

# TRANSPORT ASSESSMENT

## LONG COPSE LANE, EMSWORTH

**Client: Land and Partners**



i-Transport

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# SECTION 1 INTRODUCTION

## 1.1 Introduction

1.1.1 i-Transport LLP has been appointed to provide highways and transport advice in relation to an outline planning application for a mixed-use residential development on land at Long Copse Lane, Emsworth.

1.1.2 The outline planning application is for up to 210 dwellings and associated parking, open space and surface water drainage on a 14.6ha site. This site forms part of wider masterplan area of 16.9ha which proposes approximately 260 dwellings to correspond with a proposed housing allocation in the emerging Havant Borough Local Plan. Following pre-application advice and a Development Control Forum, it was agreed with Council officers to prepare a masterplan for the proposed allocation area to demonstrate how the application site related to this. This Transport Assessment considers both the planning application itself, but where appropriate, considers the transport aspects of the whole masterplan.

## 1.2 Scope

1.2.1 Having regard to 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. 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.

1.2.2 Specifically, the TA has been prepared to consider the three critical tests outlined in paragraph 108 of the National Planning Policy Framework:

- appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
- safe and suitable access to the site can be achieved for all users; and
- any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

1.2.3 A separate Framework Travel Plan has also been prepared (report ref: ITB13525-005 R). The primary purpose of the travel plan is to identify opportunities for the effective promotion and delivery of sustainable transport initiatives, e.g. walking, cycling and public transport to reduce the demand for travel by less sustainable modes.

## 1.3 Pre- Application Discussions

1.3.1 In line with good practice, the transport and highways implications of the proposed development have been subject to extensive pre-application discussions with the local highway authority, Hampshire County Council (HCC). A scoping note was issued to HCC on 1 March 2018 (i-Transport report reference ITB13525-002). A copy of the note is included in **Appendix A**. The comments received from HCC have been taken on board in producing this TA.

1.3.2 Further detailed pre-application discussion has taken place with Havant Borough Council (HBC), who are the local planning authority. This included a Developer Consultation Forum (DCF) on 7 April 2018 where detailed feedback and comments were received from HBC members and the local residents. These comments have been taken on board in producing the TA and are detailed throughout and particularly in Section 7.

1.3.3 Finally, pre-application discussion has taken place with West Sussex County Council (WSCC), who are the neighbouring local highway authority and with Highways England (HE) who are responsible for the Strategic Road Network (SRN) which in this case is the A27(T). Comments from both WSCC and HE have been taken on board in producing the TA and are detailed in Section 7.

## 1.4 Structure

1.4.1 The remainder of this report is structured as follows:

- Section 2 – Proposed Development;
- Section 3 – Policy Context;
- Section 4 – Existing Conditions;
- Section 5 – Site Access, Parking and Servicing Arrangements;
- Section 6 – Promoting Sustainable Transport;

- Section 7 – Traffic Impact; and
- Section 8 – Summary.

## SECTION 2 PROPOSED DEVELOPMENT

### 2.1 Overview

2.1.1 It is proposed to develop land at Long Copse Lane, Emsworth for up to 260 new dwellings with associated car parking, vehicular access and pedestrian/cycle access. The site is located to north of Long Copse Lane, Emsworth and is shown in **Figure T1**.

2.1.2 The application is in outline and therefore the detailed development mix at this stage is not yet defined. The proposed site layout provides an indication of the development proposals in order to demonstrate the site can accommodate up to 260 dwellings in line with the emerging allocation. The allocation consists of two parcels separated by a wooded copse which is needed for the bats using the site with the two parcels served by separate vehicular accesses onto Long Copse Lane.

2.1.3 This outline application relates to the larger eastern parcel consisting of 210 dwellings within the wider Illustrative Masterplan in **Appendix B,** extracted below at **Image 2.1**.

**Image 2.1 – Illustrative Site Layout**



Source: Extract of drawing 170116/SL/SK1

2.1.4 The site access strategy has been developed in conjunction with HCC and in accordance with the draft Local Plan Policy in that an appropriate means of access has been established from Long Copse Lane, which ***'incorporates road widening along Hollybank Lane and Long Copse Lane and that does not compromise the vehicular access to housing allocation H14'.*** This is covered in detail in Section 5.

## SECTION 3 POLICY CONTEXT

### 3.1 Introduction

3.1.1 To provide context for the TA, this section of the report provides an overview of relevant national and local transport planning policy.

### 3.2 National Policy

National Planning Policy Framework July 2018 (NPPF)

3.2.1 The revised NPPF sets out the Government's planning policies and how these are expected to be applied. It also constitutes guidance for local planning authorities and decision takers both in drawing up plans and as a material consideration in determining applications.

3.2.2 The NPPF stresses that at the forefront of planning is the 'presumption in favour' of sustainable development. Paragraph 9 states:

> **"at the heart of the Framework is a presumption in favour of sustainable development".**

3.2.3 The NPPF requires in paragraph 111 and that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment

3.2.4 Paragraph 108 also presents the primary transport tests for new development proposals, stating that plans and specific applications for development should ensure that:

> **a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;**
>
> **b) safe and suitable access to the site can be achieved for all users; and**
>
> **c) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.**

3.2.5 Paragraph 109 of the revised NPPF presents a demanding test for assessing transport impacts. Only if there would be an 'unacceptable impact on highway safety' or when residual cumulative impacts are **'Severe'** should proposals be refused on transport grounds**.**

Planning Practice Guidance

3.2.6 The web-based Planning Practice Guidance (PPG) replaced DfT's Guidance on Transport Assessment on 6 March 2014 and seeks to bring together planning guidance for England across all disciplines in an accessible way as well as to provide a clear link between guidance and the aims and objectives of the NPPF. The PPG discusses the role of travel plans and transport assessments / statements and how they relate to each other.

3.2.7 The PPG was published in March 2014 and sets out the key roles of Transport Assessments / Statements:

> **"Transport Assessments and Statements are ways of assessing the potential transport impacts of developments (and they may propose mitigation measures to promote sustainable development. Where that mitigation relates to matters that can be addressed by management measures, the mitigation may inform the preparation of Travel Plans).**
>
> **Transport Assessments are thorough assessments of the transport implications of development, and Transport Statements are a 'lighter-touch' evaluation to be used where this would be more proportionate to the potential impact of the development (i.e. in the case of developments with anticipated limited transport impacts)."**

3.2.8 The PPG discusses how Travel Plans and Transport Assessments / Statements relate to each other:

> **"The development of Travel Plans and Transport Assessments or Transport Statements should be an iterative process as each may influence the other.**
>
> **The primary purpose of a Travel Plan is to identify opportunities for the effective promotion and delivery of sustainable transport initiatives e.g. walking, cycling, public transport and tele-commuting, in connection with both proposed and existing developments and through this to thereby reduce the demand for travel by less sustainable modes. As noted above, though, they should not be used as way of unfairly penalising drivers.**

**Transport Assessments and Transport Statements primarily focus on evaluating the potential transport impacts of a development proposal. (They may consider those impacts net of any reductions likely to arise from the implementation of a Travel Plan, though producing a Travel Plan is not always required). The Transport Assessment or Transport Statement may propose mitigation measures where these are necessary to avoid unacceptable or "severe" impacts. Travel Plans can play an effective role in taking forward those mitigation measures which relate to on-going occupation and operation of the development.**

**Transport Assessments and Statements can be used to establish whether the residual transport impacts of a proposed development are likely to be "severe", which may be a reason for refusal, in accordance with the National Planning Policy Framework."**

3.2.9 The PPG discusses why Travel Plans, Transport Assessments and Statements are important:

**"Travel Plans, Transport Assessments and Statements can positively contribute to:**

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

**They support national planning policy which sets out that planning should actively manage patterns of growth in order to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable."**

3.2.10 With regards to Transport Assessments in particular, the PPG discusses the key principles that should be taken into account in preparing a Transport Assessment or Statement:

**"Travel Plans, Transport Assessments and Statements should be:**

- **proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible;**

- **established at the earliest practicable possible stage of a development proposal;**
- **be tailored to particular local circumstances (other locally-determined factors and information beyond those which are set out in this guidance may need to be considered in these studies provided there is robust evidence for doing so locally);**
- **be brought forward through collaborative ongoing working between the Local Planning Authority/ Transport Authority, transport operators, Rail Network Operators, Highways Agency where there may be implications for the strategic road network and other relevant bodies. Engaging communities and local businesses in Travel Plans, Transport Assessments and Statements can be beneficial in positively supporting higher levels of walking and cycling (which in turn can encourage greater social inclusion, community cohesion and healthier communities).**

**In order to make these documents as useful and accessible as possible any information or assumptions should be set out in a clear and publicly accessible form:**

- **the timeframes over which they are conducted or operate should be appropriate in relation to the nature of developments to which they relate (and planned changed to transport infrastructure and management in the area);**
- **Local Planning Authorities should advise qualifying bodies for the purposes of Neighbourhood Planning on whether Travel Plans, Transport Assessments and Statements should be prepared, and the benefits of doing so, as part of the duty to support.**

**Local Planning Authorities may wish to consult the relevant bodies on planning applications likely to affect transport infrastructure, such as Rail Network Operators where a development is likely to impact on the operation of level crossings.**"

## 3.3 Local Policy

Hampshire's Local Transport Plan (LTP) (2011 – 2031) – April 2013

3.3.1 HCC's transport strategy for the next 20 years is set out in its LTP. The document also outlines how the LTP will contribute to the Council's corporate priorities and includes a three-year implementation plan.

3.3.2 Three main priorities are set out in the LTP for the next 20 years. These are:

**"Support economic growth by ensuring the safety, soundness, and efficiency of the transport network in Hampshire;**

**Provide a safe, well-maintained, and more resilient road network in Hampshire, as the basic transport infrastructure of the County, on which all forms of transport directly or indirectly depend, and the key to continued casualty reduction; and**

**Manage traffic to maximise the efficiency of the existing network capacity, improving journey time reliability and reducing emissions, and thereby supporting the efficient and sustainable movement of people and goods."**

3.3.3 The LTP identifies Havant as being within the South Hampshire Joint Strategy area and identifies its vision for the area to create:

**"A resilient, cost effective, fully-integrated sub-regional transport network, enabling economic growth whilst protecting and enhancing health, quality of life and environment"**

3.3.4 The LTP identifies a large number of transport policies to deliver this objective. Policies relevant to Eastleigh Borough include:

- **"To develop transport improvements that support sustainable economic growth and development within South Hampshire";**
- **"To optimise the capacity of the highway network and improve journey time reliability for all modes";**
- **"To achieve and sustain a high-quality, resilient and well-maintained highway network for all";**
- **"To deliver improvements in air quality";**
- **"To improve road safety across the sub-region";**
- **"To promote active travel modes and develop supporting infrastructure";**
- **"To encourage private investment in bus, taxi and community transport solutions, and where practical, better infrastructure and services";**
- **"To work with Local Planning Authorities to integrate planning and transport"; and**
- **"To safeguard and enable the future delivery of transport improvements within the TfSH area".**

<u>Havant Borough Transport Statement – December 2013</u>

3.3.5 In addition to the LTP, HBC and HCC have produced a Transport Statement for the Borough. There are four objectives outlined in the document:

**"Promote economic growth by providing a well maintained, safe and efficient highway network;**

**Improve access to jobs, facilities and services by all types of transport;**

**Facilitate and enable new development to come forward; and**

**Reduce carbon emissions and minimise the impacts of transport on the environment".**

Havant Borough Council's Adopted Local Plan (2011)

3.3.6 The adopted Local Plan is made up of the Core Strategy 2011 – 2026, which is the principal document outlining how planning will be managed in the borough until 2026.

3.3.7 Policy CS20 of the Core Strategy 'Transport and Access Strategy' states,

**Development will be permitted that:**

**1. Is consistent with and contributes to the implementation of the 'Reduce, Manage and Invest' strategy.**

**2. Does not increase congestion and promotes better use of existing transport networks.**

**3. Improves accessibility to goods, services and employment and promotes equality in the transport system.**

**4. Provides transport management measures to ensure the safe and efficient operation of the strategic and local road network.**

**5. Ensures that highway design responds positively to the characteristics of the area and delivers a high quality public realm for all users.**

**6. Maintains or improves the range of transport modes accessible to the users of the development site with specific emphasis on public transport, especially high quality/frequency buses and includes walking and cycling where appropriate. assesses the non-transport infrastructure requirements to support the proposed new development [……]**

**7. [……]**

Havant Borough Local Plan (Allocations) document 2014 – 2026

3.3.8 The Local Plan Allocation document follows on from the Core Strategy and identifies sites for specific uses including, housing, employment, retail, recreation and green infrastructure up to 2026. This Allocations document is now being updated in the light of a known rising housing demand in the Borough.

HBC Local Plan Housing Statement (LPHS) 2016

3.3.9 The LPHS is the first step in addressing the rising housing need through a review of the Local Plan. Though the Housing Statement does not have the same status as a Local Plan in decision-making, it was subject to public consultation between 25th July and 9th September 2016, has been subject to Sustainability Appraisal, Habitats Regulations Assessment and an Integrated Impact Assessment. Importantly, it provides the foundation for the new Local Plan as Regulation 18 work and creates a positive framework for decision makers until the new Local Plan is adopted.

3.3.10 The LPHS identifies the site 'Land North of Long Copse Lane' as a single urban extension referenced as site UE76 and having an indicative site yield of 260 dwellings. Paragraph 3.14 refers to this site (and nine others) as sites outside of the urban area suitable for 'early release'. It states:

> **"As such they are free of constraints that cannot be mitigated, are available for development, and sustainable development could be achieved on the site".**

Havant Borough Council's Draft Local Plan (2018 – 2036)

3.3.11 The Draft Havant Borough Local Plan was published for consultation in January 2018 and sets out the vision and framework for future development, growth and prosperity in the Borough up to 2036. As with the LPHS, the site is identified within the draft Local Plan.

*Policy H6 – Land North of Long Copse Lane*

3.3.12 This policy states that a mixed-use development of about 260 dwellings and a convenience store,

> **Will be permitted where:**
>
> **a. The development of the site is master planned and delivered in a comprehensive manner;**
>
> **b. The following assessments are submitted to support a planning application:**
>
> **i-v […]**
>
> **vi Transport Assessment**
>
> **vii Travel Plan**

**c. It is demonstrated that any projected levels of noise and/or air quality, either individually or cumulatively, do not have a significant negative effect on sensitive receptors;**

**d. An appropriate means of access is established, which incorporates road widening along Hollybank Lane and Long Copse Lane and that does not compromise the vehicular access to housing allocation H14, to the satisfaction of the Highway Authority;**

**e. The development does not undermine the future development potential of surrounding sites;**

**f. The convenience store is located at a gateway point to the development and should have a maximum net sales area of 280sqm;**

**g. Appropriate mitigation measures, including buffers, are put in place for Bechstein's bat in line with Policy E18;**

**h. […]**

**i. […]**

**j. […]**

**k. [….]**

*Transport policies*

3.3.13 The document replaces Policies DM11 (Planning for More Sustainable Travel) and DM12 (Mitigating the Impacts of Travel) of the Core Strategy with Policy IN3 "Transport and Parking in New Development" which sets out the framework in which new development proposals will be permitted:

**"Development proposals will be permitted, provided that the site is designed so that:**

**a. The traffic generated by the development, taking into account any proposed avoidance and mitigation measures, would not result in severe cumulative impacts on the transport network or the environment;**

**b. Safe and suitable access to the site is provided for all people and modes of transport;**

**c. Provision is made for the parking of cars, motor cycles and cycles in line with Council standards;**

**d. On and/or off-site measures commensurate with the nature and scale of the scheme are provided, which promote travel by non-motorised modes and by public transport, including, where appropriate, provision for bus access with suitably located bus stops;**

**e. Adequate provision is made for varying sizes of vehicles, including refuse and emergency vehicles, to access all parts of the site, park, load, unload and turn safely and conveniently;**

**f. The streets and public and private parking areas contribute positively to the design of the development and deliver a high quality public realm, including through the use of high quality materials;**

**g. The site layout encourages lower vehicle speeds, and promotes the safe and convenient movement of pedestrians and cyclists within the site;**

**h. Pedestrian and cycle routes are provided which conveniently reach all parts of the site, and link with the wider network beyond the site;**

**i. Any existing public rights of way are safeguarded, and new routes provided where appropriate;**

**j. Sufficient visibility and lighting is provided for the safe and convenient use of the roads, cycle routes, walking routes and parking places;**

**k. Electric vehicle charging infrastructure is provided for**

**a. Each new residential unit with private off-street parking;**

**b. An appropriate number of spaces in shared parking at residential and commercial development with the remainder providing infrastructure to allow easy installation of charging points in the future;**

**l. A satisfactory Transport Statement or Transport Assessment is submitted in support of the planning application to evaluate transport impacts, and to demonstrate that proposed transport improvements will meet the needs of the development and mitigate adverse impacts;**

**m. A Travel Plan is provided in support of a planning application where appropriate in relation to the scale and type of development.**

3.3.14 The document therefore provides an indication for the direction of emerging Borough policy as well as the likely local policy requirements for future development in the borough.

Havant Borough Council's Parking Supplementary Planning Document (July 2016)

3.3.15 Car and Cycle parking standards for new residential development are provided within HBC's Parking Standards SPD (adopted July 2016). **Table 3.1** details the parking standards for a 'non-Town Centre' location.

**Table 3.1: HBC Residential Parking Standards**

| Type | Non-Town Centre | |
|---|---|---|
| No. of Allocated Spaces per Dwelling | Allocated | Shared / Communal (unallocated) |
| 1 Bedroom | 1.0 | 0.9 |
| 2 or 3 Bedrooms | 2.0 | 1.3 / 1.9 |
| 4 or More Bedrooms | 3.0 | 2.4 |

Source: HBC's Residential Parking Standards Supplementary Planning Document

3.3.16 In addition, an additional 20% of unallocated parking for visitors should be accommodated.

3.3.17 Cycle parking standards are also set out within HBC's Parking Standards SPD, **Table 3.2** summarises the standards. Long stay cycle parking for dwelling houses requires secure covered parking for residents' cycles with short stay provision in the form of a secure loop attached to the house or garage.

**Table 3.2: HBC's Cycle Parking Standards**

| Type | Long Stay | Short Stay |
|---|---|---|
| 1 bedroom | 1.0 | In larger developments (schemes of 10 or more dwellings), short-term visitor parking will be expected at 20% of the long-term cycle parking standard. |
| 2 or 3 bedrooms | 2.0 | |
| 4 or more bedrooms | 2.0 | |

Source: HBC's Residential Parking Standards Supplementary Planning Document

## 3.4 Summary

3.4.1 Taken together, national and local transport planning policy requires new residential development to be located where there is the opportunity for a range of facilities and services to be accessed by a choice of modes of transport including walking, cycling and public transport, so as to minimise the number and length of car journeys. Safe and suitable access to new developments should be achieved for all people.

3.4.2 Planning decisions should take account of whether improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. National and local policy is clear that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe. This TA describes how the proposed development complies with these transport planning policy considerations.

## SECTION 4 EXISTING CONDITIONS

### 4.1 Introduction

4.1.1 This section of the TA provides a review of the existing transport conditions in the area including the opportunities for walking, cycling and public transport provision, as well as the characteristics of the local highway network.

### 4.2 Site Location

4.2.1 The site is located to the north of Long Copse Lane and currently comprises land used for agricultural purposes. The site is bounded to the north by a wooded copse and to the south by Long Copse Lane. The eastern boundary is formed by field boundaries and an existing line of trees. The site location is illustrated on **Figure 1**.

### 4.3 Walking and Cycling Facilities

Walking

4.3.1 Long Copse Lane currently operates as a shared surface lane with no dedicated footways in the vicinity of the site frontage. To the west, Long Copse Lane ties into Hollybank Lane which routes south towards Southleigh Road, where the nearest bus stops are located. Wraysbury Park Drive and Redlands Lane are located just to the south west of the site and provide routes to the south through a residential area. Redlands Lane offers pedestrians a designated footpath (public right of way), while Wraysbury Park Drive provides footways on both sides of the carriageway.

4.3.2 Hollybank Lane provides footways on both sides of the carriageway apart from a c.65m stretch at its northern end where a footway is provided only on the western side. Hollybank Lane is lit along its length and benefits from good natural surveillance from neighbouring properties. Connections to Oak Tree Drive and Churchill Drive are also provided onto Hollybank Lane.

4.3.3 Wraysbury Park Drive provides an alternative route south towards central Emsworth. There are footways provided on both sides of the carriageway and street lighting along its length. This provides a connection to Southleigh Road to the south via Redlands Lane with footways provided on both sides of the carriageway continuously to the four-arm roundabout with Southleigh Road, Westbourne Road and New Brighton Road.

4.3.4 New Brighton Road continues south through New Brighton towards Emsworth Station. There is a footway provided on the eastern side of the carriageway for the first 185m south of the roundabout. South of this point footways are provided on both sides of the carriageway continuously to the Horndean Road junction. Horndean Road continues south towards Emsworth station with continuous footway provided on the eastern side of the road beneath the A27 and railway bridges.

4.3.5 Westbourne Road routes east of the roundabout towards the shops and services in Westbourne. Westbourne Road has continuous footway with street lighting provided on its southern/eastern side to the junction of New Road. North east of this point there are footways provided on both sides of The Square providing access to the shops and services surrounding East Street/North Street.

Cycling Facilities

4.3.6 There are extensive cycle facilities around the site including a dedicated off-road cycle route from the corner of Long Copse Lane and Hollybank Lane which runs north to Rowlands Castle and south to Havant.

4.3.7 The route to the south of the site on Southleigh Road involves an on-road cycle route which also connects Emsworth centre and the rail station. To the west, the route connects with Southleigh Road, Warblington rail station and NCN route 2. NCN route 2 provides an east/west connection on the alignment of the A259 between Havant, Warblington and Portsmouth to the west and Chichester to the east.

4.3.8 All local cycle routes and public rights of way are shown on **Figure 2.**

4.3.9 Local roads including Long Copse Lane, Hollybank Lane and those beyond Wraysbury Park Drive are lightly trafficked and subject to 30mph speed limits. Manual for Streets (MfS) guidance suggests:

> **"Cyclists should generally be accommodated on the carriageway. In areas with low traffic volumes and speeds, there should not be any need for dedicated cycle lanes on the street" (MfS, para. 6.4.1).**

4.3.10 In summary, there are extensive local cycle facilities as shown on **Figure 2** and the wider local road network is suitable for use by cyclists on carriageway enabling access the dedicated cycle infrastructure.

## 4.4 Public Transport

Bus

4.4.1 The nearest bus stops are located to the south of the site on Southleigh Road, east on North Street and south on Westbourne Road, which are approximately 750m from the site.

4.4.2 The main bus services that will serve future residents include route 27 between Rowlands Castle and Havant and the 28 and 28A routes between Southbourne and Havant/Horndean School. The no.27 service can be accessed from the Southleigh Road/Hollybank Lane junction while the no.28 and no.28A services operate from Southbourne, adjacent to Manor Road.

**Table 4.1: Local Bus Services**

| Bus Stop | Service No. | Route | Frequency | | |
|---|---|---|---|---|---|
| | | | Mon-Fri | Sat | Sun |
| **Southleigh Road / Hollybank Lane Junction** | 27 | Rowlands Castle- Havant – Emsworth | Every 2 hours. First service to Emsworth 08.43, last return 17.00 | Every 2 hours. First service to Emsworth 08.43, last return 17.00 | - |
| | 28 | Southbourne - Emsworth - Denvilles - Havant | 3 services. First service to Havant 08.05, last return 16.00. | 2 services. First to Havant 09.30, last return 16.00. | - |
| | 28A | Southbourne - Horndean School | 1 service. First service to Horndean School 07.15, last return 15.15. | - | - |

Source: Traveline South East

4.4.3 As shown in **Table 4.1**, existing bus services near the site provide opportunities to travel to key destinations including Havant and Emsworth centre whilst also providing onward connections via Emsworth Rail station to higher order centres.

Rail

4.4.4 The nearest rail station to the site is Emsworth Station which is located approximately 1.9km to the south of the site. Emsworth rail station is therefore located within a walking and cycling distance of the site (see Section 6) and can also be accessed via the 27/28 bus service operating via the Southleigh Roundabout approximately 600m south of the site.

4.4.5 **Table 4.2** provides a summary of the rail services which operate from Emsworth rail station which can be accessed via the buses operating on Southleigh Road.

**Table 4.2: Emsworth Rail Station – Rail Services**

| Destination | Typical Peak Frequency | Typical Off-Peak Frequency | Typical Journey Duration |
|---|---|---|---|
| Southampton Central | 3 | 2 | 50 mins |
| Brighton | 2 | 2 | 58 mins |
| London Victoria | 2 | 2 | 1hr 40 mins |
| Horsham | 3 | 2 | 50 mins |
| Portsmouth Harbour | 3 | 2 | 20 – 30 mins |
| Chichester | 4 | 3 | 30 – 45 mins |

Source: National Rail Enquiries

4.4.6 **Table 4.2** demonstrates that Emsworth Rail station provides frequent rail services to a number of destinations including London Victoria, Brighton, Southampton, Chichester and Portsmouth. This provides the opportunity for future residents to travel further afield for leisure, employment and retail opportunities via direct connections.

4.4.7 Future residents will therefore be well located to existing public transport services including regular bus services and connections to the rail network. As a result, future residents will have realistic opportunities to access everyday facilities and destinations by public transport.

## 4.5 Local and Strategic Highway Network

4.5.1 The site location plan, **Figure 1**, shows the local highway network in the vicinity of the site, whilst the following paragraphs provide a commentary.

4.5.2 Long Copse Lane is a single carriageway road c.4.5m wide along the site frontage. It provides access to the site as well as providing an alternative route between Emsworth and Westbourne to the east. It is subject to a 30mph speed limit along the site frontage.

4.5.3 Long Copse Lane merges into Hollybank Lane to the south which is c.7.3m width between the junction of Oak Tree Drive and Southleigh Road a further 400m to the south. Hollybank Lane forms a priority junction with Southleigh Road, a c.7m wide single carriageway road which provides an east/west connection between New Brighton Road and Horndean Road.

4.5.4 Southleigh Road forms the minor arms of a right/left stagger junction with Horndean Road approximately 400m west of the junction with Hollybank Lane. Horndean Road is approximately 7m wide along its length and provides a north/south route between Emsworth Common Road crossroads to the north west and Emsworth centre to the south.

4.5.5 To the south Horndean Road forms the northern arm of a four-arm roundabout junction with the A259. The A259 is approximately 7m wide and provides an east/west route between Chichester (c.10km) and the A27 Warblington junction located 2km to the west. The A27 provides direct a direct connection to the west to Havant, Portsmouth and Southampton and to the east to Chichester and the wider area of West and East Sussex.

## 4.6 Existing Traffic Conditions

4.6.1 Existing traffic flows were recorded through seven-day Automatic Traffic Count (ATC) surveys undertaken between 31 January 2018 and 8 February 2018 at the following locations:

- Long Copse Lane (western end);
- Long Copse Lane (eastern end);
- Hollybank Lane; and
- Wraysbury Park Drive.

4.6.2 Manual Classified Counts (MCC) on Thursday 1 February 2018 (a neutral period) at the following junctions during the morning and evening peak periods:

a) Long Copse Lane / Wraysbury Park;

b) Long Copse Lane / North Street;

c) Hollybank Lane / Southleigh Road;

d) Southleigh Road / Horndean Road;

e) Southleigh Road / New Brighton Road / Westbourne Road;

f) New Brighton Road / Horndean Road;

g) Horndean Road / Bartons Road / Emsworth Common Road;

h) North Street / A259; and

i) A27(T) / A259 (June 2018);

4.6.3 Analysis of the MCC and ATC traffic data identified the morning peak hour as 08:00 – 09:00 and the evening peak hour period has been identified as 16:30 – 17:30.

4.6.4 A summary of the two-way traffic flows recorded on the local highway network during the peak hours is shown in **Table 4.3**.

**Table 4.3: Summary of Existing Traffic Flows (Two-Way)**

| Road / Location | Morning Peak (08:00-09:00) | Evening Peak (16:30-17:30) |
|---|---|---|
| Long Copse Lane (West of Wraysbury Park Drive) | 50 | 60 |
| Wraysbury Park Drive | 29 | 45 |
| Hollybank Lane | 151 | 166 |
| Southleigh Road | 464 | 438 |
| Horndean Road (North of Southleigh Road) | 897 | 1002 |
| New Brighton Road | 555 | 626 |
| Emsworth Common Road | 701 | 744 |
| North Street | 1073 | 1200 |
| A259 (East of North Street Junction) | 1486 | 1594 |

Source: MCC and ATC Traffic Surveys, February 2018 and June 2018

4.6.5 The 2018 baseline traffic flows for the morning and evening peak hours are illustrated on **Figures TF1** and **TF2** respectively.

## 4.7 Vehicle Speeds

4.7.1 The two Automatic Traffic Count surveys (ATC) on Long Copse Lane also recorded vehicle speeds. The western ATC was to the west of the junction with Wraysbury Park Drive and the eastern ATC to the east of Redlands Lane.

4.7.2 A summary of the 85th percentile wet weather speeds for eastbound and westbound vehicles on Long Copse Lane summarised in **Table 4.4**.

**Table 4.4. Observed Traffic Speeds at Western and Eastern Sites**

| Location | Direction | 85th % Speed (mph)* | | |
|---|---|---|---|---|
| | | Morning Peak | Evening Peak | Daily 24hr |
| Western Site | Westbound | 21.7 | 21.9 | 21.2 |
| | Eastbound | 21.4 | 20.5 | 21.2 |
| Eastern Site | Westbound | 23.0 | 23.2 | 23.9 |
| | Eastbound | 25.7 | 25.0 | 24.8 |

Source: ATC Survey, wet weather adjusted as per TA 22/81

## 4.8 Highway Safety

4.8.1 Personal Injury Accident (PIA) data has been obtained from Hampshire Constabulary for the most recently available five-year period for the local highway network in the vicinity of the site.

4.8.2 The study area encompasses Long Copse Lane, Hollybank Lane, Redlands Lane, New Brighton Road, Southleigh Road and Horndean Road.

4.8.3 **Table 4.5** below presents the number and location of recorded accidents within the study area over the assessed period whilst the full report provided by Hampshire Constabulary is provided at the rear of this document.

**Table 4.5: Summary of Personal Injury Accidents – 1 August 2013 – 30 July 2018**

| Location | Vehicles | | | Pedestrians and Cyclists | | | Total |
|---|---|---|---|---|---|---|---|
| | Fatal | Serious | Slight | Fatal | Serious | Slight | |
| Long Copse Lane | - | - | - | - | - | - | 0 |
| Long Copse Lane / North Street | - | - | - | - | - | - | 0 |
| Hollybank Lane | - | - | - | - | - | - | 0 |
| Hollybank Lane / Southleigh Road | - | - | - | - | - | 1 | 1 |
| Southleigh Road | - | - | 2 | - | 1 | 1 | 4 |
| Southleigh Road / Horndean Road Crossroads | - | - | 3 | - | - | 1 | 4 |
| Horndean Road / Coldharbour Farm Road | - | - | - | - | - | 2 | 2 |
| Horndean Road | - | - | 1 | - | 1 | - | 2 |
| Horndean Road / Emsworth Common Road / Bartons Road Crossroads | - | - | 8 | - | - | 2 | 10 |
| Bartons Road / Eastleigh Road | - | - | 1 | - | - | - | 1 |
| Wraysbury Park Drive | - | - | - | - | - | - | 0 |
| Redlands Lane / Skylark Avenue | - | - | - | - | - | 1 | 1 |
| Redlands Lane / Westbourne Road / Southleigh Road Roundabout | - | - | - | - | 1 | 2 | 3 |
| Westbourne Road | - | - | 1 | - | 1 | - | 2 |
| New Brighton Road | - | - | 1 | - | - | 1 | 2 |
| New Brighton Road / Horndean Road Junction | - | - | - | - | - | 1 | 1 |
| Brushwood Grove | - | - | - | - | - | 1 | 1 |
| Woolmer Street | - | - | 1 | - | - | - | 1 |
| **Total** | **0** | **0** | **18** | **0** | **3** | **14** | **35** |

Source: Hampshire Constabulary

4.8.4 A total of thirty-five injury accidents have occurred within the study area during the most recent five-year period. A summary of each recorded accident at the locations summarised above is provided in the following paragraphs.

*Long Copse Lane, Hollybank Lane, Wraysbury Park Drive and the Long Copse Lane / North Street Junction*

4.8.5 There have been no injury accidents recorded along the corridor between Hollybank Lane, Long Copse Lane, Wraysbury Park Drive and the junction of Long Copse Lane / North Street in the most recently available five-year period.

*Hollybank Lane / Southleigh Road Junction*

4.8.6 One 'slight' injury accident has been recorded at this junction in the last five-year period. This occurred when a motorcycle travelling southwest on Hollybank Lane turned right onto Southleigh Road into the path of a pedal cycle travelling southwest.

*Southleigh Road between New Brighton Road roundabout and Horndean Road*

4.8.7 Four accidents have been recorded on Southleigh Road as set out below:

- One 'slight' accident occurred when a car reversing west on Southleigh Road into a driveway was struck by a car travelling east;
- One 'slight' accident occurred when a car travelling east moved across the centre of the road into the path of an oncoming car;
- A car travelling west on Southleigh Road turned left into Longfield Road and clipped a pedal cycle travelling in front; and
- One 'serious' accident occurred when a pedestrian left the co-op and crossed the road into the path of a vehicle travelling east on Southleigh Road.

