09:20:56

»2031 LP with MIT, PM

»2031 LP with MIT + Dev, PM

Summary of junction performance

	PM			
	Queue (PCU)	Delay (s)	RFC	LOS
2031 LP with MIT				
Stream B-AC	0.3	7.58	0.23	A
Stream C-AB	1.3	13.91	0.57	B
2031 LP with MIT + Dev				
Stream B-AC	0.4	8.14	0.28	A
Stream C-AB	1.7	16.90	0.64	C

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Existing Arrangement
Location	
Site number	
Date	17/05/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	A27 - Yapton Lane - SATURN

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	PCU	PCU	perHour	s	-Hour	perHour

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 LP with MIT	PM	2031 Local Plan with Mitigaion (Without Development)	ONE HOUR	16:30	18:00	15	✓
D5	2031 LP with MIT + Dev	PM	2031 Local Plan with Mitigaion + Development	ONE HOUR	16:30	18:00	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2031 LP with MIT, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	A27 / Yapton Lane	T-Junction	Two-way	1.82	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A27 (E)		Major
B	Yapton Lane		Minor
C	A27 (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - A27 (W)	14.60	✓	7.00	✓	4.48	250.0	✓	20.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Yapton Lane	One lane	4.96	250	250

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	964	0.095	0.240	0.151	0.343
1	B-C	935	0.090	0.227	-	-
1	C-B	897	0.218	0.218	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2031 LP with MIT	PM	2031 Local Plan with Mitigation (Without Development)	ONE HOUR	16:30	18:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A27 (E)		ONE HOUR	✓	1264	100.000
B - Yapton Lane		ONE HOUR	✓	131	100.000
C - A27 (W)		ONE HOUR	✓	1484	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
From		A - A27 (E)	B - Yapton Lane	C - A27 (W)
	A - A27 (E)	0	0	1264
	B - Yapton Lane	0	0	131
	C - A27 (W)	1179	305	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A - A27 (E)	B - Yapton Lane	C - A27 (W)
	A - A27 (E)	0	0	0
	B - Yapton Lane	0	0	0
	C - A27 (W)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.23	7.58	0.3	A	120	180
C-AB	0.57	13.91	1.3	B	280	420
C-A					1082	1623
AB					0	0
AC					1160	1740

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	99	25	719	0.137	98	0.0	0.2	5.791	A
C-AB	230	57	690	0.333	228	0.0	0.5	7.753	A
C-A	888	222			888				
AB	0	0			0				
AC	952	238			952				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	118	29	677	0.174	118	0.2	0.2	6.432	A
C-AB	274	69	650	0.422	273	0.5	0.7	9.536	A
C-A	1060	265			1060				
AB	0	0			0				
AC	1136	284			1136				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	144	36	619	0.233	144	0.2	0.3	7.573	A
C-AB	336	84	594	0.565	334	0.7	1.3	13.694	B
C-A	1298	325			1298				
AB	0	0			0				
AC	1392	348			1392				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	144	36	619	0.233	144	0.3	0.3	7.578	A
C-AB	336	84	594	0.565	336	1.3	1.3	13.906	B
C-A	1298	325			1298				
AB	0	0			0				
AC	1392	348			1392				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	118	29	677	0.174	118	0.3	0.2	6.443	A
C-AB	274	69	650	0.422	276	1.3	0.7	9.691	A
C-A	1060	265			1060				
AB	0	0			0				
AC	1136	284			1136				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	99	25	719	0.137	99	0.2	0.2	5.808	A
C-AB	230	57	690	0.333	231	0.7	0.5	7.851	A
C-A	888	222			888				
AB	0	0			0				
AC	952	238			952				

2031 LP with MIT + Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	A27 / Yapton Lane	T-Junction	Two-way	2.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2031 LP with MIT + Dev	PM	2031 Local Plan with Mitigation + Development	ONE HOUR	16:30	18:00	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A27 (E)		ONE HOUR	✓	1273	100.000
B - Yapton Lane		ONE HOUR	✓	160	100.000
C - A27 (W)		ONE HOUR	✓	1530	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A - A27 (E)	B - Yapton Lane	C - A27 (W)
From	A - A27 (E)	0	9	1264
	B - Yapton Lane	0	0	160
	C - A27 (W)	1185	345	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - A27 (E)	B - Yapton Lane	C - A27 (W)
From	A - A27 (E)	0	0	0
	B - Yapton Lane	0	0	0
	C - A27 (W)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.28	8.14	0.4	A	147	220
C-AB	0.64	16.90	1.7	B	317	475
C-A					1087	1631
AB					8	12
AC					1160	1740

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	120	30	718	0.168	120	0.0	0.2	6.006	A
C-AB	260	65	689	0.377	257	0.0	0.6	8.303	A
C-A	892	223			892				
AB	7	2			7				
AC	952	238			952				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	144	36	676	0.213	144	0.2	0.3	6.753	A
C-AB	310	78	648	0.479	309	0.6	0.9	10.575	B
C-A	1065	266			1065				
AB	8	2			8				
AC	1136	284			1136				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	176	44	618	0.285	176	0.3	0.4	8.123	A
C-AB	380	95	592	0.641	377	0.9	1.7	16.448	B
C-A	1305	326			1305				
AB	10	2			10				
AC	1392	348			1392				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	176	44	618	0.285	176	0.4	0.4	8.141	A
C-AB	380	95	592	0.641	380	1.7	1.7	16.900	B
C-A	1305	326			1305				
AB	10	2			10				
AC	1392	348			1392				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	144	36	676	0.213	144	0.4	0.3	6.771	A
C-AB	310	78	648	0.479	313	1.7	0.9	10.855	B
C-A	1065	266			1065				
AB	8	2			8				
AC	1136	284			1136				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
B-AC	120	30	718	0.168	121	0.3	0.2	6.026	A
C-AB	260	65	689	0.377	261	0.9	0.6	8.446	A
C-A	892	223			892				
AB	7	2			7				
AC	952	238			952				

Junctions 9			
PICADY 9 - Priority Intersection Module			
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Filename: Avistord Park.j9

Path: T:\Projects\11000 Series Project Numbers\11324\ITB Land North of Walberton\Tech\Junc Models\Picady\Avistord Park

Report generation date: 20/04/2017 11:43:44

»2017 Observed, AM
 »2017 Observed, PM
 »2020 'Without Development', AM
 »2020 'Without Development', PM
 »2031 'Without Development', PM
 »2031 'Without Development', AM
 »2020 'With Development', PM
 »2020 'With Development', AM
 »2031 'With Development', AM
 »2031 'With Development', PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2017 Observed								
Stream B-AC	0.0	12.15	0.01	E	0.0	7.65	0.03	A
Stream C-AB	0.0	6.43	0.02	A	0.0	4.06	0.01	A
2020 'Without Development'								
Stream B-AC	0.0	12.25	0.01	E	0.0	7.70	0.03	A
Stream C-AB	0.0	6.43	0.02	A	0.0	4.03	0.01	A
2031 'Without Development'								
Stream B-AC	0.0	12.60	0.01	E	0.0	7.90	0.03	A
Stream C-AB	0.0	6.42	0.02	A	0.0	3.94	0.01	A
2020 'With Development'								
Stream B-AC	0.0	12.59	0.01	E	0.0	7.97	0.03	A
Stream C-AB	0.0	6.38	0.02	A	0.0	3.92	0.01	A
2031 'With Development'								
Stream B-AC	0.0	12.95	0.01	E	0.0	8.19	0.03	A
Stream C-AB	0.0	6.37	0.02	A	0.0	3.84	0.01	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	Avistord Park / Yapton Lane Junc
Location	Walberton
Site number	
Date	20/04/2017
Version	
Status	
Identifier	
Client	
Jobnumber	ITB11324
Enumerator	RS
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2017 Observed	AM	DIRECT	07:15	08:15	60	15
D2	2017 Observed	PM	DIRECT	16:45	17:45	60	15
D3	2020 'Without Development'	AM	DIRECT	07:15	08:15	60	15
D4	2020 'Without Development'	PM	DIRECT	16:45	17:45	60	15
D5	2031 'Without Development'	PM	DIRECT	16:45	17:45	60	15
D6	2031 'Without Development'	AM	DIRECT	07:15	08:15	60	15
D7	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15
D8	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15
D9	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15
D10	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2017 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.16	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Yapton Lane S		Major
B	Avistord Park		Minor
C	Yapton Lane N		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Yapton Lane N	7.05			250.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Avistord Park	One lane	4.90	20	16

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (Veh/TS)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	146.388	0.102	0.257	0.162	0.368
1	B-C	188.653	0.110	0.279	-	-
1	C-B	179.685	0.266	0.266	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2017 Observed	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:15 - 07:30		To			
	From		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
		A - Yapton Lane S	0.00	1.00	88.00
		B - Avistord Park	0.00	0.00	0.00
		C - Yapton Lane N	27.00	0.00	0.00

Demand (Veh/TS)

07:30 - 07:45		To			
	From		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
		A - Yapton Lane S	0.00	4.00	121.00
		B - Avistord Park	1.00	0.00	0.00
		C - Yapton Lane N	47.00	2.00	0.00

Demand (Veh/TS)

07:45 - 08:00		To			
	From		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
		A - Yapton Lane S	0.00	1.00	123.00
		B - Avistord Park	0.00	0.00	1.00
		C - Yapton Lane N	50.00	1.00	0.00

Demand (Veh/TS)

08:00 - 08:15		To			
	From		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
		A - Yapton Lane S	0.00	3.00	131.00
		B - Avistord Park	0.00	0.00	1.00
		C - Yapton Lane N	37.00	1.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	11	5
	B - Avistord Park	0	0	100
	C - Yapton Lane N	9	25	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.01	12.15	0.0	E
C-AB	0.02	6.43	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	91.18	0.000	0.00	0.0	0.000	A
C-AB	0.00	132.61	0.000	0.00	0.0	0.000	A
C-A	27.00			27.00			
A-B	1.00			1.00			
A-C	88.00			88.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	104.22	0.010	0.99	0.0	8.718	A
C-AB	2.91	149.76	0.019	2.89	0.0	6.128	A
C-A	46.09			46.09			
A-B	4.00			4.00			
A-C	121.00			121.00			

07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	76.53	0.013	1.00	0.0	8.950	A
C-AB	1.50	152.22	0.010	1.51	0.0	5.981	A
C-A	49.50			49.50			
A-B	1.00			1.00			
A-C	123.00			123.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	75.04	0.013	1.00	0.0	12.154	B
C-AB	1.36	140.79	0.010	1.36	0.0	6.425	A
C-A	36.64			36.64			
A-B	3.00			3.00			
A-C	131.00			131.00			

2017 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2017 Observed	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To			
16:45 - 17:00	From		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
		A - Yapton Lane S	0.00	1.00	39.00
		B - Avistord Park	3.00	0.00	1.00
		C - Yapton Lane N	91.00	1.00	0.00

Demand (Veh/TS)

		To			
17:00 - 17:15	From		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
		A - Yapton Lane S	0.00	1.00	44.00
		B - Avistord Park	2.00	0.00	0.00
		C - Yapton Lane N	87.00	0.00	0.00

Demand (Veh/TS)

		To			
17:15 - 17:30	From		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
		A - Yapton Lane S	0.00	1.00	31.00
		B - Avistord Park	1.00	0.00	0.00
		C - Yapton Lane N	102.00	0.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0.00	0.00	43.00
	B - Avistord Park	0.00	0.00	0.00
	C - Yapton Lane N	76.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	0	5
	B - Avistord Park	0	0	0
	C - Yapton Lane N	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.03	7.65	0.0	A
C-AB	0.01	4.06	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	4.00	130.37	0.031	3.97	0.0	7.118	A
C-AB	1.69	223.45	0.008	1.68	0.0	4.058	A
C-A	90.31			90.31			
A-B	1.00			1.00			
A-C	39.00			39.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	2.00	119.68	0.017	2.01	0.0	7.648	A
C-AB	0.00	163.21	0.000	0.01	0.0	0.000	A
C-A	87.00			87.00			
A-B	1.00			1.00			
A-C	44.00			44.00			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	120.45	0.008	1.01	0.0	7.537	A
C-AB	0.00	165.84	0.000	0.00	0.0	0.000	A
C-A	102.00			102.00			
A-B	1.00			1.00			
A-C	31.00			31.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	121.79	0.000	0.01	0.0	0.000	A
C-AB	0.00	162.86	0.000	0.00	0.0	0.000	A
C-A	76.00			76.00			
A-B	0.00			0.00			
A-C	43.00			43.00			

2020 'Without Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D3	2020 'Without Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:15 - 07:30	From			
	A - Yapton Lane S	0.00	1.00	91.00
	B - Avistord Park	0.00	0.00	0.00
	C - Yapton Lane N	28.00	0.00	0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:30 - 07:45	From			
	A - Yapton Lane S	0.00	4.00	125.00
	B - Avistord Park	1.00	0.00	0.00
	C - Yapton Lane N	49.00	2.00	0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:45 - 08:00	From			
	A - Yapton Lane S	0.00	1.00	127.00
	B - Avistord Park	0.00	0.00	1.00
	C - Yapton Lane N	52.00	1.00	0.00

Demand (Veh/TS)

08:00 - 08:15

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0.00	3.00	135.00
	B - Avistord Park	0.00	0.00	1.00
	C - Yapton Lane N	38.00	1.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	11	5
	B - Avistord Park	0	0	100
	C - Yapton Lane N	9	25	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.01	12.25	0.0	B
C-AB	0.02	6.43	0.0	A
C-A				
AB				
AC				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	90.53	0.000	0.00	0.0	0.000	A
C-AB	0.00	131.89	0.000	0.00	0.0	0.000	A
C-A	28.00			28.00			
AB	1.00			1.00			
AC	91.00			91.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	102.79	0.010	0.99	0.0	8.841	A
C-AB	2.97	150.42	0.020	2.94	0.0	6.103	A
C-A	48.03			48.03			
AB	4.00			4.00			
AC	125.00			125.00			

07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	75.94	0.013	1.00	0.0	9.020	A
C-AB	1.52	152.89	0.010	1.54	0.0	5.958	A
C-A	51.48			51.48			
A-B	1.00			1.00			
A-C	127.00			127.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	74.46	0.013	1.00	0.0	12.250	B
C-AB	1.37	140.71	0.010	1.37	0.0	6.425	A
C-A	37.63			37.63			
A-B	3.00			3.00			
A-C	135.00			135.00			

2020 'Without Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D4	2020 'Without Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
16:45 - 17:00	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	3.00	0.00
		C - Yapton Lane N	94.00	1.00
				0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
17:00 - 17:15	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	2.00	0.00
		C - Yapton Lane N	90.00	0.00
				0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
17:15 - 17:30	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	1.00	0.00
		C - Yapton Lane N	105.00	0.00
				0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0.00	0.00	44.00
	B - Avistord Park	0.00	0.00	0.00
	C - Yapton Lane N	78.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	0	5
	B - Avistord Park	0	0	0
	C - Yapton Lane N	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.03	7.70	0.0	A
C-AB	0.01	4.03	0.0	A
C-A				
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	4.00	129.65	0.031	3.97	0.0	7.159	A
C-AB	1.72	225.08	0.008	1.71	0.0	4.029	A
C-A	93.28			93.28			
AB	1.00			1.00			
AC	40.00			40.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	2.00	118.91	0.017	2.01	0.0	7.701	A
C-AB	0.00	162.91	0.000	0.01	0.0	0.000	A
C-A	90.00			90.00			
AB	1.00			1.00			
AC	45.00			45.00			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	119.69	0.008	1.01	0.0	7.583	A
C-AB	0.00	165.65	0.000	0.00	0.0	0.000	A
C-A	105.00			105.00			
A-B	1.00			1.00			
A-C	32.00			32.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	121.19	0.000	0.01	0.0	0.000	A
C-AB	0.00	162.67	0.000	0.00	0.0	0.000	A
C-A	78.00			78.00			
A-B	0.00			0.00			
A-C	44.00			44.00			

2031 'Without Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.10	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D5	2031 'Without Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
	From			
	A - Yapton Lane S	0.00	1.00	45.00
	B - Avistord Park	3.00	0.00	1.00
	C - Yapton Lane N	104.00	1.00	0.00

Demand (Veh/TS)

17:00 - 17:15	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
	From			
	A - Yapton Lane S	0.00	1.00	50.00
	B - Avistord Park	2.00	0.00	0.00
	C - Yapton Lane N	99.00	0.00	0.00

Demand (Veh/TS)