*Southleigh Road / Horndean Road Crossroads*

4.8.8 Four 'slight' accidents have been recorded at the Southleigh Road / Horndean Road crossroads junction and are set out below:

- Two accidents occurred when cars travelling west on Southleigh Road pulled into the junction into the path of oncoming vehicles;
- One accident occurred when a car travelling northwest on Horndean Road turned right into Southleigh Road and clipped the rear of a pedal cycle undertaking the same manoeuvre; and

- One accident occurred when a car travelling southwest on Southleigh Road struck the rear of a car waiting to turn at the junction with Horndean Road.

*Horndean Road / Coldharbour Farm Road junction*

4.8.9 Two 'slight' accidents have been recorded on Coldharbour Farm Road immediately southwest of the junction of Horndean Road and are set out below:

- One accident occurred when a pedestrian traveling northeast on Coldharbour Farm Road fell onto a vehicle waiting to turn left out of the junction; and
- One accident occurred when a car travelling southwest on Coldharbour Farm Road clipped a pedal cycle travelling in the same direction whilst overtaking.

*Horndean Road between Coldharbour Farm Road junction and Emsworth Common Road Junction*

4.8.10 Two accidents have been recorded on Horndean Road between Coldharbour Farm Road and Emsworth Common Road and are set out below:

- One 'slight' accident occurred when a van travelling southeast crossed into the path of a vehicle travelling in the opposite direction; and
- One 'serious' accident occurred when a car travelling northwest on Horndean Road collided with the rear of a pedal cycle travelling in the same direction.

*Horndean Road / Emsworth Common Road / Bartons Road Crossroads*

4.8.11 Ten 'slight' accidents have been recorded at the Horndean Road / Emsworth Common Road / Bartons Road crossroads in the last five-year period:

- Two accidents occurred on the Emsworth Common Road approach to the junction. The first occurred when a vehicle travelling northeast clipped a pedestrian also travelling northeast and the second when a van travelling north east performed a U-turn in the path of a following vehicle;
- Four accidents occurred at the junction between Horndean Road and Emsworth Common Road. These accidents occurred when a vehicle turning out of Emsworth Common Road collided with a vehicle travelling north or south on Horndean Road; and

- Four accidents occurred at the junction between Horndean Road and Bartons Road. Three accidents occurred when vehicles travelling from Bartons Road turned out onto Horndean Road into the path of a vehicle travelling north or south. The fourth accident occurred when a car travelling east on Bartons Road failed to see a pedal cycle also travelling east.

*Bartons Road / Eastleigh Road Junction*

4.8.12 One 'slight' accident has occurred at this junction in the last five-year period. This occurred when a car travelling north on Eastleigh Road turned right onto Bartons Road into the path of a westbound car.

*Redlands Lane / Skylark Avenue*

4.8.13 One 'slight' accident has occurred at this junction in the last five-year period. This occurred when a car travelling southwest on Skylark Avenue turned across the path of a pedal cycle travelling southeast on Redlands Lane.

*Redlands Lane / Westbourne Road / Southleigh Road Roundabout*

4.8.14 Three accidents have been recorded at the roundabout in the last five-year period consisting of one 'serious' and two 'slight' accidents. These accidents occurred when vehicles entered the roundabout into the path of a circulating vehicle, the 'serious' accident occurred when a van entered the roundabout into the path of a pedal cycle.

*Westbourne Road east of the Southleigh Road Roundabout*

4.8.15 Two accidents have occurred on Westbourne Road east of the Southleigh Road roundabout in the last five-year period. One 'serious' accident occurred when a person emerged from bushes at the side of the road into the path of a car travelling southwest. A 'slight' accident also occurred when a car travelling north on Lewis Road entered Westbourne Road across the path of a car travelling northwest on Westbourne Road.

*New Brighton Road south of Southleigh Road Roundabout to junction with Horndean Road*

4.8.16 Two accidents have occurred on this link in the last five-year period and are set out below:

- One accident occurred when a car travelling north on New Brighton Road collided with a parked van; and
- One accident occurred when a parked car opened the door into the path of a southbound pedal cycle;

*New Brighton Road / Horndean Road Junction*

4.8.17 One 'slight' accident occurred at this junction when a car travelling south west on New Brighton Road turned right onto Horndean Road into the path of a pedal cycle turning right into the junction.

*Brushwood Grove*

4.8.18 One 'slight' accident occurred when a taxi travelling west turned into Brushwood Grove and clipped the wheel of a pedal cycle resulting in the rider falling off.

*Woolmer Street*

4.8.19 One 'slight' accident occurred when a car travelling along Woolmer Street collided with a parked car pushing it into the path of an oncoming vehicle.

Summary

4.8.20 Importantly, there have been no injury accidents recorded along the corridor between Hollybank Lane, Long Copse Lane, Wraysbury Park Drive and the junction of Long Copse Lane / North Street in the most recently available five-year period.

4.8.21 In the wider area, whilst accidents have occurred, and any accident is regrettable, the nature, frequency and distribution of the accidents do not suggest that there is a highway safety problem on the local highway network which would be unduly exacerbated by the proposed development.

4.8.22 To re-iterate, it is important to note that there have been no accidents recorded on Long Copse Lane in the vicinity of the proposed access in the most recently available five-year period.

## 4.9 Summary

4.9.1 The site is located to the north of Long Copse Lane, Emsworth and currently comprises of open land. Long Copse Lane is a single carriageway road and subject to a 30mph speed limit in the vicinity of the site access for both the application site and the western site access for the wider allocation.

4.9.2 There are footways provided on Hollybank Lane west of the site which provide continuous walking routes south into Emsworth, Westbourne and on New Brighton Road for onward connections to shops, leisure facilities and local bus services.

4.9.3 There are extensive local cycle facilities with a combination of on and off-road routes being immediately accessible from Long Copse Lane and Hollybank Lane. The wider local road network is suitable for use by cyclists within the carriageway and NCN route 2 provides an east/west connection approximately 1.5km south of the site between Havant, Warblington and Portsmouth to the west and Chichester to the east. Cycle trips can therefore be accommodated on and off the carriageway. The nature of the residential nature of roads surrounding the site is well suited to cycling.

4.9.4 There is a regular bus service operating within approximately 750m of the site which provide regular services to Rowlands Castle and Emsworth including onward connections to the rail network for trips further afield.

4.9.5 The site is well located to the local highway network. Long Copse Lane is subject to low traffic flows and speeds and provides a connection to Southleigh Road from which users can route north on Horndean Road, south towards the A259 and the A27 and east towards Westbourne and Chichester.

4.9.6 Injury accident data has been checked and obtained for a wide study area and in the vicinity of the proposed site accesses for the latest available five-year period there have been no recorded accidents.

## SECTION 5 SITE ACCESS, PARKING AND SERVICING ARRANGMENTS

### 5.1 Introduction

5.1.1 This section of the TA outlines the proposed site access arrangements, along with indicative servicing and parking provision. The outline planning application is for 210 dwellings within the wider masterplan area of 260 dwellings with only the principle and the means of access to be determined at this stage.

### 5.2 Objectives

5.2.1 The objectives of the overall site access strategy are to achieve:

- Safe and suitable access to the site;
- The take up of the opportunities for sustainable transport modes, to reduce the need for major transport infrastructure; and
- Improvements within the transport network that cost effectively limit the significant impacts of the development and seek to retain the character of Long Copse Lane.

### 5.3 Site Access Strategy

5.3.1 The site access strategy has been developed in conjunction with HCC and in accordance with the draft Local Plan Policy in that an appropriate means of access has been established, which **'incorporates road widening along Hollybank Lane and Long Copse Lane and that does not compromise the vehicular access to housing allocation H14'**. This has been agreed conceptually to the satisfaction of the Highway Authority and is currently the subject of HCC's Section 278 Preliminary Design Checking process[1].

[1] A comprehensive design check of the highway works that is usually completed post planning permission

5.3.2 This process is now nearing its conclusion with the principle of a 5.5m alignment of Long Copse Lane now agreed with HCC – subject to a Construction Traffic Management Plan. HCC have also now reached a position of cross-discipline support for the proposed drainage solution on Long Copse Lane as well as a suitable arrangement for the ongoing maintenance of this solution in the future.

5.3.3 To deliver vehicular access to the proposed development, two simple priority junctions are proposed from Long Copse Lane which are designed in accordance with the Manual for Streets and the recorded 85$^{th}$ percentile wet weather vehicle speeds. Wider improvement works are also proposed for Long Copse Lane between the eastern most site access and Hollybank Lane.

5.3.4 In summary, the following vehicular works are proposed as part of this application:

- An eastern site access suitable to accommodate the level of development proposed with 2.4m x 43m visibility splays;
- Works to the carriageway edge to achieve a 5.5m width with some limited sections marginally below this width;
- A central non-car access (the old dairy access) to provide a pedestrian and cycle connection to Wraysbury Park Drive;
- The formalisation of an existing layby parking area on Long Copse Lane;
- A pedestrian connection to Redlands Lane;
- Further local road widening to 5.5m but retaining all but one Category A trees;
- Widening of the bend on the approach to Hollybank Lane and the provision of new footway with a no-dig construction method used to avoid a Category A tree; and
- Improved forward visibility around the bend on the approach to Hollybank Lane.

5.3.5 Additionally, technical work has been progressed to demonstrate that a suitable western site access with 2.4m x 43m visibility splays can be achieved and incorporated into the proposals on Long Copse Lane should the western parcel, which forms part of the same allocation, be progressed separately at a later date.

5.3.6 The proposed access and above scheme of works are shown on **drawings ITB13525-GA-002, 003 and 004.**

Stage One Road Safety Audit

5.3.7 A Stage One Road Safety Audit of the proposed access arrangements has been carried out and was submitted to HCC. The Safety Audit is included as **Appendix D**, a full designer's response is also included, and all matters raised by the Auditor have been addressed to his satisfaction and this has been confirmed to HCC.

## 5.4 Pedestrian Access

5.4.1 It is proposed to provide a pedestrian/cycle link from the development (at the dairy access) to connect to Wraysbury Park Drive.

5.4.2 The scheme also includes a footway on the Long Copse Lane bend, to the front of the existing trees, this will form a secondary pedestrian access into the site via a new 1.8m footway on Long Copse Lane to provide a continuous footway link to Hollybank Lane.

5.4.3 The eastern access also includes a length of new footway on Long Copse Lane to connect to Redlands Lane.

5.4.4 These proposals are all shown on **Drawings ITB13525-GA-002, 003 and 004**.

Redlands Lane

5.4.5 In accordance with discussions with HCC a potential scheme to improve Redlands Lane (Footpath 67) has also been prepared. The scheme includes clearing vegetation along the length of the route and improving the surface to create a greater usable width (to around 3m) in order to facilitate use by cyclists as well as pedestrians. HCC have confirmed that they wish to see the route upgraded to allow cycle use and will process the necessary legal work to deliver this. The potential scheme of works is shown on **drawing ITB13525-GA-021** and is covered further in Section 6**.**

## 5.5 Parking Provision

Car Parking

5.5.1 A future Reserved Matters application would deal with the provision of car parking, which will be provided in accordance with HBC's Residential Parking Standards (July 2015) or any other relevant guidance at the time the application is submitted. **Table 5.1** summarises the HBC's residential parking standards.

**Table 5.1: Havant Borough Council's Car Parking Standards**

| Property Size | Car Parking Standard | |
|---|---|---|
| | Minimum car parking requirement | Additional note |
| 1 bed | 1 | With the exception of small residential developments an additional 20% of unallocated parking for visitors should be accommodated. |
| 2/3 bed | 2 | |
| 4+ bed | 3 | |

Source: Havant Borough Council's Residential Parking Standards SPD (July 2015)

Cycle Parking

5.5.2 Cycle parking will also be determined as part of a future Reserved Matters application. **Table 5.2** summarises the current cycle parking standards identified in HBC's Residential Parking Standards.

**Table 5.2: Havant Borough Council's Cycle Parking Standards**

| Property Size | Cycle Parking Standard | |
|---|---|---|
| | Individual Storage | Communal Storage |
| 1 bed | 1 | In larger developments (schemes of 10 or more dwellings), short-term visitor parking will be expected at 20% of the long-term cycle parking standard |
| 2/3 bed | 2 | |
| 4+ bed | 2 | |

Source: Havant Borough Council's Residential Parking Standards SPD (July 2015)

## 5.6 Street Hierarchy

5.6.1 The suggested street hierarchy within the site should be based on current best practice and design guidance as set out in Manual for Streets (MfS), for example:

- **Main Streets** – i.e. the approaches to the proposed site accesses:
  - Design speed 20mph;
  - Width – 5.5m – 4.8m (assumes bus access not required);
  - Pedestrian provision – 1.8m - 2.0m footways on at least one side of the carriageway; and
  - Refuse vehicle access.
- **Secondary Streets** – i.e. from the first main internal junction within the site:
  - Design Speed 20mph;
  - Width – 4.8m or less;
  - Pedestrian provision – generally 1.8m - 2.0m footways on at least one side of the carriageway; and
  - Refuse vehicle access.
- **Shared Surface Streets** – i.e. cul-de-sacs serving up to circa 25 dwellings:
  - Design speed 5mph to 10mph, lowest possible vehicle speed, where pedestrians and vehicles can co-exist;
  - Width – 4.8m or less;
  - Pedestrian provision – on-carriageway or separate footway if there is a route linking through the street to the wider footway/footpath network;
  - Margins – typically 0.5m on one side and a 2m service margin on the other; however, widths may be determined on utility companies' requirements and highway adoption requirements; and
  - Refuse vehicle access – if necessary.
- **Mews / Courtyard Squares** – i.e. short cul-de-sacs serving up to six dwellings:
  - Design speed 10mph;
  - Width 4.1m to 4.8m;

- Shared surfaces – or separate footway if there is a linking route through the street to the wider footway/footpath network;
- No refuse vehicle access; and
- Unlikely to be 'adopted'.

## 5.7 Refuse and Emergency Vehicle Access

5.7.1 At the Reserved Matters stage swept path analysis for refuse and emergency vehicles will be carried out for all internal streets to demonstrate that these vehicles can safely enter and exit the site and manoeuvre within the site with minimal turning movements.

## 5.8 Construction

5.8.1 Construction work would only begin on completion of the proposed access improvement works or a variation of them that is agreed with HCC to ensure that no construction related traffic would use Long Copse Lane without improvement.

5.8.2 During construction, Long Copse Lane would only be used between its junctions with the site and its transition into Hollybank Lane. All construction traffic would route to / from Southleigh Road and onwards using routes that would be agreed with HCC. The roads used for the purpose of construction traffic have a good alignment and forward visibility.

5.8.3 Further details of particular measures to manage and control vehicle movements (i.e. signage, temporary speed limits and use of banksman with communication / technology) to ensure that two of the very largest vehicles do not pass one another during the construction period would also be set out within a Construction Traffic Management Plan (CTMP) that will be secured by planning condition or Section 106 Obligation.

## 5.9 Summary

5.9.1 Access to the site is proposed via two priority junctions onto Long Copse Lane along the southern boundary of the site, carefully located to prevent any significant tree loss. A series of local highway improvements are also proposed to improve the road width and pedestrian facilities whilst also seeking to limit highway interventions to the lane.

5.9.2 The proposed site accesses and associated works as part of both this site and the wider allocation have been agreed with HCC conceptually and are now being approved through their S278 Design Check process. The scheme is supported by a Stage 1 Road Safety Audit, Arboriculture Report, Ecology Report, Drainage Report and civil engineering inputs. Following comments from HCC's engineers this is now understood to be nearing its conclusion with agreement having been reached on the principle of a 5.5m alignment of Long Copse Lane as well as a suitable drainage solution.

5.9.3 The access works provide a length of new footway to Hollybank Lane, one to Wraysbury Park Drive and one to Redlands Lane in line with HCC's advice. The potential for further improvements to Redlands Lane have also been identified by HCC and the development can help bring those forward. The site accesses include safe and acceptable visibility splays from the site onto Long Copse Lane that is appropriate for 30mph speeds (85$^{th}$ percentile observed vehicle speeds are just 27mph).

5.9.4 The illustrative site layout makes adequate provision for refuse vehicles. Future reserved matters applications could further explore connections to the west and deal with the provision of car and cycle parking, which would be provided having regard to current standards or any other subsequent standards that may be adopted at that time.

5.9.5 Against this background, the proposed access arrangements are in accordance with draft local and national policy requirements and have been refined in accordance with HCC's requirements.

## SECTION 6 PROMOTING SUSTAINABLE TRANSPORT

### 6.1 Introduction

6.1.1 This section of the transport assessment provides a review of the accessibility of the proposed development to local facilities by walking, cycling and public transport including employment, leisure and shopping.

### 6.2 Journey Purpose

6.2.1 In promoting sustainable travel, it is important to consider the reasons why future residents of the proposed development will make journeys. The Department for Transport's National Travel Survey identifies the proportion of all trips by purpose as set out in **Table 6.1** below.

**Table 6.1: Proportion of Trips per Year by Journey Purpose**

| Journey Purpose | Proportion of Trips |
|---|---|
| Leisure | 26% |
| Shopping | 19% |
| Commuting/Business | 19% |
| Education/Escort Education | 12% |
| Personal Business | 9% |
| Other Escort | 9% |
| Other (Including Just Walk) | 6% |

Source: Table NTS0409 Average number of trips by purpose and main mode: England NTS – 2016 Edition

6.2.2 Travel purpose is therefore well spread across a number of different journey purposes, and each type of journey will have different requirements in terms of destination, time constraints and route choice.

6.2.3 This TA therefore considers the opportunities available to the potential residents of the site to access local facilities and services by a choice of transport modes.

### 6.3 Walking and Cycling

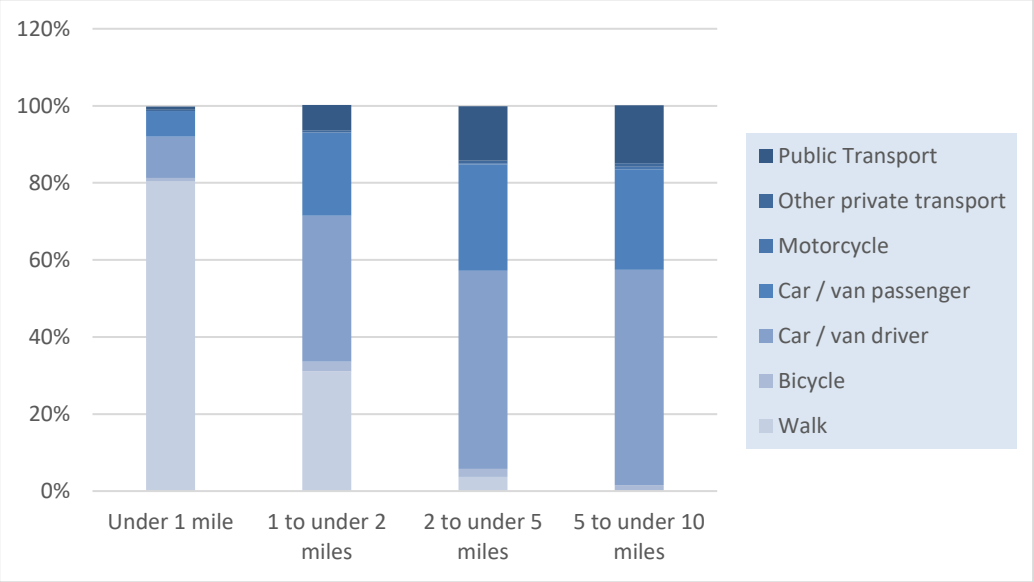
Walking Distances

6.3.1 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".**

6.3.2 MfS continues to note **"this is not an upper limit and PPG13 states that walking offers the greatest potential to replace short car trips, particularly those under 2km."**

6.3.3 The National Travel Survey (NTS) 2016 identifies the mode share journeys of different lengths. This is repeated in **Image 6.1** and demonstrates that the vast majority (80%) of trips of up to one mile (1.6km) are undertaken on foot for journeys. This is corroborated by the CIHT guidance *'Planning for Walking'*. The NTS data also shows that 33% of journeys between 1 and 2 miles will be on foot, i.e. a significant proportion of people are prepared to walk for journeys of up to 2 miles (3.2km).

**Image 6.1: Mode Share of Trips by Main Mode for Different Trip Lengths: England**




Source: NTS 2016 (NTS0308)

6.3.4 DMRB TD91/05 'Provision for Non-Motorised Users', identifies that walking is a 'normal' mode of transport for journeys undertaken within a range of two miles:

> **"Walking is used to access a wide variety of destinations including educational facilities, shops, and places of work, normally within a range of up to 2 miles. Walking and rambling can also be undertaken as a leisure activity, often over longer distances".** (Para 2.3)

6.3.5 Against all of this background, the following walking distances are identified:

- Up to **800m** – A comfortable walking distance;
- Up to **2,000m** – A reasonable walking distance i.e. the distance that "offers the greatest potential to replace short car trips", and where the majority of trips are undertaken on foot; and

- Up to **3,200m** – A maximum regular walking distance i.e. the distance within which a significant proportion (circa one-third) of journeys will be on foot.

6.3.6 **Figure 2** and **Table 6.2** demonstrate that there is a very good range of local services and facilities within a 'reasonable' walking distance of the site including primary and secondary schools, employment areas, leisure facilities and healthcare.

Cycling Distances

6.3.7 Paragraph 1.5.1 of LTN 02/08 '*Cycle Infrastructure Design'* discusses typical cycle trip distances and states that local highway networks are primarily for local journeys and many utility cycle journeys are under three miles (4.8km) although for commuter journeys a trip distance of 5 miles (8km) is not uncommon.

6.3.8 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."**

6.3.9 The National Travel Survey 2016 (NTS0306) identifies that the average trip length by bicycle is 3.5miles, or 5.6km.

6.3.10 A cycling distance of up to around 5km (3 miles) therefore offers the greatest potential to replace cars trips and is therefore a "reasonable" cycling distance although a number of cycle journeys may be longer at 8km (5 miles). Cycling also frequently forms part of a longer journey in combination with public transport.

6.3.11 As is demonstrated in **Figure 2** and **Table 6.2** a large range of local facilities are accessible by cycle, including education, retail, leisure and employment opportunities.

**Table 6.2: Key Local Destinations**

| Purpose | Destination | Approx Distance from Site | Walk Distance | Cycle Distance |
|---|---|---|---|---|
| Education | Children's Learning Centre | 1000 | ✓✓ | ✓✓✓ |
| | Westbourne Primary School | 1200 | ✓✓ | ✓✓✓ |
| | Daisy Chain Nursery | 1200 | ✓✓ | ✓✓✓ |
| | Saint James CEC Primary School | 1600 | ✓✓ | ✓✓✓ |
| | Emsworth Primary School | 2800 | ✓✓ | ✓✓ |
| Retail | Co-op Food | 850 | ✓✓ | ✓✓✓ |
| | The Cooperative Westbourne | 1400 | ✓✓ | ✓✓✓ |
| Train Station | Emsworth Train Station | 1900 | ✓✓ | ✓✓✓ |
| Leisure | Westbourne Parish Hall | 1200 | ✓✓ | ✓✓✓ |
| | The Westbourne Club | 1200 | ✓✓ | ✓✓✓ |
| | The Cricketers | 1300 | ✓✓ | ✓✓✓ |
| | Spice Cottage | 1400 | ✓✓ | ✓✓✓ |
| | The White Horse | 1400 | ✓✓ | ✓✓✓ |
| Health | Westbourne Osteopathic Clinic | 1100 | ✓✓ | ✓✓✓ |
| | George and Dragon Surgery | 1400 | ✓✓ | ✓✓✓ |

✓✓✓= Comfortable walking distance (800m)/ short cycle distance (2km)
✓✓= Reasonable walking distance (2km)/ preferred cycle distance (5km)
✓ = Acceptable walking distance (3.2km)/ commuter cycle distance (8km)
Source: i-Transport

6.3.12 It is shown that almost all of these facilities are located within a 'reasonable' walking distance (2km) of the site (and all within a short cycle trip). Whilst it is clear that Emsworth and Westbourne already benefit from a good range of facilities and services some journeys will be required to access higher order services. In particular Emsworth looks towards Havant, Portsmouth and Chichester as the nearest primary centres. Linkages to these higher order centres will be provided by car and public transport.

6.3.13 In summary, within close proximity of the site there are a good range of shops and facilities including, healthcare, leisure, retail and local schools that can satisfy many daily demands of the development.

6.3.14 Having regard to the location of the facilities and services, the pedestrian and cycle routes that are likely to be used the most are Wraysbury Park Drive, Redlands Lane, Hollybank Lane and Southleigh Road.

6.3.15 As set out in Section 4 footways commence at the junction of Long Copse Lane / Wraysbury Park Drive and in Hollybank Lane immediately south of the site. From these points the existing network provides continuous, lit, footways towards the facilities and services in Emsworth and Westbourne. Section 5 identifies that the development site access arrangements will allow connections to these existing footways.

Redlands Lane improvements

6.3.16 During pre-application discussion with HCC the desire for improving the section of Redlands Lane between Long Copse Lane and Birch Tree Drive emerged.

6.3.17 A potential scheme of improvement works is shown in **drawing ITB13525-GA-021.** The potential works include clearing the vegetation on the route, improving the surface and facilitating cycle use. These works would provide a significant enhancement to the existing Public Right of Way and could also enable cyclists to use the route.

6.3.18 HCC have advised that the process for implementing such works is straight forward as there are already footpath rights sufficient to accommodate improvements for cycling and the rights give HCC the powers to complete the identified improvement works. HCC have requested that the applicant puts improvements forward as part of the application for discussion over the most appropriate delivery mechanism. HCC have requested a financial contribution of £4,000 to pay for the legal element to obtain cycle rights which would be carried out after completion of the works to the existing footpath.

6.3.19 On this basis the site is considered to be well integrated into the existing footway network for accessing the key facilities and services required to satisfy the main journey purposes identified in the National Travel Survey.

## 6.4 Public Transport

Bus

6.4.1 The site is well located to existing bus services which provide opportunity for trips to be made to local services and facilities by sustainable modes. Bus services are also important in provided access to destinations for individuals who do not have access to a private car who may otherwise by isolated.

6.4.2 Bus service 27 is the main bus route serving the local area surrounding the site. This route operates with a service frequency of every two hours between Rowlands Castle, Havant and Emsworth providing an onward connection to Emsworth rail station.

6.4.3 The proposed site is located approximately 750m north of these stops, equivalent to a 9 minute walk, and is therefore well located to a regular bus service that provides onward connections to key nearby destinations. This accommodates a range of journey purposes including travel to/from work, education, leisure and retail trips.

6.4.4 As part of pre-application discussions HCC requested that early engagement was made with the operator of route 27, First Hampshire, specifically with a view to providing a potential enhancement to the service and the facilities at the stops on Southleigh Road. This has been undertaken and through discussions with First it has been identified that the no.27 service is supported by HCC and therefore any alteration to the service frequency would need to be agreed with HCC in the first instance. Irrespective of this, the Framework Travel Plan includes measures to promote the use of the no.27 service through offering taster tickets to new residents and other promotional measures. Whilst no specific measures to enhance the service are currently included, the application does not prejudice this happening through post-application discussions should HCC desire it.

Rail

6.4.5 The nearest rail station to the site is located some 1.9km south of the site in central Emsworth. This provides links to a number of higher order employment and retail destinations such as Southampton, Brighton, London Victoria, Portsmouth Harbour and Chichester. Emsworth rail station is therefore located within walking and cycling distance of the site and can be accessed via the 27/28 bus service operating to the south of the site.

6.4.6 This offers realistic access to the rail network and if paired with the 27-bus service reduces the costs that would be associated with accessing the station by car such as car parking.

## 6.5 Framework Travel Plan

6.5.1 It has been demonstrated that the site is located in an accessible location with appropriate access to a range of education, employment, health and retail facilities within a reasonable walking and cycling distance of the site. The site also has good links to a regular bus service within 800m of the site providing links to Rowlands Castle, Havant and Emsworth. New residents will therefore have ample opportunities to make journeys without needing to use the car.

6.5.2 Within this context, a Travel Plan (TP) has been developed for the site to support the planning application. The TP aims to promote sustainable lifestyles amongst new residents, through reducing the need for travel by private car, and in particular reducing single occupancy car journeys; providing non-car mode travel options for local journeys; and influencing modal choice, the Travel is included as a separate planning application document under report reference ITB13525-005 R.

## 6.6 Summary

6.6.1 There are a number of everyday local services and facilities within Emsworth to accommodate the day to day needs of future residents that can be easily accessed from the site on foot or by public transport for future residents including a convenience store, doctors' surgery, primary school and public house.

6.6.2 A number of other destinations further afield can be accessed by foot, the national cycle network or by public transport to satisfy the main reasons for making a journey.

6.6.3 The nearest bus stops to the site are located on Southleigh Road within 800m of the site. The principal bus route serving these stops is the 27 service which provides a regular service every two hours between Rowlands Castle, Emsworth and Havant for access to a wider range of facilities and services. This service also provides a connection to Emsworth rail station for access to higher order destinations.

6.6.4 Emsworth railway station provides regular services to London Victoria, Southampton, Brighton and Chichester.

6.6.5 A Travel Plan (Report Ref: ITB13525-005 R) to promote sustainable lifestyles amongst new residents through reducing the need to travel by private car will be secured through a Section 106 Agreement or suitably worded condition.

6.6.6 Taken together, the analysis in this section demonstrates that future residents of the site will have appropriate opportunity to access a range of destinations by a choice of travel modes. In transport terms, the site is suitably located to provide sustainable development in accordance with the guidance set out in the NPPF.

# SECTION 7 TRAFFIC IMPACT

## 7.1 Introduction

7.1.1 This section of the Transport Assessment establishes the likely traffic generation of the proposed development and assessed the vehicular traffic impact on the local highway network. The analysis has been undertaken under the following sub-headings:

- Trip Generation;
- Traffic Distribution and Assignment;
- Assessment Years and Scenarios;
- Traffic Growth;
- Operational Assessments at Key Junctions;

## 7.2 Trip Generation

7.2.1 The traffic generation of the development proposal has been discussed and agreed with HCC as part of the pre-application discussions and are set out in the Transport Assessment Scoping Note (i-Transport report reference no. ITB13525-002), a copy of which is provided as **Appendix A**.

7.2.2 On the basis of the agreed vehicular trip rates, a summary of the resultant peak hour trips from the proposed residential development of 260 dwellings are presented in **Table 7.1**.

**Table 7.1: Development Proposal Traffic Generation – 260 homes**

| Time | Trips | | |
|---|---|---|---|
| | Arrivals | Departures | Total |
| Weekday AM Peak Hour | 33 | 122 | **155** |
| Weekday PM Peak Hour | 93 | 52 | **145** |

Source: Consultant's Estimates

7.2.3 The analysis indicates that a development proposal of up to 260 homes is likely to generate a maximum 155 two-way vehicle movements during the weekday peak hour periods, equating to less than three additional vehicles per minute.

## 7.3 Distribution and Assignment

7.3.1 The distribution and assignment of the development generated traffic on the local highway network has been discussed and agreed with HCC as part of the pre-application discussions and are set out in the Transport Assessment Scoping Note (see **Appendix A**).

7.3.2 In summary, the traffic generation has been assigned to the local and strategic highway network using a distribution derived as follows:

- For the proportion of peak hour trips that are work journeys, the 2011 Journey to Work data for the Havant middle layer super output area (MSOA) ref: 013 has been used as it is directly comparable to the development in terms of location. This area encompasses all of Emsworth and has been used to derive the likely workplace destinations for future residents of the site and so identify existing commuting patterns; 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) with a 30-minute drive from the site (estimated from Google Maps Directions facilities).

7.3.3 The two sets of data are then combined to combined to generate a single set of distribution parameters to inform the development trip assignment and is presented in **Table 7.2**. The full analysis is included in **Appendix E.**

**Table 7.2: Summary of Development Trip Distribution (Travel by Car)**

| Destination | Percentage of Work Trips | Percentage of Non-Work Trips | Percentage of All Trips |
|---|---|---|---|
| Arundel/Westergate | 0.2% | - | 0.2% |
| Basingstoke | 0.2% | - | 0.2% |
| Bedhampton (Havant) | 0.7% | - | 0.7% |
| Chichester | 10.3% | 2.0% | 12.3% |
| East Hampshire | 2.4% | - | 2.4% |
| Eastleigh | 1.0% | - | 1.0% |
| Emsworth | 2.7% | 2.4% | 5.1% |
| Fareham | 2.0% | 2.8% | 4.8% |
| Gosport | 0.6% | - | 0.6% |
| Havant | 0.4% | 14.1% | 14.5% |
| Hayling Island | 0.4% | - | 0.4% |
| Leigh Park (Havant) | 0.2% | 2.4% | 2.6% |
| London | 0.4% | - | 0.4% |
| Portsmouth | 9.1% | 25.0% | 34.1% |
| Purbrook/ Widley | 1.1% | - | 1.1% |
| Bognor Regis | 0.6% | - | 0.6% |
| Southampton | 0.9% | - | 0.9% |
| Warblington (Havant) | 4.2% | - | 4.2% |
| Waterlooville | 0.9% | 6.3% | 7.2% |
| West Leigh (Havant) | 1.9% | - | 1.9% |
| Winchester | 1.7% | - | 1.7% |
| Other | 3.6% | - | 3.6% |
| **Total** | 45% | 55% | 100% |

Source: Consultant's Gravity Model and Census 2011 Data

7.3.4 On the basis of the methodology set out above, the following figures set out the assignment of the generated development traffic on the local and strategic highway network during the morning and evening peak hour periods:

- **Figure TF3/4** Development Traffic Distribution – Arrivals/Departures Western Parcel;
- **Figure TF5/6** Development Traffic Distribution – Arrivals/Departures Eastern Parcel; and
- **Figure TF7/8** Development Traffic Assignment Morning and Evening Peak Assessment Years and Scenarios.

## 7.4 Assessment Years and Scenarios

7.4.1 Through pre-application discussions it is agreed with HCC that the local highway network will be assessed in 2023, the expected year of opening, and that this assessment will include the full impact of development and committed development.

7.4.2 Factors to derive traffic growth to 2023 have been obtained from the National Transport Model (NTM) for Havant 013 MSOA within the TEMPRO v.7.2 dataset.

7.4.3 Using this methodology, **Table 7.3** below summarises the growth factors which will be applied to the 2018 observed traffic flows to derive the 2023 peak hour traffic flows.

**Table 7.3: Traffic Growth Factors**

| Growth Period | Time Period | Growth Rate |
|---|---|---|
| 2018 - 2023 | AM Peak | 1.0773 |
| | PM Peak | 1.0736 |

Source: TEMPRO (version 7.2)
Note: Havant 013 MSOA

7.4.4 The traffic generated by 'committed developments' within the study area has also been explicitly taken into account as part of the analysis. The sites included as 'committed' are listed below and are shown on **Figures TF9/10**:

- Bartons Road, Havant – 55 Dwellings (planning application ref: 14/00863); and
- South of Bartons Road, Havant – 175 Dwellings (planning application ref: 15/01435)

7.4.5 Development traffic flows have been added to the 2023 with committed development flows to create a 'with development' scenario shown on **Figures TF11/12**.

## 7.5 Operational Assessments at Key Junctions

7.5.1 Capacity analysis has been undertaken for the key junctions in the Study Area to determine the operation of the surrounding highway network. Operational analysis has been undertaken using the weekday morning and evening peak hour traffic flows and the peak hour traffic generation of the development. This presents a 'worst-case' appraisal.

7.5.2 The following sections describe the results of the baseline assessments, with full outputs provided at **Appendix E**.

Long Copse Lane

7.5.3 As set out in Section 5, it is proposed to provide two new priority junctions onto Long Copse Lane to provide access to the site. Operational assessments have been undertaken for the two proposed junctions using TRL's program Junctions 9. The results are presented in **Table 7.4** and **Table 7.5** below with the full results provided at **Appendix F.**

**Table 7.4: Proposed Western Long Copse Lane Site Access – 2023 'with development'**

| Arm | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | RFC | Queue (PCUs) | Delay (s/PCU) | RFC | Queue (PCUs) | Delay (s/PCU) |
| **2023 + Committed Development + Development** | | | | | | |
| Site Access | 0.04 | 0 | 7 | 0.02 | 0 | 7 |
| Long Copse Lane | 0.00 | 0 | 5 | 0.01 | 0 | 6 |

Source: Junctions 9

**Table 7.5: Proposed Eastern Long Copse Lane Site Access – 2023 'with development'**

| Arm | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | RFC | Queue (PCUs) | Delay (s/PCU) | RFC | Queue (PCUs) | Delay (s/PCU) |
| **2023 + Committed Development + Development** | | | | | | |
| Site Access | 0.21 | <1 | 8 | 0.09 | <1 | 7 |
| Long Copse Lane | 0.01 | 0 | 6 | 0.02 | 0 | 6 |

Source: Junctions 9

7.5.4 The results indicate that the proposed priority junctions onto Long Copse Lane provide ample capacity in the peak hour periods to accommodate the forecast development generated traffic and will operate with negligible queueing and delay.

Wraysbury Park Drive / Long Copse Lane

7.5.5 An operational assessment has been undertaken for the existing priority junction of Wraysbury Park Drive onto Long Copse Lane. The TRL program Junctions 9 has been used to assess the capacity of the junction.

7.5.6 The results of the operational assessment are presented in **Table 7.6** below with the full results provided at **Appendix F**.

**Table 7.6: Operational Assessment for Long Copse Lane / Wraysbury Park Drive Junction**

| Arm | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | RFC | Queue (PCUs) | Delay (s/PCU) | RFC | Queue (PCUs) | Delay (s/PCU) |
| **2023 + Committed Development** | | | | | | |
| Wraysbury Park Drive | 0.04 | 0 | 6 | 0.04 | 0 | 6 |
| Long Copse Lane | 0.02 | 0 | 6 | 0.03 | 0 | 6 |
| **2023 + Committed Development + Development** | | | | | | |
| Wraysbury Park Drive | 0.04 | 0 | 7 | 0.05 | 0 | 6 |
| Long Copse Lane | 0.02 | 0 | 6 | 0.03 | 0 | 6 |

Source: Junctions 9

7.5.7 The results demonstrate that the vehicular demand at the Wraysbury Park Drive / Long Copse Lane junction is expected to be accommodated within the existing capacity of the junction. The addition of development traffic results in no material increases in queuing at the junction with minimal increases to delay.

Redlands Lane / Westbourne Road / New Brighton Road / Southleigh Road Roundabout

7.5.8 The performance of this junction has been considered. A summary of the junction capacity assessment is provided in **Table 7.7,** whilst the full junction modelling outputs are included as **Appendix F**.

**Table 7.7: Operational Assessment for Redlands Lane Roundabout**

| | Morning Peak | | | Evening Peak | | |
|---|---|---|---|---|---|---|
| | RFC | Queue (PCUs) | Delay (s) | RFC | Queue (PCUs) | Delay (s) |
| **2023 + Committed Development** | | | | | | |
| Redlands Lane | 0.23 | <1 | 5 | 0.11 | <1 | 4 |
| Westbourne Road | 0.30 | <1 | 4 | 0.35 | <1 | 4 |
| New Brighton Road | 0.28 | <1 | 4 | 0.33 | <1 | 5 |
| Southleigh Road | 0.32 | <1 | 6 | 0.31 | <1 | 6 |
| **2023 + Committed Development + Development** | | | | | | |
| Redlands Lane | 0.24 | <1 | 5 | 0.11 | <1 | 4 |
| Westbourne Road | 0.30 | <1 | 4 | 0.35 | <1 | 4 |
| New Brighton Road | 0.28 | <1 | 4 | 0.33 | <1 | 5 |
| Southleigh Road | 0.32 | <1 | 6 | 0.30 | <1 | 6 |

Source: Junctions 9

7.5.9 **Table 7.7** shows that the roundabout is anticipated to have significant spare capacity with minimal queueing and delay in the 2023 'without development' scenario. With the addition of development traffic there is no appreciable impact upon the operation of the junction compared to the 'without development' scenario. Therefore, the operation of this junction has not been considered further.

Hollybank Lane / Southleigh Road Junction

7.5.10 The performance of the above junction has been assessed using Junctions 9. A summary of the junction capacity assessment is provided in **Table 7.8** whilst the full junction modelling outputs are included at **Appendix F**.

**Table 7.8: Operational Assessment for Hollybank Lane / Southleigh Road Junction**

| Arm | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | RFC | Queue (PCUs) | Delay (s/PCU) | RFC | Queue (PCUs) | Delay (s/PCU) |
| **2023 + Committed Development** | | | | | | |
| Hollybank Lane Left out | 0.03 | 0 | 7 | 0.02 | 0 | 6 |
| Hollybank Lane Right out | 0.20 | <1 | 10 | 0.16 | <1 | 9 |
| Southleigh Road | 0.03 | 0 | 5 | 0.05 | <1 | 5 |
| **2023 + Committed Development + Development** | | | | | | |
| Hollybank Lane Left out | 0.04 | 0 | 8 | 0.02 | 0 | 7 |
| Hollybank Lane Right out | 0.44 | 1 | 14 | 0.26 | <1 | 11 |
| Southleigh Road | 0.03 | 0 | 5 | 0.05 | <1 | 6 |

Source: Junctions 9

7.5.11 The results shown in **Table 7.8** show that the junction is currently operating under design capacity on all arms in the morning and evening peak hours in both the 2023 "without" and 2023 "with development" scenarios. With the addition of development traffic this remains the case and there is no appreciable impact in queueing or delay as a result of the development

Southleigh Road / Horndean Road Staggered Crossroads

7.5.12 The performance of the Southleigh Road / Horndean Road crossroads arrangement has been considered using LinSig. LinSig has been used instead of Junctions 9 due to the layout of the junction including storage within the central island for right turners from the minor arm. Junctions 9 is not able to replicate this arrangement accurately and therefore LinSig has been used. A summary of the junction capacity assessment is provided in **Table 7.9** whilst the full junction modelling outputs are included as **Appendix F**.

**Table 7.9: Operational Assessment of Southleigh Road / Horndean Road Staggered Crossroads**

| Arm | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | DoS | Queue (PCUs) | Delay s/PCU | DoS | Queue (PCUs) | Delay s/PCU |
| **2023 + Committed Development** | | | | | | |
| Horndean Road (N) | 20.8% | <1 | 1 | 25.8% | <1 | 1 |
| Southleigh Road (E) | 69.3% | 1 | 9 | 80.2% | 2 | 16 |
| Horndean Road (S) | 18.4% | <1 | 1 | 22.6% | <1 | 1 |
| Southleigh Road (W) | 34.6% | <1 | 4 | 32.5% | <1 | 5 |
| **2023 + Committed Development + Development** | | | | | | |
| Horndean Road (N) | 21.6% | <1 | 1 | 28.0% | <1 | 1 |
| Southleigh Road (E) | 83.3% | 2 | 16 | 90.4% | 4 | 31 |
| Horndean Road (S) | 19.0% | <1 | 1 | 24.1% | <1 | 1 |
| Southleigh Road (W) | 36.2% | <1 | 4 | 34.4% | <1 | 6 |

Source: LinSig

7.5.13 **Table 7.9** shows that the Southleigh Road / Horndean Road junction is anticipated to operate within theoretical capacity in the 2023 'without development' scenario. With the addition of development traffic, the junction continues to operate within theoretical capacity with minimal increases to queueing and delay in the morning and evening peak hours equivalent to one extra queueing vehicle in the morning and two in the evening. Therefore, the development impact at the junction is considered to be negligible and far short of the severe test set by the NPPF.

Emsworth Common Road / Bartons Road / Horndean Road Staggered Crossroads

7.5.14 The performance of the Emsworth Common / Bartons Road staggered crossroads arrangement has been considered using LinSig. LinSig has been used instead of Junctions 9 due to the layout of the junction including storage within the central island for right turners from the minor arm. Junctions 9 is not able to replicate this arrangement accurately whereas LinSig can more realistically replicate this arrangement. A summary of the junction capacity assessment is provided in **Table 7.10** whilst the full junction modelling outputs are included as **Appendix F**.

**Table 7.10: Operational Assessment of Emsworth Common / Horndean Road / Bartons Road Staggered Crossroads**

| Arm | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | DoS | Queue (PCUs) | Delay s/PCU | DoS | Queue (PCUs) | Delay s/PCU |
| **2023 + Committed Development** | | | | | | |
| B2148 Comley Hill (N) | 22.6% | <1 | 1 | 20.8% | <1 | 1 |
| Emsworth Common Road (E) | 48.4% | 1 | 6 | 92.5% | 5 | 33 |
| Horndean Road (S) | 30.9% | <1 | 1 | 25.5% | <1 | 1 |
| Bartons Road (W) | 94.3% | 6 | 41 | 75.3% | 2 | 13 |
| **2023 + Committed Development + Development** | | | | | | |
| B2148 Comley Hill (N) | 22.8% | <1 | 1 | 21.5% | <1 | 1 |
| Emsworth Common Road (E) | 48.8% | 1 | 7 | 94.4% | 6 | 40 |
| Horndean Road (S) | 33.8% | <1 | 1 | 26.7% | <1 | 1 |
| Bartons Road (W) | 98.1% | 9 | 62 | 81.8% | 2 | 17 |

Source: LinSig

7.5.15 The analysis presented in **Table 7.10** identifies that the junction will be operating nearing theoretical capacity in 2023 'without development' on the Bartons Road and Emsworth Common Road arms of the junction in the morning and evening peak hours respectively. All other arms of the junction are forecast to operate well within capacity with minimal queueing and delay. The addition of development traffic results in a maximum increase of three queueing vehicles in the morning and one in the evening peak hours however the junction continues to operate within theoretical capacity.

7.5.16 Irrespective of this it is understood that HCC have previously secured an improvement scheme as part of the Land south of Bartons Road development for this junction which will further enhance its operation in 2023. It is therefore considered that in the context of the minimal development impact presented in **Table 7.10** and that there is an identified and secured improvement scheme at the junction no further work has been undertaken.

## 7.6 2036 Sensitivity Test

7.6.1 Following pre-application discussions with HCC, it was requested that the scope of assessment was expanded to include a sensitivity test for 2036, the flows for this scenario are included at **Figure TF15/16**. The performance of all junctions has been tested in 2036 with the full junction results provided at [**Appendix F].**

## 7.7 Trip rate validation

7.7.1 In response to a request from elected members at the Developer Consultation Forum (DCF) in April 2018, a series of Automatic Traffic Counts (ATCs) were undertaken at a series of modern completed residential developments near to the site. It was suggested at the DCF that the trip generation assumptions that have been agreed with HCC (and are the basis for this TA) underestimate traffic. The ATCs were installed for one week commencing on 15 May 2018.

- Skylark Avenue, Emsworth – 260 new homes within 500m metres of the site;
- Quinton Fields, Emsworth – 34 new homes within 800m metres of the site; and
- Oaktree Drive / Aubin Wood – 37 new homes within 450m metres of the site.

7.7.2 The ATCs recorded traffic flows from these directly comparable and local sites 24-hours a day for 7 days. The trip rates derived, against those agree with HCC are shown in **Table 7.11.**

**Table 7.11: Trip Rate Comparison**

| | Morning Peak (08:00 – 09:00) | | | Evening Peak (17:00 -18:00) | | |
|---|---|---|---|---|---|---|
| | In | Out | Two-Way | In | Out | Two-Way |
| Vehicular Trip Rate derived from TRICS and modal share (per Dwelling) | 0.127 | 0.469 | **0.596** | 0.358 | 0.200 | **0.558** |
| Skylark Avenue Trip Rate | 0.177 | 0.469 | **0.646** | 0.407 | 0.193 | **0.601** |
| Quinton Fields Trip Rate | 0.118 | 0.265 | **0.382** | 0.235 | 0.176 | **0.412** |
| Oaktree Drive/Aubin Wood Trip Rate | 0.135 | 0.297 | **0.432** | 0.351 | 0.216 | **0.568** |
| Weighted Trip Rate | 0.166 | 0.429 | **0.595** | 0.383 | 0.194 | **0.578** |

7.7.3 **Table 7.11** shows that of the site's surveyed, only one, Skylark Avenue (known as Hampshire Farm) displays a higher trip rate than has been agreed with HCC for the development site.

7.7.4 The difference in trip rate compared to that used at the development site (per dwelling) is just 0.05 and 0.043 in the morning and evening peak hours respectively. In practice, this would equate to an additional 13 vehicles in the morning and 11 vehicles in the evening peak hours should the higher trip rate be used. The weighted average of the trip rates displayed at the surveyed sites is lower than that which has been agreed with HCC for the development site.

7.7.5 In summary, this further locally derived survey work demonstrates that the agreed trip rates a sound and accurate basis for assessing the traffic impact of the proposed development.

## 7.8 Wraysbury Park Drive sensitivity test

7.8.1 Following pre-application discussions with HCC it was requested that a sensitivity test be undertaken as to the impact of development traffic on Long Copse Lane if Wraysbury Park Drive were to be closed off to vehicular traffic in the future, something which is understood to be an aspiration of HCC.

7.8.2 In order to undertake this assessment traffic currently using the Wraysbury Park Drive / Long Copse Lane junction has been redistributed to account for a scenario where Wraysbury Park Drive was closed to traffic at its northern end. In order to redistribute traffic the following assumptions have been made:

- All vehicles previously travelling west on Long Copse Lane and turning left into Wraysbury Park Drive redistributed via Long Copse Lane, Hollybank Lane and onto Southleigh Road East;
- All vehicles travelling east on Long Copse Lane and turning right into Wraysbury Park Drive redistributed via Long Copse Lane, Hollybank Lane and onto Southleigh Road East;
- All vehicles turning left out of Wraysbury Park Drive onto Long Copse Lane Westbound have been redistributed south onto Redlands Lane and west on Southleigh Road; and
- All vehicles turning right out of Wraysbury Park Drive onto Long Copse Lane Eastbound have been redistributed onto Redlands Lane and east on Westbourne Road.

7.8.3 As a result of this redistribution exercise it is anticipated that there would be an increase in the turning movements at the Redlands Lane / Westbourne Road / New Brighton Road / Southleigh Road roundabout as well as the Hollybank Lane / Southleigh Road junction. Therefore, the operational assessments for these junctions have been re-run for the most robust scenario i.e. 2036 with committed and development where the above assumptions result in the maximum number of re-routing vehicles.

**Table 7.12: Operational Assessment for Redlands Lane Roundabout**

| | Morning Peak | | | Evening Peak | | |
|---|---|---|---|---|---|---|
| | RFC | Queue (PCUs) | Delay (s) | RFC | Queue (PCUs) | Delay (s) |
| **2036 + Committed Development + Development** | | | | | | |
| Redlands Lane | 0.29 | <1 | 6 | 0.15 | <1 | 5 |
| Westbourne Road | 0.33 | 1 | 4 | 0.39 | 1 | 5 |
| New Brighton Road | 0.31 | <1 | 5 | 0.37 | 1 | 5 |
| Southleigh Road | 0.39 | 1 | 7 | 0.38 | 1 | 7 |

Source: Junctions 9

**Table 7.13: Operational Assessment for Hollybank Lane / Southleigh Road Junction**

| Arm | AM Peak Hour | | | PM Peak Hour | | |
|---|---|---|---|---|---|---|
| | RFC | Queue (PCUs) | Delay (s/PCU) | RFC | Queue (PCUs) | Delay (s/PCU) |
| **2036 + Committed Development + Development** | | | | | | |
| Hollybank Lane Left out | 0.09 | <1 | 9 | 0.08 | <1 | 7 |
| Hollybank Lane Right out | 0.48 | 1 | 15 | 0.29 | <1 | 12 |
| Southleigh Road | 0.03 | 0 | 5 | 0.07 | <1 | 5 |

Source: Junctions 9

7.8.4 **Table 7.12** and **7.13** demonstrate that even in a worst-case assessment where traffic is redistributed following full buildout of the proposed site at the end of the Local Plan period the two junctions which have the potential to be impacted continue to operate well within capacity with minimal queueing or delay. On this basis no further work has been undertaken to assess the traffic impact of the closure of Wraysbury Park Drive.

7.8.5 Furthermore, to assist HCC's aspiration for the closure of Wraysbury Park Drive a potential scheme of works to facilitate its closure has been prepared and is shown on **drawing ITB13525-GA-020,** this has been prepared for HCC to consider developing and implementing as part of its forward programme of county-wide transport schemes.

## 7.9 Highways England (HE)

7.9.1 As part of pre-application discussions Highways England were approached to set out the development impact at the A259 / A27 dumbbell roundabouts, i.e. the nearest part of the SRN located approximately 3km west of the site.

7.9.2 In order to undertake an assessment of the development impact the development distribution was extended to include these junctions whilst a full MCC and queue length count was undertaken in June 2018 to provide baseline data for the junction. These survey counts were growthed to 2036 using unadjusted TEMPRO growth rates due to the junctions being located a significant distance from the committed development allowed for on the local network

7.9.3 Using the above the following development impacts have been calculated.

**Table 7.14: A27 Northern Dumbbell Roundabout**

| Entry Arm | Morning Peak (0800-0900) | | | Evening Peak (1615-1715) | | |
|---|---|---|---|---|---|---|
| | 2036 Base Traffic | Devt. Traffic | % Impact | 2036 Base Traffic | Devt. Traffic | % Impact |
| A27 On-Slip | - | - | - | - | - | - |
| Emsworth Road (S) | 296 | 0 | 0.0% | 308 | 0 | 0.0% |
| A27 Off-Slip | 1134 | 10 | 0.9% | 1512 | 28 | 1.9% |
| Emsworth Road | 592 | 1 | 0.2% | 594 | 2 | 0.3% |
| **Total** | 2022 | 11 | 0.5% | 2414 | 30 | 1.2% |

Source: Consultant's Calculations

**Table 7.15: A27 Southern Dumbbell Roundabout**

| Entry Arm | Morning Peak (0800-0900) | | | Evening Peak (1615-1715) | | |
|---|---|---|---|---|---|---|
| | 2036 Base Traffic | Devt. Traffic | % Impact | 2036 Base Traffic | Devt. Traffic | % Impact |
| A27 Off-Slip | 106 | 0 | 0.0% | 123 | 0 | 0.0% |
| A259 Havant Road | 1113 | 37 | 3.3% | 1077 | 16 | 1.5% |
| Church Lane | 12 | 0 | 0.0% | 20 | 0 | 0.0% |
| A27 On Slip | - | - | - | - | - | - |
| Emsworth Road | 1334 | 11 | 0.8% | 1560 | 29 | 1.9% |
| **Total** | 2565 | 48 | 1.9% | 2780 | 45 | 1.6% |

Source: Consultant's Calculations

7.9.4 On the basis of the above analysis and the existing situation at the junction Highways England have confirmed in writing that they do not require any further analysis.

### 7.10 West Sussex County Council (WSCC)

7.10.1 In addition to correspondence with HE, HCC requested that contact was made with WSCC due to the site's location relative to the county boundary situated at the eastern end of Long Copse Lane.

7.10.2 As part of this the development impact on WSCC's network was quantified at 22 two-way movements through the North Street junction in the morning peak and 26 two-way movements in the evening peak. WSCC's Transport Assessment methodology document identifies that the threshold requiring assessment is where there is an increase of some 30 two-way movements. This has subsequently been relaxed to 50 movements where no congestion is experienced which based upon our on-site observations is the case at the North Street / Long Copse Lane junction.

7.10.3 Following provision of information to WSCC they have agreed that no junction modelling is required.

7.10.4 WSCC did request that consideration of the ability of cars to pass one another on the eastern section of Long Copse Lane be included in the TA. **Drawing ITB13525-GA-019** shows the existing inter-visible passing places on Long Copse Lane in the WSCC area.

7.10.5 On the basis of the very low existing traffic flows, the minimal increase arising from the development (one extra vehicle every three minutes), the existence of no recorded accidents anywhere on Long Copse Lane in the last five year period, it is concluded that the section of Long Copse Lane in the WSCC area will continue to provide a safe and suitable highway environment for traffic with the development in place.

### 7.11 Summary

7.11.1 In accordance with the agreed scope, the traffic impact of the proposed development has been considered on the local highway network in the vicinity of the site.

7.11.2 The traffic generation parameters for the proposed development have been discussed and agreed with HCC as part of the pre-application discussions and are set out in the Transport Assessment Scoping Report (i-Transport report reference: ITB13525-002 R) and revised in accordance with HCC's pre-application feedback. The development is anticipated to generate a maximum of 155 two-way vehicle movements during the weekday peak hour periods, equating to up to three extra vehicle movements per minute.

7.11.3 The development traffic has been assigned to the local highway network using a distribution based on a combination of the 2011 Census Travel to Work Data (for the proportion of peak hour trips that are work journeys) and a gravity model (for other journey purposes). The distribution and assignment of development generated traffic has been discussed and agreed with HCC as part of pre-application discussions.

7.11.4 Operational assessments have been undertaken at a number of off-site junctions for the 2023 "without development" and 2023 "with development" scenarios. This has demonstrated that the development can be accommodated on the local highway network in the 2023 'with development' scenario without materially impacting upon the operation of nearby junctions.

7.11.5 Against this background, the development generated traffic can be accommodated on the local highway network and the residual impacts of the development falls short of the "severe" test set by the National Planning Policy Framework.

## SECTION 8 SUMMARY

### 8.1 Summary

Background

8.1.1 Land and Partners propose to develop up to 210 residential dwellings as part of a mixed use residential development on land north of Long Copse Lane, Emsworth. The application area forms the eastern part of a wider emerging allocation for 260 dwellings and the proposals have been designed sympathetically to the remainder of the allocation should it come forward in the future.

Policy Context

8.1.2 The NPPF confirms that there is a presumption in the favour of sustainable development. Taken together, national and local transport planning policy requires new development to be accessible by a range of modes of transport including walking, cycling and public transport, so as to minimise the number and length of car journeys.

8.1.3 Safe and suitable access to sites should be achieved for all people. Account should be taken of whether the opportunities for sustainable transport modes have been taken up, depending on the nature and location of the site, to ensure the need to travel will be minimised and the use of sustainable transport modes can be maximised. The assessment should take account of whether improvements can be undertaken within the transport network that cost-effectively limit the significant impacts of the development and that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

Existing Conditions

8.1.4 The site is located to the north of Long Copse Lane, Emsworth and currently comprises of open land. Long Copse Lane is a single carriageway road c.4m in width and subject to a 30mph speed limit in the vicinity of the site access for both the proposed site and the western access for the wider allocation.

8.1.5 There are footways provided on Hollybank Lane west of the site which provide continuous walking routes south into Emsworth, Westbourne and New Brighton for onward connections to shops, leisure facilities and local bus services.

8.1.6 Local roads including Long Copse Lane, Hollybank Lane, Southleigh Road and New Brighton Road are suitable for use by cyclists within the carriageway. NCN route 2 provides an east/west connection approximately 1.5km south of the site between Havant, Warblington and Portsmouth to the west and Chichester to the east. Cycle trips can therefore be accommodated on and off the carriageway. The nature of the residential nature of roads surrounding the site is well suited to cycling.

8.1.7 There is a regular bus service operating within approximately 750m of the site which provide regular services to Rowlands Castle and Emsworth including onward connections to the rail network for trips further afield. The railway network can be accessed via Emsworth station some 1.9km south of the site which provides regular connections to higher order destinations.

8.1.8 The site is well located to the local highway network. Long Copse Lane provides a connection to Southleigh Road from which users can route north on Horndean Road, south towards the A259 and the A27 and east towards Westbourne and Chichester.

8.1.9 Injury accident data has been checked and obtained in the vicinity of the proposed site accesses for the latest available five-year period and there have been no recorded accidents.

Proposed Site Access Arrangements, Site Layout, Parking and Refuse Collection Arrangements

8.1.10 Access to the site is proposed via two priority junctions onto Long Copse Lane along the southern boundary of the site, carefully located to prevent any significant tree loss. A series of local highway improvements are also proposed to improve the road width and pedestrian facilities whilst also seeking to limit highway interventions to the lane.

8.1.11 The proposed site accesses and associated works as part of both this site and the wider allocation have been agreed with HCC conceptually and are now being approved through their S278 Design Check process. The scheme is supported by a Stage 1 Road Safety Audit, Arboriculture Report, Ecology Report, Drainage Report and civil engineering inputs. Following comments from HCC's engineers this is now understood to be nearing its conclusion with agreement having been reached on the principle of a 5.5m alignment of Long Copse Lane as well as a suitable drainage solution.

8.1.12 The illustrative site layout makes adequate provision for refuse vehicles. Future reserved matters applications could further explore connections to the west and deal with the provision of car and cycle parking, which would be provided having regard to current standards or any other subsequent standards that may be adopted at that time.

8.1.13 Against this background, the proposed access arrangements are in accordance with draft local and national policy requirements and have been refined in accordance with HCC's advice.

Promoting Sustainable Transport

8.1.14 There are a number of everyday local services and facilities within Emsworth to accommodate the day to day needs of future residents that can be easily accessed from the site on foot or by public transport for future residents including a convenience store, doctors' surgery, primary school and public house.

8.1.15 A number of other destinations further afield can be accessed by foot, the national cycle network or by public transport to satisfy the main reasons for making a journey.

8.1.16 The nearest bus stops to the site are located on Southleigh Road within 800m of the site. The principal bus route serving these stops is the 27 service which provides a regular service every two hours between Rowlands Castle, Emsworth and Havant for access to a wider range of facilities and services. This service also provides a connection to Emsworth rail station for access to higher order destinations including London Victoria, Southampton, Brighton and Chichester. Discussions have taken place with the bus operator as requested by HCC.

8.1.17 A Travel Plan (Report Ref: ITB13525-005 R) to promote sustainable lifestyles amongst new residents through reducing the need to travel by private car will be secured through a Section 106 Agreement or suitably worded condition.

8.1.18 Taken together, the analysis in this section demonstrates that future residents of the site will have appropriate opportunity to access a range of destinations by a choice of travel modes. In transport terms, the site is suitably located to provide sustainable development in accordance with the guidance set out in the NPPF.

Traffic Impact

8.1.19 In accordance with the agreed scope, the traffic impact of the proposed development has been considered on the local highway network in the vicinity of the site.

8.1.20 The traffic generation parameters for the proposed development have been discussed and agreed with HCC as part of the pre-application discussions and are set out in the Transport Assessment Scoping Report (i-Transport report reference: ITB13525-002 R) and revised in accordance with HCC's pre-application feedback. The development is anticipated to generate a maximum of 155 two-way vehicle movements during the weekday peak hour periods, equating to up to three extra vehicle movements per minute.

8.1.21 The development traffic has been assigned to the local highway network using a distribution based on a combination of the 2011 Census Travel to Work Data (for the proportion of peak hour trips that are work journeys) and a gravity model (for other journey purposes). The distribution and assignment of development generated traffic has been discussed and agreed with HCC as part of pre-application discussions.

8.1.22 Operational assessments have been undertaken at a number of off-site junctions for the 2023 "without development" and 2023 "with development" scenarios. This has demonstrated that the development can be accommodated on the local highway network in the 2023 'with development' scenario without materially impacting upon the operation of nearby junctions.

8.1.23 Detailed assessment work has been carried out following pre-application engagement with both WSCC and HE and the outcome of that work on the WSCC network at the A27(T) / A259 junction has been agreed with both these highway authorities. In addition, and in accordance with specific requests from the DCF, further local assessment work has been completed to validate the trip rates used for this TA.

8.1.24 Against this background, the development generated traffic can be accommodated on the local highway network and the residual impacts of the development falls short of the "severe" test set by the National Planning Policy Framework.

## 8.2 Conclusions

8.2.1 Having regard to the analysis contained in this document, it is concluded that there are no highway or transport reasons for preventing to the proposed development coming forward and the development proposal includes (*ref: NPPF paragraph 108*):

- appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
- safe and suitable access to the site can be achieved for all users; and
- any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

8.2.2 To be specific, it is clear that the traffic impact of the scheme will not be severe; safe and suitable access will be provided; and that opportunities for sustainable travel have been taken up. Furthermore, the scheme will deliver the following benefits;

a) Improvements to Long Copse Lane including better road geometry, forward visibility and carriageway width;

b) Improved pedestrian and cycle crossing facilities on Long Copse Lane, Wraysbury Park Drive and Redlands Lane;

c) Improved pedestrian and cycle facilities in Redlands Lane;

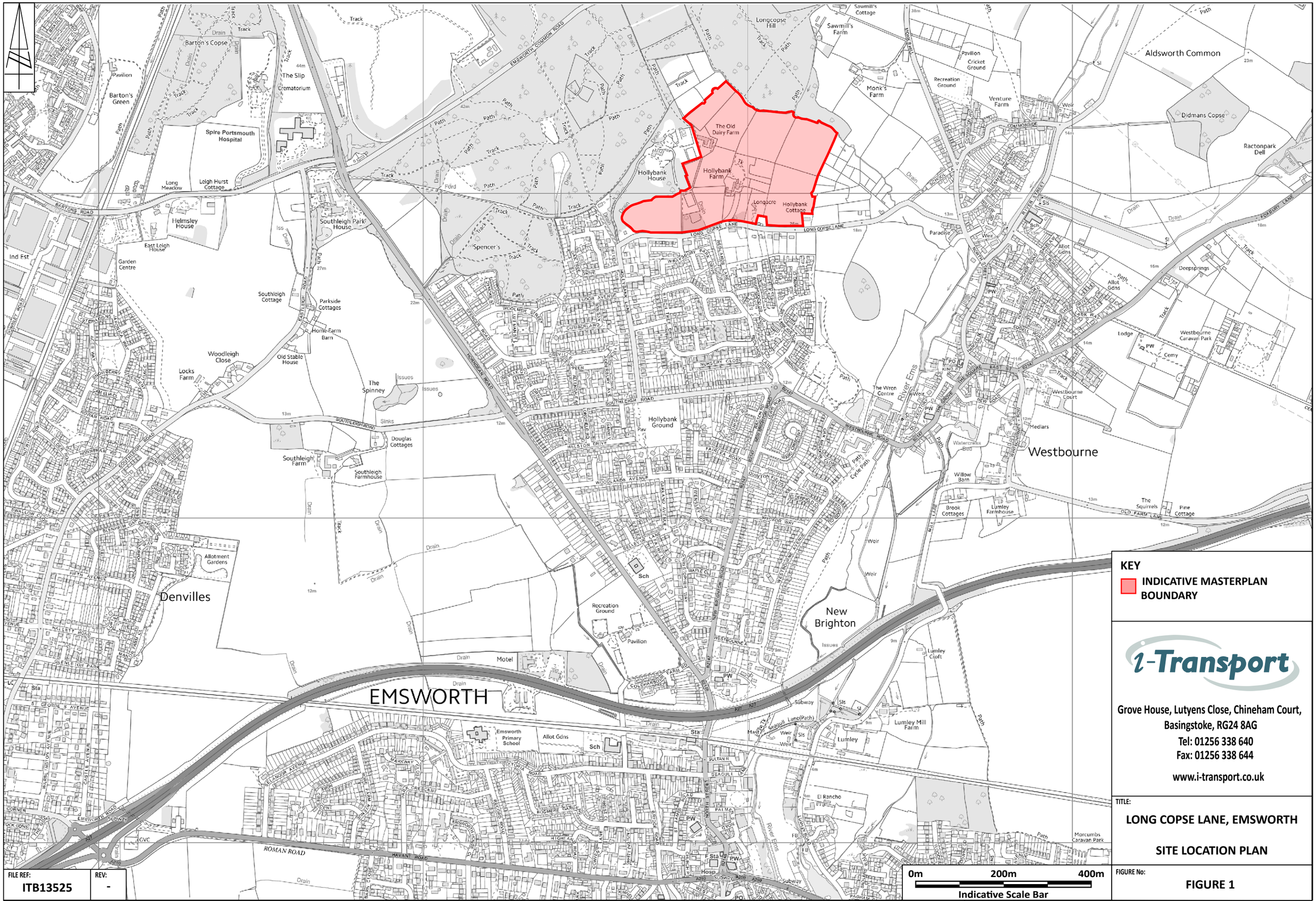
d) The opportunity for HCC to consider further improvement works (which have been designed by the applicant) in Wraysbury Park Drive;

e) A Travel Plan to encourage residents to reduce car use and utilise sustainable transport options; and

f) New homes in a sustainable location.