17:15 - 17:30	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
	From			
	A - Yapton Lane S	0.00	1.00	35.00
	B - Avistord Park	1.00	0.00	0.00
	C - Yapton Lane N	117.00	0.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0.00	0.00	49.00
	B - Avistord Park	0.00	0.00	0.00
	C - Yapton Lane N	87.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	0	5
	B - Avistord Park	0	0	0
	C - Yapton Lane N	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.03	7.90	0.0	A
C-AB	0.01	3.94	0.0	A
C-A				
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	4.00	126.73	0.032	3.97	0.0	7.329	A
C-AB	1.82	230.07	0.008	1.82	0.0	3.942	A
C-A	103.18			103.18			
AB	1.00			1.00			
AC	45.00			45.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	2.00	116.03	0.017	2.01	0.0	7.896	A
C-AB	0.00	161.23	0.000	0.01	0.0	0.000	A
C-A	99.00			99.00			
AB	1.00			1.00			
AC	50.00			50.00			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	116.82	0.009	1.01	0.0	7.772	A
C-AB	0.00	164.84	0.000	0.00	0.0	0.000	A
C-A	117.00			117.00			
A-B	1.00			1.00			
A-C	35.00			35.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	118.30	0.000	0.01	0.0	0.000	A
C-AB	0.00	161.32	0.000	0.00	0.0	0.000	A
C-A	87.00			87.00			
A-B	0.00			0.00			
A-C	49.00			49.00			

2031 'Without Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.14	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D6	2031 'Without Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:15 - 07:30	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	0.00	0.00
		C - Yapton Lane N	31.00	0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:30 - 07:45	From	A - Yapton Lane S	0.00	5.00
		B - Avistord Park	1.00	0.00
		C - Yapton Lane N	54.00	2.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:45 - 08:00	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	0.00	0.00
		C - Yapton Lane N	57.00	1.00

Demand (Veh/TS)

08:00 - 08:15

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0.00	3.00	149.00
	B - Avistord Park	0.00	0.00	1.00
	C - Yapton Lane N	42.00	1.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	11	5
	B - Avistord Park	0	0	100
	C - Yapton Lane N	9	25	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.01	12.60	0.0	B
C-AB	0.02	6.42	0.0	A
C-A				
AB				
AC				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	88.59	0.000	0.00	0.0	0.000	A
C-AB	0.00	129.75	0.000	0.00	0.0	0.000	A
C-A	31.00			31.00			
AB	1.00			1.00			
AC	100.00			100.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	98.31	0.010	0.99	0.0	9.247	A
C-AB	3.11	151.31	0.021	3.09	0.0	6.072	A
C-A	52.89			52.89			
AB	5.00			5.00			
AC	138.00			138.00			

07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	74.04	0.014	1.00	0.0	9.256	A
C-AB	1.60	154.01	0.010	1.61	0.0	5.916	A
C-A	56.40			56.40			
A-B	1.00			1.00			
A-C	140.00			140.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	72.42	0.014	1.00	0.0	12.600	B
C-AB	1.43	140.83	0.010	1.43	0.0	6.421	A
C-A	41.57			41.57			
A-B	3.00			3.00			
A-C	149.00			149.00			

2020 'With Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.10	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D7	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
16:45 - 17:00	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	3.00	0.00
		C - Yapton Lane N	106.00	1.00
				0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
17:00 - 17:15	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	2.00	0.00
		C - Yapton Lane N	102.00	0.00
				0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
17:15 - 17:30	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	1.00	0.00
		C - Yapton Lane N	118.00	0.00
				0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0.00	0.00	52.00
	B - Avistord Park	0.00	0.00	0.00
	C - Yapton Lane N	91.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	0	4
	B - Avistord Park	0	0	0
	C - Yapton Lane N	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.03	7.97	0.0	A
C-AB	0.01	3.92	0.0	A
C-A				
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	4.00	126.06	0.032	3.97	0.0	7.369	A
C-AB	1.85	231.21	0.008	1.84	0.0	3.923	A
C-A	105.15			105.15			
AB	1.00			1.00			
AC	47.00			47.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	2.00	114.92	0.017	2.01	0.0	7.973	A
C-AB	0.00	160.96	0.000	0.01	0.0	0.000	A
C-A	102.00			102.00			
AB	1.00			1.00			
AC	53.00			53.00			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	115.78	0.009	1.01	0.0	7.841	A
C-AB	0.00	164.39	0.000	0.00	0.0	0.000	A
C-A	118.00			118.00			
A-B	1.00			1.00			
A-C	39.00			39.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	117.01	0.000	0.01	0.0	0.000	A
C-AB	0.00	161.15	0.000	0.00	0.0	0.000	A
C-A	91.00			91.00			
A-B	0.00			0.00			
A-C	52.00			52.00			

2020 'With Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.14	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D8	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:15 - 07:30	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	0.00	0.00
		C - Yapton Lane N	33.00	0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:30 - 07:45	From	A - Yapton Lane S	0.00	4.00
		B - Avistord Park	1.00	0.00
		C - Yapton Lane N	53.00	2.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:45 - 08:00	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	0.00	0.00
		C - Yapton Lane N	56.00	1.00

Demand (Veh/TS)

08:00 - 08:15

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0.00	3.00	149.00
	B - Avistord Park	0.00	0.00	1.00
	C - Yapton Lane N	43.00	1.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	11	4
	B - Avistord Park	0	0	100
	C - Yapton Lane N	8	25	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.01	12.59	0.0	B
C-AB	0.02	6.38	0.0	A
C-A				
AB				
AC				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	87.58	0.000	0.00	0.0	0.000	A
C-AB	0.00	129.16	0.000	0.00	0.0	0.000	A
C-A	33.00			33.00			
AB	1.00			1.00			
AC	105.00			105.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	98.55	0.010	0.99	0.0	9.224	A
C-AB	3.08	150.82	0.020	3.06	0.0	6.091	A
C-A	51.92			51.92			
AB	4.00			4.00			
AC	139.00			139.00			

07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	73.98	0.014	1.00	0.0	9.265	A
C-AB	1.59	153.32	0.010	1.60	0.0	5.944	A
C-A	55.41			55.41			
A-B	1.00			1.00			
A-C	141.00			141.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	72.50	0.014	1.00	0.0	12.586	B
C-AB	1.44	141.77	0.010	1.44	0.0	6.381	A
C-A	42.56			42.56			
A-B	3.00			3.00			
A-C	149.00			149.00			

2031 'With Development', AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.13	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D9	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:15 - 07:30	From			
	A - Yapton Lane S	0.00	1.00	114.00
	B - Avistord Park	0.00	0.00	0.00
	C - Yapton Lane N	36.00	0.00	0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:30 - 07:45	From			
	A - Yapton Lane S	0.00	5.00	152.00
	B - Avistord Park	1.00	0.00	0.00
	C - Yapton Lane N	58.00	2.00	0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
07:45 - 08:00	From			
	A - Yapton Lane S	0.00	1.00	154.00
	B - Avistord Park	0.00	0.00	1.00
	C - Yapton Lane N	62.00	1.00	0.00

Demand (Veh/TS)

08:00 - 08:15

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0.00	3.00	163.00
	B - Avistord Park	0.00	0.00	1.00
	C - Yapton Lane N	47.00	1.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	11	4
	B - Avistord Park	0	0	100
	C - Yapton Lane N	8	25	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.01	12.95	0.0	B
C-AB	0.02	6.37	0.0	A
C-A				
AB				
AC				

Main Results for each time segment

07:15 - 07:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	85.63	0.000	0.00	0.0	0.000	A
C-AB	0.00	126.97	0.000	0.00	0.0	0.000	A
C-A	36.00			36.00			
AB	1.00			1.00			
AC	114.00			114.00			

07:30 - 07:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	94.07	0.011	0.99	0.0	9.667	A
C-AB	3.24	151.78	0.021	3.21	0.0	6.058	A
C-A	56.76			56.76			
AB	5.00			5.00			
AC	152.00			152.00			

07:45 - 08:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	72.08	0.014	1.00	0.0	9.513	A
C-AB	1.68	155.24	0.011	1.69	0.0	5.875	A
C-A	61.32			61.32			
A-B	1.00			1.00			
A-C	154.00			154.00			

08:00 - 08:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	70.47	0.014	1.00	0.0	12.954	B
C-AB	1.50	141.96	0.011	1.50	0.0	6.375	A
C-A	46.50			46.50			
A-B	3.00			3.00			
A-C	163.00			163.00			

2031 'With Development', PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.09	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D10	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Yapton Lane S		✓	100.000
B - Avistord Park		✓	100.000
C - Yapton Lane N		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
16:45 - 17:00	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	3.00	0.00
		C - Yapton Lane N	116.00	1.00
				0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
17:00 - 17:15	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	2.00	0.00
		C - Yapton Lane N	112.00	0.00
				0.00

Demand (Veh/TS)

		To		
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
17:15 - 17:30	From	A - Yapton Lane S	0.00	1.00
		B - Avistord Park	1.00	0.00
		C - Yapton Lane N	129.00	0.00
				0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0.00	0.00	56.00
	B - Avistord Park	0.00	0.00	0.00
	C - Yapton Lane N	99.00	0.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		A - Yapton Lane S	B - Avistord Park	C - Yapton Lane N
From	A - Yapton Lane S	0	0	4
	B - Avistord Park	0	0	0
	C - Yapton Lane N	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
B-AC	0.03	8.19	0.0	A
C-AB	0.01	3.84	0.0	A
C-A				
AB				
AC				

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	4.00	123.13	0.032	3.97	0.0	7.551	A
C-AB	1.96	236.27	0.008	1.96	0.0	3.840	A
C-A	115.04			115.04			
AB	1.00			1.00			
AC	52.00			52.00			

17:00 - 17:15

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	2.00	111.87	0.018	2.01	0.0	8.193	A
C-AB	0.00	159.28	0.000	0.01	0.0	0.000	A
C-A	112.00			112.00			
AB	1.00			1.00			
AC	58.00			58.00			

17:15 - 17:30

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	1.00	112.82	0.009	1.01	0.0	8.051	A
C-AB	0.00	163.23	0.000	0.00	0.0	0.000	A
C-A	129.00			129.00			
A-B	1.00			1.00			
A-C	43.00			43.00			

17:30 - 17:45

Stream	Total Demand (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
B-AC	0.00	114.56	0.000	0.01	0.0	0.000	A
C-AB	0.00	160.00	0.000	0.00	0.0	0.000	A
C-A	99.00			99.00			
A-B	0.00			0.00			
A-C	56.00			56.00			

Junctions 9			
ARCADY 9 - Roundabout Module			
Version: 9.0.1.4646 [] © Copyright TRL Limited, 2017			
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Filename: Yapton Lane - The Street Mini Rbt.j9

Path: T:\Projects\11000 Series Project Numbers\11324\TB Land North of Walberton\Tech\Junc Models\Arcady\The Street - YL Rbt

Report generation date: 25/04/2017 17:49:23

»2017 Observed, AM
 »2017 Observed, PM
 »2020 'Without Development', AM
 »2020 'Without Development', PM
 »2031 'Without Development', AM
 »2031 'Without Development', PM
 »2020 'With Development', AM
 »2020 'With Development', PM
 »2031 'With Development', AM
 »2031 'With Development', PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2017 Observed								
1 - Yapton Lane N	0.3	5.50	0.23	A	1.1	8.74	0.53	A
2 - Yapton Lane S	2.0	11.50	0.67	B	0.3	4.84	0.21	A
3 - The Street	0.2	6.73	0.16	A	0.2	4.81	0.15	A
2020 'Without Development'								
1 - Yapton Lane N	0.3	5.57	0.24	A	1.2	9.05	0.55	A
2 - Yapton Lane S	2.2	12.24	0.70	B	0.3	4.86	0.21	A
3 - The Street	0.2	6.83	0.16	A	0.2	4.85	0.15	A
2031 'Without Development'								
1 - Yapton Lane N	0.4	5.80	0.27	A	1.5	10.50	0.61	B
2 - Yapton Lane S	3.2	15.82	0.77	C	0.3	5.05	0.24	A
3 - The Street	0.2	7.49	0.20	A	0.2	5.02	0.17	A
2020 'With Development'								
1 - Yapton Lane N	0.4	5.70	0.27	A	1.3	9.39	0.57	A
2 - Yapton Lane S	2.3	12.62	0.71	B	0.3	4.99	0.23	A
3 - The Street	0.2	6.93	0.17	A	0.2	4.94	0.16	A
2031 'With Development'								
1 - Yapton Lane N	0.4	5.98	0.30	A	1.7	10.97	0.63	B
2 - Yapton Lane S	3.3	16.43	0.78	C	0.3	5.18	0.26	A
3 - The Street	0.2	7.54	0.20	A	0.2	5.08	0.18	A

There are warnings associated with one or more model runs. - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

File summary

File Description

Title	The Street / Yapton Lane Mini Rbt
Location	Walberton
Site number	
Date	20/04/2017
Version	
Status	
Identifier	
Client	
Jobnumber	ITB11324
Enumerator	RS
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perTimeSegment	s	-Min	perMin

Analysis Options

Mini-roundabout model	Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9			0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2017 Observed	AM	DIRECT	07:15	08:15	60	15
D2	2017 Observed	PM	DIRECT	16:45	17:45	60	15
D3	2020 'Without Development'	AM	DIRECT	07:15	08:15	60	15
D4	2020 'Without Development'	PM	DIRECT	16:45	17:45	60	15
D5	2031 'Without Development'	AM	DIRECT	07:15	08:15	60	15
D6	2031 'Without Development'	PM	DIRECT	16:45	17:45	60	15
D7	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15
D8	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15
D9	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15
D10	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2017 Observed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 92% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	9.51	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	Yapton Lane N	
2	Yapton Lane S	
3	The Street	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Yapton Lane N	2.60	2.60	4.40	5.4	13.44	15.10	0.0	
2 - Yapton Lane S	3.00	3.00	6.40	5.4	12.20	10.70	0.0	✓
3 - The Street	3.35	3.15	5.20	4.3	14.33	13.60	0.0	✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - Yapton Lane N	0.634	245.255
2 - Yapton Lane S	0.525	248.628
3 - The Street	0.528	244.435

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2017 Observed	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:15 - 07:30		To			
	From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
		1 - Yapton Lane N	0.00	43.00	5.00
		2 - Yapton Lane S	82.00	0.00	16.00
		3 - The Street	3.00	8.00	0.00

Demand (Veh/TS)

		To			
07:30 - 07:45	From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
		1 - Yapton Lane N	0.00	46.00	4.00
		2 - Yapton Lane S	109.00	0.00	6.00
		3 - The Street	8.00	13.00	0.00

Demand (Veh/TS)

07:45 - 08:00		To			
	From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
		1 - Yapton Lane N	0.00	41.00	1.00
		2 - Yapton Lane S	133.00	0.00	25.00
		3 - The Street	11.00	15.00	0.00

Demand (Veh/TS)

08:00 - 08:15		To			
	From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
		1 - Yapton Lane N	0.00	40.00	8.00
		2 - Yapton Lane S	119.00	0.00	18.00
		3 - The Street	8.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	11	11
	2 - Yapton Lane S	5	0	11
	3 - The Street	3	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.23	5.50	0.3	A
2 - Yapton Lane S	0.67	11.50	2.0	E
3 - The Street	0.16	6.73	0.2	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	48.00	7.95	216.63	0.222	47.72	0.3	5.319	A
2 - Yapton Lane S	98.00	4.97	231.94	0.423	97.28	0.7	6.650	A
3 - The Street	11.00	81.40	184.25	0.060	10.94	0.1	5.192	A

07:30 - 07:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	50.00	12.96	213.50	0.234	49.98	0.3	5.504	A
2 - Yapton Lane S	115.00	4.01	233.88	0.492	114.77	1.0	7.540	A
3 - The Street	21.00	108.70	171.41	0.123	20.92	0.1	5.978	A

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	42.00	14.97	212.28	0.198	42.06	0.2	5.288	A
2 - Yapton Lane S	158.00	1.02	234.18	0.675	156.96	2.0	11.498	B
3 - The Street	26.00	132.22	159.69	0.163	25.95	0.2	6.725	A

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	48.00	12.03	214.00	0.224	47.96	0.3	5.418	A
2 - Yapton Lane S	137.00	7.96	230.69	0.594	137.50	1.5	9.710	A
3 - The Street	20.00	119.38	166.10	0.120	20.05	0.1	6.164	A

2017 Observed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 87% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	7.13	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2017 Observed	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To		
From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
	1 - Yapton Lane N	0.00	100.00	9.00
	2 - Yapton Lane S	33.00	0.00	13.00
	3 - The Street	3.00	19.00	0.00

Demand (Veh/TS)

		To		
From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
	1 - Yapton Lane N	0.00	76.00	4.00
	2 - Yapton Lane S	39.00	0.00	6.00
	3 - The Street	6.00	24.00	0.00

Demand (Veh/TS)

17:15 - 17:30

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	108.00	9.00
	2 - Yapton Lane S	31.00	0.00	14.00
	3 - The Street	5.00	24.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	103.00	11.00
	2 - Yapton Lane S	36.00	0.00	12.00
	3 - The Street	11.00	22.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	5	0
	2 - Yapton Lane S	4	0	2
	3 - The Street	4	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.53	8.74	1.1	A
2 - Yapton Lane S	0.21	4.84	0.3	A
3 - The Street	0.15	4.81	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	109.00	18.91	222.13	0.491	108.05	0.9	7.827	A
2 - Yapton Lane S	46.00	8.92	235.23	0.196	45.76	0.2	4.744	A
3 - The Street	22.00	32.83	223.02	0.099	21.89	0.1	4.473	A