8.2.3 On this basis, it is considered that there is no reason to prevent the application on transport grounds.

**FIGURES**




**KEY**

**INDICATIVE MASTERPLAN BOUNDARY**


i-Transport

Grove House, Lutyens Close, Chineham Court,
Basingstoke, RG24 8AG
Tel: 01256 338 640
Fax: 01256 338 644

www.i-transport.co.uk


TITLE:

**LONG COPSE LANE, EMSWORTH**

**SITE LOCATION PLAN**

FILE REF: **ITB13525**

REV: **-**

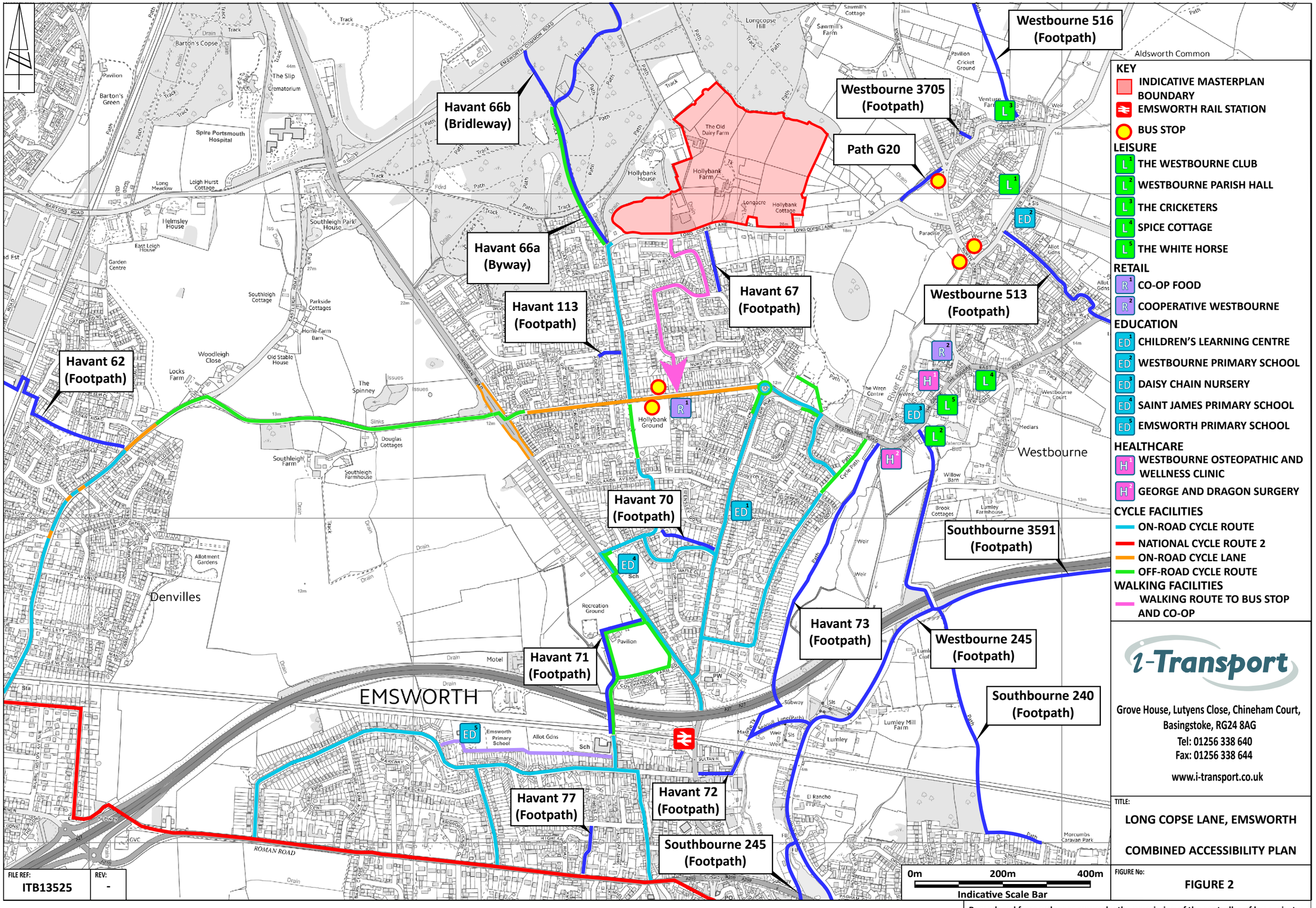
0m 200m 400m

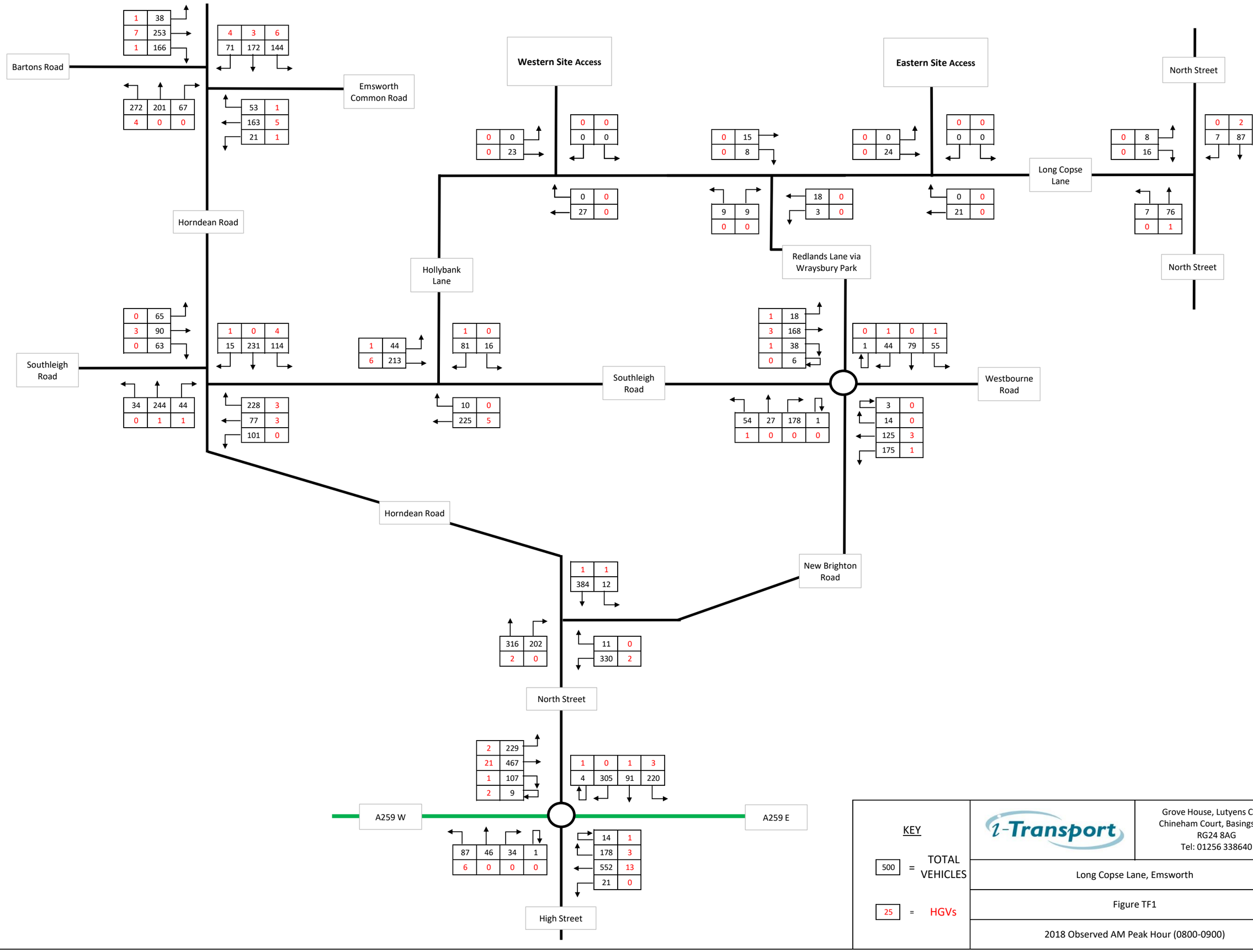
**Indicative Scale Bar**

FIGURE No:

**FIGURE 1**


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Havant 62 (Footpath)
Havant 66b (Bridleway)
Havant 66a (Byway)
Havant 113 (Footpath)
Havant 67 (Footpath)
Havant 70 (Footpath)
Havant 71 (Footpath)
Havant 73 (Footpath)
Havant 77 (Footpath)
Havant 72 (Footpath)
Southbourne 245 (Footpath)
Southbourne 240 (Footpath)
Southbourne 3591 (Footpath)
Westbourne 516 (Footpath)
Westbourne 3705 (Footpath)
Path G20
Westbourne 513 (Footpath)
Westbourne 245 (Footpath)
EMSWORTH
Westbourne
Denvilles
Aldsworth Common
Hollybank Ground
Emsworth Primary School
Spire Portsmouth Hospital
Southleigh Park House
Barton's Copse
The Slip Crematorium
Barton's Green
Helmsley House
East Leigh House
Garden Centre
Southleigh Cottage
Parkside Cottages
Home Farm Barn
Woodleigh Close
Old Stable House
Locks Farm
The Spinney
Southleigh Farm
Southleigh Farmhouse
Douglas Cottages
Allotment Gardens
Recreation Ground
Pavilion
Motel
Hollybank House
Hollybank Farm
The Old Dairy Farm
Longacre
Hollybank Cottage
Longcopse Hill
Sawmill's Cottage
Sawmill's Farm
Pavilion Cricket Ground
Venture Farm
Paradise
Allot Gdns
The Wren Centre
River Ems
Westbourne Court
Medlars
Watercress Bed
Willow Barn
Brook Cottages
Lumley Farmhouse
Lumley Mill Farm
Lumley
El Rancho
Marcumbs Caravan Park
Emsworth Cricket Club
Emsworth Sailing Club
Emsworth Yacht Harbour
Slipper Mill Pond
Emsworth Sea Wall
Emsworth Sea Front
Emsworth Recreation Ground
Emsworth Cemetery
Emsworth Golf Club
Emsworth Sewage Works
Emsworth Sewage Pumping Station
Emsworth Common
Emsworth Marina
Emsworth Slipper Sailing Club
Emsworth Sailing Club
Emsworth Yacht Harbour




KEY

500 = TOTAL VEHICLES

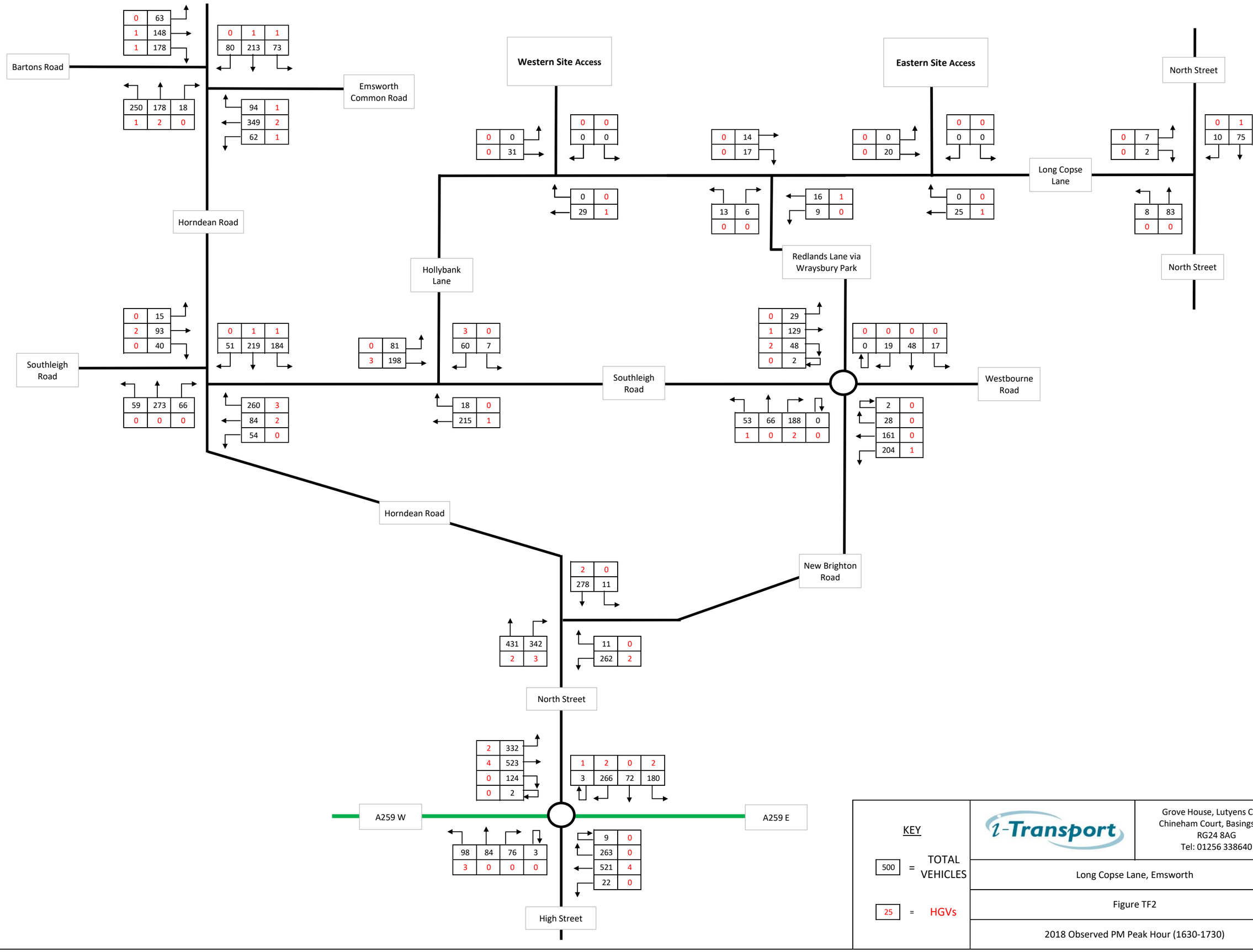
25 = HGVs

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Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF1

2018 Observed AM Peak Hour (0800-0900)




KEY

500 = TOTAL VEHICLES

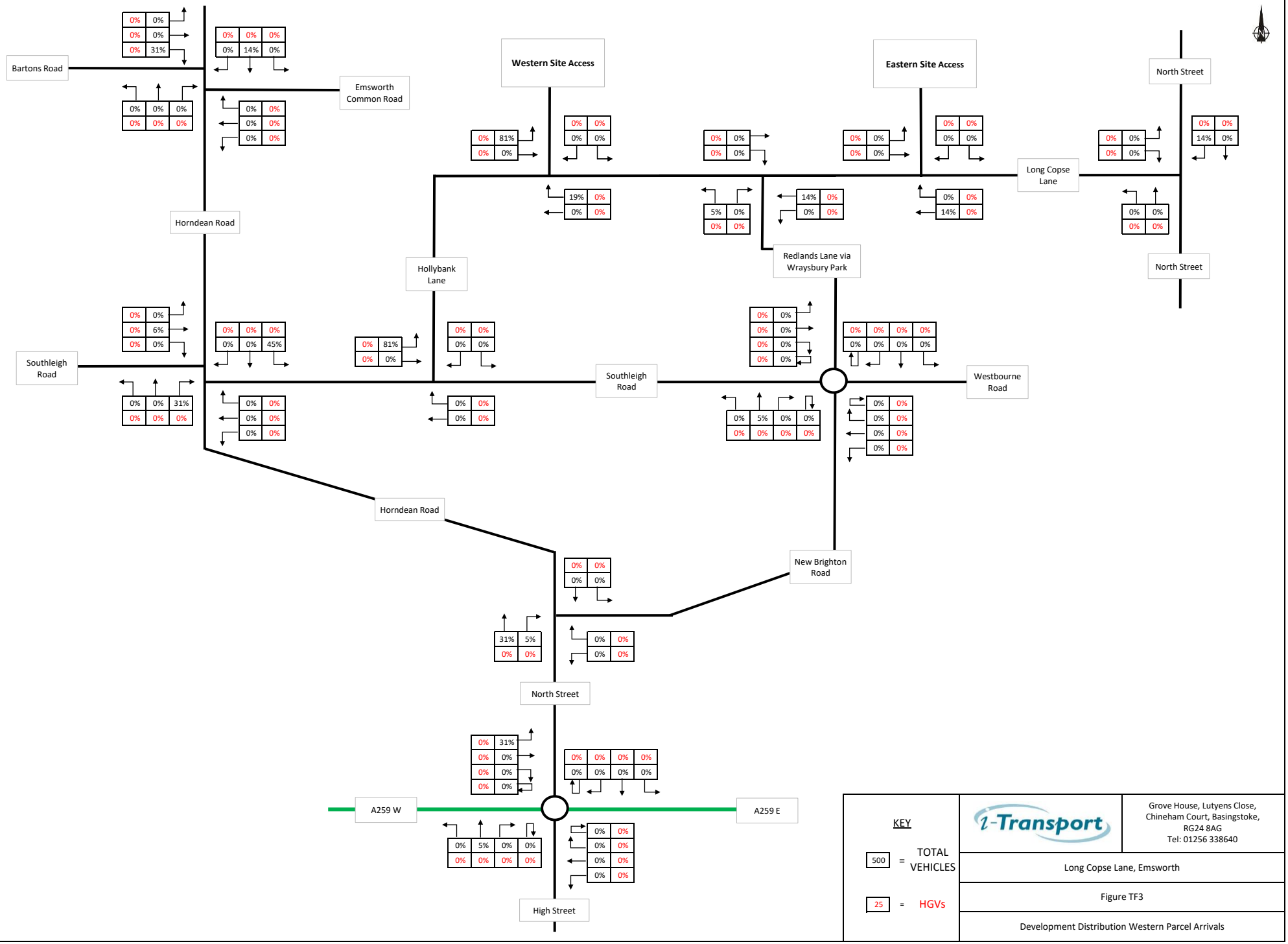
25 = HGVs

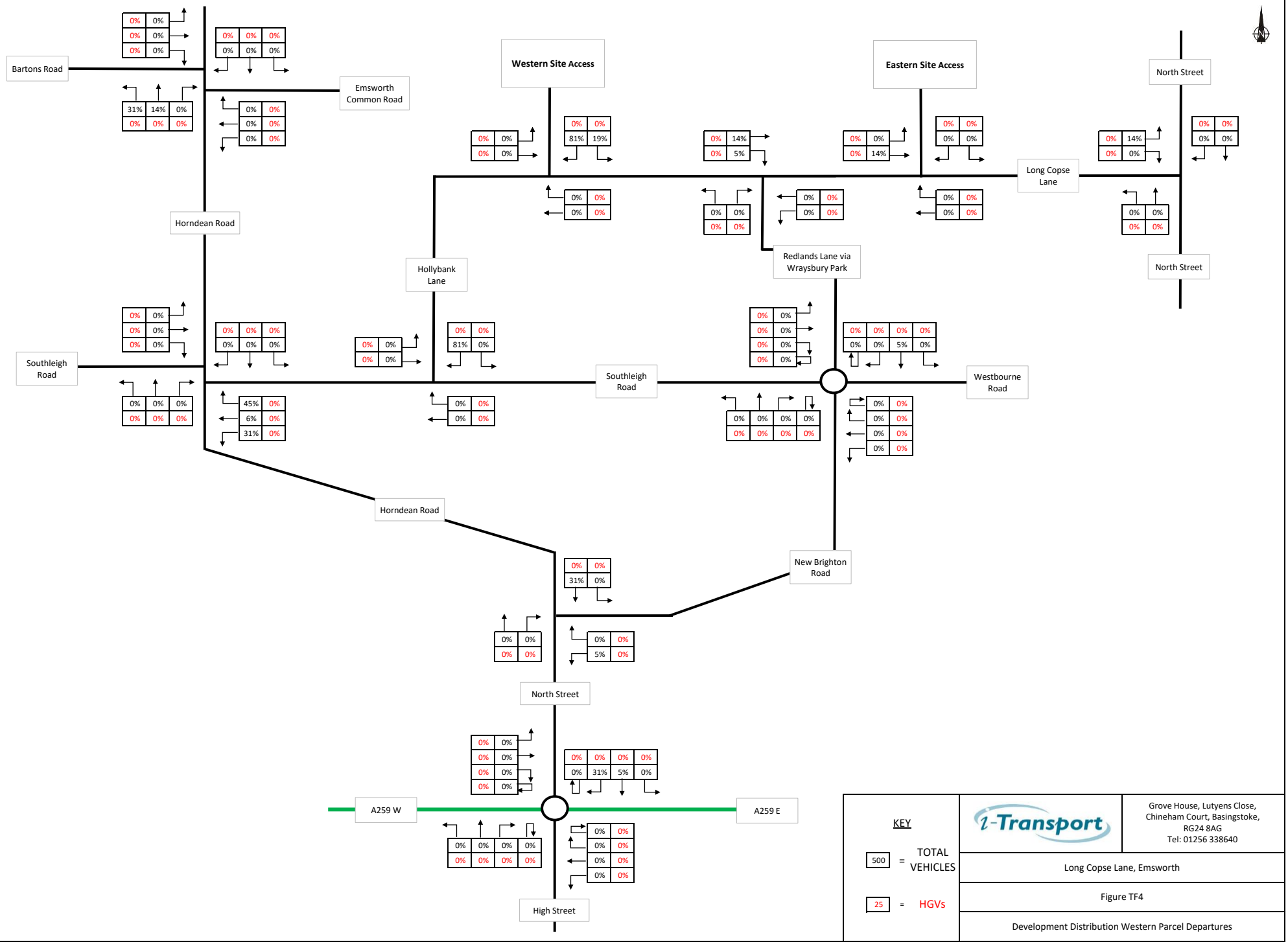
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Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640

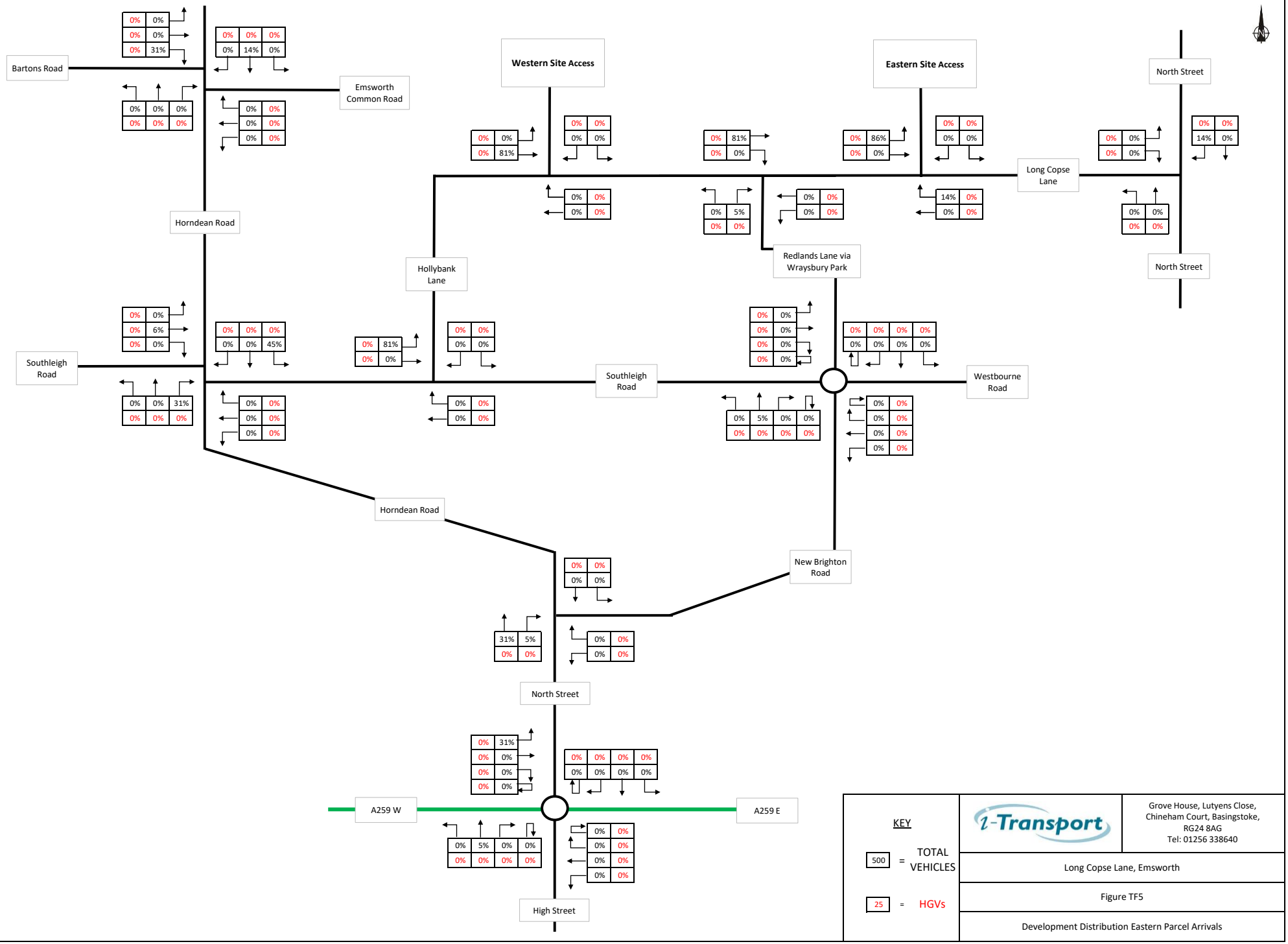
Long Copse Lane, Emsworth

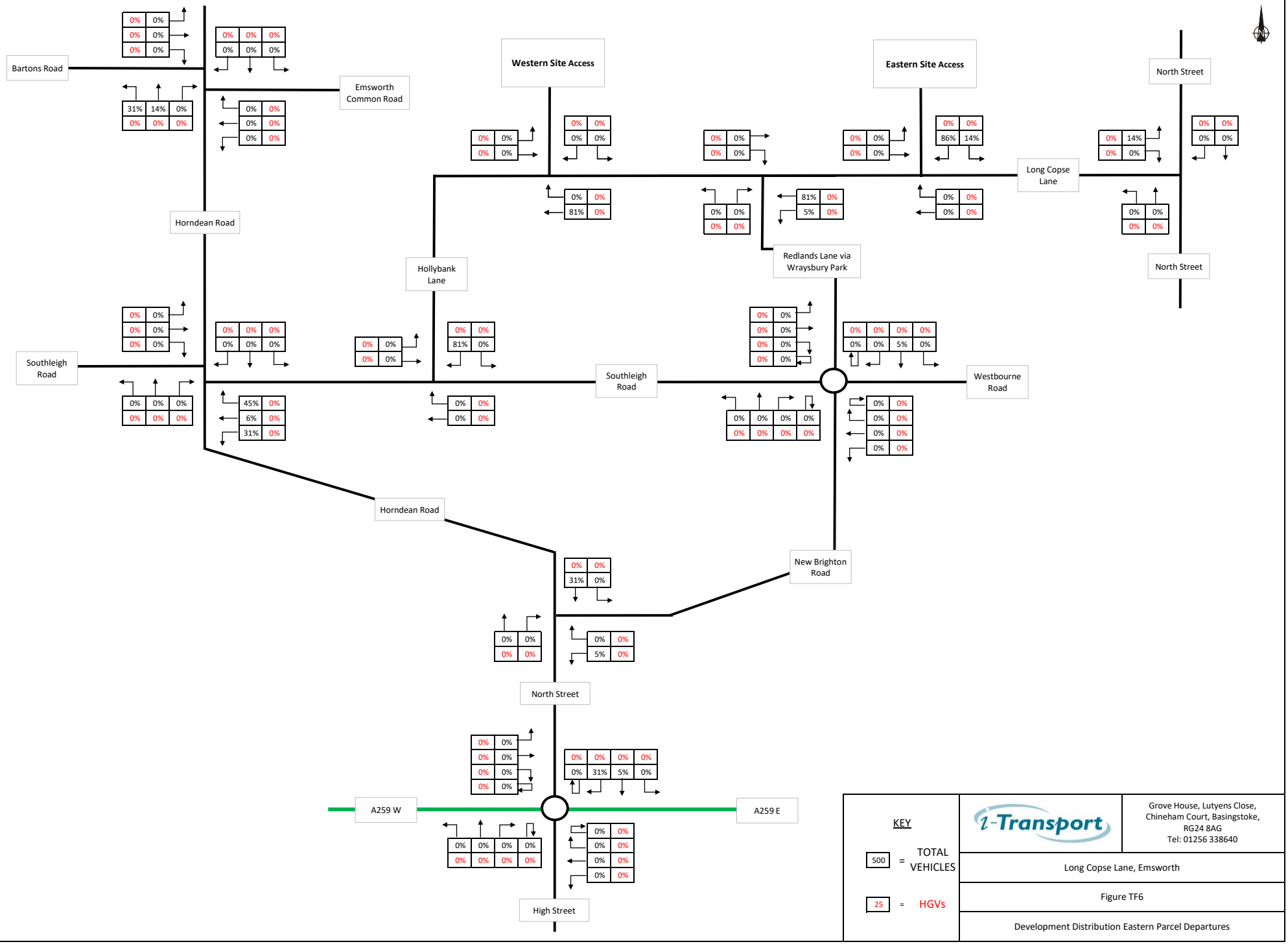
Figure TF2

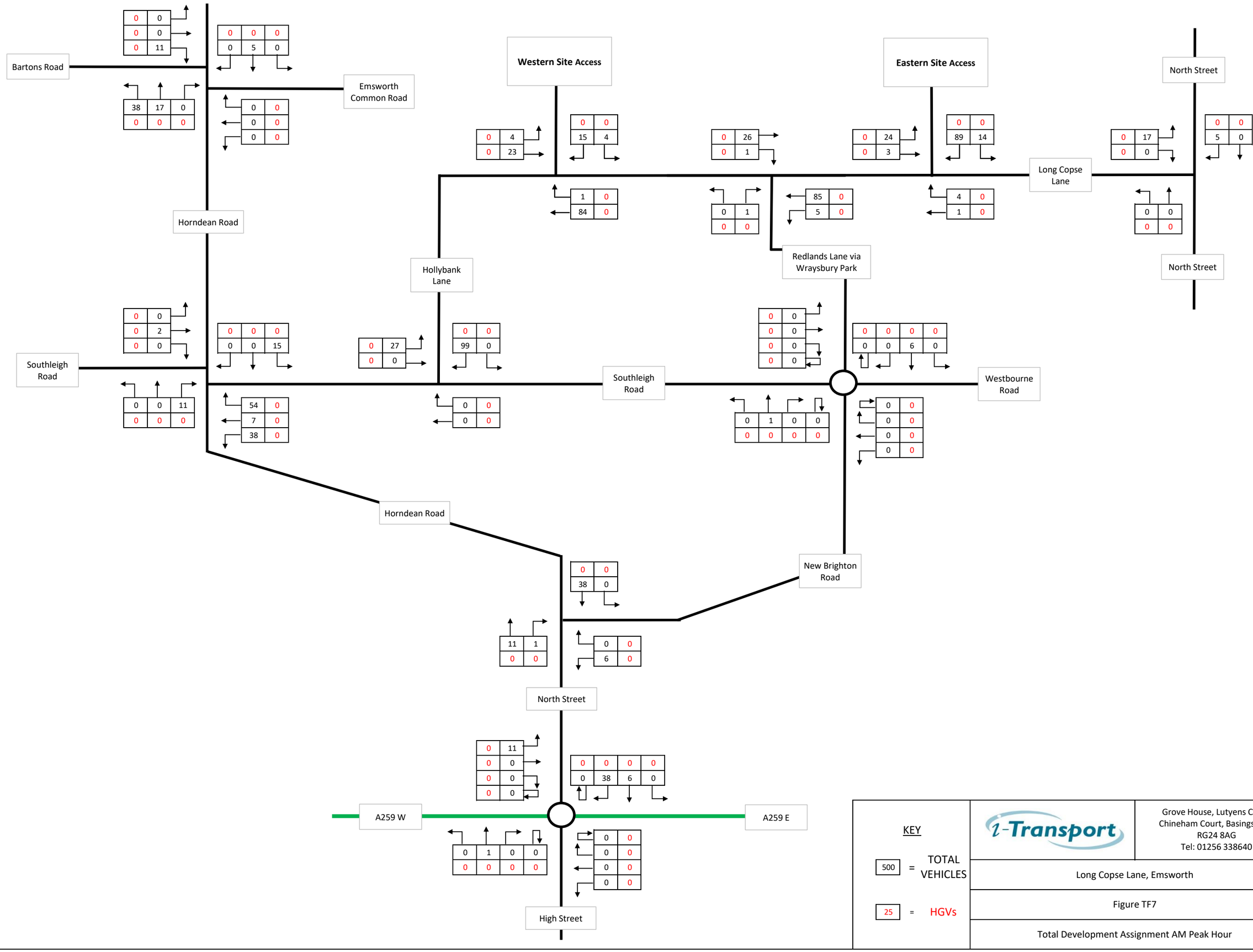
2018 Observed PM Peak Hour (1630-1730)


Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
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Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF3
Development Distribution Western Parcel Arrivals


Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
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Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF4
Development Distribution Western Parcel Departures


Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
i-Transport
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Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF5
Development Distribution Eastern Parcel Arrivals


Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
i-Transport
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Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF6
Development Distribution Eastern Parcel Departures




KEY

500 = TOTAL VEHICLES

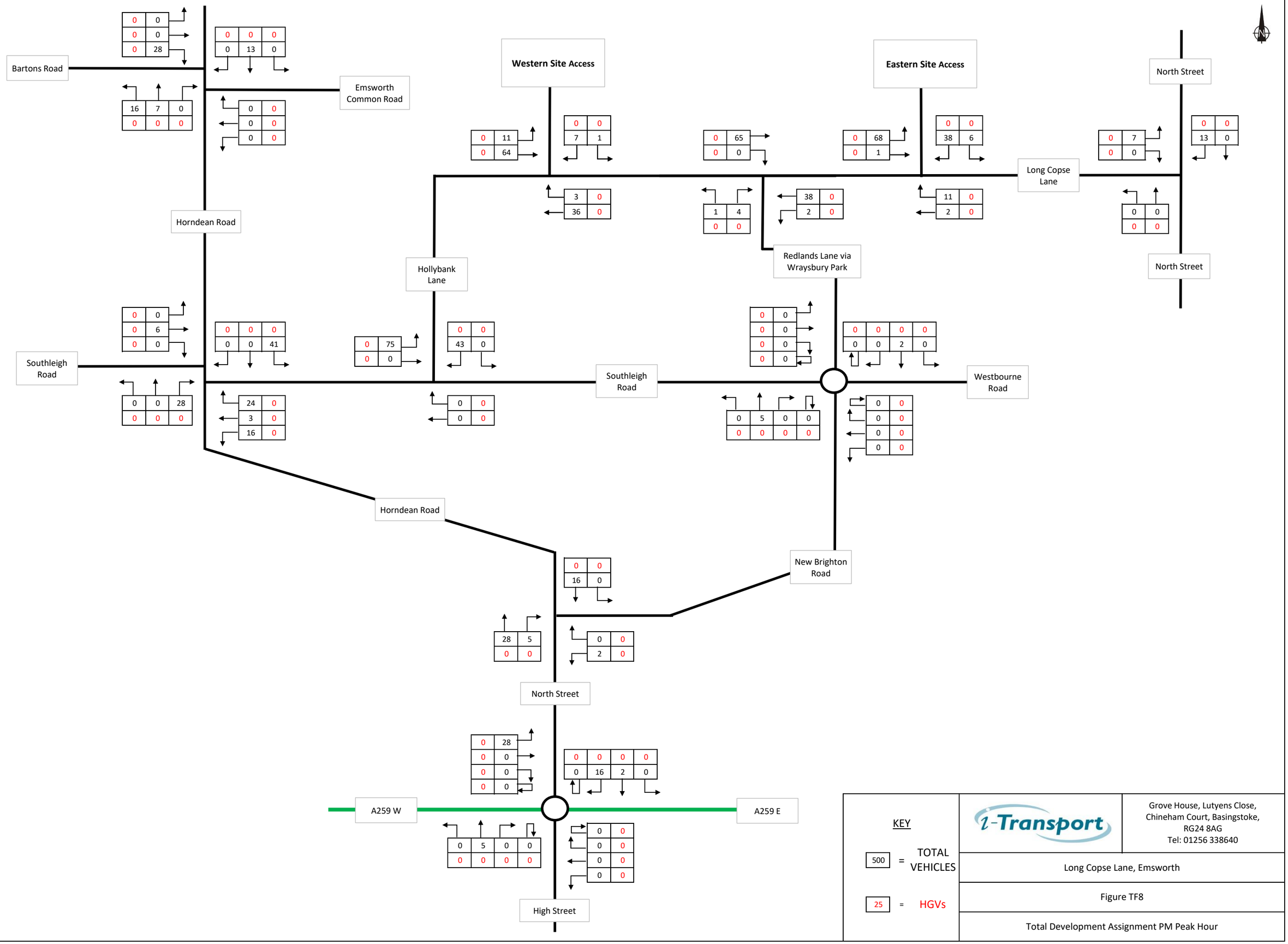
25 = HGVs

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Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF7

Total Development Assignment AM Peak Hour




KEY

500 = TOTAL VEHICLES

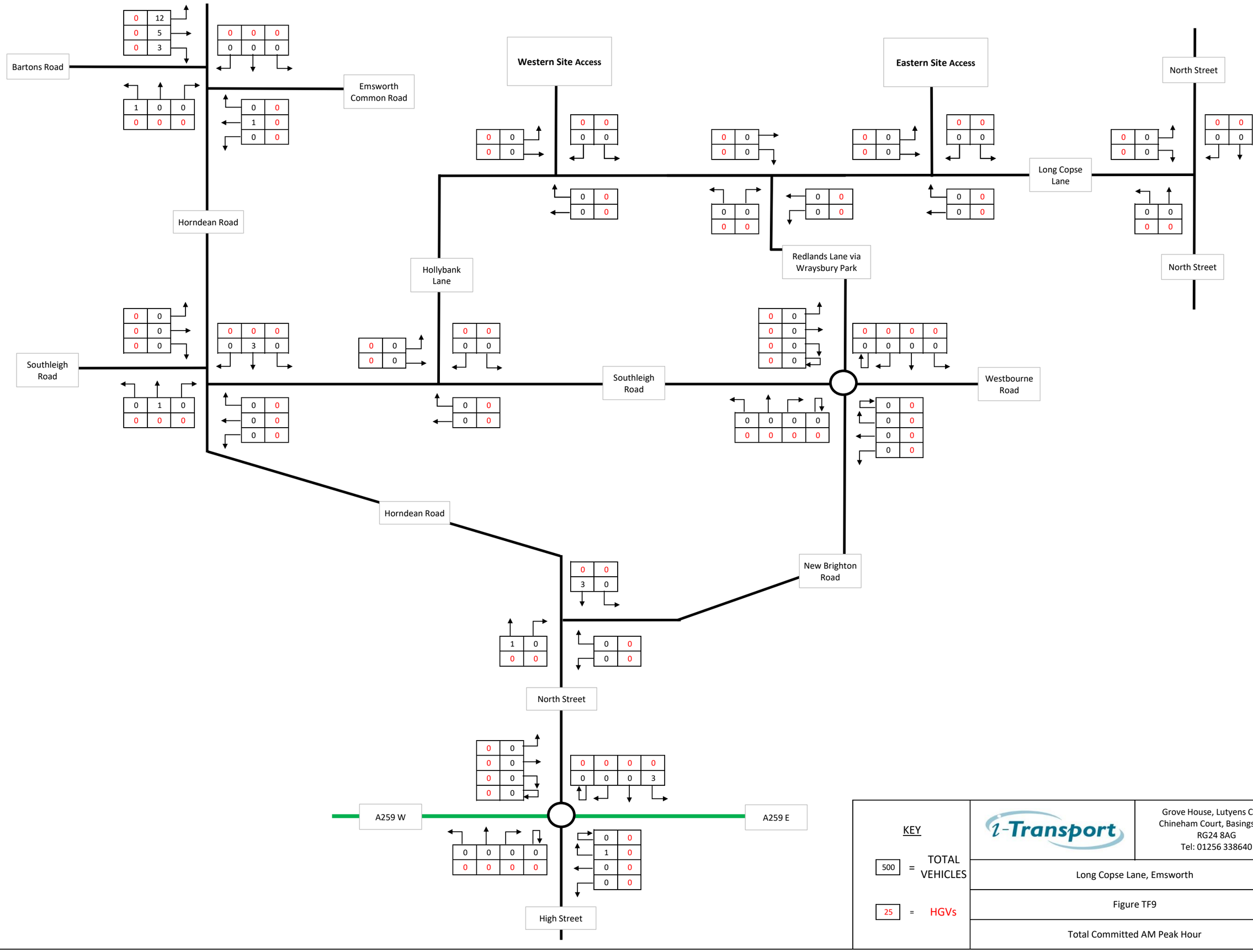
25 = HGVs

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RG24 8AG
Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF8

Total Development Assignment PM Peak Hour




KEY

500 = TOTAL VEHICLES

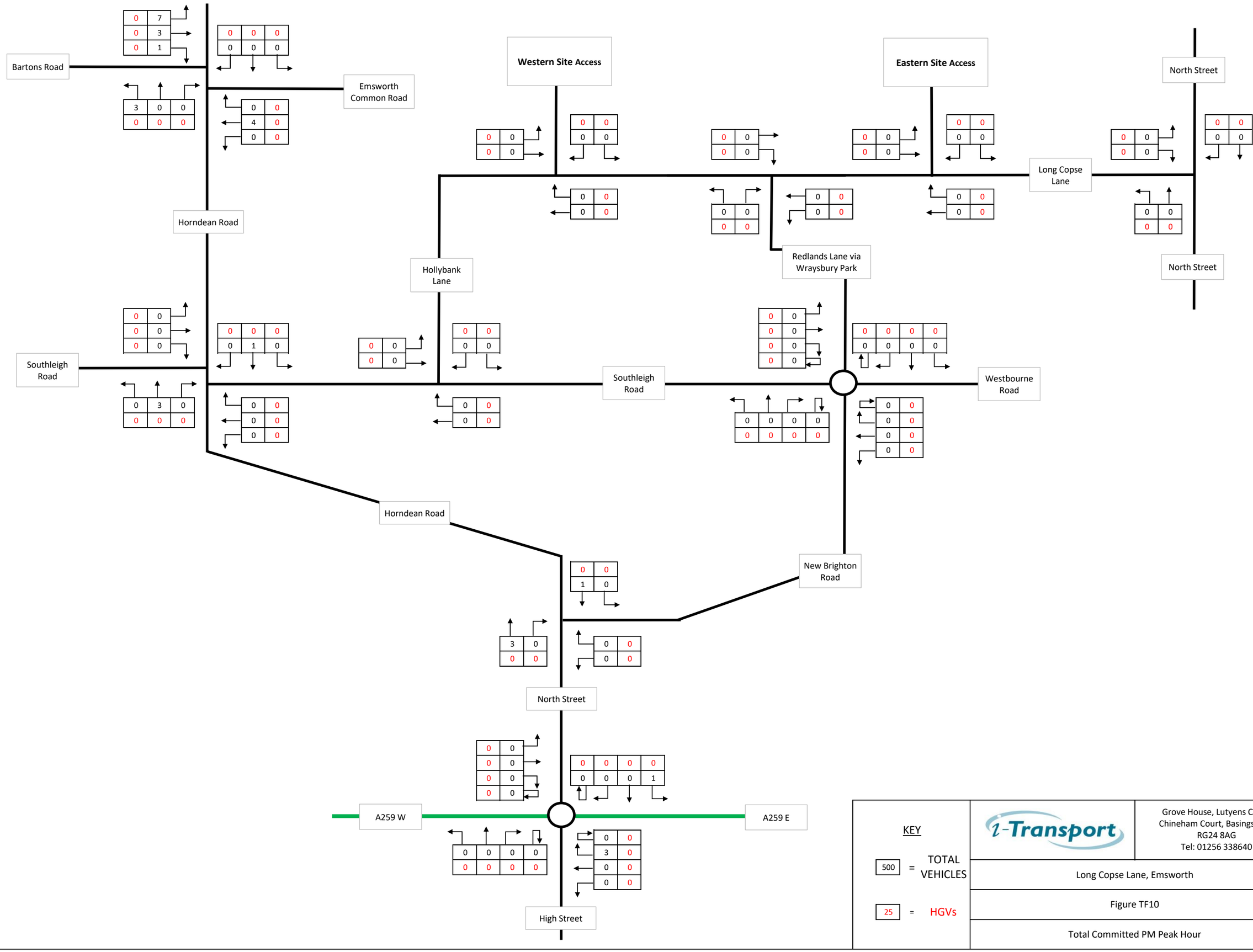
25 = HGVs

i-Transport
Grove House, Lutyens Close,
Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF9

Total Committed AM Peak Hour




KEY

500 = TOTAL VEHICLES

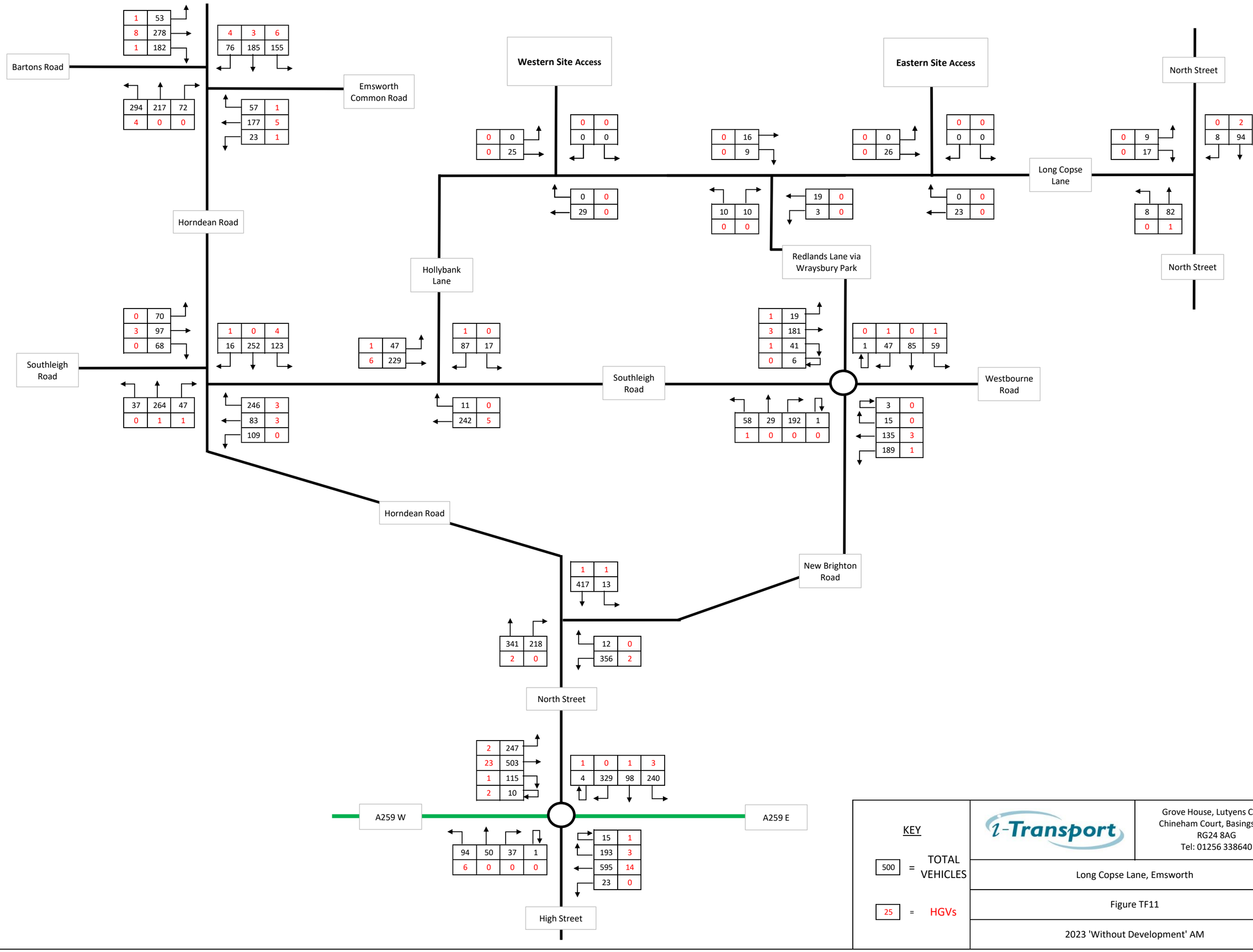
25 = HGVs

i-Transport
Grove House, Lutyens Close,
Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF10

Total Committed PM Peak Hour




KEY

500 = TOTAL VEHICLES

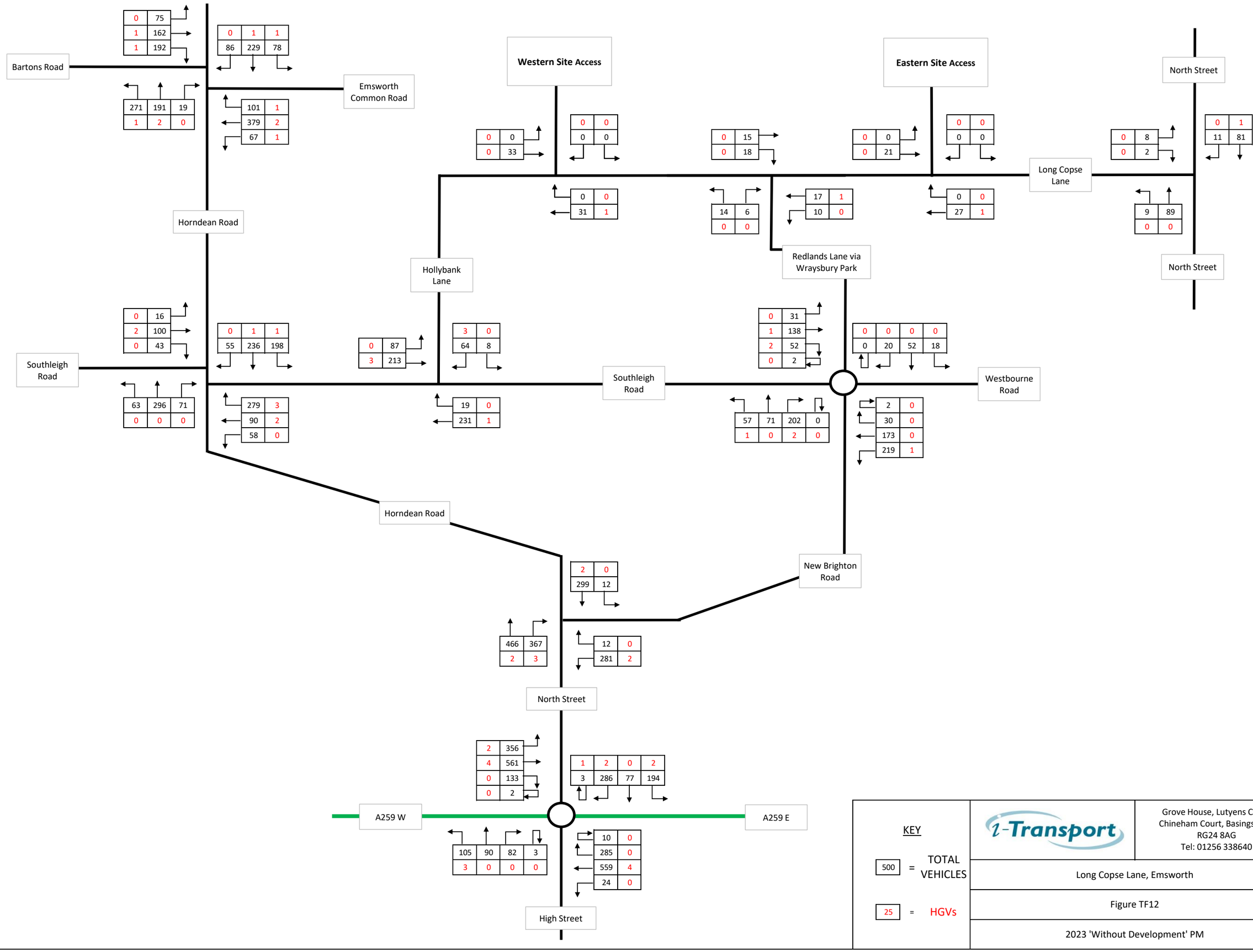
25 = HGVs

i-Transport
Grove House, Lutyens Close,
Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF11

2023 'Without Development' AM




KEY

500 = TOTAL VEHICLES

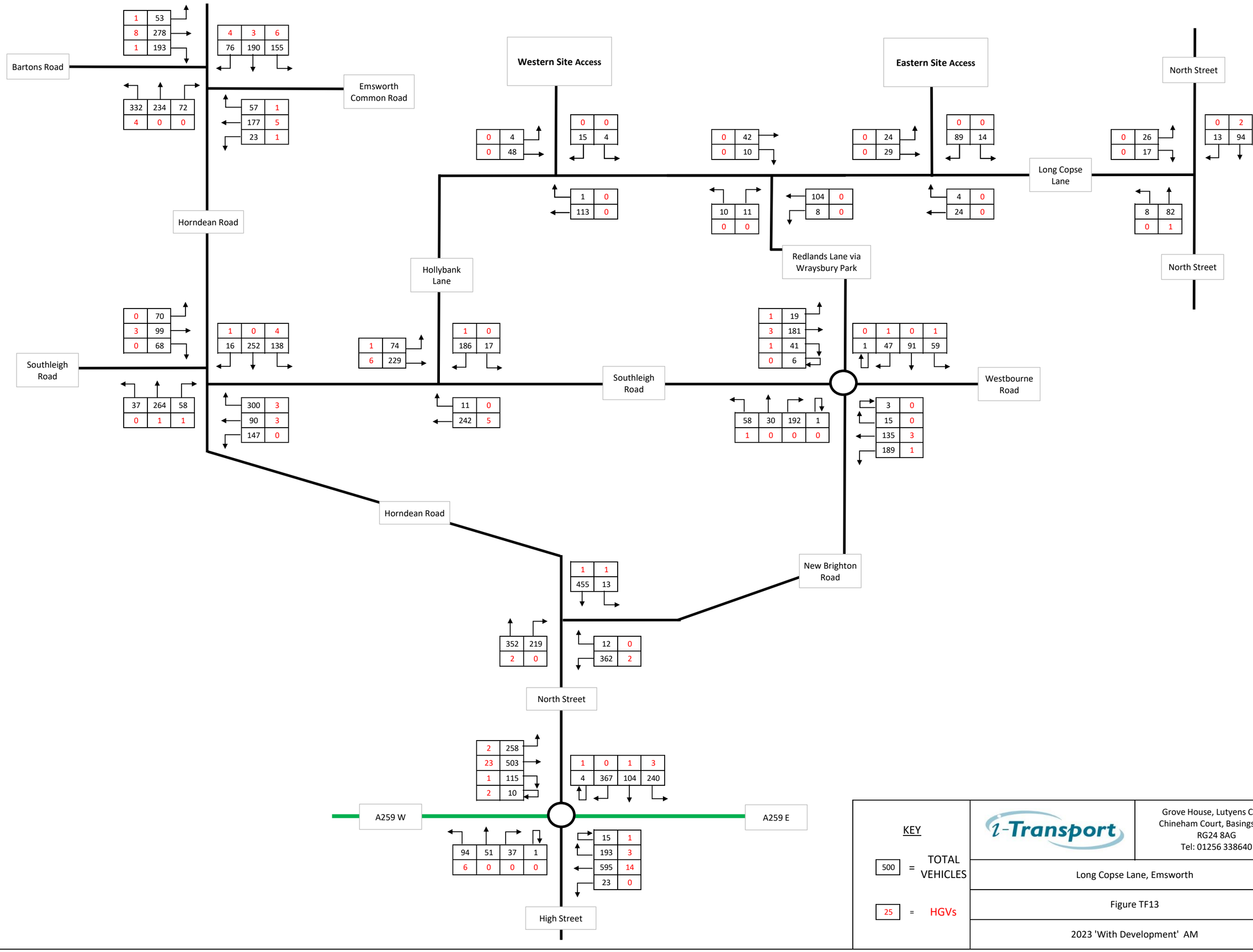
25 = HGVs

i-Transport
Grove House, Lutyens Close,
Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF12

2023 'Without Development' PM




KEY

500 = TOTAL VEHICLES

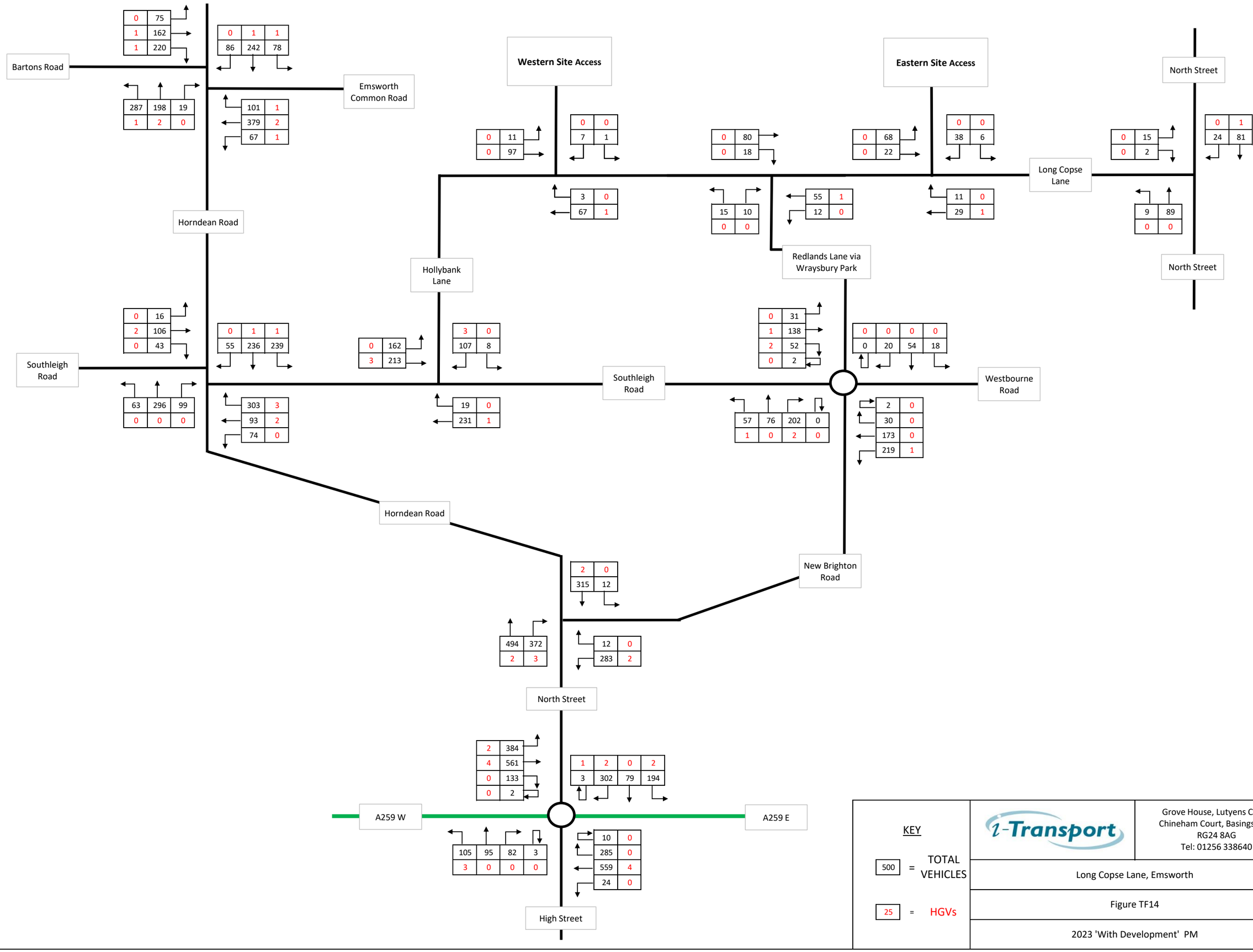
25 = HGVs

i-Transport
Grove House, Lutyens Close,
Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF13

2023 'With Development' AM




KEY

500 = TOTAL VEHICLES

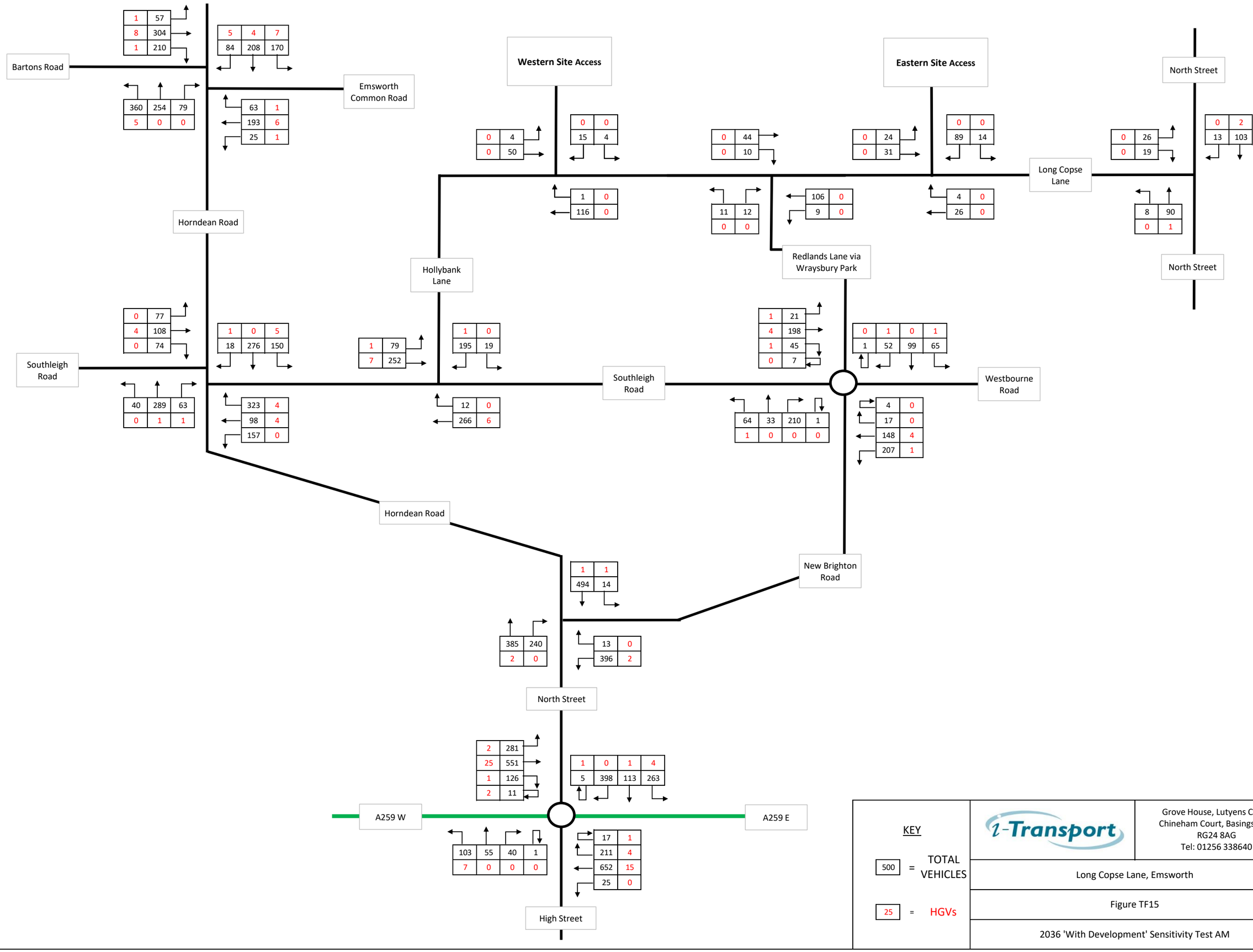
25 = HGVs

i-Transport
Grove House, Lutyens Close,
Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF14

2023 'With Development' PM




KEY

500 = TOTAL VEHICLES

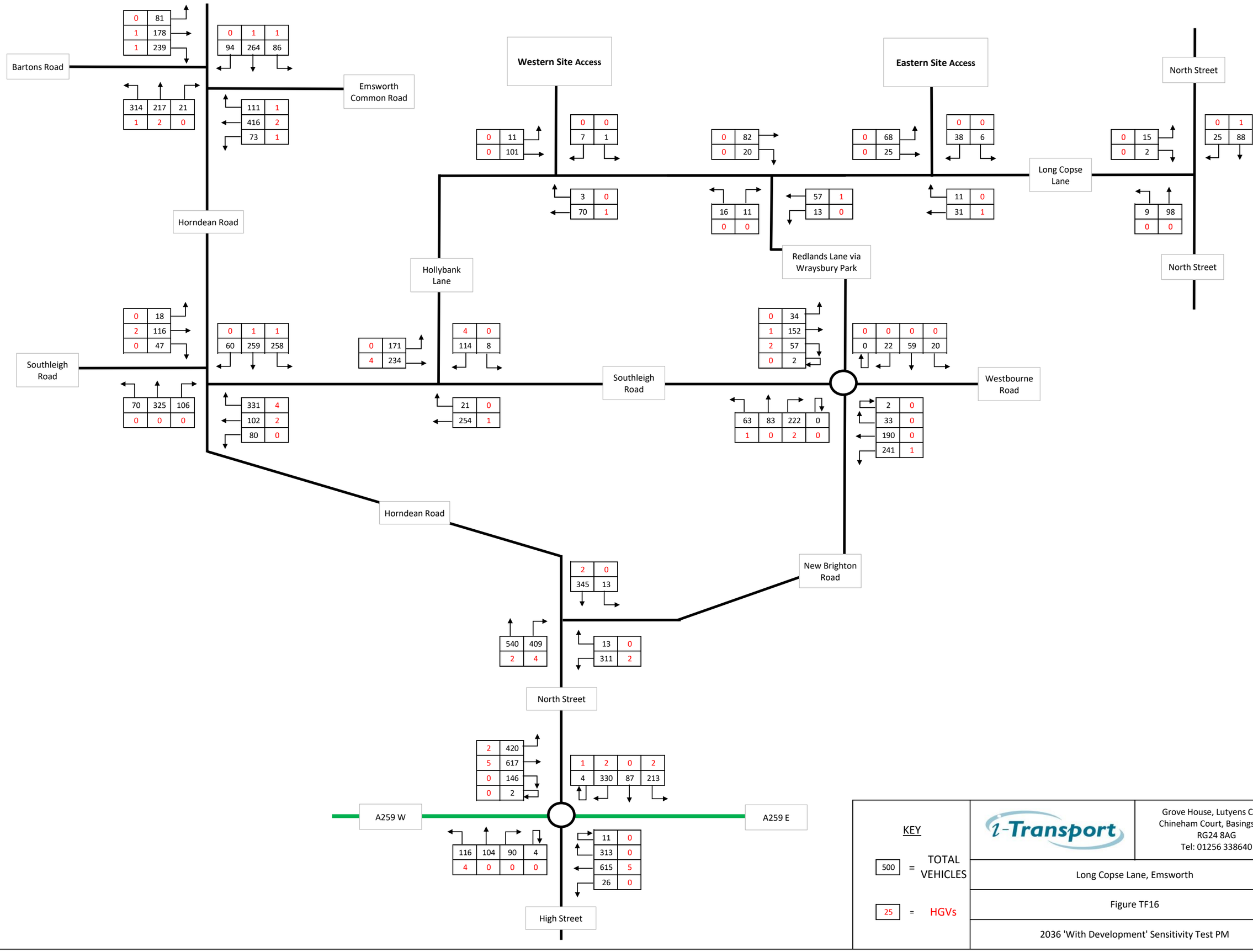
25 = HGVs

i-Transport
Grove House, Lutyens Close,
Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640

Long Copse Lane, Emsworth

Figure TF15

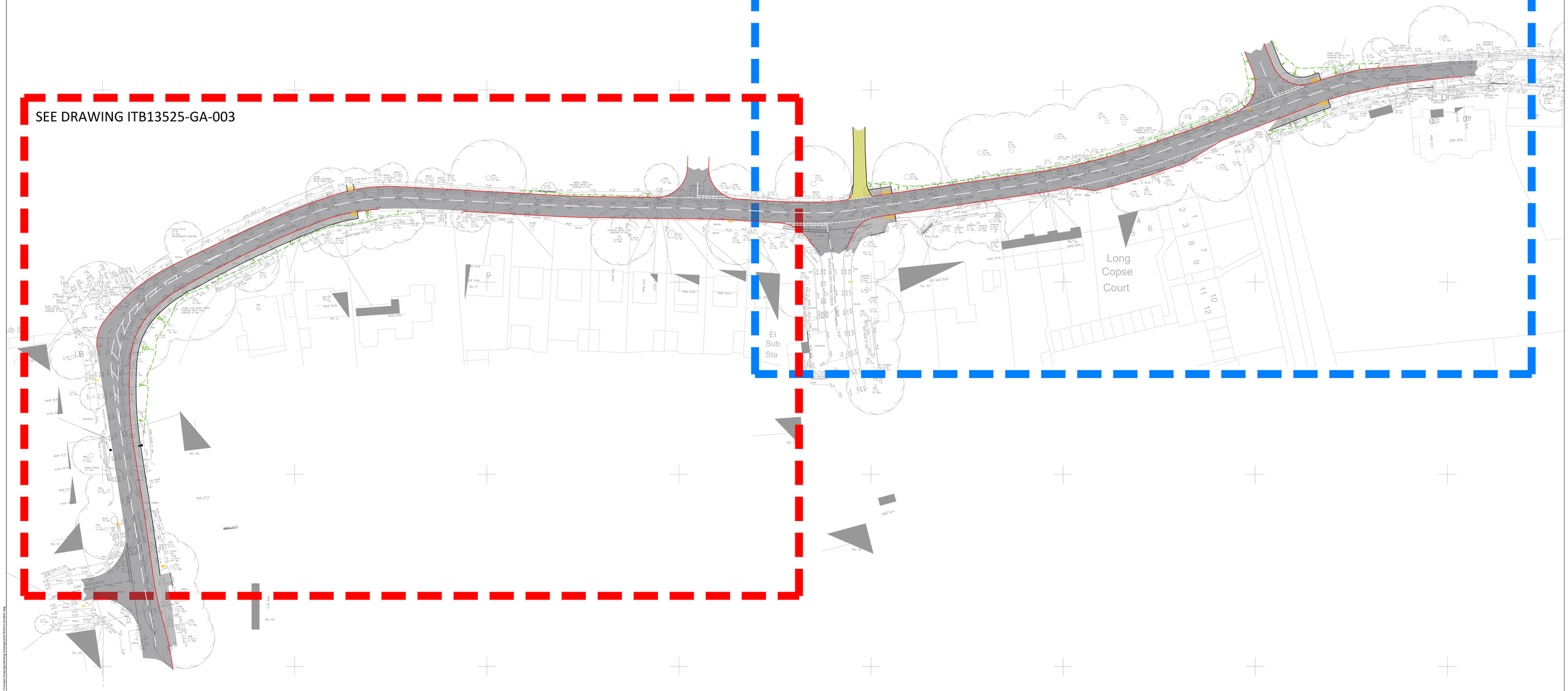
2036 'With Development' Sensitivity Test AM


Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
0 81
1 178
1 239
0 1 1
94 264 86
314 217 21
1 2 0
111 1
416 2
73 1
0 11
0 101
0 0
7 1
3 0
70 1
0 82
0 20
16 11
0 0
57 1
13 0
0 68
0 25
0 0
38 6
11 0
31 1
0 15
0 2
0 1
25 88
9 98
0 0
0 18
2 116
0 47
0 1 1
60 259 258
70 325 106
0 0 0
331 4
102 2
80 0
0 171
4 234
4 0
114 8
21 0
254 1
0 34
1 152
2 57
0 2
0 0 0 0
0 22 59 20
63 83 222 0
1 0 2 0
2 0
33 0
190 0
241 1
2 0
345 13
540 409
2 4
13 0
311 2
2 420
5 617
0 146
0 2
1 2 0 2
4 330 87 213
116 104 90 4
4 0 0 0
11 0
313 0
615 5
26 0
KEY
500 = TOTAL VEHICLES
25 = HGVs
i-Transport
Grove House, Lutyens Close,
Chineham Court, Basingstoke,
RG24 8AG
Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF16
2036 'With Development' Sensitivity Test PM

**DRAWINGS**

SEE DRAWING ITB13525-GA-004

SEE DRAWING ITB13525-GA-003




SCALE BAR @ 1:500

0 5 10 25 50

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| B | 19.10.18 | MC | MINOR AMENDMENTS | SJ | SJ |
| A | 14.09.18 | MC | LAYOUT REVISED | SJ | SJ |

STATUS: FOR INFORMATION

TITLE: OVERVIEW
SHEET 1 OF 3

PROJECT: LONG COPSE LANE, EMSWORTH

CLIENT: LAND AND PARTNERS LTD

| SCALE @ A1: | CHECKED: | APPROVED: |
|---|---|---|
| 1:500 | SJ | SJ |
| FILE REF: | DRAWN: | DATE: |
| ITB13525 | MC | 29.06.18 |

DRAWING No: ITB13525-GA-002

PROJECT No: ITB13525 REV: C

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POTENTIAL ACCESS POINT TO SERVE WESTERN PARCEL

2.4m x 27.1m VISIBILITY SPLAY

RADII 8.0m

5.5m

2.4m x 27.6m VISIBILITY SPLAY

RADII 8.0m

EXISTING VEGETATION ALONG THIS SECTION OF WIDENING TO BE REMOVED AND LANDSCAPE TREATMENT TO BE RE-PROVIDED

CUT LINE FOR CONTINUATION SEE DRAWING ITB13525-GA-004

PEDESTRIAN CONNECTION WITHIN SITE

PEDESTRIAN VISIBILITY 1.5m x 27.6m (TO TANGENT)

PEDESTRIAN VISIBILITY 1.5m x 27.1m (TO TANGENT)

5.5m

5.5m

5.5m

5.5m

5.5m

PEDESTRIAN VISIBILITY 1.5m x 27.6m

PEDESTRIAN VISIBILITY 1.5m x 27.1m

2.4m x 27.1m VISIBILITY SPLAY

1.8m FOOTWAY TO TIE INTO EXISTING NETWORK ON HOLLYBANK LANE TO SITE

5 6m

1.8m

TREE RETENTION SUBJECT TO ARBORICULTURALIST

NARROWING OF FOOTWAY TO MINIMUM OF 1.5m FOR A LENGTH OF 4.0m TO RETAIN TREE

BEND WIDENED TO ALLOW TWO-WAY MOVEMENT USING EXISTING VERGE. EXISTING VEGETATION/SCRUB TO BE CUT BACK TO ACHIEVE MINIMUM OF 25m FORWARD VISIBILITY (20mph).

1.8m FOOTWAY TO TIE INTO EXISTING NETWORK ON HOLLYBANK LANE TO SITE

WIDENING OF EXISTING CARRIAGEWAY TO 5.5m TO TIE INTO EXISTING ROAD ALIGNMENT TO THE SOUTH

5.5m

PROPOSED GATEWAY FEATURE EXACT DETAILS TO BE AGREED WITH HCC AT DETAILED DESIGN STAGE

PROPOSED FOOTWAY TO TIE INTO EXISTING FOOTWAY NETWORK

CARRIAGEWAY REDUCED TO 5.5m, WITH 1.8m FOOTWAY TO TIE INTO EXISTING FOOTWAY NETWORK.

LONG COPSE LANE

HOLLYBANK LANE

OAK TREE DRIVE

SLOW

No. 59 No. 56 No. 51 No. 2 No. 6 No. 20 No. 71

NOTES:
- DRAINAGE SOLUTION HAS BEEN AGREED BETWEEN HIGHWAYS, FLOOD AND WATER MANAGEMENT AND LAND AND PARTNERS LTD;
- LIGHTING TO BE PROVIDED TO THE LHA SPECIFICATION AND APPROVAL AT THE DETAILED DESIGN STAGE;
- ARBORICULTURAL REPORT HAS BEEN SUBMITTED AS PART OF THE PROPOSALS; AND
- ECOLOGICAL REPORT HAS BEEN SUBMITTED AS PART OF THE PROPOSALS

SCALE BAR @ 1:250
0 1 2 5 10 25

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Tel: 01256 338640
Fax: 01256 338644
www.i-transport.co.uk

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| B | 19.10.18 | MC | MINOR AMENDMENTS | SJ | SJ |
| A | 17.09.18 | MC | ALIGNMENT REVISED | SJ | SJ |

STATUS: FOR INFORMATION

TITLE: SITE ACCESS ARRANGEMENTS SHEET 2 OF 3

PROJECT: LONG COPSE LANE, EMSWORTH

CLIENT: LAND AND PARTNERS LTD

| | | |
|---|---|---|
| SCALE @ A3: 1:250 | CHECKED: SJ | APPROVED: SJ |
| FILE REF: ITB13525 | DRAWN: MC | DATE: 29.06.18 |
| DRAWING No: ITB13525-GA-003 | | |
| PROJECT No: ITB13525 | | REV: C |

PROPOSED SITE ACCESS
5.5m WIDE WITH 8m RADII AND
2.0m FOOTWAY ON EASTERN SIDE

2.4m x TANGENT VISIBILITY SPLAY

PEDESTRIAN VISIBILITY 1.5m x 34.6m

2.4m x 34.6m VISIBILITY SPLAY

2.0m

RADII 8.0m

5.5m

TIE INTO EXISTING CARRIAGEWAY
AND EXISTING WIDTHS TO BE
RETAINED EASTBOUND

PEDESTRIAN VISIBILITY 1.5m x 34.6m

RADII 8.0m

PEDESTRIAN VISIBILITY 1.5m x 33.0m

2.4m x 33.0m VISIBILITY SPLAY

5.5m

2.0m

UNCONTROLLED CROSSING WITH
DROPPED KERBS AND TACTILE PAVING

PROPOSED FOOTWAY TO
TIE INTO REDLANDS LANE







LINK TO BE ENHANCED TO PROVIDE MAIN
PEDESTRIAN/CYCLE LINK TO SITE AND WRAYSBURY
PARK ROAD LINK TO BE ENHANCED.

EXISTING TRAFFIC ASSOCIATED WITH DAIRY FARM
TO BE REMOVED.



PEDESTRIAN VISIBILITY 1.5m x 27.6m

PEDESTRIAN VISIBILITY 1.5m x 27.1m

UNCONTROLLED CROSSING WITH
DROPPED KERBS AND TACTILE PAVING

1.8m

5.5m

2.2m

5.5m

PEDESTRIAN VISIBILITY 1.5m x 33.0m

EXISTING LAY BY
TO BE FORMALISED

OPPORTUNITY TO ENHANCE
REDLANDS LANE AGREED WITH
HCC RoW TEAM

CUT LINE FOR CONTINUATION SEE
DRAWING ITB13525-GA-004

PEDESTRIAN VISIBILITY 1.5m x 27.6m

CARRIAGEWAY WIDENED TO
5.5m WITH 1.5m FOOTWAY

RADII 8.0m

2.4m x 27.6m VISIBILITY SPLAY

RADII 10.0m

PEDESTRIAN VISIBILITY 1.5m x 27.1m





LONG COPSE LANE

RAYSBURY PARK DRIVE

Long
Copse
Court

El
Sub
Sta

NOTES:

- DRAINAGE SOLUTION HAS BEEN AGREED BETWEEN HIGHWAYS, FLOOD AND WATER MANAGEMENT AND LAND AND PARTNERS LTD;
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- ARBORICULTURAL REPORT HAS BEEN SUBMITTED AS PART OF THE PROPOSALS; AND
- ECOLOGICAL REPORT HAS BEEN SUBMITTED AS PART OF THE PROPOSALS

SCALE BAR @ 1:250

0 1 2 5 10 25

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Tel: 01256 338640
Fax: 01256 338644
www.i-transport.co.uk

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| B | 19.10.18 | MC | MINOR AMENDMENTS | SJ | SJ |
| A | 14.09.18 | MC | ALIGNMENT REVISED | SJ | SJ |

STATUS: FOR INFORMATION

TITLE: SITE ACCESS ARRANGEMENTS
SHEET 3 OF 3

PROJECT: LONG COPSE LANE, EMSWORTH

CLIENT: LAND AND PARTNERS LTD

| SCALE @ A1: | CHECKED: | APPROVED: |
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PROJECT No: ITB13525 REV: C




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SCALE BAR @ 1:500

0 5 10 25 50

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|---|---|---|---|---|---|

STATUS: FOR INFORMATION

TITLE: LONG COPSE LANE INTER-VISIBILITY ASSESSMENT FOR WSCC

PROJECT: LONG COPSE LANE, EMSWORTH

CLIENT: LAND AND PARTNERS LTD

| SCALE @ A2: | CHECKED: | APPROVED: |
|---|---|---|
| 1:500 | SJ | SJ |
| FILE REF: | DRAWN: | DATE: |
| ITB13525 | JD | 24.08.18 |

DRAWING No: ITB13525-GA-019

PROJECT No: ITB13525 REV: -

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PROPOSED ISLAND AND BOLLARDS TO RESTRICT VEHICLE MOVEMENT BETWEEN WRAYSBURY PARK DRIVE AND LONG COPSE LANE

WOODEN FENCE LOCATED ON VERGE

WOODEN FENCE LOCATED ON VERGE

DROPPED KERB TO ALLOW CYCLISTS TO NAVIGATE PROPOSED ISLAND

WRAYSBURY PARK DRIVE

No. 20

Large Refuse Vehicle (4 axle)

7.5t Box Van

KEY:

HIGHWAY BOUNDARY

SCALE BAR @ 1:250

0 1 2 5 10 25

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|---|---|---|---|---|---|

STATUS: FOR INFORMATION

TITLE: POTENTIAL ARRANGEMENT TO RESTRICT MOVEMENT BETWEEN WRAYSBURY PARK DRIVE AND LONG COPSE LANE

| SCALE @ A3: | CHECKED: | APPROVED: |
|---|---|---|
| 1:250 | SJ | SJ |
| FILE REF: | DRAWN: | DATE: |
| ITB13525 | MC | 25.09.18 |

PROJECT: LONG COPSE LANE, EMSWORTH

CLIENT: LAND AND PARTNERS LTD

DRAWING No: ITB13525-GA-020

PROJECT No: ITB13525

REV: -

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NO CHANGE TO SURFACE

NEW SURFACE TO HCC SPECIFICATION
(SEE EXAMPLE OF YEAR ROUND SURFACE)

CUT BACK VEGETATION TO 3.0m WIDTH

APPROPRIATE ENTRY TREATMENT
TO BE AGREED WITH HCC AND
DETAILED DESIGN STAGE

Drain
Drain
26.2m
Long Copse Court
DRIVE
REDLANDS LANE
Pipistrelle House
1 to 5
TURTLEDOVE TERRACE
BULLFINCH CLOSE

SCALE BAR @ 1:500
0 5 10 25 50

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|---|---|---|---|---|---|

CLIENT: LAND AND PARTNERS LTD

STATUS: FOR INFORMATION

TITLE: POTENTIAL REDLANDS LANE IMPROVEMENT SCHEME

| SCALE @ A2: | CHECKED: | APPROVED: |
|---|---|---|
| 1:500 | SJ | SJ |
| FILE REF: | DRAWN: | DATE: |
| ITB13525 | JD | 01.10.18 |

PROJECT: LONG COPSE LANE, EMSWORTH

DRAWING No: ITB13525-GA-021

PROJECT No: ITB13525 REV: -

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**APPENDIX A** **TRANSPORT ASSESSMENT SCOPING REPORT**



**TRANSPORT ASSESSMENT SCOPING REPORT**

**LONG COPSE LANE, EMSWORTH**

**Client: Land and Partners**

**TRANSPORT ASSESSMENT SCOPING REPORT**

**LONG COPSE LANE, EMSWORTH**

**Client: Land and Partners**

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i-Transport Ref: SJ/SH/AI/ITB13525-002A R

Date: 1 March 2018

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## QUALITY MANAGEMENT

| Report No. | Comments | Date | Author | Authorised |
|---|---|---|---|---|
| ITB13525-001 | Draft | 15/02/18 | AI/SH | SJ |
| ITB13525-001A | Submission | 01/03/18 | AI/SH | SJ |

File ref: T:\Projects\13000 Series\13525ITB Long Copse Lane, Emsworth\Admin\Report and Tech Notes\ITB13525-002A Transport Assessment Scoping Report.docx



## CONTENTS

**SECTION 1** INTRODUCTION ..... 1
**SECTION 2** PROPOSED DEVELOPMENT ..... 3
**SECTION 3** POLICY CONTEXT ..... 4
**SECTION 4** EXISTING CONDITIONS ..... 5
**SECTION 5** SITE ACCESS, PARKING AND SERVICING ARRANGEMENTS ..... 9
**SECTION 6** PROMOTING SUSTAINABLE TRANSPORT ..... 13
**SECTION 7** TRAFFIC IMPACT ..... 15
**SECTION 8** SUMMARY ..... 23

## FIGURES

**FIGURE T1** SITE LOCATION PLAN
**FIGURE T2** LOCAL FACILITIES AND SERVICES PLAN
**FIGURE TF17** DISTRIBUTION WESTERN PARCEL ARRIVALS
**FIGURE TF18** DISTRIBUTION WESTERN PARCEL DEPARTURES
**FIGURE TF25** DISTRIBUTION EASTERN PARCEL ARRIVALS
**FIGURE TF26** DISTRIBUTION EASTERN PARCEL DEPARTURES
**FIGURE TF33** TOTAL ASSIGNMENT MORNING PEAK
**FIGURE TF34** TOTAL ASSIGNMENT EVENING PEAK

## DRAWINGS

**16.115.SK.01** ILLUSTRATIVE SITE LAYOUT
**ITB13525-SK-006** SITE ACCESS WORKS OVERVIEW

## APPENDICES

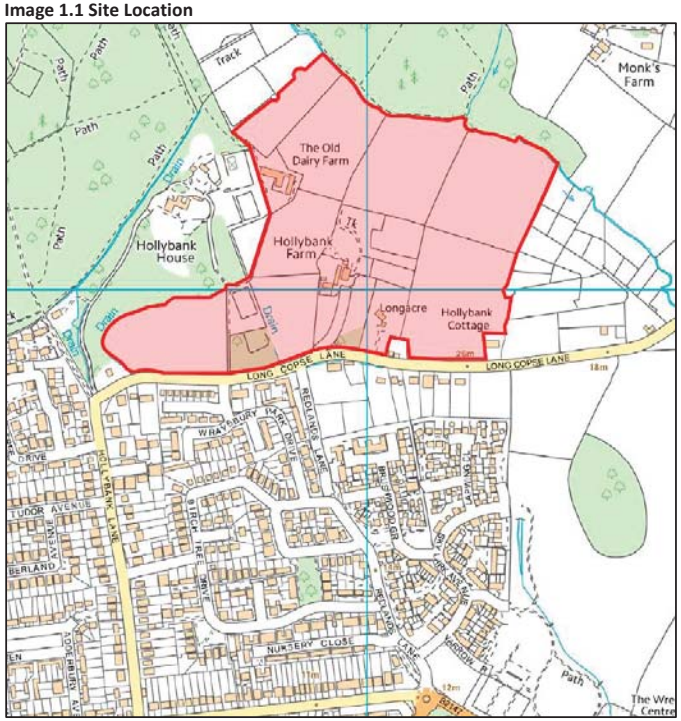
**APPENDIX A** PRIVATE RESIDENTIAL TRIP RATES AND MODE SHARE
**APPENDIX B** DISTRIBUTION AND GRAVITY MODEL
**APPENDIX C** TEMPRO GROWTH RATE CALCULATIONS

## SECTION 1 INTRODUCTION

### 1.1 Introduction

1.1.1 i-Transport LLP has been appointed to provide highways and transport advice in relation to an outline planning application for a mixed use residential development on land at Long Copse Lane, Emsworth. The development will consist of up to 260 dwellings. The site is an allocation in the Draft Havant Borough Council Local Plan and the allocation includes a potential small convenience store, this is not proposed as part of the Planning application and thus will not be covered within this report. The site location is illustrated on **Figure T1**, extracted below at **Image 1.1**.

**Image 1.1 Site Location**




Source: Extract of Figure T1

1.1.2 In line with the National Planning Policy Framework (NPPF), to support the application a Transport Assessment (TA) and Travel Plan (TP) is needed.





1.1.3 The content of this note is for discussion and agreement with Hampshire County Council (HCC) who are the Local Highway Authority. It sets out the proposed scope of the transport work to be submitted with the planning application and the key parameters that will be used.

### 1.2 Scope and Structure

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

- Section 2 – Proposed Development;
- Section 3 – Policy Context;
- Section 4 – Existing Conditions;
- Section 5 – Site Access, Parking and Servicing Arrangements;
- Section 6 – Promoting Sustainable Transport;
- Section 7 – Traffic Impact; and
- Section 8 – Summary.

## SECTION 2 PROPOSED DEVELOPMENT

### 2.1 Introduction

2.1.1 It is proposed to develop land at Long Copse Lane, Emsworth for up to 260 new dwellings with associated car parking, vehicular access and pedestrian/cycle access. The site is located to north of Long Copse Lane, Emsworth.

2.1.2 The application will be in outline and therefore the detailed development mix at this stage is unknown. The proposed site layout provides an indication of the development proposals in order to demonstrate the site can accommodate up to 260 dwellings. The illustrative site layout is shown on **Drawing 170116/SL/SK1**, extracted below at **Image 2.1**.

**Image 2.1 – Illustrative site layout**



Source: Extract of drawing 170116/SL/SK1





## SECTION 3 POLICY CONTEXT

3.1 The TA will provide a brief overview of national and local policies contained in the following documents:

- National Planning Policy Framework (NPPF);
- National Planning Practice Guidance (NPPG);
- Hampshire County Council Local Transport Plan;
- Havant Borough Council's Adopted Local Plan (2011);
- Havant Borough Council's Local Plan Allocations (2014);
- Havant Borough Council Local Housing Statement (2016);
- Havant Borough Council's Draft Local Plan (2018-2036); and
- Havant Borough Council's Parking Supplementary Planning Document.

3.1.1 The review will provide the context for assessing the development proposal in transport and highway terms. The TA will demonstrate that the proposed development appropriately accords with the highway and transport requirements identified in these policy documents.

## SECTION 4 EXISTING CONDITIONS

### 4.1 Introduction

4.1.1 This section of the TA will identify and describe the existing transport conditions in the vicinity of the site, including opportunities for walking, cycling and the use of public transport.

### 4.2 Walking and Cycling Facilities

4.2.1 A review will be undertaken of the existing walking and cycling facilities in the local area. The review will include the following roads and pedestrian / cycle links:

- Long Copse Lane;
- Hollybank Lane;
- Wraysbury Park Drive;
- Southleigh Road;
- Redlands Lane;
- Horndean Road;
- New Brighton Road;
- North Street; and
- Any further 'quiet' routes which provide access to local services and facilities.

### 4.3 Public Transport

Bus

4.3.1 The nearest bus stops are located to the east of the site on Southleigh Road, North Street and Westbourne Road, which are approximately 750m from the site. **Table 4.1** summarises the bus services which operate from these stops.





**Table 4.1: Local Bus Services**

| Bus Stop | Service No. | Route | Frequency | | |
|---|---|---|---|---|---|
| | | | Mon-Fri | Sat | Sun |
| Southleigh Road / Hollybank Lane Junction | 27 | Rowlands Castle- Havant – Emsworth | Every 2 hours. First service to Emsworth 08.43, last return 17.00 | Every 2 hours. First service to Emsworth 08.43, last return 17.00 | - |
| Southbourne Adj Manor Road | 28 | Southbourne - Emsworth - Denvilles - Havant | 3 services. First service to Havant 08.05, last return 16.00. | 2 services. First to Havant 09.30, last return 16.00. | - |
| | 28A | Southbourne - Horndean School | 1 service. First service to Horndean School 07.15, last return 15.15. | - | - |

Source: Traveline South East

4.3.2 As shown in **Table 4.1**, existing bus services near the site provide opportunities to travel to key destinations including Chichester, Havant and Emsworth. An assessment of the routes to the bus stops and the facilities at the bus stops will be carried out in the TA.

Rail

4.3.3 The nearest rail station to the site is Emsworth Station which is located approximately 1.9km to the south of the site. Emsworth rail station is therefore located within a walking and cycling distance of the site and can also be accessed via the 27/28 bus service operating via the Southleigh Roundabout approximately 600m south of the site.

4.3.4 **Table 4.2** provides a summary of the rail services which operate from Emsworth rail station.

**Table 4.2: Emsworth Rail Station – Rail Services**

| Destination | Typical Peak Frequency | Typical Off-Peak Frequency | Typical Journey Duration |
|---|---|---|---|
| Southampton Central | 3 | 2 | 50 mins |
| Brighton | 2 | 2 | 58 mins |
| London Victoria | 2 | 2 | 1hr 40 mins |
| Horsham | 3 | 2 | 50 mins |
| Portsmouth Harbour | 3 | 2 | 20 – 30 mins |
| Chichester | 4 | 3 | 30 – 45 mins |

Source: National Rail Enquiries

4.3.5 **Table 4.2** demonstrates that Emsworth rail station provides frequent rail services to a number of destinations including London Victoria, Brighton, Southampton Central and Portsmouth Harbour. This provides the opportunity for future residents to travel further afield for leisure, employment and retail opportunities via direct connections. This will be further assessed in the TA.

## 4.4 Local and Strategic Highway Network

4.4.1 The site location plan, **Figure T1** shows the local highway network in the vicinity of the site. A narrative describing the local and strategic highway network will be provided including identification of key local junctions and any improvement schemes that are planned in the local area. It is proposed that the review of the local highway network will include the following links and junctions:

- Long Copse Lane;
- Hollybank Lane;
- Wraysbury Park Drive;
- Southleigh Road/Horndean Road junction;
- Hollybank Lane/Southleigh Road junction;
- Long Copse Lane/North Street Junction;
- Southleigh Road/New Brighton Road Roundabout;
- New Brighton Road/Horndean Road junction;



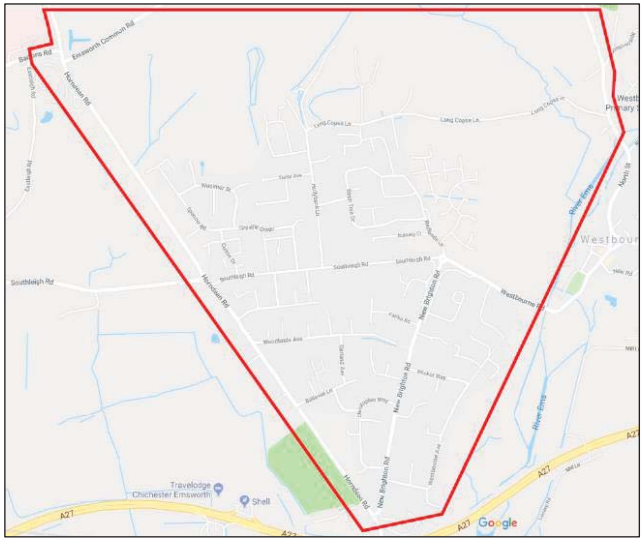


- A259/North Street Junction; and
- Horndean Road/Bartons Road Junction

4.4.2 Traffic surveys have been undertaken in February 2018 (outside half term) to understand traffic conditions within the local highway network. The data collection covers the above links and junctions.

4.4.3 Personal Injury Accident (PIA) Data will be obtained from Hampshire Constabulary for the most recent five-year period for the area identified in **Image 4.1.** A review of the data will be undertaken to understand the safety record of the local highway network.

**Image 4.1: PIA Study Area**




Source: i-Transport and Google

## 4.5 Summary

4.5.1 The existing conditions will provide the context for the assessment of the development proposal and confirmation of the proposed scope of review and analysis is sought.

## SECTION 5 SITE ACCESS, PARKING AND SERVICING ARRANGEMENTS

### 5.1 Introduction

5.1.1 This section of the TA will describe the proposed access, parking and servicing arrangements.

### 5.2 Vehicular Access and surrounding improvements

5.2.1 To deliver vehicular access to the proposed development, two simple priority junctions are proposed from Long Copse Lane which will be designed in accordance with the Manual for Streets and the recorded 85th percentile wet weather vehicle speeds. Wider improvement works are also proposed for Long Copse Lane between the eastern most site access and Hollybank Lane.

5.2.2 In summary, the following vehicular works are proposed:

- An eastern site access with 43m visibility splays (or commensurate with recorded speeds when known);
- Works to the carriageway edge to achieve a 5.5m width with some limited sections at a 4.8m width;
- The formalisation of an existing layby parking area;
- A western site access with 43m visibility splays or commensurate with recorded speeds;
- Further local road widening to 5.5m but avoiding Category A and B trees;
- Widening of the bend on the approach to Hollybank Lane; and
- Improved forward visibility around the bend on the approach to Hollybank Lane with a potential option to retain an existing highway tree within part of the forward visibility curve.

5.2.3 The above scheme of works to Long Copse Lane has been submitted to HCC for an early conceptual review and is summarised on **Drawing ITB13525-SK-006.**





### 5.3 Pedestrian Access

5.3.1 It is proposed to provide a pedestrian/cycle link from the development at the dairy access to connect to Wraysbury Park Drive. The scheme also includes a footway on the Long Copse Lane bend, to the rear of the existing trees, this will form a secondary pedestrian access into the site via a new 1.8m footway on Long Copse Lane to provide a continuous footway link to Hollybank Lane. These proposals are also shown on **Drawing ITB13525-SK-006**.

### 5.4 Parking Provision

Car Parking

5.4.1 A future Reserved Matters application would deal with the provision of car parking, which will be provided in accordance with HBC's Residential Parking Standards (July 2015) or any other relevant guidance at the time the application is submitted. **Table 5.1** summarises the HBC's residential parking standards.

**Table 5.1: Havant Borough Council's Car Parking Standards**

| Property Size | Car Parking Standard | |
|---|---|---|
| | Minimum car parking requirement | Additional note |
| 1 bed | 1 | With the exception of small residential developments an additional 20% of unallocated parking for visitors should be accommodated. |
| 2/3 bed | 2 | |
| 4+ bed | 3 | |

Source: Havant Borough Council's Residential Parking Standards SPD (July 2015)

Cycle Parking

5.4.2 Cycle parking will also be determined as part of a future Reserved Matters application. **Table 5.2** summarises the current cycle parking standards identified in HBC's Residential Parking Standards.