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	80.00	23.97	218.67	0.366	80.36	0.6	6.525	A
2 - Yapton Lane S	45.00	4.05	236.98	0.190	45.01	0.2	4.689	A
3 - The Street	30.00	38.97	219.29	0.137	29.95	0.2	4.752	A

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	117.00	24.00	218.95	0.534	116.46	1.1	8.736	A
2 - Yapton Lane S	45.00	8.94	235.35	0.191	45.00	0.2	4.727	A
3 - The Street	29.00	31.04	223.76	0.130	29.01	0.1	4.621	A

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	114.00	22.01	220.39	0.517	114.04	1.1	8.468	A
2 - Yapton Lane S	48.00	10.98	234.03	0.205	47.98	0.3	4.837	A
3 - The Street	33.00	35.97	220.08	0.150	32.97	0.2	4.810	A

2020 'Without Development', AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 93% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	10.04	E

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D3	2020 'Without Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:15 - 07:30

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	44.00	5.00
	2 - Yapton Lane S	85.00	0.00	17.00
	3 - The Street	3.00	8.00	0.00

Demand (Veh/TS)

07:30 - 07:45

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	48.00	4.00
	2 - Yapton Lane S	113.00	0.00	6.00
	3 - The Street	8.00	13.00	0.00

Demand (Veh/TS)

07:45 - 08:00

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	42.00	1.00
	2 - Yapton Lane S	137.00	0.00	26.00
	3 - The Street	11.00	15.00	0.00

Demand (Veh/TS)

08:00 - 08:15

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	41.00	8.00
	2 - Yapton Lane S	123.00	0.00	19.00
	3 - The Street	8.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	11	11
	2 - Yapton Lane S	5	0	11
	3 - The Street	3	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.24	5.57	0.3	A
2 - Yapton Lane S	0.70	12.24	2.2	B
3 - The Street	0.16	6.83	0.2	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	49.00	7.95	216.63	0.226	48.71	0.3	5.351	A
2 - Yapton Lane S	102.00	4.97	231.89	0.440	101.23	0.8	6.849	A
3 - The Street	11.00	84.35	182.74	0.060	10.94	0.1	5.237	A

07:30 - 07:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	52.00	12.96	213.50	0.244	51.97	0.3	5.572	A
2 - Yapton Lane S	119.00	4.01	233.90	0.509	118.76	1.0	7.798	A
3 - The Street	21.00	112.68	169.36	0.124	20.92	0.1	6.061	A

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	43.00	14.97	212.28	0.203	43.06	0.3	5.320	A
2 - Yapton Lane S	163.00	1.02	234.17	0.696	161.82	2.2	12.245	B
3 - The Street	26.00	136.12	157.68	0.165	25.94	0.2	6.828	A

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	49.00	12.03	214.01	0.229	48.96	0.3	5.451	A
2 - Yapton Lane S	142.00	7.96	230.66	0.616	142.55	1.6	10.282	B
3 - The Street	20.00	123.42	164.02	0.122	20.06	0.1	6.255	A

2020 'Without Development', PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 87% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	7.33	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D4	2020 'Without Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	103.00	9.00
	2 - Yapton Lane S	34.00	0.00	13.00
	3 - The Street	3.00	20.00	0.00

Demand (Veh/TS)

17:00 - 17:15

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	78.00	4.00
	2 - Yapton Lane S	40.00	0.00	6.00
	3 - The Street	6.00	25.00	0.00

Demand (Veh/TS)

17:15 - 17:30

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	111.00	9.00
	2 - Yapton Lane S	32.00	0.00	14.00
	3 - The Street	5.00	25.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	106.00	11.00
	2 - Yapton Lane S	37.00	0.00	12.00
	3 - The Street	11.00	23.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	5	0
	2 - Yapton Lane S	4	0	2
	3 - The Street	4	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.55	9.05	1.2	A
2 - Yapton Lane S	0.21	4.86	0.3	A
3 - The Street	0.15	4.85	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	112.00	19.90	221.50	0.506	111.00	1.0	8.074	A
2 - Yapton Lane S	47.00	8.92	235.20	0.200	46.75	0.2	4.770	A
3 - The Street	23.00	33.82	222.52	0.103	22.89	0.1	4.506	A

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	82.00	24.97	218.05	0.376	82.39	0.6	6.652	A
2 - Yapton Lane S	46.00	4.05	236.97	0.194	46.01	0.2	4.714	A
3 - The Street	31.00	39.97	218.79	0.142	30.95	0.2	4.790	A

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	120.00	25.00	218.32	0.550	119.42	1.2	9.046	A
2 - Yapton Lane S	46.00	8.94	235.32	0.195	46.00	0.2	4.753	A
3 - The Street	30.00	32.04	223.25	0.134	30.01	0.2	4.657	A

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	117.00	23.01	219.75	0.532	117.04	1.2	8.769	A
2 - Yapton Lane S	49.00	10.98	234.01	0.209	48.98	0.3	4.864	A
3 - The Street	34.00	36.97	219.61	0.155	33.97	0.2	4.848	A

2031 'Without Development', AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 93% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	12.46	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D5	2031 'Without Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

		To			
07:15 - 07:30	From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
		1 - Yapton Lane N	0.00	49.00	6.00
		2 - Yapton Lane S	94.00	0.00	18.00
		3 - The Street	3.00	9.00	0.00

Demand (Veh/TS)

		To			
07:30 - 07:45	From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
		1 - Yapton Lane N	0.00	52.00	5.00
		2 - Yapton Lane S	124.00	0.00	7.00
		3 - The Street	9.00	15.00	0.00

Demand (Veh/TS)

07:45 - 08:00

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	47.00	1.00
	2 - Yapton Lane S	152.00	0.00	29.00
	3 - The Street	13.00	17.00	0.00

Demand (Veh/TS)

08:00 - 08:15

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	46.00	9.00
	2 - Yapton Lane S	136.00	0.00	21.00
	3 - The Street	9.00	14.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	11	11
	2 - Yapton Lane S	5	0	11
	3 - The Street	3	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.27	5.80	0.4	A
2 - Yapton Lane S	0.77	15.82	3.2	C
3 - The Street	0.20	7.49	0.2	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	55.00	8.95	215.98	0.255	54.66	0.3	5.568	A
2 - Yapton Lane S	112.00	5.96	231.42	0.484	111.08	0.9	7.423	A
3 - The Street	12.00	93.23	177.45	0.068	11.93	0.1	5.434	A

07:30 - 07:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	57.00	14.95	212.20	0.269	56.97	0.4	5.798	A
2 - Yapton Lane S	131.00	5.01	233.31	0.561	130.67	1.3	8.737	A
3 - The Street	24.00	123.59	163.29	0.147	23.90	0.2	6.453	A

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	48.00	16.97	210.99	0.228	48.07	0.3	5.525	A
2 - Yapton Lane S	181.00	1.03	234.16	0.773	179.09	3.2	15.823	C
3 - The Street	30.00	150.53	150.00	0.200	29.92	0.2	7.490	A

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	55.00	14.03	212.71	0.259	54.95	0.3	5.703	A
2 - Yapton Lane S	157.00	8.95	230.11	0.682	157.93	2.2	12.634	B
3 - The Street	23.00	136.72	156.70	0.147	23.07	0.2	6.740	A

2031 'Without Development', PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 87% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	8.26	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D6	2031 'Without Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	114.00	10.00
	2 - Yapton Lane S	38.00	0.00	15.00
	3 - The Street	3.00	22.00	0.00

Demand (Veh/TS)

17:00 - 17:15

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	87.00	5.00
	2 - Yapton Lane S	45.00	0.00	7.00
	3 - The Street	7.00	27.00	0.00

Demand (Veh/TS)

17:15 - 17:30

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	123.00	10.00
	2 - Yapton Lane S	35.00	0.00	16.00
	3 - The Street	6.00	27.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	118.00	13.00
	2 - Yapton Lane S	41.00	0.00	14.00
	3 - The Street	13.00	25.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	5	0
	2 - Yapton Lane S	4	0	2
	3 - The Street	4	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.61	10.50	1.5	E
2 - Yapton Lane S	0.24	5.05	0.3	A
3 - The Street	0.17	5.02	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	124.00	21.89	220.28	0.563	122.74	1.3	9.114	A
2 - Yapton Lane S	53.00	9.90	234.73	0.226	52.71	0.3	4.936	A
3 - The Street	25.00	37.79	220.43	0.113	24.87	0.1	4.599	A

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	92.00	26.96	216.90	0.424	92.51	0.7	7.266	A
2 - Yapton Lane S	52.00	5.06	236.48	0.220	52.01	0.3	4.880	A
3 - The Street	34.00	44.96	216.01	0.157	33.94	0.2	4.942	A

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	133.00	27.00	217.10	0.613	132.21	1.5	10.504	E
2 - Yapton Lane S	51.00	9.93	234.86	0.217	51.00	0.3	4.896	A
3 - The Street	33.00	35.05	221.53	0.149	33.01	0.2	4.773	A

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	131.00	25.01	218.59	0.599	131.02	1.5	10.285	B
2 - Yapton Lane S	55.00	12.97	233.05	0.236	54.97	0.3	5.054	A
3 - The Street	38.00	40.96	217.34	0.175	37.97	0.2	5.016	A

2020 'With Development', AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 93% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	10.19	E

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D7	2020 'With Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:15 - 07:30

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	50.00	6.00
	2 - Yapton Lane S	87.00	0.00	17.00
	3 - The Street	3.00	8.00	0.00

Demand (Veh/TS)

07:30 - 07:45

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	53.00	5.00
	2 - Yapton Lane S	114.00	0.00	6.00
	3 - The Street	9.00	13.00	0.00

Demand (Veh/TS)

07:45 - 08:00

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	48.00	2.00
	2 - Yapton Lane S	139.00	0.00	26.00
	3 - The Street	12.00	15.00	0.00

Demand (Veh/TS)

08:00 - 08:15

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	47.00	9.00
	2 - Yapton Lane S	125.00	0.00	19.00
	3 - The Street	9.00	12.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	9	9
	2 - Yapton Lane S	5	0	11
	3 - The Street	3	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.27	5.70	0.4	A
2 - Yapton Lane S	0.71	12.62	2.3	B
3 - The Street	0.17	6.93	0.2	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	56.00	7.95	219.16	0.256	55.66	0.3	5.494	A
2 - Yapton Lane S	104.00	5.96	231.63	0.449	103.20	0.8	6.965	A
3 - The Street	11.00	86.33	181.33	0.061	10.94	0.1	5.281	A

07:30 - 07:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	58.00	12.96	215.94	0.269	57.98	0.4	5.697	A
2 - Yapton Lane S	120.00	5.01	233.62	0.514	119.77	1.0	7.888	A
3 - The Street	22.00	113.69	168.88	0.130	21.92	0.1	6.121	A

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	50.00	14.97	214.62	0.233	50.06	0.3	5.472	A
2 - Yapton Lane S	165.00	2.02	233.85	0.706	163.75	2.3	12.615	B
3 - The Street	27.00	138.06	156.69	0.172	26.94	0.2	6.933	A

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	56.00	12.03	216.58	0.259	55.96	0.3	5.601	A
2 - Yapton Lane S	144.00	8.96	230.41	0.625	144.58	1.7	10.558	B
3 - The Street	21.00	125.44	163.04	0.129	21.06	0.1	6.340	A

2020 'With Development', PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 87% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	7.54	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D8	2020 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	106.00	10.00
	2 - Yapton Lane S	39.00	0.00	13.00
	3 - The Street	4.00	20.00	0.00

Demand (Veh/TS)

17:00 - 17:15

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	81.00	5.00
	2 - Yapton Lane S	45.00	0.00	6.00
	3 - The Street	7.00	25.00	0.00

Demand (Veh/TS)

17:15 - 17:30

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	114.00	10.00
	2 - Yapton Lane S	37.00	0.00	14.00
	3 - The Street	6.00	25.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	109.00	12.00
	2 - Yapton Lane S	42.00	0.00	12.00
	3 - The Street	12.00	23.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	5	0
	2 - Yapton Lane S	4	0	2
	3 - The Street	4	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.57	9.39	1.3	A
2 - Yapton Lane S	0.23	4.99	0.3	A
3 - The Street	0.16	4.94	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	116.00	19.90	221.76	0.523	114.92	1.1	8.343	A
2 - Yapton Lane S	52.00	9.91	235.42	0.221	51.72	0.3	4.892	A
3 - The Street	24.00	38.79	219.88	0.109	23.88	0.1	4.588	A

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	86.00	24.97	218.35	0.394	86.42	0.7	6.844	A
2 - Yapton Lane S	51.00	5.05	237.40	0.215	51.01	0.3	4.828	A
3 - The Street	32.00	44.97	216.28	0.148	31.95	0.2	4.881	A

17:15 - 17:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	124.00	25.00	218.57	0.567	123.38	1.3	9.393	A
2 - Yapton Lane S	51.00	9.93	235.50	0.217	51.00	0.3	4.877	A
3 - The Street	31.00	37.04	220.68	0.140	31.01	0.2	4.744	A

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	121.00	23.01	220.00	0.550	121.04	1.2	9.102	A
2 - Yapton Lane S	54.00	11.98	234.27	0.231	53.98	0.3	4.991	A
3 - The Street	35.00	41.97	217.26	0.161	34.97	0.2	4.937	A

2031 'With Development', AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 92% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	12.75	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D9	2031 'With Development'	AM	DIRECT	07:15	08:15	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

07:15 - 07:30

		To		
From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
	1 - Yapton Lane N	0.00	54.00	7.00
	2 - Yapton Lane S	95.00	0.00	18.00
	3 - The Street	4.00	9.00	0.00

Demand (Veh/TS)

07:30 - 07:45

		To		
From		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
	1 - Yapton Lane N	0.00	58.00	6.00
	2 - Yapton Lane S	126.00	0.00	7.00
	3 - The Street	9.00	15.00	0.00

Demand (Veh/TS)

07:45 - 08:00

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	52.00	2.00
	2 - Yapton Lane S	154.00	0.00	29.00
	3 - The Street	13.00	17.00	0.00

Demand (Veh/TS)

08:00 - 08:15

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	51.00	10.00
	2 - Yapton Lane S	138.00	0.00	21.00
	3 - The Street	9.00	14.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	10	9
	2 - Yapton Lane S	5	0	11
	3 - The Street	3	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.30	5.98	0.4	A
2 - Yapton Lane S	0.78	16.43	3.3	C
3 - The Street	0.20	7.54	0.2	A

Main Results for each time segment

07:15 - 07:30

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	61.00	8.95	218.30	0.279	60.62	0.4	5.694	A
2 - Yapton Lane S	113.00	6.96	231.14	0.489	112.06	0.9	7.501	A
3 - The Street	13.00	94.21	177.71	0.073	12.92	0.1	5.459	A

07:30 - 07:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	64.00	14.95	214.46	0.298	63.96	0.4	5.978	A
2 - Yapton Lane S	133.00	6.00	233.03	0.571	132.64	1.3	8.931	A
3 - The Street	24.00	125.56	162.39	0.148	23.91	0.2	6.494	A

07:45 - 08:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	54.00	16.97	213.14	0.253	54.08	0.3	5.660	A
2 - Yapton Lane S	183.00	2.03	233.83	0.783	180.98	3.3	16.432	C
3 - The Street	30.00	152.43	149.15	0.201	29.92	0.2	7.543	A

08:00 - 08:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	61.00	14.03	215.07	0.284	60.95	0.4	5.838	A
2 - Yapton Lane S	159.00	9.95	229.86	0.692	159.99	2.3	13.066	B
3 - The Street	23.00	138.77	155.78	0.148	23.07	0.2	6.785	A

2031 'With Development', PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Mini-roundabout		Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details.[Arms 1 and 2 have 88% of the total flow for the roundabout for one or more time segments]

Junction Network

Junctions

Junction	Name	Junction Type	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	8.52	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D10	2031 'With Development'	PM	DIRECT	16:45	17:45	60	15

Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
1 - Yapton Lane N		✓	100.000
2 - Yapton Lane S		✓	100.000
3 - The Street		✓	100.000

Origin-Destination Data

Demand (Veh/TS)

16:45 - 17:00

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	117.00	11.00
	2 - Yapton Lane S	43.00	0.00	15.00
	3 - The Street	4.00	22.00	0.00

Demand (Veh/TS)

17:00 - 17:15

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	90.00	5.00
	2 - Yapton Lane S	50.00	0.00	7.00
	3 - The Street	8.00	27.00	0.00

Demand (Veh/TS)

17:15 - 17:30

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	126.00	11.00
	2 - Yapton Lane S	40.00	0.00	16.00
	3 - The Street	7.00	27.00	0.00

Demand (Veh/TS)

17:30 - 17:45

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0.00	121.00	13.00
	2 - Yapton Lane S	46.00	0.00	14.00
	3 - The Street	13.00	25.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1 - Yapton Lane N	2 - Yapton Lane S	3 - The Street
From	1 - Yapton Lane N	0	5	0
	2 - Yapton Lane S	4	0	2
	3 - The Street	4	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS
1 - Yapton Lane N	0.63	10.97	1.7	E
2 - Yapton Lane S	0.26	5.18	0.3	A
3 - The Street	0.18	5.08	0.2	A

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	128.00	21.89	220.54	0.580	126.65	1.3	9.457	A
2 - Yapton Lane S	58.00	10.88	234.96	0.247	57.67	0.3	5.067	A
3 - The Street	26.00	42.76	217.80	0.119	25.87	0.1	4.686	A

17:00 - 17:15

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	95.00	26.96	217.07	0.438	95.56	0.8	7.439	A
2 - Yapton Lane S	57.00	5.07	237.41	0.240	57.01	0.3	4.990	A
3 - The Street	35.00	49.96	213.54	0.164	34.94	0.2	5.038	A

17:15 - 17:30

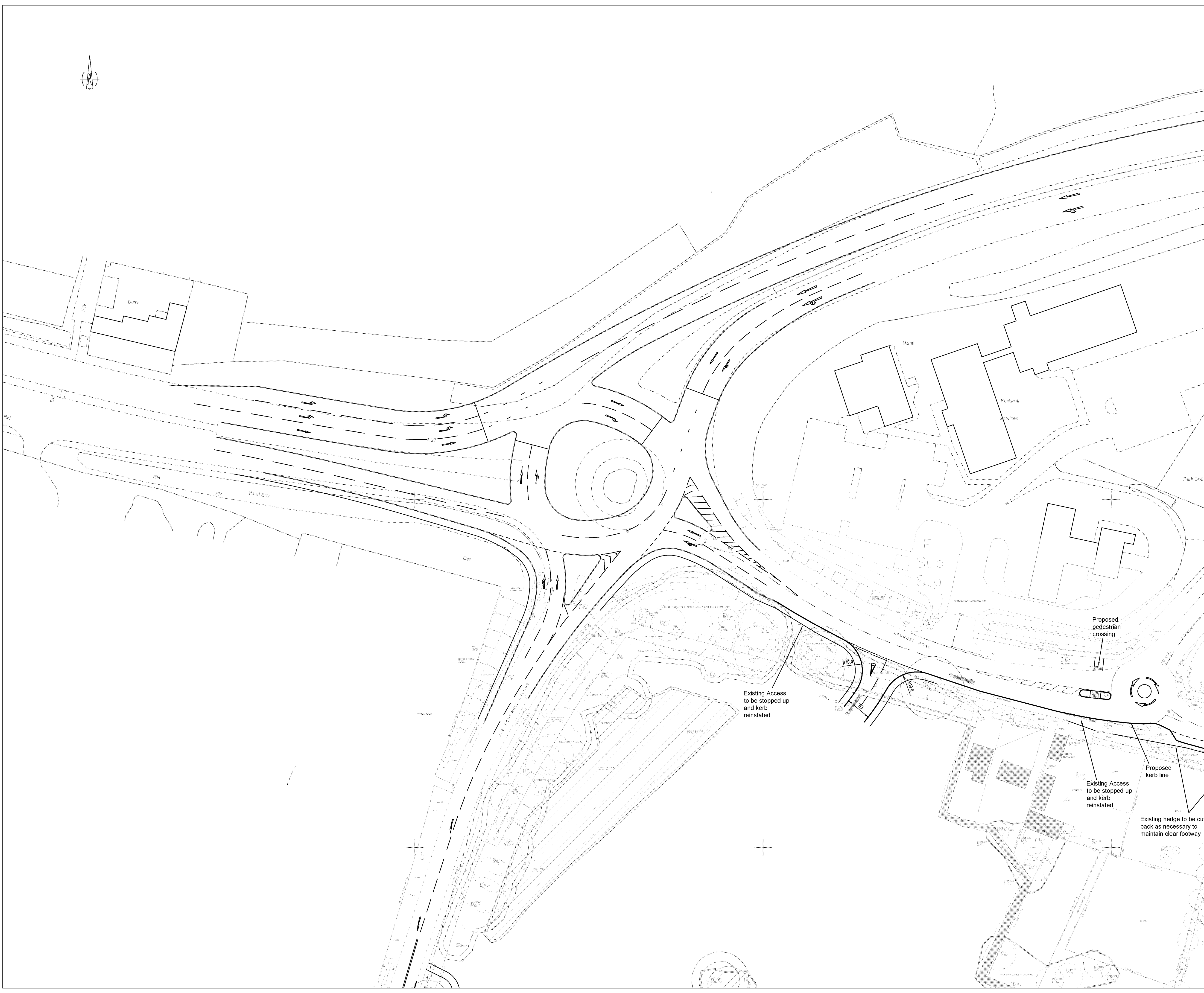
Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	137.00	27.00	217.35	0.630	136.14	1.7	10.966	E
2 - Yapton Lane S	56.00	10.91	235.04	0.238	56.00	0.3	5.028	A
3 - The Street	34.00	40.05	218.99	0.155	34.01	0.2	4.865	A

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	End queue (Veh)	Delay (s)	LOS
1 - Yapton Lane N	134.00	25.01	218.75	0.613	134.04	1.6	10.637	B
2 - Yapton Lane S	60.00	12.98	233.81	0.257	59.97	0.3	5.177	A
3 - The Street	38.00	45.96	215.12	0.177	37.97	0.2	5.080	A

APPENDIX K

A27 / ARUNDEL ROAD / A29 – COMMITTED IMPROVEMENT



Key

Visibility Splays

2.4x120m vizi

Trees to be removed

Drawn by JL	Date: Feb 15	Scale: 1:500 @ A1
Drawing No. 1186-05		Revision A

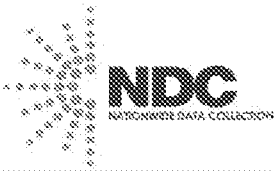
APPENDIX L

A27 / A29 FARMILLE BOTTOM – LOCAL PLAN IMPROVEMENT

APPENDIX M

A27/YAPTON LANE QUEUE SURVEY



	Site / Location:	Site 3, A27 Arundel Road / Yapton Lane / Shellbridge Road	Project No:	7279	Drawing No:	7279-03	Drawn By:	SR
	Survey Date:	Tuesday 21st March 2017	Project Name:		Walberton			
	Survey Times:	07:00 to 10:00 & 16:00 to 19:00	Drawing Title:		Site Layout and Observed Movements			



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapt on Lane / Shellbridge DAY: TUESDAY

Arm A - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
07:00:00	0	0	0	0	0	0
07:01:00	0	0	0	0	0	0
07:02:00	0	0	0	0	0	0
07:03:00	0	0	0	0	0	0
07:04:00	0	0	0	0	0	0
07:05:00	0	0	0	0	0	0
07:06:00	0	0	0	0	0	0
07:07:00	0	0	0	0	0	0
07:08:00	0	0	0	0	0	0
07:09:00	0	0	0	0	0	0
07:10:00	0	0	0	0	0	0
07:11:00	0	0	0	0	0	0
07:12:00	0	0	0	0	0	0
07:13:00	0	0	0	0	0	0
07:14:00	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0
07:16:00	0	0	0	0	0	0
07:17:00	0	0	0	0	0	0
07:18:00	0	0	0	0	0	0
07:19:00	0	0	0	0	0	0
07:20:00	0	0	0	0	0	0
07:21:00	0	0	0	0	0	0
07:22:00	0	0	0	0	0	0
07:23:00	0	0	0	0	0	0
07:24:00	0	0	0	0	0	0
07:25:00	0	0	0	0	0	0
07:26:00	0	0	0	0	0	0
07:27:00	0	0	0	0	0	0
07:28:00	0	0	0	0	0	0
07:29:00	0	0	0	0	0	0
07:30:00	0	0	0	0	0	0
07:31:00	0	0	0	0	0	0
07:32:00	0	0	0	0	0	0
07:33:00	0	0	0	0	0	0
07:34:00	0	0	0	0	0	0
07:35:00	0	0	0	0	0	0
07:36:00	0	0	0	0	0	0
07:37:00	0	0	0	0	0	0
07:38:00	0	0	0	0	0	0
07:39:00	0	0	0	0	0	0
07:40:00	0	0	0	0	0	0
07:41:00	0	0	0	0	0	0
07:42:00	0	0	0	0	0	0
07:43:00	0	0	0	0	0	0
07:44:00	0	0	0	0	0	0
07:45:00	0	0	0	0	0	0
07:46:00	0	0	0	0	0	0
07:47:00	0	0	0	0	0	0
07:48:00	0	0	0	0	0	0
07:49:00	0	0	0	0	0	0
07:50:00	0	0	0	0	0	0
07:51:00	0	0	0	0	0	0
07:52:00	0	0	0	0	0	0
07:53:00	0	0	0	0	0	0
07:54:00	0	0	0	0	0	0
07:55:00	0	0	0	0	0	0
07:56:00	0	0	0	0	0	0
07:57:00	0	0	0	0	0	0
07:58:00	0	0	0	0	0	0
07:59:00	0	0	0	0	0	0



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge DAY: TUESDAY

Arm A - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
08:00:00	0	0	0	0	0	0
08:01:00	0	0	0	0	0	0
08:02:00	0	0	0	0	0	0
08:03:00	0	0	0	0	0	0
08:04:00	0	0	0	0	0	0
08:05:00	0	0	0	0	0	0
08:06:00	0	0	0	0	0	0
08:07:00	0	0	0	0	0	0
08:08:00	0	0	0	0	0	0
08:09:00	0	0	0	0	0	0
08:10:00	0	0	0	0	0	0
08:11:00	0	0	0	0	0	0
08:12:00	0	0	0	0	0	0
08:13:00	0	0	0	0	0	0
08:14:00	0	0	0	0	0	0
08:15:00	0	0	0	0	0	0
08:16:00	0	0	0	0	0	0
08:17:00	0	0	0	0	0	0
08:18:00	0	0	0	0	0	0
08:19:00	0	0	0	0	0	0
08:20:00	0	0	0	0	0	0
08:21:00	0	0	0	0	0	0
08:22:00	0	0	0	0	0	0
08:23:00	0	0	0	0	0	0
08:24:00	0	0	0	0	0	0
08:25:00	0	0	0	0	0	0
08:26:00	0	0	0	0	0	0
08:27:00	0	0	0	0	0	0
08:28:00	0	0	0	0	0	0
08:29:00	0	0	0	0	0	0
08:30:00	0	0	0	0	0	0
08:31:00	0	0	0	0	0	0
08:32:00	0	0	0	0	0	0
08:33:00	0	0	0	0	0	0
08:34:00	0	0	0	0	0	0
08:35:00	0	0	0	0	0	0
08:36:00	0	0	0	0	0	0
08:37:00	0	0	0	0	0	0
08:38:00	0	0	0	0	0	0
08:39:00	0	0	0	0	0	0
08:40:00	0	0	0	0	0	0
08:41:00	0	0	0	0	0	0
08:42:00	0	0	0	0	0	0
08:43:00	0	0	0	0	0	0
08:44:00	0	0	0	0	0	0
08:45:00	1	1	0	0	0	5.75
08:46:00	0	0	0	0	0	0
08:47:00	0	0	0	0	0	0
08:48:00	0	0	0	0	0	0
08:49:00	0	0	0	0	0	0
08:50:00	0	0	0	0	0	0
08:51:00	0	0	0	0	0	0
08:52:00	0	0	0	0	0	0
08:53:00	0	0	0	0	0	0
08:54:00	0	0	0	0	0	0
08:55:00	0	0	0	0	0	0
08:56:00	0	0	0	0	0	0
08:57:00	0	0	0	0	0	0
08:58:00	0	0	0	0	0	0
08:59:00	0	0	0	0	0	0



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge DAY: TUESDAY

Arm A - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
09:00:00	0	0	0	0	0	0
09:01:00	0	0	0	0	0	0
09:02:00	0	0	0	0	0	0
09:03:00	0	0	0	0	0	0
09:04:00	0	0	0	0	0	0
09:05:00	0	0	0	0	0	0
09:06:00	0	0	0	0	0	0
09:07:00	0	0	0	0	0	0
09:08:00	0	0	0	0	0	0
09:09:00	0	0	0	0	0	0
09:10:00	0	0	0	0	0	0
09:11:00	0	0	0	0	0	0
09:12:00	0	0	0	0	0	0
09:13:00	0	0	0	0	0	0
09:14:00	0	0	0	0	0	0
09:15:00	0	0	0	0	0	0
09:16:00	0	0	0	0	0	0
09:17:00	0	0	0	0	0	0
09:18:00	0	0	0	0	0	0
09:19:00	0	0	0	0	0	0
09:20:00	0	0	0	0	0	0
09:21:00	0	0	0	0	0	0
09:22:00	0	0	0	0	0	0
09:23:00	0	0	0	0	0	0
09:24:00	0	0	0	0	0	0
09:25:00	0	0	0	0	0	0
09:26:00	0	0	0	0	0	0
09:27:00	0	0	0	0	0	0
09:28:00	0	0	0	0	0	0
09:29:00	0	0	0	0	0	0
09:30:00	0	0	0	0	0	0
09:31:00	0	0	0	0	0	0
09:32:00	0	0	0	0	0	0
09:33:00	0	0	0	0	0	0
09:34:00	0	0	0	0	0	0
09:35:00	0	0	0	0	0	0
09:36:00	0	0	0	0	0	0
09:37:00	0	0	0	0	0	0
09:38:00	0	0	0	0	0	0
09:39:00	0	0	0	0	0	0
09:40:00	0	0	0	0	0	0
09:41:00	0	0	0	0	0	0
09:42:00	0	0	0	0	0	0
09:43:00	0	0	0	0	0	0
09:44:00	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0
09:46:00	0	0	0	0	0	0
09:47:00	0	0	0	0	0	0
09:48:00	0	0	0	0	0	0
09:49:00	0	0	0	0	0	0
09:50:00	0	0	0	0	0	0
09:51:00	0	0	0	0	0	0
09:52:00	0	0	0	0	0	0
09:53:00	0	0	0	0	0	0
09:54:00	0	0	0	0	0	0
09:55:00	0	0	0	0	0	0
09:56:00	0	0	0	0	0	0
09:57:00	0	0	0	0	0	0
09:58:00	0	0	0	0	0	0
09:59:00	0	0	0	0	0	0



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge DAY: TUESDAY

Arm A - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
16:00:00	0	0	0	0	0	0
16:01:00	0	0	0	0	0	0
16:02:00	0	0	0	0	0	0
16:03:00	0	0	0	0	0	0
16:04:00	0	0	0	0	0	0
16:05:00	0	0	0	0	0	0
16:06:00	0	0	0	0	0	0
16:07:00	0	0	0	0	0	0
16:08:00	0	0	0	0	0	0
16:09:00	0	0	0	0	0	0
16:10:00	0	0	0	0	0	0
16:11:00	0	0	0	0	0	0
16:12:00	0	0	0	0	0	0
16:13:00	0	0	0	0	0	0
16:14:00	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0
16:16:00	0	0	0	0	0	0
16:17:00	0	0	0	0	0	0
16:18:00	0	0	0	0	0	0
16:19:00	0	0	0	0	0	0
16:20:00	0	0	0	0	0	0
16:21:00	0	0	0	0	0	0
16:22:00	0	0	0	0	0	0
16:23:00	0	0	0	0	0	0
16:24:00	0	0	0	0	0	0
16:25:00	0	0	0	0	0	0
16:26:00	0	0	0	0	0	0
16:27:00	0	0	0	0	0	0
16:28:00	0	0	0	0	0	0
16:29:00	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0
16:31:00	0	0	0	0	0	0
16:32:00	0	0	0	0	0	0
16:33:00	0	0	0	0	0	0
16:34:00	0	0	0	0	0	0
16:35:00	0	0	0	0	0	0
16:36:00	0	0	0	0	0	0
16:37:00	1	1	0	0	0	5.75
16:38:00	0	0	0	0	0	0
16:39:00	0	0	0	0	0	0
16:40:00	0	0	0	0	0	0
16:41:00	0	0	0	0	0	0
16:42:00	0	0	0	0	0	0
16:43:00	0	0	0	0	0	0
16:44:00	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0
16:46:00	0	0	0	0	0	0
16:47:00	0	0	0	0	0	0
16:48:00	0	0	0	0	0	0
16:49:00	0	0	0	0	0	0
16:50:00	0	0	0	0	0	0
16:51:00	0	0	0	0	0	0
16:52:00	0	0	0	0	0	0
16:53:00	0	0	0	0	0	0
16:54:00	0	0	0	0	0	0
16:55:00	0	0	0	0	0	0
16:56:00	0	0	0	0	0	0
16:57:00	0	0	0	0	0	0
16:58:00	0	0	0	0	0	0
16:59:00	0	0	0	0	0	0



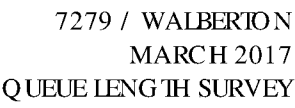
SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge DAY: TUESDAY