**Table 5.2: Havant Borough Council's Cycle Parking Standards**

| Property Size | Cycle Parking Standard | |
|---|---|---|
| | Individual Storage | Communal Storage |
| 1 bed | 1 | In larger developments (schemes of 10 or more dwellings), short-term visitor parking will be expected at 20% of the long-term cycle parking standard |
| 2/3 bed | 2 | |
| 4+ bed | 2 | |

Source: Havant Borough Council's Residential Parking Standards SPD (July 2015)

## 5.5 Street Hierarchy

5.5.1 The suggested street hierarchy within the site should be based on current best practice and design guidance as set out in Manual for Streets (MfS), for example:

- **Main Streets** – i.e. the approaches to the proposed site accesses:
  - Design speed 20mph;
  - Width – 5.5m – 4.8m (assumes bus access not required);
  - Pedestrian provision – 1.8m - 2.0m footways on at least one side of the carriageway; and
  - Refuse vehicle access.
- **Secondary Streets** – i.e. from the first main internal junction within the site:
  - Design Speed 20mph;
  - Width – 4.8m or less;
  - Pedestrian provision – generally 1.8m - 2.0m footways on at least one side of the carriageway; and
  - Refuse vehicle access.
- **Shared Surface Streets** – i.e. cul-de-sacs serving up to circa 25 dwellings:
  - Design speed 5mph to 10mph, lowest possible vehicle speed, where pedestrians and vehicles can co-exist;





  - Width – 4.8m or less;
  - Pedestrian provision – on-carriageway or separate footway if there is a route linking through the street to the wider footway/footpath network;
  - Margins – typically 0.5m on one side and a 2m service margin on the other; however, widths may be determined on utility companies' requirements and highway adoption requirements; and
  - Refuse vehicle access – if necessary.
- **Mews / Courtyard Squares** – i.e. short cul-de-sacs serving up to six dwellings:
  - Design speed 10mph;
  - Width 4.1m to 4.8m;
  - Shared surfaces – or separate footway if there is a linking route through the street to the wider footway/footpath network;
  - No refuse vehicle access; and
  - Unlikely to be 'adopted'.

## 5.6 Refuse and Emergency Vehicle Access

5.6.1 The TA will include swept path analysis for refuse and emergency vehicles to demonstrate that these vehicles can safely enter and exit the site and manoeuvre within the site with minimal turning movements.

## 5.7 Summary

5.7.1 Agreement is sought that these arrangements are acceptable in principle for the proposed development.

## SECTION 6 PROMOTING SUSTAINABLE TRANSPORT

### 6.1 Introduction

6.1.1 This section of the TA will consider the accessibility of the site by various modes of sustainable travel including walking, cycling and the use of public transport to access local services and facilities, including education, health, leisure and retail. The TA will also identify if any improvements are required.

### 6.2 Links to Local Facilities

6.2.1 The TA will review the key local facilities and their location in relation to the site as well as the best routes available to access the facilities by walking, cycling and public transport. **Figure T2** identifies some of the existing facilities within the vicinity of the site. **Table 6.1** provides a summary of the local services and facilities located within walking and cycling distance of the site.

**Table 6.1: Local Services and Facilities**

| Purpose | Destination | Approx Distance from Site | Walk Journey Time | Cycle Journey Time |
|---|---|---|---|---|
| Education | Children's Learning Centre | 1000 | ✓✓ | ✓✓✓ |
| | Westbourne Primary School | 1200 | ✓✓ | ✓✓✓ |
| | Daisy Chain Nursery | 1200 | ✓✓ | ✓✓✓ |
| | Saint James CEC Primary School | 1600 | ✓✓ | ✓✓✓ |
| | Emsworth Primary School | 2800 | ✓✓ | ✓✓ |
| Retail | Co-op Food | 850 | ✓✓ | ✓✓✓ |
| | The Cooperative Westbourne | 1400 | ✓✓ | ✓✓✓ |
| Train Station | Emsworth Train Station | 1900 | ✓✓ | ✓✓✓ |
| Leisure | Westbourne Parish Hall | 1200 | ✓✓ | ✓✓✓ |
| | The Westbourne Club | 1200 | ✓✓ | ✓✓✓ |
| | The Cricketers | 1300 | ✓✓ | ✓✓✓ |
| | Spice Cottage | 1400 | ✓✓ | ✓✓✓ |
| | The White Horse | 1400 | ✓✓ | ✓✓✓ |
| Health | Westbourne Osteopathic Clinic | 1100 | ✓✓ | ✓✓✓ |
| | George and Dragon Surgery | 1400 | ✓✓ | ✓✓✓ |

✓✓✓= Comfortable walking distance (800m)/ short cycle distance (2km)
✓✓= Preferred walking distance (2km)/ preferred cycle distance (5km)
✓ = Acceptable walking distance (3.2km)/ commuter cycle distance (8km)

6.2.2 The TA will review the opportunities to walk and cycle to these local facilities and services.





### 6.3 Framework Travel Plan

6.3.1 A Framework Travel Plan (FTP) will be prepared to support the planning application and will be summarised in the TA. As set out above, it will be demonstrated that the site is located in an accessible location, with genuine opportunities to make journeys on foot, by bicycle and by public transport.

6.3.2 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 an initial framework for implementation, management and review of the full Travel Plan.

6.3.3 To achieve the overarching aim of encouraging and facilitating journeys by future residents by non-car modes of transport it is proposed to issue all new residents with a 'Welcome Pack', which will include details of journey planning websites, walking and cycle maps, local shops and bus timetable information. Consideration will also be given to providing free or discounted use of public transport to future residents for a limited time.

### 6.4 Summary

6.4.1 There are a number of services and facilities located within walking and cycling of the proposed development. A detailed review of the walking and cycling routes to these destinations will be undertaken as part of the TA.

6.4.2 A Framework Travel Plan will be prepared to encourage the uptake of sustainable travel by residents of the proposed development.

6.4.3 Agreement is sought that in principle the site is well located for promoting sustainable transport.

## SECTION 7 TRAFFIC IMPACT

### 7.1 Introduction

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

### 7.2 Trip Generation

7.2.1 It is proposed to calculate trip rates for the proposed development using the approach previously agreed with HCC for the site. This approach uses multi-modal privately-owned trip rates for derived from the TRICS trip generation database which are then adjusted using the car driver modal split obtained for the Middle Super Output Area (MSOA) that the site lies within, in this instance Havant 013. This has been calculated as 73% of journeys to work and therefore this has been used to scale the multi-modal trip rate. (**Appendix A**)

7.2.2 The proposed methodology is very robust as it makes no allowance for the 40% affordable housing that will be required by Havant Borough Council (HBC). Affordable housing is proven to generate less vehicle traffic then private housing (ref: TRICS). The resultant residential morning and evening peak hour trip rates are set out in **Table 7.1** with an estimate of the likely traffic generation of the proposed development of up to 260 dwellings.

**Table 7.1: Houses Privately Owned Vehicular Trip Rates and Traffic Generation**

| | Morning Peak (08:00 – 09:00) | | | Evening Peak (17:00 -18:00) | | |
|---|---|---|---|---|---|---|
| | In | Out | Two-Way | In | Out | Two-Way |
| Multi-Modal Trip Rate (per Dwelling) | 0.174 | 0.643 | 0.817 | 0.491 | 0.274 | 0.765 |
| Vehicular Trip Rate (per Dwelling) | 0.127 | 0.469 | 0.596 | 0.358 | 0.200 | 0.558 |
| Traffic Generation (260 Dwellings) | 33 | 122 | 155 | 93 | 52 | 145 |

Source: TRICS





### 7.3 Convenience Store

7.3.1 As part of the draft allocation for the site a desire for convenience store is identified by HBC. Viability work undertaken as part of the site promotion has failed to identify a commercial need for providing a convenience store on the site and it will not form part of the planning application or traffic assessment work.

### 7.4 Traffic data

7.4.1 Two-way flows on Long Copse Lane in the morning and evening peak hours have been summarised in **Table 7.2**.

**Table 7.2: Long Copse Lane (5 day) Traffic Flows (West of Wraysbury Park Drive)**

| Location | Time Period | West Bound Existing (Three axles plus) | East Bound Existing (Three axles plus) | Total Two-way flows |
|---|---|---|---|---|
| Long Copse Lane/ Hollybank Lane | Morning Peak (0800-0900) | 18 (0) | 18 (0) | 36 (0) |
| | Evening Peak (1630-1730) | 23 (0) | 22 (0) | 45 (0) |

Source: February 2018 ATC Surveys and consultant calculation

**Table 7.3: Long Copse Lane (5 day) Traffic Flows (East of Redlands Lane)**

| Location | Time Period | West Bound Existing (Three axles plus) | East Bound Existing (Three axles plus) | Total Two-way flows |
|---|---|---|---|---|
| Long Copse Lane | Morning Peak (0800-0900) | 5 (<1*) | 13(0) | 18 (0) |
| | Evening Peak (1630-1730) | 19 (0) | 14 (<1*) | 33 (0) |

Source: February 2018 ATC Surveys and consultant calculation. * A single three-axle vehicle was captured in the period on one survey day

7.4.2 **Table 7.2** demonstrates that the two-way flows on Long Copse Lane equate to less than one car every minute in the morning and evening peak hours.

## 7.5 Distribution

Journey Purpose

7.5.1 The likely journey purpose for the generated car driver residential peak hour trips has been determined using data derived from the National Travel Survey (NTS) 2016 (DfT) and the proportion of peak hour trips by journey purpose by car is presented in **Table 7.3.**

**Table 7.3: 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: Table 8.2 Trip start time by time of day and trip purpose: National Travel Survey DfT, 2016

7.5.2 For the purpose of this assessment, the analysis has been 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 all other purposes for both the morning and evening peak hour periods (this is a worst case as employment journeys on average are longer and therefore will have a greater impact on the wider highway network).

Distribution method

7.5.3 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 / business trips and other trip purposes.

7.5.4 In summary, the traffic generation has been assigned to the local and strategic highway network using a distribution derived as follows:

- For the proportion of peak hour trips that are work journeys, the 2011 Census Journey to Work data for the Havant middle layer super output area (MSOA) ref: 013 has been used as it is directly comparable to the development in terms of location. This area encompasses all of Emsworth and has been used derive the likely workplace destinations for future residents of the site and so identify existing commuting patterns; and

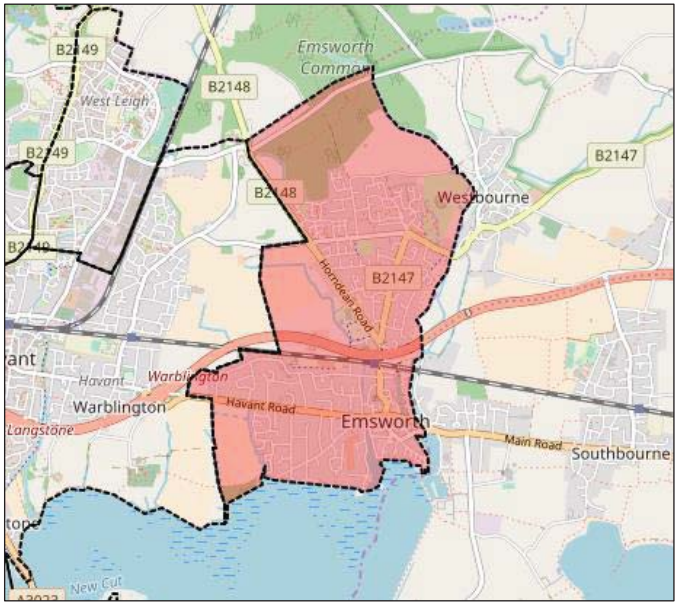




- For other journey purpose trips a $P/T^2$ gravity model has been undertaken using the population of key urban areas (from the 2011 census) within a 30-minute drive from the site (estimated from Google Maps Directions facility).

7.5.5 The two sets of data are then combined to generate a single set of distribution parameters to inform the development trip assignment and is presented in **Table 7.4**. The full analysis is provided at **Appendix B.** An extract showing the extent of Havant 013 is provided at **Image 7.1** below.

**Image 7.1: Havant 013 Mid-Layer Super Output Area**




Source: Nomis Web

**Table 7.4: Summary of Development Trip Distribution (Travel by Car)**

| Destination | Percentage of Work Trips | Percentage of Non-Work Trips | Percentage of All Trips |
|---|---|---|---|
| Arundel/Westergate | 0.2% | - | 0.2% |
| Basingstoke | 0.2% | - | 0.2% |
| Bedhampton (Havant) | 0.7% | - | 0.7% |
| Chichester | 10.3% | 2.0% | 12.3% |
| East Hampshire | 2.4% | - | 2.4% |
| Eastleigh | 1.0% | - | 1.0% |
| Emsworth | 2.7% | 2.4% | 5.1% |
| Fareham | 2.0% | 2.8% | 4.8% |
| Gosport | 0.6% | - | 0.6% |
| Havant | 0.4% | 14.1% | 14.5% |
| Hayling Island | 0.4% | - | 0.4% |
| Leigh Park (Havant) | 0.2% | 2.4% | 2.6% |
| London | 0.4% | - | 0.4% |
| Portsmouth | 9.1% | 25.0% | 34.1% |
| Purbrook/ Widley | 1.1% | - | 1.1% |
| Bognor Regis | 0.6% | - | 0.6% |
| Southampton | 0.9% | - | 0.9% |
| Warblington (Havant) | 4.2% | - | 4.2% |
| Waterlooville | 0.9% | 6.3% | 7.2% |
| West Leigh (Havant) | 1.9% | - | 1.9% |
| Winchester | 1.7% | - | 1.7% |
| Other | 3.6% | - | 3.6% |
| **Total** | 45% | 55% | 100% |

Source: Consultant's Gravity Model and Census 2011 Data

Assignment

7.5.6 The expected traffic that would be generated by the development has been distributed onto the local network to the destinations identified in **Table 7.4** has been distributed onto the local highway network.

7.5.7 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. Within the Directions facility, a start time for journeys of 08:00 was utilised to reflect peak period traffic conditions. In some cases, there was a single route option 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. **Appendix B** presents the full assignment and distribution model and describes the route choice assumptions.





7.5.8 Figures TF17-18 and TF25-26 present the traffic distribution diagrams for development generated traffic for the western and eastern parcels respectively. Figures TF33 and TF34 present the forecast development traffic assignment in the morning and evening peak hours for both the western and eastern parcels.

## 7.6 Wraybury Park Drive Sensitivity Test

7.6.1 The development traffic assignment set out in Figures TF33 and TF34 suggests that the development is likely to have very limited impact on Wraybury Park Drive, with approximately one additional vehicle using it every ten minutes in the busiest hour of the day. However, following correspondence with HCC, it is understood that it is a future aspiration of the local highway authority to prevent vehicle access to Long Copse Lane from Wraysbury Park Drive. Whilst the planning application will not propose to implement this, it does not prejudice this being implemented later by the local highway authority.

7.6.2 The TA will include a sensitivity test to inform HCC of the likely re-assignment of traffic on the local highway network were access to Wraybury Park Drive to be closed to vehicle traffic. This will focus on the following junctions:

- Wraysbury Park Drive;
- Long Copse Lane / Site Access Junctions;
- Redlands Lane / B2147 Westbourne Road / B2147 New Brighton Road / Southleigh Road Roundabout; and
- Hollybank Lane / Southleigh Road junction.

7.6.3 Following a re-assignment exercise an appropriate assessment will be undertaken to determine the impact of closing Wraysbury Park Drive at its junction with Long Copse Lane on the operation of the local highway network.

## 7.7 Assessment Years and Scenarios

7.7.1 The opening year is assumed to be 2023 based upon the development timeline set out at **Image 7.2**.

**Image 7.2: Development Timeline**




7.7.2 On this basis it is proposed that the following scenarios will be assessed:

- 2018 Observed;
- 2023 'without development' i.e. allowing for traffic growth and committed developments; and
- 2023 'with full development' i.e. allowing for traffic growth, committed developments and the development proposal.

## 7.8 Traffic Growth

Committed Development

7.8.1 The traffic impact of the proposed development will be considered alongside the following committed developments:

- Bartons Road, Havant – 55 Dwellings (planning application ref: 14/00863); and
- South of Bartons Road, Havant – 175 Dwellings (planning application ref: 15/01435)

7.8.2 HCC are requested to advise on any other committed developments that need to be considered within the Transport Assessment.

## 7.9 Traffic Growth

7.9.1 Factors to allow for background traffic growth from 2018 (the year the traffic surveys were undertaken) to 2023 have been derived from the National Transport Model (NTM) for the Havant 013 MSOA within the TEMPRO v.7.2 dataset.

7.9.2 Using this methodology, **Table 7.5** below summarises the growth factors which will be applied to the 2018 observed traffic flows to derive the 2023 peak hour traffic flows.





**Table 7.5: Traffic Growth Factors**

| Growth Period | Time Period | Growth Rate |
|---|---|---|
| 2018 - 2023 | AM Peak | 1.0773 |
| | PM Peak | 1.0736 |

Source: TEMPRO (version 7.2)
Note: Havant 013 MSOA

## 7.10 Traffic Assessment Study Area

7.10.1 Based on the forecast assignment of development generated traffic, it is proposed to assess the weekday morning and evening peak hour impacts at the following junctions in the TA to understand the impact of the development:

- Western Site Access / Long Copse Lane;
- Eastern Site Access / Long Copse Lane;
- Wraysbury Park / Long Copse Lane;
- Redlands Lane / Westbourne Road / New Brighton Road / Southleigh Road Roundabout;
- Hollybank Lane / Southleigh Road junction;
- Southleigh Road / Horndean Road staggered crossroads; and
- Emsworth Common Road / Bartons Road / Horndean Road staggered crossroads;

7.10.2 Agreement is sought from HCC that this study area is acceptable.

7.10.3 It is also intended to seek pre-application engagement with West Sussex County Council (WSCC) and Highways England (HE) in respect of their local interests.

## 7.11 Summary

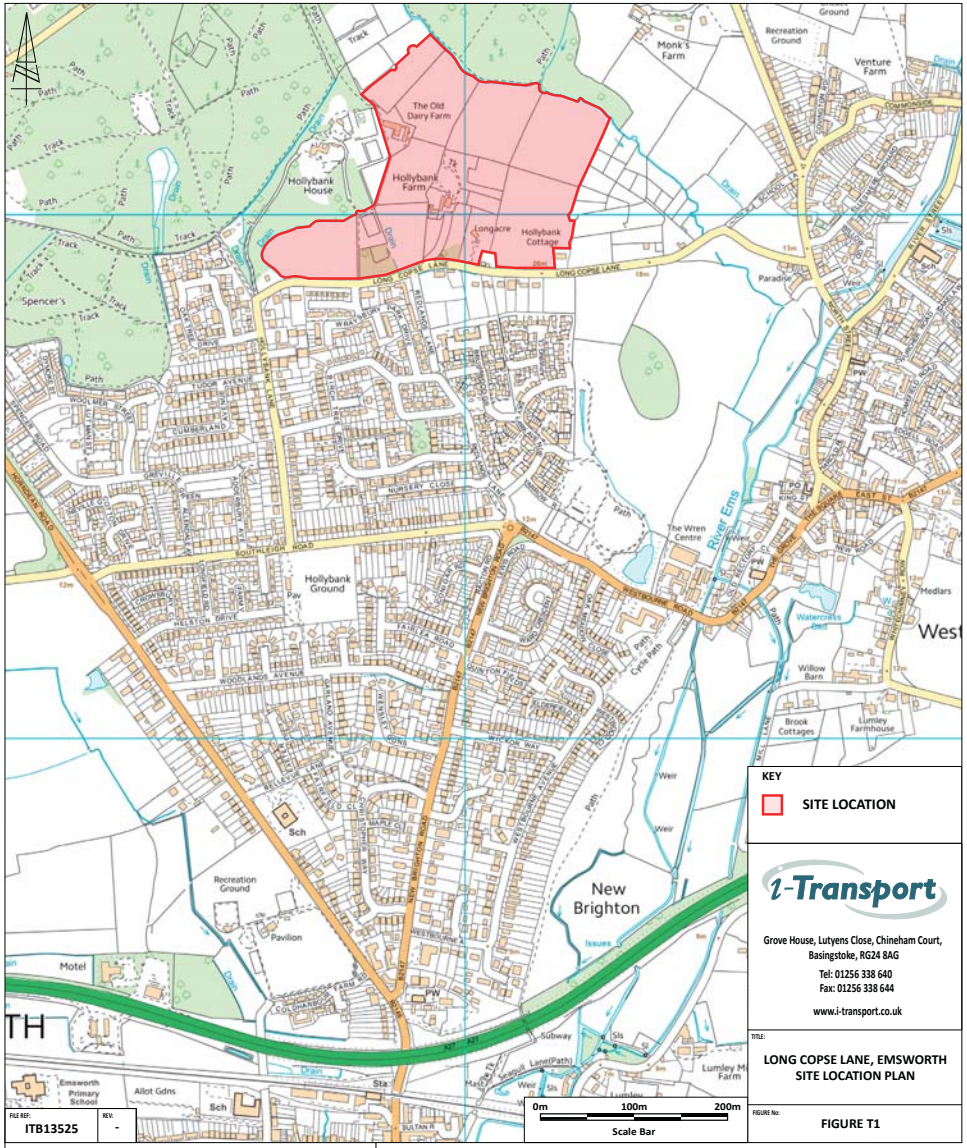
7.11.1 Agreement is sought that the methodology, parameters and scope of the traffic assessment is acceptable.

## SECTION 8 SUMMARY

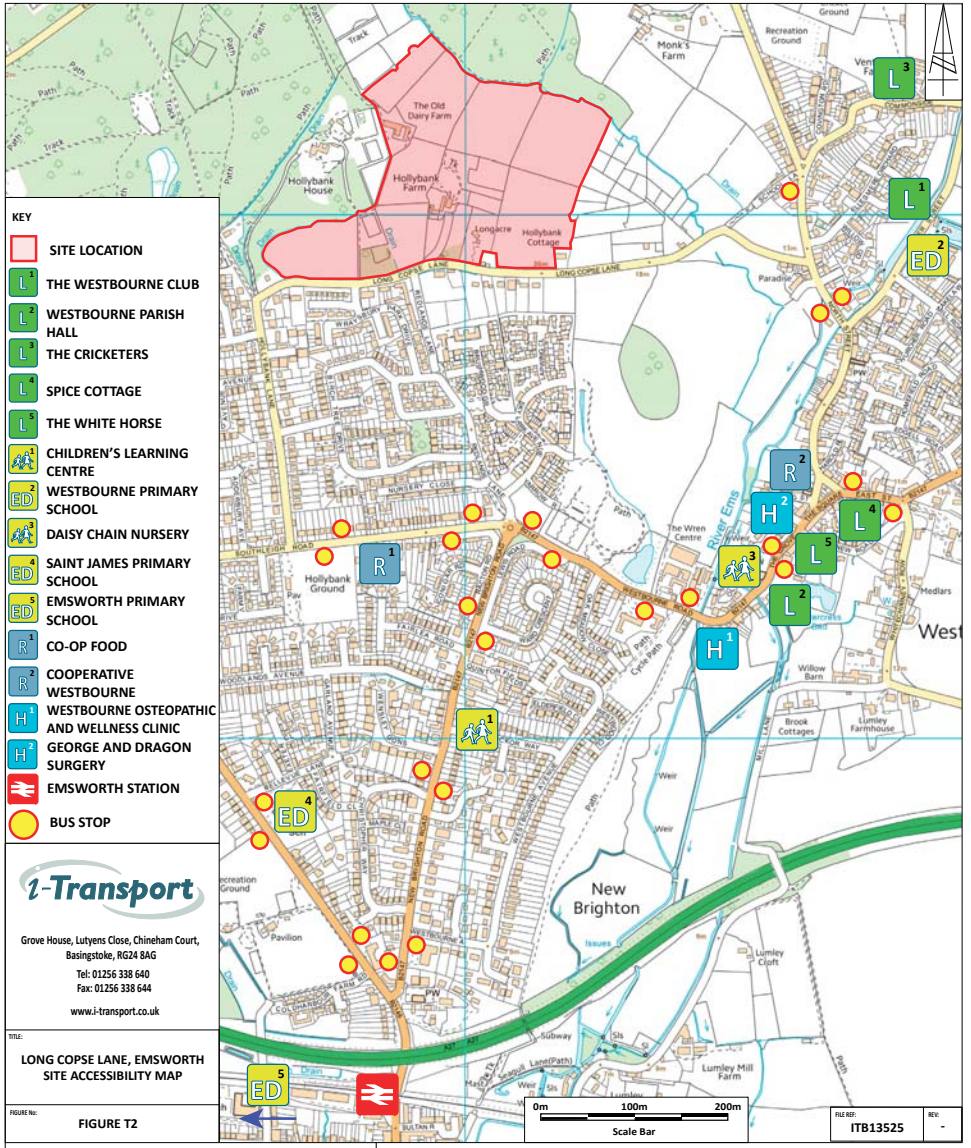
8.1 This Transport Assessment Scoping Note sets out the proposed methodology and parameters for a Transport Assessment to assess the transport and highways implications of a development of up to 260 dwellings north of Long Copse Lane, Emsworth.

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

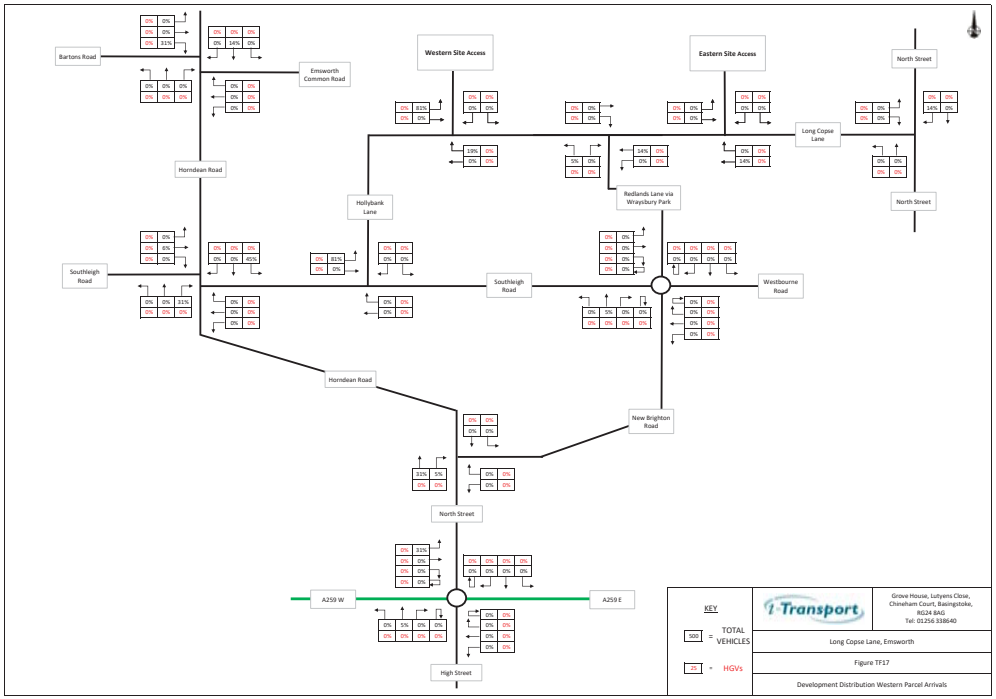
## FIGURES

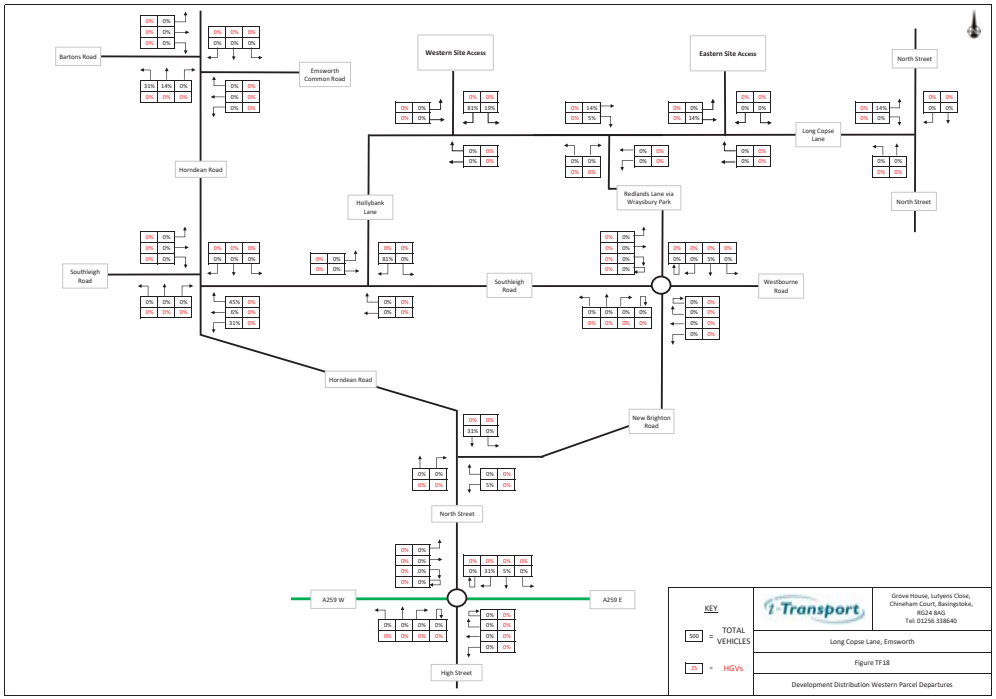


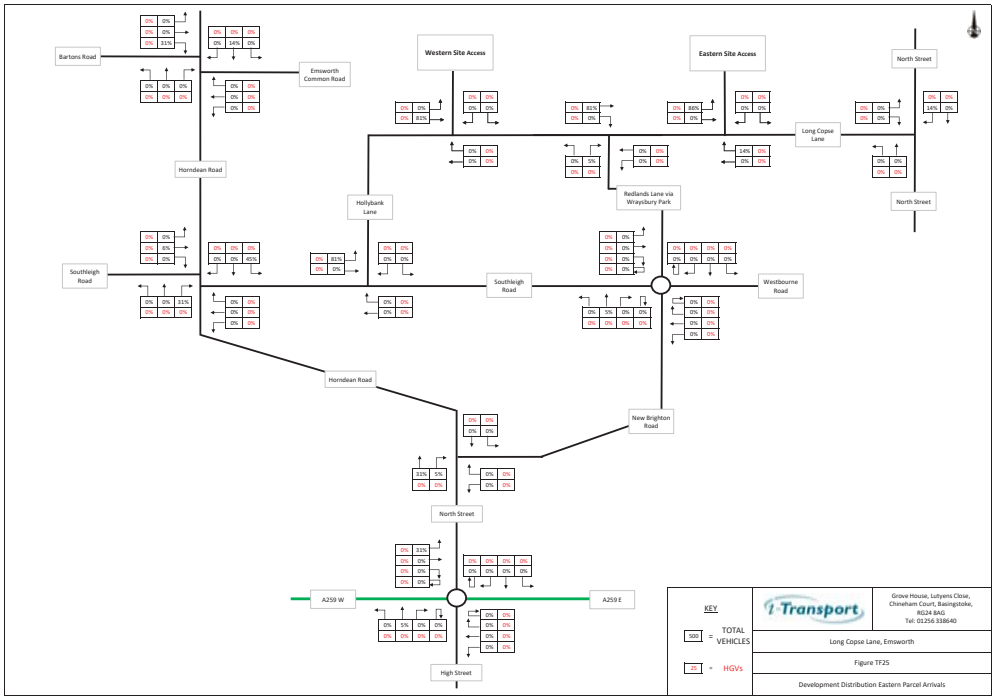

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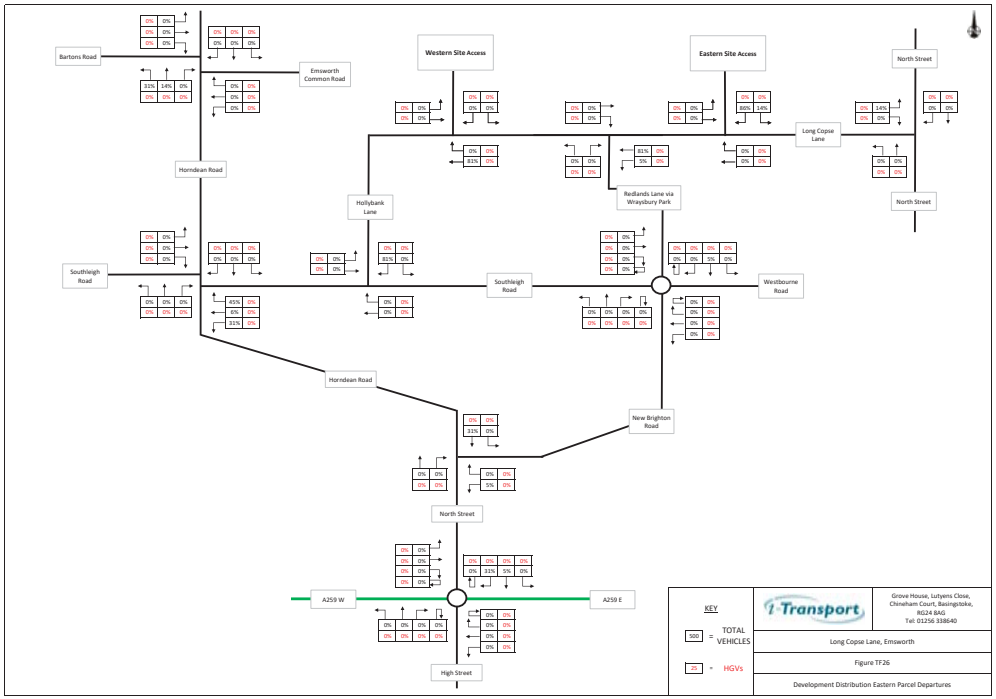