Arm A - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
17:00:00	0	0	0	0	0	0
17:01:00	0	0	0	0	0	0
17:02:00	0	0	0	0	0	0
17:03:00	0	0	0	0	0	0
17:04:00	0	0	0	0	0	0
17:05:00	0	0	0	0	0	0
17:06:00	0	0	0	0	0	0
17:07:00	0	0	0	0	0	0
17:08:00	0	0	0	0	0	0
17:09:00	0	0	0	0	0	0
17:10:00	0	0	0	0	0	0
17:11:00	0	0	0	0	0	0
17:12:00	0	0	0	0	0	0
17:13:00	0	0	0	0	0	0
17:14:00	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0
17:16:00	0	0	0	0	0	0
17:17:00	0	0	0	0	0	0
17:18:00	0	0	0	0	0	0
17:19:00	0	0	0	0	0	0
17:20:00	0	0	0	0	0	0
17:21:00	0	0	0	0	0	0
17:22:00	0	0	0	0	0	0
17:23:00	0	0	0	0	0	0
17:24:00	0	0	0	0	0	0
17:25:00	0	0	0	0	0	0
17:26:00	0	0	0	0	0	0
17:27:00	0	0	0	0	0	0
17:28:00	0	0	0	0	0	0
17:29:00	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0
17:31:00	0	0	0	0	0	0
17:32:00	0	0	0	0	0	0
17:33:00	0	0	0	0	0	0
17:34:00	0	0	0	0	0	0
17:35:00	0	0	0	0	0	0
17:36:00	0	0	0	0	0	0
17:37:00	0	0	0	0	0	0
17:38:00	0	0	0	0	0	0
17:39:00	0	0	0	0	0	0
17:40:00	0	0	0	0	0	0
17:41:00	0	0	0	0	0	0
17:42:00	0	0	0	0	0	0
17:43:00	0	0	0	0	0	0
17:44:00	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0
17:46:00	0	0	0	0	0	0
17:47:00	0	0	0	0	0	0
17:48:00	0	0	0	0	0	0
17:49:00	0	0	0	0	0	0
17:50:00	0	0	0	0	0	0
17:51:00	0	0	0	0	0	0
17:52:00	0	0	0	0	0	0
17:53:00	0	0	0	0	0	0
17:54:00	0	0	0	0	0	0
17:55:00	0	0	0	0	0	0
17:56:00	0	0	0	0	0	0
17:57:00	0	0	0	0	0	0
17:58:00	0	0	0	0	0	0
17:59:00	0	0	0	0	0	0



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapt on Lane / Shellbridge DAY: TUESDAY

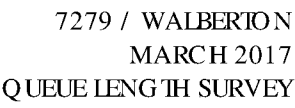
Arm A - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
18:00:00	0	0	0	0	0	0
18:01:00	0	0	0	0	0	0
18:02:00	0	0	0	0	0	0
18:03:00	0	0	0	0	0	0
18:04:00	0	0	0	0	0	0
18:05:00	0	0	0	0	0	0
18:06:00	0	0	0	0	0	0
18:07:00	0	0	0	0	0	0
18:08:00	0	0	0	0	0	0
18:09:00	0	0	0	0	0	0
18:10:00	0	0	0	0	0	0
18:11:00	0	0	0	0	0	0
18:12:00	0	0	0	0	0	0
18:13:00	0	0	0	0	0	0
18:14:00	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0
18:16:00	0	0	0	0	0	0
18:17:00	0	0	0	0	0	0
18:18:00	0	0	0	0	0	0
18:19:00	0	0	0	0	0	0
18:20:00	0	0	0	0	0	0
18:21:00	0	0	0	0	0	0
18:22:00	0	0	0	0	0	0
18:23:00	0	0	0	0	0	0
18:24:00	0	0	0	0	0	0
18:25:00	0	0	0	0	0	0
18:26:00	0	0	0	0	0	0
18:27:00	0	0	0	0	0	0
18:28:00	0	0	0	0	0	0
18:29:00	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0
18:31:00	0	0	0	0	0	0
18:32:00	0	0	0	0	0	0
18:33:00	0	0	0	0	0	0
18:34:00	0	0	0	0	0	0
18:35:00	0	0	0	0	0	0
18:36:00	0	0	0	0	0	0
18:37:00	0	0	0	0	0	0
18:38:00	0	0	0	0	0	0
18:39:00	0	0	0	0	0	0
18:40:00	0	0	0	0	0	0
18:41:00	0	0	0	0	0	0
18:42:00	0	0	0	0	0	0
18:43:00	0	0	0	0	0	0
18:44:00	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0
18:46:00	0	0	0	0	0	0
18:47:00	0	0	0	0	0	0
18:48:00	0	0	0	0	0	0
18:49:00	0	0	0	0	0	0
18:50:00	0	0	0	0	0	0
18:51:00	0	0	0	0	0	0
18:52:00	0	0	0	0	0	0
18:53:00	0	0	0	0	0	0
18:54:00	0	0	0	0	0	0
18:55:00	0	0	0	0	0	0
18:56:00	0	0	0	0	0	0
18:57:00	0	0	0	0	0	0
18:58:00	0	0	0	0	0	0
18:59:00	0	0	0	0	0	0



DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm B

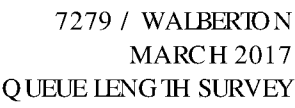


DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm B

NDC for Client



DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm B

NDC for Client



SITE:3

DATE:21/03/2017

LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge Road

DAY: TUESDAY

Arm B - Lane 1 QUEUES							Arm B - Lane 2 QUEUES							Arm B - Lane 3 QUEUES							Arm B - Lane 4 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres	Time	Total	Cars	OGV1	OGV2	PSV	Metres	Time	Total	Cars	OGV1	OGV2	PSV	Metres	Time	Total	Cars	OGV1	OGV2	PSV	Metres
16:00:00	0	0	0	0	0	0	16:00:00	0	0	0	0	0	0	16:00:00	0	0	0	0	0	0	16:00:00	0	0	0	0	0	0
16:01:00	0	0	0	0	0	0	16:01:00	0	0	0	0	0	0	16:01:00	0	0	0	0	0	0	16:01:00	0	0	0	0	0	0
16:02:00	0	0	0	0	0	0	16:02:00	0	0	0	0	0	0	16:02:00	0	0	0	0	0	0	16:02:00	9.1	3	1	2	0	52.325
16:03:00	0	0	0	0	0	0	16:03:00	0	0	0	0	0	0	16:03:00	0	0	0	0	0	0	16:03:00	11	8	2	0	0	63.25
16:04:00	0	0	0	0	0	0	16:04:00	0	0	0	0	0	0	16:04:00	0	0	0	0	0	0	16:04:00	0	0	0	0	0	0
16:05:00	0	0	0	0	0	0	16:05:00	0	0	0	0	0	0	16:05:00	0	0	0	0	0	0	16:05:00	4.3	2	0	1	0	24.725
16:06:00	0	0	0	0	0	0	16:06:00	0	0	0	0	0	0	16:06:00	0	0	0	0	0	0	16:06:00	0	0	0	0	0	0
16:07:00	0	0	0	0	0	0	16:07:00	0	0	0	0	0	0	16:07:00	0	0	0	0	0	0	16:07:00	0	0	0	0	0	0
16:08:00	0	0	0	0	0	0	16:08:00	0	0	0	0	0	0	16:08:00	0	0	0	0	0	0	16:08:00	0	0	0	0	0	0
16:09:00	0	0	0	0	0	0	16:09:00	0	0	0	0	0	0	16:09:00	0	0	0	0	0	0	16:09:00	1	1	0	0	0	5.75
16:10:00	0	0	0	0	0	0	16:10:00	0	0	0	0	0	0	16:10:00	0	0	0	0	0	0	16:10:00	0	0	0	0	0	0
16:11:00	0	0	0	0	0	0	16:11:00	0	0	0	0	0	0	16:11:00	0	0	0	0	0	0	16:11:00	2	2	0	0	0	11.5
16:12:00	0	0	0	0	0	0	16:12:00	0	0	0	0	0	0	16:12:00	0	0	0	0	0	0	16:12:00	0	0	0	0	0	0
16:13:00	0	0	0	0	0	0	16:13:00	0	0	0	0	0	0	16:13:00	0	0	0	0	0	0	16:13:00	0	0	0	0	0	0
16:14:00	0	0	0	0	0	0	16:14:00	0	0	0	0	0	0	16:14:00	0	0	0	0	0	0	16:14:00	7	2	2	0	1	40.25
16:15:00	0	0	0	0	0	0	16:15:00	0	0	0	0	0	0	16:15:00	0	0	0	0	0	0	16:15:00	2.5	1	1	0	0	14.375
16:16:00	0	0	0	0	0	0	16:16:00	0	0	0	0	0	0	16:16:00	0	0	0	0	0	0	16:16:00	0	0	0	0	0	0
16:17:00	0	0	0	0	0	0	16:17:00	0	0	0	0	0	0	16:17:00	0	0	0	0	0	0	16:17:00	0	0	0	0	0	0
16:18:00	0	0	0	0	0	0	16:18:00	0	0	0	0	0	0	16:18:00	0	0	0	0	0	0	16:18:00	0	0	0	0	0	0
16:19:00	0	0	0	0	0	0	16:19:00	0	0	0	0	0	0	16:19:00	0	0	0	0	0	0	16:19:00	0	0	0	0	0	0
16:20:00	0	0	0	0	0	0	16:20:00	0	0	0	0	0	0	16:20:00	0	0	0	0	0	0	16:20:00	1	1	0	0	0	5.75
16:21:00	0	0	0	0	0	0	16:21:00	0	0	0	0	0	0	16:21:00	0	0	0	0	0	0	16:21:00	0	0	0	0	0	0
16:22:00	0	0	0	0	0	0	16:22:00	0	0	0	0	0	0	16:22:00	0	0	0	0	0	0	16:22:00	0	0	0	0	0	0
16:23:00	0	0	0	0	0	0	16:23:00	0	0	0	0	0	0	16:23:00	0	0	0	0	0	0	16:23:00	1	1	0	0	0	5.75
16:24:00	0	0	0	0	0	0	16:24:00	0	0	0	0	0	0	16:24:00	0	0	0	0	0	0	16:24:00	2.5	1	1	0	0	14.375
16:25:00	0	0	0	0	0	0	16:25:00	0	0	0	0	0	0	16:25:00	0	0	0	0	0	0	16:25:00	4	4	0	0	0	23
16:26:00	0	0	0	0	0	0	16:26:00	0	0	0	0	0	0	16:26:00	0	0	0	0	0	0	16:26:00	0	0	0	0	0	0
16:27:00	0	0	0	0	0	0	16:27:00	0	0	0	0	0	0	16:27:00	0	0	0	0	0	0	16:27:00	0	0	0	0	0	0
16:28:00	0	0	0	0	0	0	16:28:00	0	0	0	0	0	0	16:28:00	0	0	0	0	0	0	16:28:00	0	0	0	0	0	0
16:29:00	0	0	0	0	0	0	16:29:00	0	0	0	0	0	0	16:29:00	0	0	0	0	0	0	16:29:00	7	7	0	0	0	40.25
16:30:00	0	0	0	0	0	0	16:30:00	0	0	0	0	0	0	16:30:00	0	0	0	0	0	0	16:30:00	2	2	0	0	0	11.5
16:31:00	0	0	0	0	0	0	16:31:00	0	0	0	0	0	0	16:31:00	0	0	0	0	0	0	16:31:00	0	0	0	0	0	0
16:32:00	0	0	0	0	0	0	16:32:00	0	0	0	0	0	0	16:32:00	0	0	0	0	0	0	16:32:00	1	1	0	0	0	5.75
16:33:00	0	0	0	0	0	0	16:33:00	0	0	0	0	0	0	16:33:00	0	0	0	0	0	0	16:33:00	0	0	0	0	0	0
16:34:00	0	0	0	0	0	0	16:34:00	0	0	0	0	0	0	16:34:00	0	0	0	0	0	0	16:34:00	0	0	0	0	0	0
16:35:00	0	0	0	0	0	0	16:35:00	0	0	0	0	0	0	16:35:00	0	0	0	0	0	0	16:35:00	0	0	0	0	0	0
16:36:00	0	0	0	0	0	0	16:36:00	0	0	0	0	0	0	16:36:00	0	0	0	0	0	0	16:36:00	0	0	0	0	0	0
16:37:00	0	0	0	0	0	0	16:37:00	0	0	0	0	0	0	16:37:00	0	0	0	0	0	0	16:37:00	2	2	0	0	0	11.5
16:38:00	0	0	0	0	0	0	16:38:00	0	0	0	0	0	0	16:38:00	0	0	0	0	0	0	16:38:00	0	0	0	0	0	0
16:39:00	0	0	0	0	0	0	16:39:00	0	0	0	0	0	0	16:39:00	0	0	0	0	0	0	16:39:00	0	0	0	0	0	0
16:40:00	0	0	0	0	0	0	16:40:00	0	0	0	0	0	0	16:40:00	0	0	0	0	0	0	16:40:00	0	0	0	0	0	0
16:41:00	0	0	0	0	0	0	16:41:00	0	0	0	0	0	0	16:41:00	0	0	0	0	0	0	16:41:00	0	0	0	0	0	0
16:42:00	0	0	0	0	0	0	16:42:00	0	0	0	0	0	0	16:42:00	0	0	0	0	0	0	16:42:00	1	1	0	0	0	5.75
16:43:00	0	0	0	0	0	0	16:43:00	0	0	0	0	0	0	16:43:00	0	0	0	0	0	0	16:43:00	7	7	0	0	0	40.25
16:44:00	0	0	0	0	0	0	16:44:00	0	0	0	0	0	0	16:44:00	0	0	0	0	0	0	16:44:00	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0	16:45:00	0	0	0	0	0	0	16:45:00	0	0	0	0	0	0	16:45:00	0	0	0	0	0	0
16:46:00	0	0	0	0	0	0	16:46:00	0	0	0	0	0	0	16:46:00	0	0	0	0	0	0	16:46:00	0	0	0	0	0	0
16:47:00	0	0	0	0	0	0	16:47:00	0	0	0	0	0	0	16:47:00	0	0	0	0	0	0	16:47:00	1	1	0	0	0	5.75
16:48:00	0	0	0	0	0	0	16:48:00	0	0	0	0	0	0	16:48:00	0	0	0	0	0	0	16:48:00	0	0	0	0	0	0
16:49:00	0	0	0	0	0	0	16:49:00	0	0	0	0	0	0	16:49:00	0	0	0	0	0	0							



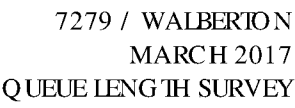
SITE:3

DATE:21/03/2017

LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge Road

DAY: TUESDAY

Arm B - Lane 1 QUEUES							Arm B - Lane 2 QUEUES							Arm B - Lane 3 QUEUES							Arm B - Lane 4 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres	Time	Total	Cars	OGV1	OGV2	PSV	Metres	Time	Total	Cars	OGV1	OGV2	PSV	Metres	Time	Total	Cars	OGV1	OGV2	PSV	Metres
17:00:00	0	0	0	0	0	0	17:00:00	0	0	0	0	0	0	17:00:00	0	0	0	0	0	0	17:00:00	1	1	0	0	0	5.75
17:01:00	0	0	0	0	0	0	17:01:00	0	0	0	0	0	0	17:01:00	0	0	0	0	0	0	17:01:00	0	0	0	0	0	0
17:02:00	0	0	0	0	0	0	17:02:00	0	0	0	0	0	0	17:02:00	0	0	0	0	0	0	17:02:00	7	7	0	0	0	40.25
17:03:00	0	0	0	0	0	0	17:03:00	0	0	0	0	0	0	17:03:00	0	0	0	0	0	0	17:03:00	0	0	0	0	0	0
17:04:00	0	0	0	0	0	0	17:04:00	0	0	0	0	0	0	17:04:00	0	0	0	0	0	0	17:04:00	1	1	0	0	0	5.75
17:05:00	0	0	0	0	0	0	17:05:00	0	0	0	0	0	0	17:05:00	0	0	0	0	0	0	17:05:00	0	0	0	0	0	0
17:06:00	0	0	0	0	0	0	17:06:00	0	0	0	0	0	0	17:06:00	0	0	0	0	0	0	17:06:00	2	2	0	0	0	11.5
17:07:00	0	0	0	0	0	0	17:07:00	0	0	0	0	0	0	17:07:00	0	0	0	0	0	0	17:07:00	0	0	0	0	0	0
17:08:00	0	0	0	0	0	0	17:08:00	0	0	0	0	0	0	17:08:00	0	0	0	0	0	0	17:08:00	0	0	0	0	0	0
17:09:00	0	0	0	0	0	0	17:09:00	0	0	0	0	0	0	17:09:00	0	0	0	0	0	0	17:09:00	0	0	0	0	0	0
17:10:00	0	0	0	0	0	0	17:10:00	0	0	0	0	0	0	17:10:00	0	0	0	0	0	0	17:10:00	0	0	0	0	0	0
17:11:00	0	0	0	0	0	0	17:11:00	0	0	0	0	0	0	17:11:00	0	0	0	0	0	0	17:11:00	5	5	0	0	0	28.75
17:12:00	0	0	0	0	0	0	17:12:00	0	0	0	0	0	0	17:12:00	0	0	0	0	0	0	17:12:00	2	2	0	0	0	11.5
17:13:00	0	0	0	0	0	0	17:13:00	0	0	0	0	0	0	17:13:00	0	0	0	0	0	0	17:13:00	0	0	0	0	0	0
17:14:00	0	0	0	0	0	0	17:14:00	0	0	0	0	0	0	17:14:00	0	0	0	0	0	0	17:14:00	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0	17:15:00	0	0	0	0	0	0	17:15:00	0	0	0	0	0	0	17:15:00	0	0	0	0	0	0
17:16:00	0	0	0	0	0	0	17:16:00	0	0	0	0	0	0	17:16:00	0	0	0	0	0	0	17:16:00	1	1	0	0	0	5.75
17:17:00	0	0	0	0	0	0	17:17:00	0	0	0	0	0	0	17:17:00	0	0	0	0	0	0	17:17:00	0	0	0	0	0	0
17:18:00	0	0	0	0	0	0	17:18:00	0	0	0	0	0	0	17:18:00	0	0	0	0	0	0	17:18:00	4.5	3	1	0	0	25.875
17:19:00	0	0	0	0	0	0	17:19:00	0	0	0	0	0	0	17:19:00	0	0	0	0	0	0	17:19:00	12	12	0	0	0	69
17:20:00	0	0	0	0	0	0	17:20:00	0	0	0	0	0	0	17:20:00	0	0	0	0	0	0	17:20:00	0	0	0	0	0	0
17:21:00	0	0	0	0	0	0	17:21:00	0	0	0	0	0	0	17:21:00	0	0	0	0	0	0	17:21:00	20	20	0	0	0	115
17:22:00	0	0	0	0	0	0	17:22:00	0	0	0	0	0	0	17:22:00	0	0	0	0	0	0	17:22:00	0	0	0	0	0	0
17:23:00	0	0	0	0	0	0	17:23:00	0	0	0	0	0	0	17:23:00	0	0	0	0	0	0	17:23:00	10	10	0	0	0	57.5
17:24:00	0	0	0	0	0	0	17:24:00	0	0	0	0	0	0	17:24:00	0	0	0	0	0	0	17:24:00	4	4	0	0	0	23
17:25:00	0	0	0	0	0	0	17:25:00	0	0	0	0	0	0	17:25:00	0	0	0	0	0	0	17:25:00	0	0	0	0	0	0
17:26:00	0	0	0	0	0	0	17:26:00	0	0	0	0	0	0	17:26:00	0	0	0	0	0	0	17:26:00	1	1	0	0	0	5.75
17:27:00	0	0	0	0	0	0	17:27:00	0	0	0	0	0	0	17:27:00	0	0	0	0	0	0	17:27:00	8	8	0	0	0	46
17:28:00	0	0	0	0	0	0	17:28:00	0	0	0	0	0	0	17:28:00	0	0	0	0	0	0	17:28:00	2	2	0	0	0	11.5
17:29:00	0	0	0	0	0	0	17:29:00	0	0	0	0	0	0	17:29:00	0	0	0	0	0	0	17:29:00	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0	17:30:00	0	0	0	0	0	0	17:30:00	0	0	0	0	0	0	17:30:00	0	0	0	0	0	0
17:31:00	0	0	0	0	0	0	17:31:00	0	0	0	0	0	0	17:31:00	0	0	0	0	0	0	17:31:00	1	1	0	0	0	5.75
17:32:00	0	0	0	0	0	0	17:32:00	0	0	0	0	0	0	17:32:00	0	0	0	0	0	0	17:32:00	1	1	0	0	0	5.75
17:33:00	0	0	0	0	0	0	17:33:00	0	0	0	0	0	0	17:33:00	0	0	0	0	0	0	17:33:00	6	6	0	0	0	34.5
17:34:00	0	0	0	0	0	0	17:34:00	0	0	0	0	0	0	17:34:00	0	0	0	0	0	0	17:34:00	19	19	0	0	0	109.25
17:35:00	0	0	0	0	0	0	17:35:00	0	0	0	0	0	0	17:35:00	0	0	0	0	0	0	17:35:00	15	15	0	0	0	86.25
17:36:00	0	0	0	0	0	0	17:36:00	0	0	0	0	0	0	17:36:00	0	0	0	0	0	0	17:36:00	9	9	0	0	0	51.75
17:37:00	0	0	0	0	0	0	17:37:00	0	0	0	0	0	0	17:37:00	0	0	0	0	0	0	17:37:00	0	0	0	0	0	0
17:38:00	0	0	0	0	0	0	17:38:00	0	0	0	0	0	0	17:38:00	0	0	0	0	0	0	17:38:00	4	4	0	0	0	23
17:39:00	0	0	0	0	0	0	17:39:00	0	0	0	0	0	0	17:39:00	0	0	0	0	0	0	17:39:00	10	10	0	0	0	57.5
17:40:00	0	0	0	0	0	0	17:40:00	0	0	0	0	0	0	17:40:00	0	0	0	0	0	0	17:40:00	7	7	0	0	0	40.25
17:41:00	0	0	0	0	0	0	17:41:00	0	0	0	0	0	0	17:41:00	0	0	0	0	0	0	17:41:00	0	0	0	0	0	0
17:42:00	0	0	0	0	0	0	17:42:00	0	0	0	0	0	0	17:42:00	0	0	0	0	0	0	17:42:00	1	1	0	0	0	5.75
17:43:00	0	0	0	0	0	0	17:43:00	0	0	0	0	0	0	17:43:00	0	0	0	0	0	0	17:43:00	0	0	0	0	0	0
17:44:00	0	0	0	0	0	0	17:44:00	0	0	0	0	0	0	17:44:00	0	0	0	0	0	0	17:44:00	3	3	0	0	0	17.25
17:45:00	0	0	0	0	0	0	17:45:00	0	0	0	0	0	0	17:45:00	0	0	0	0	0	0	17:45:00	2	2	0	0	0	11.5
17:46:00	0	0	0	0	0	0	17:46:00	0	0	0	0	0	0	17:46:00	0	0	0	0	0	0	17:46:00	3	3	0	0	0	17.25
17:47:00	0	0	0	0	0	0	17:47:00	0	0	0	0	0	0	17:47:00	0	0	0	0	0	0	17:47:00	0	0	0	0	0	0
17:48:00	0	0	0	0	0	0	17:48:00	0	0	0	0	0	0	17:48:00	0	0	0	0	0	0	17:48:00	0	0	0	0	0	0
17:49:00	0	0	0	0	0	0	17:49:00	0	0	0	0	0	0	17:49:00	0												



DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm B

NDC for Client



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge DAY: TUESDAY

Arm C - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
07:00:00	0	0	0	0	0	0
07:01:00	0	0	0	0	0	0
07:02:00	0	0	0	0	0	0
07:03:00	0	0	0	0	0	0
07:04:00	0	0	0	0	0	0
07:05:00	0	0	0	0	0	0
07:06:00	0	0	0	0	0	0
07:07:00	0	0	0	0	0	0
07:08:00	0	0	0	0	0	0
07:09:00	0	0	0	0	0	0
07:10:00	0	0	0	0	0	0
07:11:00	0	0	0	0	0	0
07:12:00	0	0	0	0	0	0
07:13:00	0	0	0	0	0	0
07:14:00	0	0	0	0	0	0
07:15:00	0	0	0	0	0	0
07:16:00	0	0	0	0	0	0
07:17:00	0	0	0	0	0	0
07:18:00	0	0	0	0	0	0
07:19:00	0	0	0	0	0	0
07:20:00	0	0	0	0	0	0
07:21:00	0	0	0	0	0	0
07:22:00	0	0	0	0	0	0
07:23:00	0	0	0	0	0	0
07:24:00	0	0	0	0	0	0
07:25:00	0	0	0	0	0	0
07:26:00	0	0	0	0	0	0
07:27:00	0	0	0	0	0	0
07:28:00	0	0	0	0	0	0
07:29:00	0	0	0	0	0	0
07:30:00	0	0	0	0	0	0
07:31:00	0	0	0	0	0	0
07:32:00	0	0	0	0	0	0
07:33:00	0	0	0	0	0	0
07:34:00	0	0	0	0	0	0
07:35:00	0	0	0	0	0	0
07:36:00	0	0	0	0	0	0
07:37:00	0	0	0	0	0	0
07:38:00	0	0	0	0	0	0
07:39:00	0	0	0	0	0	0
07:40:00	0	0	0	0	0	0
07:41:00	0	0	0	0	0	0
07:42:00	0	0	0	0	0	0
07:43:00	0	0	0	0	0	0
07:44:00	0	0	0	0	0	0
07:45:00	0	0	0	0	0	0
07:46:00	0	0	0	0	0	0
07:47:00	0	0	0	0	0	0
07:48:00	0	0	0	0	0	0
07:49:00	0	0	0	0	0	0
07:50:00	0	0	0	0	0	0
07:51:00	0	0	0	0	0	0
07:52:00	0	0	0	0	0	0
07:53:00	0	0	0	0	0	0
07:54:00	0	0	0	0	0	0
07:55:00	0	0	0	0	0	0
07:56:00	0	0	0	0	0	0
07:57:00	0	0	0	0	0	0
07:58:00	0	0	0	0	0	0
07:59:00	0	0	0	0	0	0



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge DAY: TUESDAY

Arm C - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
08:00:00	0	0	0	0	0	0
08:01:00	0	0	0	0	0	0
08:02:00	0	0	0	0	0	0
08:03:00	0	0	0	0	0	0
08:04:00	0	0	0	0	0	0
08:05:00	0	0	0	0	0	0
08:06:00	0	0	0	0	0	0
08:07:00	0	0	0	0	0	0
08:08:00	0	0	0	0	0	0
08:09:00	0	0	0	0	0	0
08:10:00	0	0	0	0	0	0
08:11:00	0	0	0	0	0	0
08:12:00	0	0	0	0	0	0
08:13:00	0	0	0	0	0	0
08:14:00	0	0	0	0	0	0
08:15:00	0	0	0	0	0	0
08:16:00	0	0	0	0	0	0
08:17:00	0	0	0	0	0	0
08:18:00	0	0	0	0	0	0
08:19:00	0	0	0	0	0	0
08:20:00	0	0	0	0	0	0
08:21:00	0	0	0	0	0	0
08:22:00	0	0	0	0	0	0
08:23:00	0	0	0	0	0	0
08:24:00	0	0	0	0	0	0
08:25:00	0	0	0	0	0	0
08:26:00	0	0	0	0	0	0
08:27:00	0	0	0	0	0	0
08:28:00	0	0	0	0	0	0
08:29:00	0	0	0	0	0	0
08:30:00	0	0	0	0	0	0
08:31:00	0	0	0	0	0	0
08:32:00	0	0	0	0	0	0
08:33:00	0	0	0	0	0	0
08:34:00	0	0	0	0	0	0
08:35:00	0	0	0	0	0	0
08:36:00	0	0	0	0	0	0
08:37:00	0	0	0	0	0	0
08:38:00	0	0	0	0	0	0
08:39:00	0	0	0	0	0	0
08:40:00	0	0	0	0	0	0
08:41:00	0	0	0	0	0	0
08:42:00	0	0	0	0	0	0
08:43:00	0	0	0	0	0	0
08:44:00	0	0	0	0	0	0
08:45:00	0	0	0	0	0	0
08:46:00	0	0	0	0	0	0
08:47:00	0	0	0	0	0	0
08:48:00	0	0	0	0	0	0
08:49:00	0	0	0	0	0	0
08:50:00	0	0	0	0	0	0
08:51:00	0	0	0	0	0	0
08:52:00	0	0	0	0	0	0
08:53:00	0	0	0	0	0	0
08:54:00	0	0	0	0	0	0
08:55:00	0	0	0	0	0	0
08:56:00	0	0	0	0	0	0
08:57:00	0	0	0	0	0	0
08:58:00	0	0	0	0	0	0
08:59:00	0	0	0	0	0	0



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge DAY: TUESDAY

Arm C - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
09:00:00	0	0	0	0	0	0
09:01:00	0	0	0	0	0	0
09:02:00	0	0	0	0	0	0
09:03:00	0	0	0	0	0	0
09:04:00	0	0	0	0	0	0
09:05:00	0	0	0	0	0	0
09:06:00	0	0	0	0	0	0
09:07:00	0	0	0	0	0	0
09:08:00	0	0	0	0	0	0
09:09:00	0	0	0	0	0	0
09:10:00	0	0	0	0	0	0
09:11:00	0	0	0	0	0	0
09:12:00	0	0	0	0	0	0
09:13:00	0	0	0	0	0	0
09:14:00	0	0	0	0	0	0
09:15:00	0	0	0	0	0	0
09:16:00	0	0	0	0	0	0
09:17:00	0	0	0	0	0	0
09:18:00	0	0	0	0	0	0
09:19:00	0	0	0	0	0	0
09:20:00	0	0	0	0	0	0
09:21:00	0	0	0	0	0	0
09:22:00	0	0	0	0	0	0
09:23:00	0	0	0	0	0	0
09:24:00	0	0	0	0	0	0
09:25:00	0	0	0	0	0	0
09:26:00	0	0	0	0	0	0
09:27:00	0	0	0	0	0	0
09:28:00	0	0	0	0	0	0
09:29:00	0	0	0	0	0	0
09:30:00	0	0	0	0	0	0
09:31:00	0	0	0	0	0	0
09:32:00	0	0	0	0	0	0
09:33:00	0	0	0	0	0	0
09:34:00	0	0	0	0	0	0
09:35:00	0	0	0	0	0	0
09:36:00	0	0	0	0	0	0
09:37:00	0	0	0	0	0	0
09:38:00	0	0	0	0	0	0
09:39:00	0	0	0	0	0	0
09:40:00	0	0	0	0	0	0
09:41:00	0	0	0	0	0	0
09:42:00	0	0	0	0	0	0
09:43:00	0	0	0	0	0	0
09:44:00	0	0	0	0	0	0
09:45:00	0	0	0	0	0	0
09:46:00	0	0	0	0	0	0
09:47:00	0	0	0	0	0	0
09:48:00	0	0	0	0	0	0
09:49:00	0	0	0	0	0	0
09:50:00	0	0	0	0	0	0
09:51:00	0	0	0	0	0	0
09:52:00	0	0	0	0	0	0
09:53:00	0	0	0	0	0	0
09:54:00	0	0	0	0	0	0
09:55:00	0	0	0	0	0	0
09:56:00	0	0	0	0	0	0
09:57:00	0	0	0	0	0	0
09:58:00	0	0	0	0	0	0
09:59:00	0	0	0	0	0	0



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapt on Lane / Shellbridge DAY: TUESDAY

Arm C - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
16:00:00	0	0	0	0	0	0
16:01:00	0	0	0	0	0	0
16:02:00	0	0	0	0	0	0
16:03:00	0	0	0	0	0	0
16:04:00	0	0	0	0	0	0
16:05:00	0	0	0	0	0	0
16:06:00	0	0	0	0	0	0
16:07:00	0	0	0	0	0	0
16:08:00	0	0	0	0	0	0
16:09:00	0	0	0	0	0	0
16:10:00	1	1	0	0	0	5.75
16:11:00	0	0	0	0	0	0
16:12:00	0	0	0	0	0	0
16:13:00	0	0	0	0	0	0
16:14:00	0	0	0	0	0	0
16:15:00	0	0	0	0	0	0
16:16:00	0	0	0	0	0	0
16:17:00	0	0	0	0	0	0
16:18:00	0	0	0	0	0	0
16:19:00	0	0	0	0	0	0
16:20:00	0	0	0	0	0	0
16:21:00	0	0	0	0	0	0
16:22:00	0	0	0	0	0	0
16:23:00	0	0	0	0	0	0
16:24:00	0	0	0	0	0	0
16:25:00	0	0	0	0	0	0
16:26:00	0	0	0	0	0	0
16:27:00	0	0	0	0	0	0
16:28:00	0	0	0	0	0	0
16:29:00	0	0	0	0	0	0
16:30:00	0	0	0	0	0	0
16:31:00	0	0	0	0	0	0
16:32:00	0	0	0	0	0	0
16:33:00	0	0	0	0	0	0
16:34:00	0	0	0	0	0	0
16:35:00	0	0	0	0	0	0
16:36:00	0	0	0	0	0	0
16:37:00	0	0	0	0	0	0
16:38:00	0	0	0	0	0	0
16:39:00	0	0	0	0	0	0
16:40:00	0	0	0	0	0	0
16:41:00	0	0	0	0	0	0
16:42:00	0	0	0	0	0	0
16:43:00	0	0	0	0	0	0
16:44:00	0	0	0	0	0	0
16:45:00	0	0	0	0	0	0
16:46:00	0	0	0	0	0	0
16:47:00	0	0	0	0	0	0
16:48:00	0	0	0	0	0	0
16:49:00	0	0	0	0	0	0
16:50:00	0	0	0	0	0	0
16:51:00	0	0	0	0	0	0
16:52:00	0	0	0	0	0	0
16:53:00	0	0	0	0	0	0
16:54:00	0	0	0	0	0	0
16:55:00	0	0	0	0	0	0
16:56:00	0	0	0	0	0	0
16:57:00	0	0	0	0	0	0
16:58:00	0	0	0	0	0	0
16:59:00	0	0	0	0	0	0



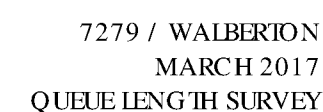
SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge DAY: TUESDAY

Arm C - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
17:00:00	0	0	0	0	0	0
17:01:00	0	0	0	0	0	0
17:02:00	0	0	0	0	0	0
17:03:00	0	0	0	0	0	0
17:04:00	0	0	0	0	0	0
17:05:00	0	0	0	0	0	0
17:06:00	0	0	0	0	0	0
17:07:00	0	0	0	0	0	0
17:08:00	0	0	0	0	0	0
17:09:00	0	0	0	0	0	0
17:10:00	0	0	0	0	0	0
17:11:00	0	0	0	0	0	0
17:12:00	0	0	0	0	0	0
17:13:00	0	0	0	0	0	0
17:14:00	0	0	0	0	0	0
17:15:00	0	0	0	0	0	0
17:16:00	0	0	0	0	0	0
17:17:00	0	0	0	0	0	0
17:18:00	0	0	0	0	0	0
17:19:00	0	0	0	0	0	0
17:20:00	0	0	0	0	0	0
17:21:00	0	0	0	0	0	0
17:22:00	0	0	0	0	0	0
17:23:00	0	0	0	0	0	0
17:24:00	0	0	0	0	0	0
17:25:00	0	0	0	0	0	0
17:26:00	0	0	0	0	0	0
17:27:00	0	0	0	0	0	0
17:28:00	0	0	0	0	0	0
17:29:00	0	0	0	0	0	0
17:30:00	0	0	0	0	0	0
17:31:00	0	0	0	0	0	0
17:32:00	0	0	0	0	0	0
17:33:00	0	0	0	0	0	0
17:34:00	0	0	0	0	0	0
17:35:00	0	0	0	0	0	0
17:36:00	0	0	0	0	0	0
17:37:00	0	0	0	0	0	0
17:38:00	0	0	0	0	0	0
17:39:00	0	0	0	0	0	0
17:40:00	0	0	0	0	0	0
17:41:00	0	0	0	0	0	0
17:42:00	0	0	0	0	0	0
17:43:00	0	0	0	0	0	0
17:44:00	0	0	0	0	0	0
17:45:00	0	0	0	0	0	0
17:46:00	0	0	0	0	0	0
17:47:00	0	0	0	0	0	0
17:48:00	0	0	0	0	0	0
17:49:00	0	0	0	0	0	0
17:50:00	1.5	0	1	0	0	8.625
17:51:00	0	0	0	0	0	0
17:52:00	0	0	0	0	0	0
17:53:00	0	0	0	0	0	0
17:54:00	0	0	0	0	0	0
17:55:00	0	0	0	0	0	0
17:56:00	0	0	0	0	0	0
17:57:00	0	0	0	0	0	0
17:58:00	0	0	0	0	0	0
17:59:00	0	0	0	0	0	0



SITE: 3 DATE: 21/03/2017
LOCATION: A27 Arundel Road / Yapton Lane / Shellbridge DAY: TUESDAY

Arm C - Lane 1 QUEUES						
Time	Total	Cars	OGV1	OGV2	PSV	Metres
18:00:00	0	0	0	0	0	0
18:01:00	0	0	0	0	0	0
18:02:00	0	0	0	0	0	0
18:03:00	0	0	0	0	0	0
18:04:00	0	0	0	0	0	0
18:05:00	0	0	0	0	0	0
18:06:00	0	0	0	0	0	0
18:07:00	0	0	0	0	0	0
18:08:00	0	0	0	0	0	0
18:09:00	0	0	0	0	0	0
18:10:00	0	0	0	0	0	0
18:11:00	0	0	0	0	0	0
18:12:00	0	0	0	0	0	0
18:13:00	0	0	0	0	0	0
18:14:00	0	0	0	0	0	0
18:15:00	0	0	0	0	0	0
18:16:00	0	0	0	0	0	0
18:17:00	0	0	0	0	0	0
18:18:00	0	0	0	0	0	0
18:19:00	0	0	0	0	0	0
18:20:00	0	0	0	0	0	0
18:21:00	0	0	0	0	0	0
18:22:00	0	0	0	0	0	0
18:23:00	0	0	0	0	0	0
18:24:00	0	0	0	0	0	0
18:25:00	0	0	0	0	0	0
18:26:00	0	0	0	0	0	0
18:27:00	0	0	0	0	0	0
18:28:00	0	0	0	0	0	0
18:29:00	0	0	0	0	0	0
18:30:00	0	0	0	0	0	0
18:31:00	0	0	0	0	0	0
18:32:00	0	0	0	0	0	0
18:33:00	0	0	0	0	0	0
18:34:00	0	0	0	0	0	0
18:35:00	0	0	0	0	0	0
18:36:00	0	0	0	0	0	0
18:37:00	0	0	0	0	0	0
18:38:00	0	0	0	0	0	0
18:39:00	0	0	0	0	0	0
18:40:00	0	0	0	0	0	0
18:41:00	0	0	0	0	0	0
18:42:00	0	0	0	0	0	0
18:43:00	0	0	0	0	0	0
18:44:00	0	0	0	0	0	0
18:45:00	0	0	0	0	0	0
18:46:00	0	0	0	0	0	0
18:47:00	0	0	0	0	0	0
18:48:00	0	0	0	0	0	0
18:49:00	0	0	0	0	0	0
18:50:00	0	0	0	0	0	0
18:51:00	0	0	0	0	0	0
18:52:00	0	0	0	0	0	0
18:53:00	0	0	0	0	0	0
18:54:00	0	0	0	0	0	0
18:55:00	0	0	0	0	0	0
18:56:00	0	0	0	0	0	0
18:57:00	0	0	0	0	0	0
18:58:00	0	0	0	0	0	0
18:59:00	0	0	0	0	0	0

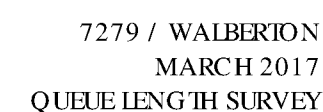


DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm D

NDC for Client

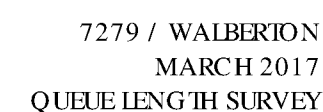


DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm D

NDC for Client

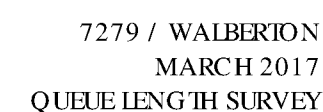


DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm D

NDC for Client

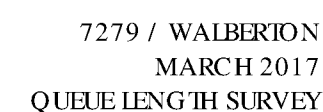


DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm D

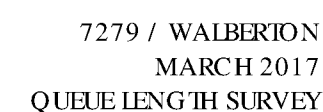
NDC for Client



DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm D



DATE: 21/03/2017

DAY: TUESDAY

7279 Walberton Queues Site 4Site 3 Arm D

NDC for Client

Vehicle Type	PCU VALUES
Car/Taxi/Lgv	1
Other Goods Vehicle - OGV1	1.5
Other Goods Vehicle - OGV2	2.3
Coach/PSV	2
Motorcycle - MCL	0.4
Pedal Cycle - PCL	0.2

APPENDIX N

ARUN DISTRICT LOCAL PLAN TRAFFIC MODEL FLOWS

A27 Junctions at Fontwell and near Walberton - Arun Local Plan

Arun District Local Plan Study - Systra 2017

Hourly Turning Flows in P (All turning moves are numbered in clockwise order starting from the first left hand turn

Weekday AM Peak

A27/A29 Fontwell western roundabout

							2031 Arun Local Plan - no mitigation			2031 with MIT & Development
	Road Number	Road Name	Compass Directio n From	Turn (clockwis e order)	2015 Base year	2031 Referenc e		2031 Arun Local Plan with Mitigation	Developmen t Traffic	
Western Roundabout	A27	Fontwell Bypass	North	1	0	0	0	0	0	0
				2	156	150	215	214	5	219
				3	1567	1651	1609	1437	35	1472
		Arundel Road	East	1	1	0	1	2	0	2
				2	169	184	230	453	0	453
				3	0	0	0	0	0	0
	A29	Fontwell Avenue	South	1	9	104	89	38	0	38
				2	295	205	313	428	2	430
				3	0	0	0	0	0	0
	A27	Arundel Road	West	1	1175	1178	1122	1198	13	1211
				2	183	146	147	144	0	144
				3	193	259	358	292	0	292
					3748	3877	4084	4206	55	4261

A27/A29 Fontwell eastern roundabout

Eastern Roundabout	A29	(Slindon Common)	Northeast	1	0	0	0	0	1	1
				2	801	808	767	770	0	770
	A27	(Arundel Road)	Southeast	1	922	993	1057	881	40	921
				2	323	495	730	660	4	664
				U-Turn	56	73	202	211	10	221
	A27	Fontwell Bypass	West	1	514	475	452	544	0	544
				2	956	908	982	1082	14	1096
					3572	3752	4190	4148	69	4217

A27 / Shellbridge Road / Yapton Lane

A27 / Yapton Lane	B2132	Shellbridge Road	North	1	0	0	0	0	0	0
				2	N/A	N/A	N/A	0	0	0
				3	N/A	N/A	N/A	0	0	0
	A27	Arundel Road	East	1	0	0	0	0	4	4
				2	848	986	1208	1174	0	1174
				3	3	6	10	10	0	10
	B2132	Yapton Lane	South	1	174	133	211	206	55	261
				2	N/A	N/A	N/A	0	0	0
				3	N/A	N/A	N/A	0	0	0
	A27	Arundel Road	West	1	0	0	0	0	0	0
				2	868	881	1150	1220	0	1220
				3	172	81	92	122	16	138
				2065	2087	2671	2732	75	2807	

Note: U turn movements are reported by exception marked as "U-Turn", otherwise they are zero

Weekday PM Peak

A27/A29 Fontwell western roundabout

					2031 Arun Local Plan - no mitigation	2031 Arun Local Plan with Mitigation	Development Traffic	2031 with MIT & Development		
Road Number	Road Name	Compass Direction From	Turn (clockwis e order)	2015 Base year	2031 Referenc e					
Western Roundabout	A27	Fontwell Bypass	North	1	0	0	0	0		
				2	259	465	499	634	3	637
				3	1258	1092	937	1078	19	1097
		Arundel Road	East	1	3	0	5	7	0	7
				2	139	317	376	292	0	292
				3	0	0	0	0	0	0
	A29	Fontwell Avenue	South	1	21	126	135	59	0	59
				2	269	291	404	376	4	380
				3	0	0	0	0	0	0
	A27	Arundel Road	West	1	1672	1686	1596	1542	32	1574
				2	335	388	373	362	0	362
				3	377	414	782	787	0	787
				4333	4779	5107	5137	58	5195	

A27/A29 Fontwell eastern roundabout

Eastern Roundabout	A29	(Slindon Common Northeast		1	0	0	0	0	4	4
				2	673	854	827	920	0	920
	A27	(Arundel Road)	Southeast	1	844	703	610	792	21	813
				2	222	205	216	222	2	224
			U-Turn		14	15	17	16	6	22
	A27	Fontwell Bypass	West	1	804	841	771	703	0	703
				2	1138	1135	1230	1215	36	1251
					3695	3753	3671	3868	69	3937

A27 / Shellbridge Road / Yapton Lane

A27 / Yapton Lane	B2132	Shellbridge Road	North	1	2	0	15	15	0	15
				2	N/A	N/A	N/A	0	0	0
				3	N/A	N/A	N/A	0	0	0
	A27	Arundel Road	East	1	0	0	3	0	9	9
				2	890	990	1332	1264	0	1264
				3	17	21	26	22	0	22
	B2132	Yapton Lane	South	1	135	87	113	131	29	160
				2	N/A	N/A	N/A	0	0	0
				3	N/A	N/A	N/A	0	0	0
	A27	Arundel Road	West	1	0	0	0	0	0	0
				2	1018	987	1194	1179	0	1179
				3	312	144	251	305	40	345
				2374	2229	2934	2916	78	2994	

APPENDIX O

YAPTON LANE LEVEL CROSSING SURVEY



7279 / WALBERTON
MARCH 2017
QUEUE LENGTH SURVEY

SITE: 5

DATE: 21/03/2017

LOCATION: Railway crossing on Yapton Lane

DAY: TUESDAY

NORTHBOUND (1)									
Gate Closing	Gate Opening	Queue during gate closure					Last vehicle in Queue left ?	Gate duration	Number of queueing pedestrians
		Car	OGV1	OGV2	PSV	Tot.			
07:00:48	07:01:27	3	0	0	0	3	Yes	00:00:39	0
07:05:12	07:05:50	9	1	1	0	11	Yes	00:00:38	0
07:09:49	07:10:54	10	1	2	0	13	Yes	00:01:05	0
07:16:58	07:18:20	14	0	0	0	14	Yes	00:01:22	0
07:23:56	07:24:30	13	0	0	0	13	Yes	00:00:34	0
07:25:34	07:26:21	9	0	0	0	9	Yes	00:00:47	0
07:36:12	07:36:53	10	0	1	0	11	Yes	00:00:41	0
07:41:12	07:42:27	11	1	1	0	13	Yes	00:01:15	0
07:46:08	07:47:58	23	0	0	0	23	Yes	00:01:50	0
07:49:33	07:50:08	19	0	0	0	19	Yes	00:00:35	0
07:56:04	07:56:42	15	0	0	0	15	No	00:00:38	0
07:57:26	07:58:11	8	0	0	0	8	Yes	00:00:45	0
08:01:57	08:02:34	8	0	0	0	8	Yes	00:00:37	0
08:03:22	08:04:04	17	0	0	0	17	Yes	00:00:42	0
08:12:52	08:13:31	7	0	0	0	7	Yes	00:00:39	0
08:19:09	08:19:46	9	0	0	0	9	Yes	00:00:37	0
08:20:43	08:21:26	4	0	0	0	4	Yes	00:00:43	0
08:23:20	08:24:21	16	0	0	0	16	Yes	00:01:01	0
08:31:52	08:32:50	10	0	0	0	10	Yes	00:00:58	0
08:35:42	08:36:37	16	0	0	0	16	Yes	00:00:55	0
08:40:23	08:41:11	13	2	0	0	15	No	00:00:48	0
08:41:40	08:42:19	13	1	0	0	14	Yes	00:00:39	0
08:45:27	08:46:11	5	0	0	0	5	Yes	00:00:44	0
08:49:59	08:51:08	12	0	0	0	12	Yes	00:01:09	0
08:57:17	08:57:53	7	0	0	0	7	Yes	00:00:36	0
09:07:00	09:07:45	14	1	0	0	15	Yes	00:00:45	0
09:10:11	09:10:52	9	1	0	0	10	Yes	00:00:41	0
09:12:12	09:12:48	7	0	0	0	7	Yes	00:00:36	0
09:15:53	09:16:41	4	0	0	0	4	Yes	00:00:48	0
09:21:31	09:22:18	12	0	0	0	12	Yes	00:00:47	0
09:24:38	09:25:13	8	0	0	0	8	Yes	00:00:35	0
09:38:10	09:39:00	5	1	0	0	6	Yes	00:00:50	0
09:41:29	09:42:26	2	0	0	0	2	Yes	00:00:57	0
09:48:34	09:50:13	17	1	0	0	18	Yes	00:01:39	0
09:53:12	09:53:54	4	0	1	0	5	Yes	00:00:42	0
16:08:11	16:09:19	5	0	0	0	5	Yes	00:01:08	0
16:12:56	16:13:44	1	0	0	0	1	Yes	00:00:48	0
16:16:30	16:17:11	1	0	0	0	1	Yes	00:00:41	0
16:19:11	16:19:53	3	1	0	0	4	Yes	00:00:42	0
16:22:51	16:23:23	2	0	0	0	2	Yes	00:00:32	0
16:28:13	16:28:49	2	0	0	0	2	Yes	00:00:36	0
16:33:28	16:35:20	10	0	0	0	10	Yes	00:01:52	0
16:39:42	16:40:34	4	0	0	0	4	Yes	00:00:52	0
16:45:48	16:47:15	5	0	1	0	6	Yes	00:01:27	0
16:50:34	16:51:33	4	0	0	0	4	Yes	00:00:59	0
16:55:52	16:56:45	5	0	0	0	5	Yes	00:00:53	0
17:02:41	17:03:24	3	0	0	0	3	Yes	00:00:43	0
17:05:10	17:06:25	4	0	0	0	4	Yes	00:01:15	0
17:13:16	17:14:27	3	0	0	0	3	Yes	00:01:11	0
17:17:05	17:18:05	3	0	0	0	3	Yes	00:01:00	0
17:20:31	17:21:18	5	0	0	0	5	Yes	00:00:47	0
17:26:41	17:27:21	5	0	0	0	5	Yes	00:00:40	0
17:28:27	17:29:03	1	0	0	0	1	Yes	00:00:36	0
17:30:34	17:31:22	4	1	0	0	5	Yes	00:00:48	0
17:34:31	17:35:14	3	1	0	0	4	Yes	00:00:43	0
17:36:02	17:36:51	0	0	0	0	0	N/A	00:00:49	0
17:39:20	17:40:16	4	0	1	0	5	Yes	00:00:56	0
17:40:58	17:41:42	6	0	0	0	6	Yes	00:00:44	0
17:50:08	17:51:39	10	0	1	0	11	Yes	00:01:31	0
17:54:19	17:55:00	3	0	0	0	3	Yes	00:00:41	0
18:05:15	18:06:13	4	0	0	0	4	Yes	00:00:58	0
18:08:08	18:08:44	3	0	0	0	3	Yes	00:00:36	0
18:11:21	18:12:01	2	0	0	0	2	Yes	00:00:40	0
18:15:23	18:16:08	3	0	1	0	4	Yes	00:00:45	0
18:18:40	18:19:22	4	0	0	0	4	Yes	00:00:42	0
18:19:58	18:20:39	0	0	0	0	0	N/A	00:00:41	0
18:21:21	18:22:22	7	0	0	0	7	Yes	00:01:01	0
18:25:33	18:26:13	2	0	0	0	2	Yes	00:00:40	0
18:32:05	18:33:04	2	0	0	0	2	Yes	00:00:59	0
18:35:45	18:36:30	1	0	0	0	1	Yes	00:00:45	0
18:42:16	18:43:01	0	0	0	0	0	Yes	00:00:45	0
18:46:55	18:47:43	1	0	0	0	1	Yes	00:00:48	0
18:49:46	18:50:26	2	1	0	0	3	Yes	00:00:40	0
18:55:01	18:56:18	3	0	0	0	3	Yes	00:01:17	0
18:58:52	18:59:32	4	0	0	0	4	Yes	00:00:40	0



7279 / WALBERTON
MARCH 2017
QUEUE LENGTH SURVEY

SITE: 5

DATE: 21/03/2017

LOCATION: Railway crossing on Yapton Lane

DAY: TUESDAY

SOUTHBOUND (2)									
Gate Closing	Gate Opening	Queue during gate closure					Last vehicle in Queue left ?	Gate duration	Number of queueing pedestrians
		Car	OGV1	OGV2	PSV	Tot.			
07:00:48	07:01:27	0	0	0	0	0	N/A	00:00:39	0
07:05:12	07:05:50	0	0	0	0	0	N/A	00:00:38	0
07:09:49	07:10:54	6	0	0	0	6	Yes	00:01:05	0
07:16:58	07:18:20	4	2	1	0	7	Yes	00:01:22	0
07:23:56	07:24:30	3	0	0	1	4	Yes	00:00:34	0
07:25:34	07:26:21	2	0	0	0	2	Yes	00:00:47	0
07:36:12	07:36:53	2	0	0	0	2	Yes	00:00:41	0
07:41:12	07:42:27	2	0	0	0	2	Yes	00:01:15	0
07:46:08	07:47:58	8	0	0	0	8	Yes	00:01:50	0
07:49:33	07:50:08	7	0	1	0	8	Yes	00:00:35	0
07:56:04	07:56:42	2	0	0	0	2	Yes	00:00:38	0
07:57:26	07:58:11	2	0	0	0	2	Yes	00:00:45	0
08:01:57	08:02:34	3	0	0	0	3	Yes	00:00:37	0
08:03:22	08:04:04	2	1	0	0	3	Yes	00:00:42	0
08:12:52	08:13:31	7	1	1	0	9	Yes	00:00:39	0
08:19:09	08:19:46	1	0	0	0	1	Yes	00:00:37	0
08:20:43	08:21:26	6	0	0	0	6	Yes	00:00:43	0
08:23:20	08:24:21	3	0	0	0	3	Yes	00:01:01	0
08:31:52	08:32:50	15	0	0	0	15	Yes	00:00:58	0
08:35:42	08:36:37	1	0	0	0	1	Yes	00:00:55	0
08:40:23	08:41:11	5	0	0	0	5	Yes	00:00:48	0
08:41:40	08:42:19	2	0	0	0	2	Yes	00:00:39	0
08:45:27	08:46:11	3	2	0	0	5	Yes	00:00:44	1
08:49:59	08:51:08	4	0	0	0	4	Yes	00:01:09	0
08:57:17	08:57:53	12	1	0	1	14	Yes	00:00:36	0
09:07:00	09:07:45	6	3	1	0	10	Yes	00:00:45	0
09:10:11	09:10:52	6	0	0	0	6	Yes	00:00:41	0
09:12:12	09:12:48	12	0	1	0	13	Yes	00:00:36	0
09:15:53	09:16:41	5	0	0	0	5	Yes	00:00:48	0
09:21:31	09:22:18	6	0	0	0	6	Yes	00:00:47	0
09:24:38	09:25:13	3	0	0	0	3	Yes	00:00:35	0
09:38:10	09:39:00	3	1	0	0	4	Yes	00:00:50	0
09:41:29	09:42:26	3	1	0	0	4	Yes	00:00:57	0
09:48:34	09:50:13	5	0	0	0	5	Yes	00:01:39	0
09:53:12	09:53:54	3	0	0	0	3	Yes	00:00:42	0
16:08:11	16:09:19	3	0	0	0	3	Yes	00:01:08	0
16:12:56	16:13:44	4	0	0	0	4	Yes	00:00:48	0
16:16:30	16:17:11	13	0	0	1	14	Yes	00:00:41	0
16:19:11	16:19:53	11	0	0	0	11	Yes	00:00:42	0
16:22:51	16:23:23	3	1	0	0	4	Yes	00:00:32	0
16:28:13	16:28:49	6	0	0	0	6	Yes	00:00:36	0
16:33:28	16:35:20	9	0	0	0	9	Yes	00:01:52	0
16:39:42	16:40:34	16	0	0	0	16	Yes	00:00:52	0
16:45:48	16:47:15	27	3	1	0	31	Yes	00:01:27	0
16:50:34	16:51:33	25	2	0	0	27	Yes	00:00:59	0
16:55:52	16:56:45	6	0	0	0	6	Yes	00:00:53	0
17:02:41	17:03:24	11	0	0	0	11	Yes	00:00:43	0
17:05:10	17:06:25	14	0	0	0	14	Yes	00:01:15	0
17:13:16	17:14:27	9	0	0	0	9	Yes	00:01:11	0
17:17:05	17:18:05	8	0	0	0	8	Yes	00:01:00	0
17:20:31	17:21:18	12	1	0	0	13	Yes	00:00:47	0
17:26:41	17:27:21	20	0	0	0	20	No	00:00:40	0
17:28:27	17:29:03	15	0	0	0	15	Yes	00:00:36	0
17:30:34	17:31:22	9	0	0	0	9	Yes	00:00:48	0
17:34:31	17:35:14	15	0	0	0	15	No	00:00:43	0
17:36:02	17:36:51	9	0	0	0	9	Yes	00:00:49	0
17:39:20	17:40:16	12	1	0	1	14	No	00:00:56	0
17:40:58	17:41:42	15	0	0	0	15	Yes	00:00:44	0
17:50:08	17:51:39	14	0	0	0	14	Yes	00:01:31	0
17:54:19	17:55:00	19	1	0	0	20	Yes	00:00:41	0
18:05:15	18:06:13	7	0	0	0	7	Yes	00:00:58	0
18:08:08	18:08:44	9	0	0	0	9	Yes	00:00:36	0
18:11:21	18:12:01	13	0	0	0	13	Yes	00:00:40	0
18:15:23	18:16:08	15	2	2	0	19	Yes	00:00:45	0
18:18:40	18:19:22	15	0	0	0	15	No	00:00:42	0
18:19:58	18:20:39	15	0	0	0	15	No	00:00:41	0
18:21:21	18:22:22	10	0	0	0	10	Yes	00:01:01	0
18:25:33	18:26:13	0	0	0	0	0	N/A	00:00:40	0
18:32:05	18:33:04	7	0	0	0	7	Yes	00:00:59	0
18:35:45	18:36:30	6	0	0	0	6	Yes	00:00:45	0
18:42:16	18:43:01	2	0	0	0	2	Yes	00:00:45	0
18:46:55	18:47:43	8	0	0	0	8	Yes	00:00:48	0
18:49:46	18:50:26	7	0	0	0	7	Yes	00:00:40	0
18:55:01	18:56:18	11	0	0	0	11	Yes	00:01:17	0
18:58:52	18:59:32	5	0	0	0	5	Yes	00:00:40	0

APPENDIX P

NETWORK RAIL RESPONSE

Rachel Stout

To: Robey Clive
Subject: RE: Yapton Lane, Walberton - Level Crossing

From: Robey Clive [mailto:clive.robey@networkrail.co.uk]

Sent: 04 June 2017 18:58

To: Rachel Stout <[redacted]> Khan Wasi [redacted]

Cc: Tim Wall [redacted]

Subject: RE: Yapton Lane, Walberton - Level Crossing

Good afternoon

Thank you very much for giving me the opportunity to comment on this development.

With the level crossing being of an automatic nature, and operated by an approaching train(s), there is indeed that any risk any increase in traffic levels will increase the risk level at the crossing, especially given the current traffic levels and the associated issues with Lake Lane.

However, you may be aware of a proposal from Network Rail to upgrade the level crossing from the current arrangement to a full barrier crossing. This will be controlled by the signaller at Barnham by means of CCTV. This type of operation is the safest level available as the crossing is effectively sealed off (although this doesn't totally prevent incidents happening). Should the upgrade occur, queuing times at the crossing will increase as result of the different type of operation.

The intention is to upgrade the crossing next year, exact date to be confirmed. Before this occurs, a full two stage public consultation involving the Office of Rail and Road, WSCC, ADC and local PCs has to be undertaken.

Given your projected traffic levels from the new development and the current level crossing arrangements, I have no objection to make. Should the upgrade take place, the safety risk of the current arrangements will have been removed, therefore, once again, I have no objection to make.

Thank you once again for advising me.

Kind regards,

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

From: Rachel Stout [redacted]

Sent: 01 June 2017 12:50

To: Robey Clive; Khan Wasi

Cc: Tim Wall

Subject: Yapton Lane, Walberton - Level Crossing

Good Afternoon,

A residential planning application is expected to be submitted for land north of Walberton, which is located north of the level crossing on Yapton Lane / North End Road. Therefore we would like to provide you with the relevant

i-Transport has been appointed by Wates Developments to provide highways and transport advice to support an outline planning application for a proposed residential development of up to 176 dwellings with associated car parking and landscaping, on Land East of Tye Lane, Walberton, in West Sussex. The location of the site is shown indicatively at **Image 1**. A planning application is expected to be submitted in the next two weeks, and Network Rail will be consulted.

FIGURE 12

Proposed 10000 sq. ft. building footprint at the intersection of Highway 101 and Highway 102. The map shows the proposed building footprint in a dark grey area, surrounded by existing lots and roads. A north arrow is located in the top right corner. A scale bar at the bottom indicates distances up to 250m. A legend in the bottom right corner identifies the proposed building footprint and the site location. The map is titled 'FIGURE 12' and is part of a larger document.

This note provides details of the increase of vehicular trips and the effect that this may have on the operation of the level crossing.

2

Traffic surveys were undertaken at the level crossing on Tuesday 21 March 2017 which recorded the times that the barrier was lowered and raised, the number of vehicles queuing in each direction during the times that the barrier was lowered, and instances of queue clearance during the peak hours. Copies of the survey are attached.

Table 1 demonstrates the observed flows for 21 March for the AM peak hour period (0715-0815) and the PM peak hour period (1645-1745).

Table 1: Observed Vehicular Movements at Level Crossing

	AM Peak (0715-0815)	PM Peak (1645-1745)
Northbound	559	173
Southbound	196	505

Source: Survey Data

Tables 2 and 3 summarise the maximum queue lengths recorded at the level crossing in the morning and evening peak hours as well as instances of queue clearance.

Table 2: Observed Queues at Level Crossing – AM Peak Hour

Barrier Downtime	Northbound (south of crossing)		Southbound (north of crossing)	
	2017 Max Queue	Last vehicle in queue	2017 Max Queue	Last vehicle in queue
07:16:58 - 07:18:20	14	Yes	7	Yes
07:23:56 - 07:24:30	13	Yes	4	Yes
07:25:34 - 07:26:21	9	Yes	2	Yes
07:36:12 - 07:36:53	11	Yes	2	Yes
07:41:12 - 07:42:27	13	Yes	2	Yes
07:46:08 - 07:47:58	23	Yes	8	Yes
07:49:33 - 07:50:08	19	Yes	8	Yes
07:56:04 - 07:56:42	15	No	2	Yes
07:57:26 - 07:58:11	8	Yes	2	Yes
08:01:57 - 08:02:34	8	Yes	3	Yes
08:03:22 - 08:04:04	17	Yes	3	Yes
08:12:52 - 08:13:31	7	Yes	9	Yes

Source: 2017 Survey Data

The largest observed queues in the morning peak hour were when the barrier was down between 07:46:08 and 07:47:58 with 23 and 8 vehicles in the northbound and southbound directions respectively. The longest barrier downtime occurs during this same time period and lasts for one minute and 50 seconds.

In total, the barrier is called into operation some 12 times within the morning peak period for a total duration of 10 minutes. During this peak hour period, the average duration the barrier spends closed down is 52 seconds and on only one occasion (northbound) did all queued traffic not clear.

Table 3: Observed Queues at Level Crossing – PM Peak Hour

Barrier Downtime	Northbound (south of crossing)		Southbound (north of crossing)	
	2017 Max Queue	Last vehicle in queue	2017 Max Queue	Last vehicle in queue
16:45:48 - 16:47:15	6	Yes	31	Yes

16:50:34 - 16:51:33	4	Yes	27	Yes
16:55:52 - 16:56:45	5	Yes	6	Yes
17:02:41 - 17:03:24	3	Yes	11	Yes
17:05:10 - 17:06:25	4	Yes	14	Yes
17:13:16 - 17:14:27	3	Yes	9	Yes
17:17:05 - 17:18:05	3	Yes	8	Yes
17:20:31 - 17:21:18	5	Yes	13	Yes
17:26:41 - 17:27:21	5	Yes	20	No
17:28:27 - 17:29:03	1	Yes	15	Yes
17:30:34 - 17:31:22	5	Yes	9	Yes
17:34:31 - 17:35:14	4	Yes	15	No
17:36:02 - 17:36:51	0	N/A	9	Yes
17:39:20 - 17:40:16	5	Yes	14	No
17:40:58 - 17:41:42	6	Yes	15	Yes

Source: Survey Data.

During the evening peak period the barrier is called into operation some 15 times for a total duration of 13 minutes. The average duration the barrier spends when down is 54 seconds and on only three occasions did the queued traffic not clear (all in the southbound direction).

The largest queues in the evening peak hour were observed when the barrier was down between 16:45:48 and 16:47:15 with 6 and 31 vehicles in the northbound and southbound directions respectively. This coincides with the longest barrier downtime period of one minute and 27 seconds.

Forecast Flows

To consider the impact of the proposed development on the level crossing:

- Observed 2017 traffic flows have been growthed to 2031 using TEMPRO;
- Development traffic has been distributed and assigned to the local network. In total, 22% of the development traffic is expected to travel south on Yapton Lane towards the level crossing and North End Road; and
- The impact of development is considered against forecast flows.

Table 4 provides an assessment of the impact of development at the level crossing.

Table 4: Forecast Flows at the Yapton Lane Level Crossing

	2017 Observed Flows		Development Traffic		2031 'With Development'		Development Impact	
	AM	PM	AM	PM	AM	PM	AM	PM
Northbound	559	173	6	16	644	214	0.9%	7.5%
Southbound	196	505	18	9	241	587	7.5%	1.5%

Traffic Impact

The proposed development is expected to generate a total of 24 two-way vehicle movements in the morning peak period and 25 two-way vehicle movements in the evening peak period at the level crossing, which equates to one additional vehicle trip every circa 2-3 minutes. The assessment demonstrates that traffic flows at the level crossing

are heavily tidal, with northbound traffic constituting 72% of morning traffic and southbound traffic being 73% of evening traffic flows at the crossing.

The development traffic flows are however counter-tidal, adding less than 1% to traffic flows in the heaviest direction during both peak hours, equivalent to one vehicle every 8-10 minutes, and one vehicle every four minutes in the opposite (heavier) direction.

In real terms, with the barriers being down for between 10-15 minutes in peak hours, this means that the development may add up to one additional vehicle to the queues in the heaviest direction (Northbound AM / Southbound PM) for every four to five barrier closures. The addition of one vehicle to every three or four cycles will not have any discernible impact on the crossing.

In the more lightly trafficked direction (Southbound AM / Northbound PM) development flows are higher, with one vehicle every four minutes, but existing traffic flows are much lower and consequently queues are significantly less and clear after each cycle. The development is likely to add one additional vehicle to each barrier cycle, but this will not have any material impact on the operation of the crossing.

Conclusion

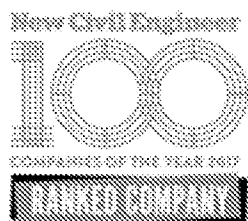
On the basis of this assessment, we do not consider that the development will have any material impact on the safety or operation of the crossing.

We would welcome your views on the assessment presented and would be very happy to talk this through with you should you wish.

I look forward to hearing from you.

Kind regards,

Rachel Stout BSc (Hons) GradCIHT
Graduate Transport Planner
for i-Transport LLP



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We use the word “partner” to refer to a member of i-Transport LLP or an employee or consultant with equivalent standing and qualifications.



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