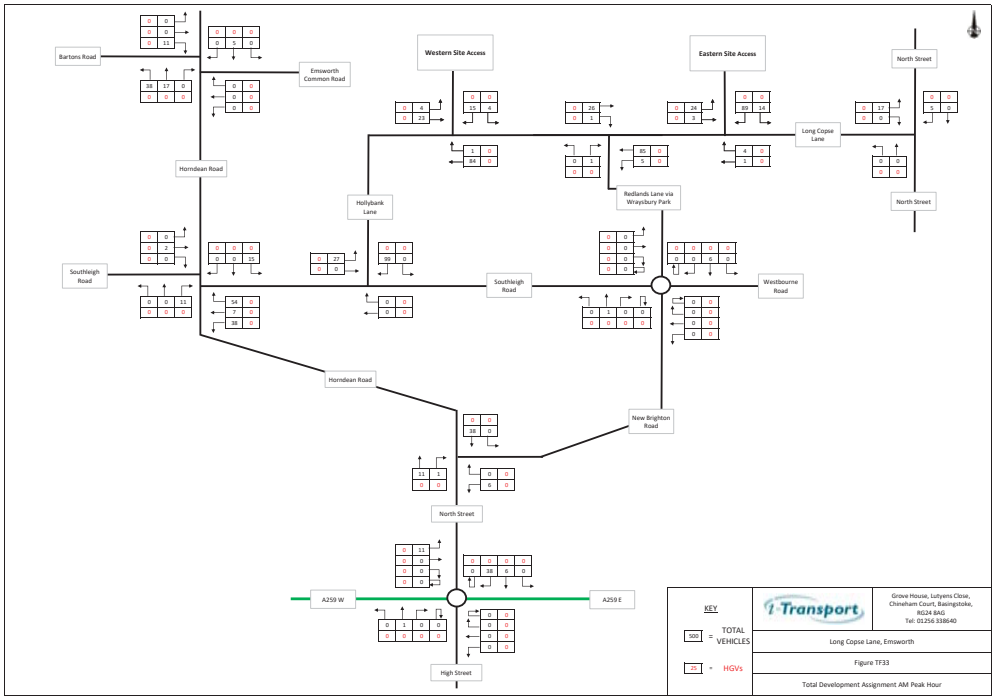

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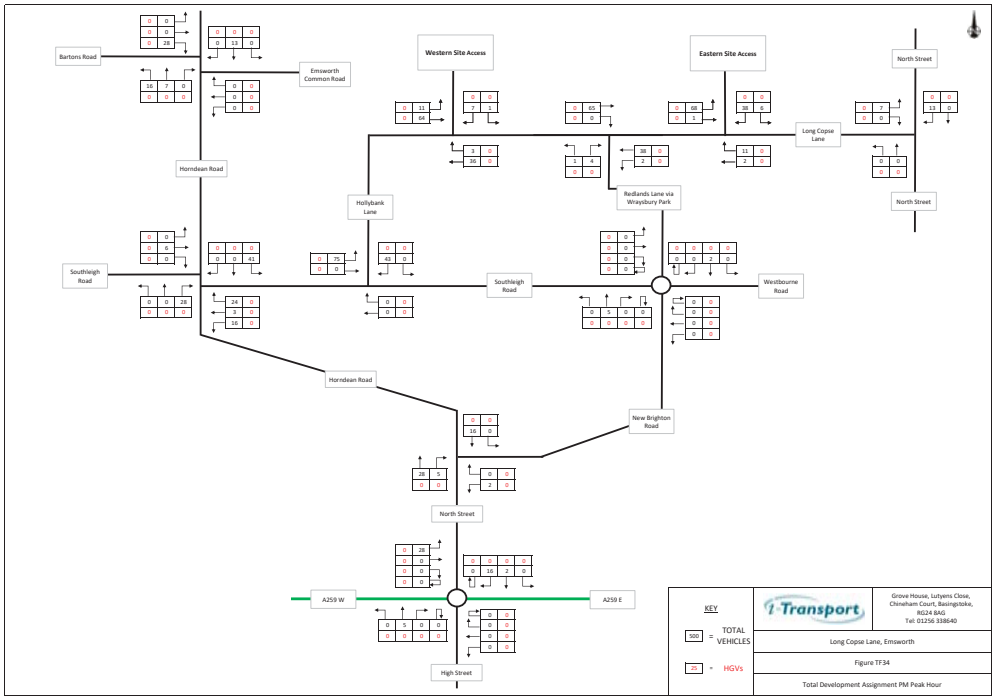

Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
i-Transport
Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG
Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF17
Development Distribution Western Parcel Arrivals


Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
i-Transport
Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG
Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF18
Development Distribution Western Parcel Departures


Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
i-Transport
Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG
Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF25
Development Distribution Eastern Parcel Arrivals

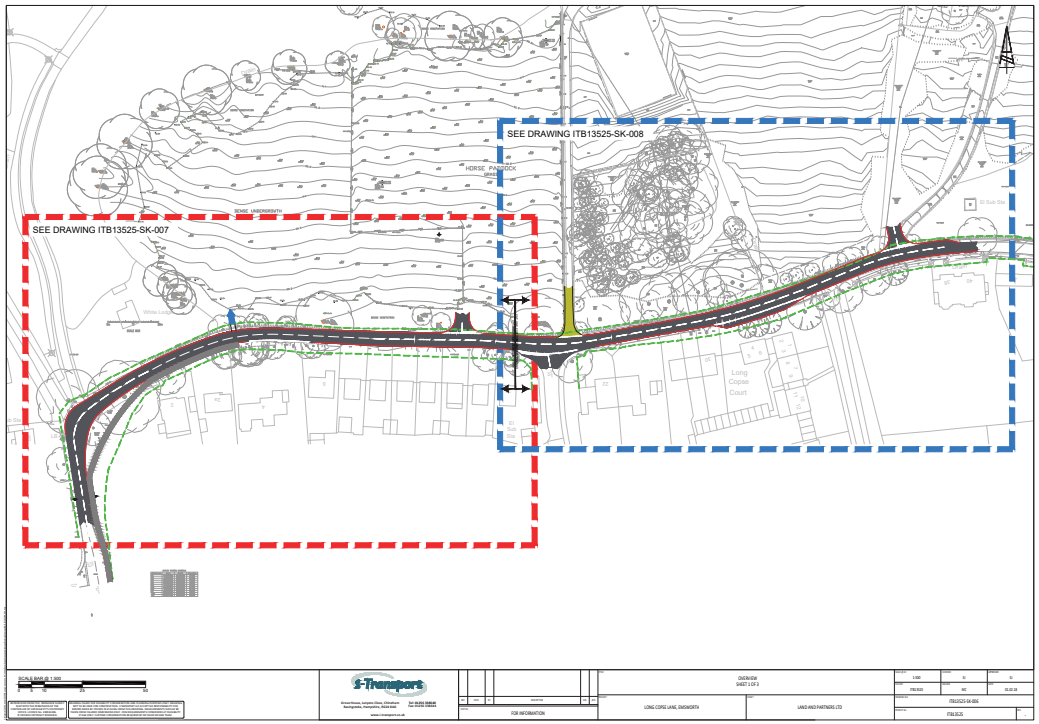

Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
i-Transport
Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG
Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF26
Development Distribution Eastern Parcel Departures


Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
i-Transport
Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG
Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF33
Total Development Assignment AM Peak Hour


Bartons Road
Emsworth Common Road
Western Site Access
Eastern Site Access
North Street
Long Copse Lane
Horndean Road
Hollybank Lane
Redlands Lane via Wraysbury Park
North Street
Southleigh Road
Southleigh Road
Westbourne Road
Horndean Road
New Brighton Road
North Street
A259 W
A259 E
High Street
KEY
500 = TOTAL VEHICLES
25 = HGVs
i-Transport
Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG
Tel: 01256 338640
Long Copse Lane, Emsworth
Figure TF34
Total Development Assignment PM Peak Hour

**DRAWINGS**


Ancient Woodland
Woodland
Woodland
Ancient Woodland
Woodland
Open Space
Park
Park
Open Space
Park
Park
Park




**APPENDIX A** **Private Residential Trip Rates Methodology**

| | % Car by Driv | Proportion by ca | All categories: Method of travel to work (2001 specification) | Work mainly at or from home | Underground, metro, light rail or tram | Train | Bus, minibus or coach | Taxi | Motorcycle, scooter or moped | Driving a car or van | Passenger in a car or van | Bicycle | On foot | Other method of travel to work |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arundel/Wenergate | 82% | 0.9% | 13 | 0 | 0 | 1 | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 |
| Basingstoke | 93% | 0.8% | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 | 1 | 0 |
| Bethampton Reward | 78% | 1.4% | 45 | 0 | 0 | 0 | 2 | 0 | 1 | 34 | 3 | 4 | 1 | 0 |
| Chichester | 78% | 22.1% | 669 | 0 | 0 | 61 | 11 | 1 | 4 | 536 | 35 | 20 | 21 | 0 |
| East Hampshire | 85% | 5.3% | 146 | 0 | 0 | 4 | 4 | 1 | 2 | 124 | 3 | 4 | 4 | 0 |
| Eastleigh | 86% | 2.2% | 53 | 0 | 0 | 1 | 0 | 1 | 0 | 51 | 0 | 3 | 1 | 0 |
| Emsworth | 78% | 6.0% | 175 | 0 | 0 | 2 | 4 | 1 | 0 | 141 | 26 | 50 | 51 | 0 |
| Fareham | 89% | 4.4% | 116 | 0 | 0 | 4 | 0 | 0 | 3 | 103 | 2 | 2 | 1 | 1 |
| Gosport | 97% | 1.3% | 32 | 0 | 0 | 1 | 0 | 0 | 0 | 31 | 0 | 0 | 0 | 0 |
| Hayling Island | 94% | 1.0% | 36 | 0 | 0 | 1 | 5 | 0 | 0 | 23 | 1 | 1 | 4 | 0 |
| Leigh Park Reward | 73% | 0.3% | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 2 | 0 |
| London | 22% | 0.9% | 31 | 0 | 6 | 60 | 1 | 0 | 0 | 20 | 1 | 0 | 3 | 0 |
| Other East | 62% | 1.2% | 47 | 0 | 0 | 16 | 0 | 0 | 0 | 29 | 1 | 0 | 2 | 0 |
| Other North | 87% | 2.0% | 54 | 0 | 0 | 3 | 0 | 1 | 0 | 47 | 1 | 0 | 2 | 0 |
| Other North East | 82% | 2.7% | 78 | 0 | 0 | 11 | 1 | 0 | 0 | 64 | 2 | 0 | 0 | 0 |
| Other West | 87% | 2.0% | 54 | 0 | 0 | 1 | 0 | 0 | 1 | 47 | 1 | 0 | 1 | 3 |
| Portsmouth | 73% | 20.3% | 603 | 0 | 0 | 57 | 11 | 3 | 7 | 476 | 20 | 26 | 5 | 4 |
| Purbrook/Widley | 75% | 2.4% | 75 | 0 | 0 | 1 | 2 | 1 | 1 | 56 | 8 | 2 | 4 | 0 |
| Rose Green/Bognor Regis/Perth Bersted/Fapton | 91% | 1.3% | 33 | 0 | 0 | 0 | 2 | 0 | 1 | 30 | 0 | 0 | 0 | 0 |
| Southampton | 75% | 2.0% | 64 | 0 | 1 | 8 | 4 | 0 | 0 | 48 | 3 | 0 | 0 | 0 |
| Waltington Reward | 83% | 3.4% | 119 | 0 | 0 | 9 | 12 | 1 | 2 | 220 | 31 | 30 | 12 | 2 |
| Wanborough | 80% | 2.0% | 59 | 0 | 0 | 1 | 1 | 0 | 1 | 47 | 3 | 1 | 5 | 0 |
| West Leigh Reward | 89% | 4.2% | 122 | 0 | 0 | 2 | 2 | 0 | 1 | 93 | 4 | 9 | 5 | 0 |
| Winchester | 91% | 1.2% | 35 | 0 | 0 | 2 | 0 | 0 | 1 | 86 | 1 | 2 | 1 | 0 |
| | | 100% | 3230 | 0 | 7 | 245 | 63 | 10 | 27 | 2345 | 145 | 148 | 226 | 10 |
| Havant | | | 497 | 0 | 0 | 11 | 16 | 1 | 4 | 361 | 39 | 43 | 20 | 2 |
| | | | | 0% | 0% | 2% | 3% | 0% | 1% | 73% | 8% | 9% | 4% | 0% |

**APPENDIX B** **Distribution and Gravity Model**

| Destination | % of Destination by Car | % of Dest by Car >60 mins | Proportion by Car >60 mins | By Route Proportion by >60 | Route 1 (Site Access) | Route 2 | Route 3 | Route 4 | Route 5 | Route 6 |
|---|---|---|---|---|---|---|---|---|---|---|
| Arundel/Worthington | 0.00% | 0 | 100% | 0.00% | Long Copse Lane E | North St N | Lost in Network | Hamdean Road N | Lost in Network | Lost in Network |
| Rectangular | 0.00% | 0 | 100% | 0.00% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network |
| Staffhampton (Hazard) | 1.4% | 53 | 100% | 1.40% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network |
| Chichester | 22.6% | 539 | 100% | 22.59% | Long Copse Lane E | North St N | Lost in Network | Lost in Network | Lost in Network | Lost in Network |
| East Hampshire | 5.3% | 110 | 100% | 5.30% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network |
| Fryshergh | 1.9% | 53 | 90% | 1.70% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | North Street S | A259 W |
| | | | 10% | 0.187% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network |
| Emsworth | 6.0% | 141 | 90% | 5.40% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | North Street S | A259 W |
| | | | 10% | 0.6% | Long Copse Lane W | Hollybank Lane S | New Brighton Road N | Horndean Road N | North Street S | High Street |
| Fareham | 4.4% | 103 | 90% | 3.96% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | North Street S | A259 W |
| | | | 10% | 1.8% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network |
| Gosport | 1.9% | 53 | 90% | 0.7% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | North Street S | A259 W |
| | | | 10% | 0.7% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network |
| Hayling Island | 1.5% | 19 | 90% | 0.5% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | North Street S | A259 W |
| | | | 10% | 0.5% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network |
| Leigh Park (Havant) | 0.0% | 0 | 100% | 0.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network |
| Lovedon | 0.0% | 0 | 100% | 0.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network |
| Other East | 1.0% | 19 | 100% | 1.0% | Long Copse Lane E | North St N | Lost in Network | Lost in Network | Lost in Network | Lost in Network |
| Other North | 2.0% | 37 | 100% | 2.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network |
| Other North East | 2.7% | 53 | 100% | 2.7% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network |
| Other West | 2.1% | 40 | 100% | 2.1% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | North Street S | A259 W |
| Portsmouth | 20.3% | 474 | 90% | 18.3% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | North Street S | A259 W |
| | | | 10% | 2.1% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network |
| Portsmouth Widley | 2.0% | 36 | 100% | 2.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network |
| River Stems/Rogate/ Rogate/North Berstead/Yapton | 1.0% | 19 | 100% | 0.95% | Long Copse Lane E | North St N | Lost in Network | Lost in Network | Lost in Network | Lost in Network |
| Southampton | 3.0% | 68 | 100% | 2.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | North Street S | A259 W |
| Waterlooville | 2.0% | 37 | 100% | 2.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network |
| Westbourne/Hill | 2.0% | 37 | 100% | 2.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network |
| West Leigh (Havant) | 4.2% | 59 | 100% | 4.3% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network |
| Winchester | 0.7% | 55 | 100% | 0.7% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network |
| **Total** | **100.0%** | **2535** | | **100.0%** | | | | | | |

| Route 1 (Site Access) | Proportion of Cars | 25% |
|---|---|---|
| Long Copse Lane E | 76% | 19.0% |
| Long Copse Lane W | 24% | 6.0% |
| Total | 100% | 25% |

| Route 2 | Proportion of Cars | 25% |
|---|---|---|
| Hollybank Lane S | 69% | 30.6% |
| North St N | 26% | 11.4% |
| Wrongdoers Park Drive S | 5% | 2.0% |
| Total | 100% | 44% |

| Route 3 | Proportion of Cars | 25% |
|---|---|---|
| Lost in Network | 25.0% | 11.4% |
| Redlands Lane E | 6.3% | 2.7% |
| Southleigh Rd W | 68.8% | 30.9% |
| Total | 100% | 45% |

| Route 4 | Proportion of Cars | 25% |
|---|---|---|
| Horndean Road N | 59.4% | 22.7% |
| Horndean Road S | 23.2% | 10.5% |
| Lost in Network | 4.3% | 2.0% |
| New Brighton Road E | 4.3% | 2.7% |
| Southleigh Rd W | 9.1% | 4.0% |
| Total | 100% | 45% |

| Route 5 | Proportion of Cars | 25% |
|---|---|---|
| Barlows Road W | 11.6% | 6.0% |
| Cowley Hill N | 13.0% | 6.0% |
| Lost in Network | 50.3% | 23.8% |
| North Street S | 25.1% | 12.2% |
| Southleigh Rd W | 0.1% | 0.0% |
| Total | 100% | 45% |

| Route 6 | Proportion of Cars | 25% |
|---|---|---|
| A259 W | 29.5% | 13.5% |
| Emsworth Road E | 0.0% | 0.0% |
| High Street | 6.0% | 2.7% |
| Lost in Network | 74.5% | 33.8% |
| Total | 100% | 45% |

**i-Transport Project Title - Long Copse Lane Emsworth**

**Gravity Model** **30 Minute JT**

| Location | Route 1 | Route 2 | Route 3 | Route 4 | Route 5 | Route 6 | Route 7 | Time (mins) | 2011 Census Total Population | PPT | PPT^2 | % of total | Car driver route split | % of Car Driver | % By Route | % of Car Driver |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Havant | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network | | 30 | 49,135 | 0.019 | 355 | 24.8% | 74.9% | 39.7% | 100.0% | 39.7% |
| Chichester | Long Copse Lane E | North St N | Lost in Network | Lost in Network | Lost in Network | Lost in Network | | 22 | 53,537 | 1.363 | 19 | 1.4% | 17.6% | 9.4% | 100.0% | 9.4% |
| Emsworth | Long Copse Lane W | Hollybank Lane S | New Brighton Road N | Horndean Road N | North Street S | High Street | | 8 | 8,493 | 1.187 | 140 | 9.5% | 57.6% | 6.4% | 100.0% | 6.4% |
| Fareham | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W | 227 W | 24 | 42,210 | 1.759 | 73 | 4.3% | 88.8% | 5.1% | 90.0% | 5.1% |
| | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network | | | | | | | | | 10.0% | 2.0% |
| Hayling Island | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | North Street S | A259 W | 227 W | 34 | 17,579 | 1.241 | 89 | 5.1% | 93.9% | 6.4% | 90.0% | 2.2% |
| | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Southleigh Rd W | Southleigh Rd W | Emsworth Road E | 227 W | | | | | | | | 10.0% | 2.2% |
| Portsmouth | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W | 227 W | 18 | 158,137 | 13,230 | 735 | 42.5% | 78.9% | 45.4% | 70.0% | 53.8% |
| | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Barlows Road W | Lost in Network | | | | | | | | | 30.0% | 13.6% |
| Waterlooville | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Cowley Hill N | Lost in Network | | 16 | 69,924 | 2,903 | 181 | 10.5% | 79.7% | 15.4% | 100.0% | 15.4% |
| | | | | | | | | | 427,954 | 26,246 | 1,759 | 100.0% | | 100.0% | | 100.0% |

| Route 1 (Site Access) | Proportion of Cars | 55% |
|---|---|---|
| Long Copse Lane E | 4% | 2.0% |
| Long Copse Lane W | 96% | 53.0% |
| Total | 100% | 55% |

| Route 2 | Proportion of Cars | 55% |
|---|---|---|
| Hollybank Lane S | 69% | 38.0% |
| North St N | 4% | 2.0% |
| Wrongdoers Park Drive S | 4% | 2.0% |
| Total | 100% | 55% |

| Route 3 | Proportion of Cars | 55% |
|---|---|---|
| Lost in Network | 4% | 2.0% |
| Redlands Lane E | 4% | 2.0% |
| Southleigh Rd W | 92% | 51.0% |
| Total | 100% | 55% |

| Route 4 | Proportion of Cars | 55% |
|---|---|---|
| Horndean Road N | 55% | 29.9% |
| Horndean Road S | 37% | 20.0% |
| Lost in Network | 4% | 2.0% |
| New Brighton Road E | 0% | 0.0% |
| Southleigh Rd W | 4% | 2.0% |
| Total | 100% | 55% |

| Route 5 | Proportion of Cars | 55% |
|---|---|---|
| Barlows Road W | 41% | 22.7% |
| Cowley Hill N | 11% | 6.0% |
| Lost in Network | 4% | 2.0% |
| North Street S | 41% | 22.3% |
| Southleigh Rd W | 4% | 2.0% |
| Total | 100% | 55% |

| Route 6 | Proportion of Cars | 55% |
|---|---|---|
| A259 W | 41% | 22.4% |
| Emsworth Road E | 2% | 1.1% |
| High Street | 4% | 2.0% |
| Lost in Network | 53% | 29.5% |
| Total | 100% | 55% |

| Route 1 (Site Access) | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Long Copse Lane E | 11.6% | 2.0% | 13.6% |
| Long Copse Lane W | 33.4% | 53.0% | 86.4% |
| Total | 46.0% | 5.6% | 100.0% |

| Route 2 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Hollybank Lane S | 30.6% | 50.6% | 81.3% |
| North St N | 11.6% | 2.0% | 13.6% |
| Wraysbury Park Drive S | 2.7% | 2.4% | 5.1% |
| Total | 45.0% | 55.0% | 100.0% |

| Route 3 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Lost in Network | 11.6% | 2.0% | 13.6% |
| Redlands Lane S | 2.7% | 2.4% | 5.1% |
| Southleigh Rd W | 30.6% | 50.6% | 81.3% |
| Total | 45.0% | 55.0% | 100.0% |

| Route 4 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Horndean Road N | 15.7% | 29.0% | 44.7% |
| Horndean Road S | 10.5% | 20.4% | 30.9% |
| Lost in Network | 11.6% | 2.0% | 13.6% |
| New Brighton Road S | 2.7% | 2.4% | 5.1% |
| Southleigh Rd W | 4.4% | 1.2% | 5.7% |
| Total | 45.0% | 55.0% | 100.0% |

| Route 5 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Barnes Road W | 8.0% | 22.7% | 30.7% |
| Cemley Hill N | 7.7% | 6.3% | 14.0% |
| Lost in Network | 15.9% | 2.0% | 17.9% |
| North Street S | 13.2% | 22.8% | 36.0% |
| Southleigh Rd W | 0.2% | 1.2% | 1.4% |
| Total | 45.0% | 55.0% | 100.0% |

| Route 6 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| A259 W | 10.5% | 20.4% | 30.9% |
| Emsworth Road E | 0.2% | 1.2% | 1.4% |
| High Street | 2.7% | 2.4% | 5.1% |
| Lost in Network | 31.6% | 31.0% | 62.6% |
| Total | 45.0% | 55.0% | 100.0% |

**APPENDIX C** **TEMPRO Growth Rate Calculations**

**GROWTH FACTORS** Havant 013 - All Roads

| | AM | PM |
|---|---|---|
| 2018 - 2023 | 1.0773 | 1.0736 |
| 2018 - 2036 | 1.1808 | 1.1799 |

Source: TEMPRO 7.2


i-Transport

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

Grove House, Lutyens Close
Chineham Court, Basingstoke
Hampshire RG24 8AG
*T* 01256 338 640
*F* 01256 338 644

Centurion House
129 Deansgate
Manchester M3 3WR
*T* 0161 830 2172
*F* 0161 830 2173

4 Lombard Street
London
EC3V 9HD
*T* 020 7190 2820
*F* 020 7190 2821

**APPENDIX B ILLUSTRATIVE MASTERPLAN**

Ancient Woodland
Woodland
Ancient Woodland
Woodland
Woodland
Field Access
SuDS
Inaccessible Buffer
SuDS
Open Space
Bat Corridor
Open Space
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Inaccessible Buffer
SuDS
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SUDs
Open Space
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Play
Open Space
Bat Corridor
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SuDS
Bat Corridor
SuDS
SuDS
Open Space
SuDS
SUDs
Bat Corridor
Long Copse Lane

N

Drawn by : Checked by :

Date:

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Revisions

| Rev | Date | Drawn | Checked |
|---|---|---|---|

Project:
LAND NORTH OF LONG COPSE LANE
EMSWORTH

Drawing Title:
SKETCH MASTERPLAN

LAND & PARTNERS
Promoting strategic housing land & building communities by creating special places for people to live, work & play

carlton design partnership
Selwyn House, 32a Castle Way, Southampton, SO14 2AW
023 8011 8866 www.carltondesignpartnership.com

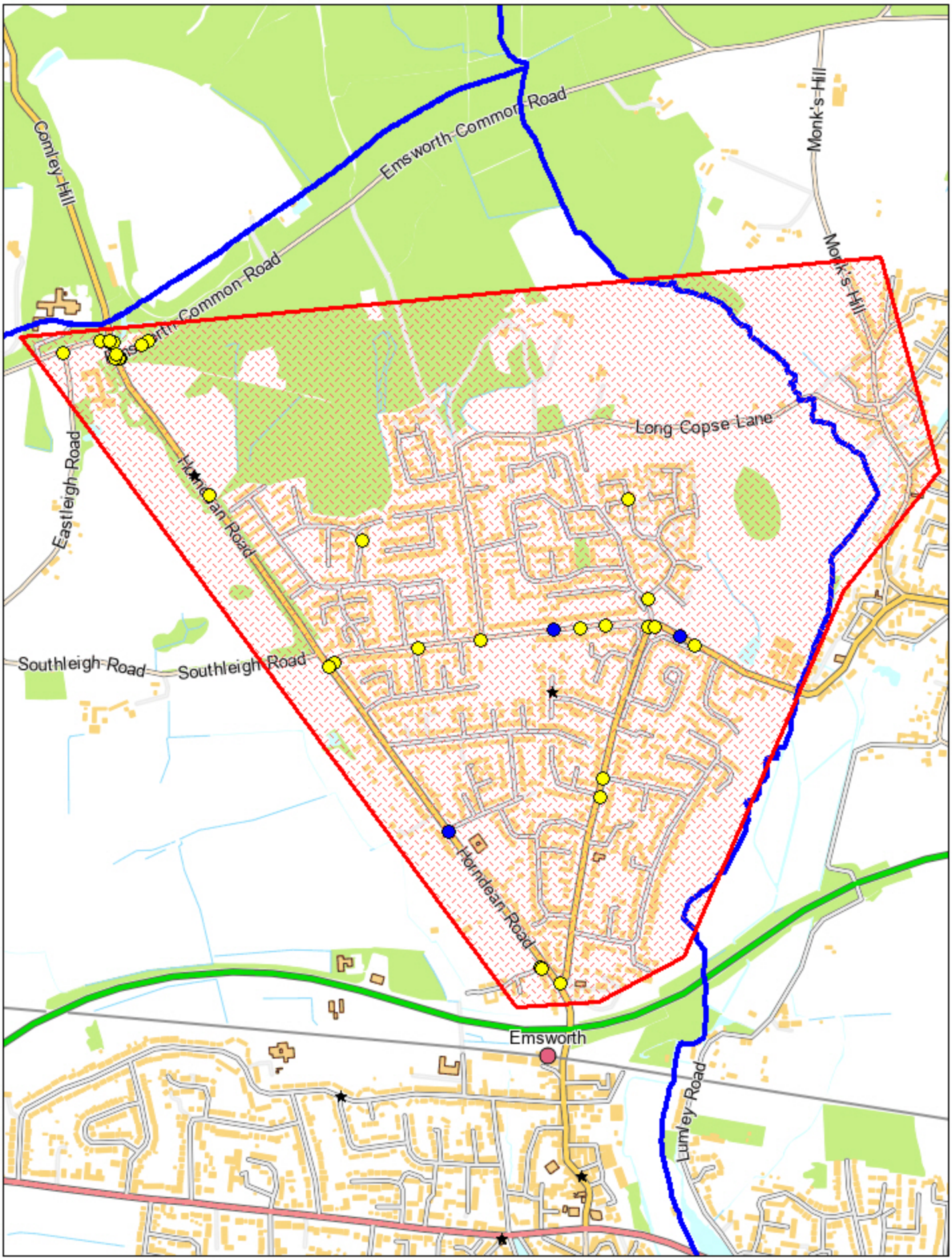
Scale: 1:1000 @ A1

Drg No: 170116/SL/SK1 Rev: H

1:1000 0 10 20 40 70 100.M.

X:\CURRENT PROJECTS\LAND AND PARTNERS\LONG COPSE LANE EMSWORTH\SITE LAYOUT\LAYOUT 19

**APPENDIX C** **PERSONAL INJURY ACCIDENT DATA**




| | | | |
|---|---|---|---|
| HAMPSHIRE CONSTABULARY | Selected map area | SCALE | 1 : 12500 |
| | | DATE | 17/12/2018 |
| | | DRAWING No. | |
| | | DRAWN BY | |
| | | | |

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**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:** **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Selected Polygon:CS WESTBOURNE**

140168783 14/05/2014 Time 1345 Vehicles 2 Casualties 1 Slight
E:474965 N: 107018 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Loss of control | Vehicle 1 | Possible |
| 2nd: | | | |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) TRAVELLING N ALONG NEW BRIGHTON WAY COLLIDED WITH VEH 2 (VAN) PARKED AND UNATTENDED AGAINST WEST KERB CAUSING VEH 1 TO OVERTURN.
Occurred on NEW BRIGHTON WAY AT JUNCTION WITH WICKOR WAY, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from S to N No tow / articulation Leaving the main road
On main carriageway Overturned
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 85 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 85 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Parked
Vehicle movement from Park to Parked No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

140207539 12/06/2014 Time 1730 Vehicles 2 Casualties 2 Slight
E:473735 N: 108104 First Road: B 2149 Road Type Single carriageway
Speed limit: 60 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (CAR) TRAVELLING NE ALONG BARTONS ROAD, FAILS TO GIVE WAY AND TURNS RIGHT ONTO B2149 HORNDEAN ROAD ACROSS THE PATH OF VEH 2 (CAR) TRAVELLING NW ON HORNDEAN ROAD AND COLLIDES.

Occurred on B2149 HORNDEAN ROAD AT JUNCTION WITH BARTONS ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from SW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 45 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 45 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Casualty Reference: 2 Vehicle: 1 Age: 19 Male Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist
Front seat

Vehicle Reference 2 Car Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 28 Female
Not hit and run Breath test Negative
Left hand drive: No

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

140227499 20/06/2014 Time 1630 Vehicles 2 Casualties 1 Slight
E: 474958 N: 106972 First Road: B 2147 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Vehicle door opened or closed negligently | Vehicle 1 | Very Likely |
| 2nd: | | | |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) WAS PARKED FACING S ALONG B2147 NEW BRIGHTON ROAD. THE DRIVER OPENED THE DOOR INTO THE PATH OF VEH 2 (P/CYCLE) TRAVELLING S, CAUSING THE RIDER TO FALL.

Occurred on B2147 NEW BRIGHTON ROAD AT JUNCTION WITH WENSLEY GARDENS, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Parked
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Did not impact Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 24 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway Skidded
Location at impact Jct Approach First impact Did not impact Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 11 Female
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 11 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:** **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

140221689 23/06/2014 Time 0840 Vehicles 2 Casualties 1 Slight
E:473984 N: 107721 First Road: B 2148 Road Type Single carriageway
Speed limit: 60 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None

Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Failed to look properly | Vehicle 1 | Possible |
| 2nd: | Illness or disability, mental or physical | Vehicle 1 | Very Likely |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (VAN) TRAVELLING SE ALONG B2148 HORNDEAN ROAD, CROSSES OVER THE CENTRAL LINE TO THE LAYBY ACROSS THE PATH OF VEH 2 (CAR) TRAVELLING IN THE OPPOSITE DIRECTION AND COLLIDES.

Occurred on B2148 HORNDEAN ROAD 408 METRES SE OF EMSWORTH COMMON ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Going ahead other
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 53 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 53 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 40 Female
Not hit and run Breath test Negative
Left hand drive: No

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

140330783 12/09/2014 Time 1600 Vehicles 2 Casualties 1 Slight
E:474907 N: 107393 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Pri Drive Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (CAR) WAS REVERSING W ALONG SOUTHLEIGH ROAD WHILST MANOEUVRING INTO A DRIVEWAY. VEH 2 (CAR) TRAVELLING E FAILED TO NOTICE THIS AND COLLIDED WITH THE REAR OF VEH 1, WHICH THEN JUMPED FORWARDS AND COLLIDED WITH A BRICK WALL.
Occurred on SOUTHLEIGH ROAD AT JUNCTINO WITH NUMBER 607 DRIVEWAY, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Reversing
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: Wall or fence
Did not leave carr Age of Driver 62 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 62 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from W to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 38 Male
Not hit and run Breath test Negative
Left hand drive: No

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

140351445 28/09/2014 Time 2004 Vehicles 1 Casualties 1 Slight
E:473832 N: 108108 First Road: U Road Type Single carriageway
Speed limit: 60 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: no street lighting Fine without high winds
Special Conditions at Site None Carriageway Hazards: None

Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (CAR) TRAVELLING NE ALONG EMSWORTH COMMON ROAD CLIPPED CAS 1 (PEDESTRIAN) WITH THE NEARSIDE WING MIRROR WHO WAS WALKING NE, FACING AWAY FROM THE TRAFFIC.
Occurred on EMSWORTH COMMON ROAD OUTSIDE GRAVEL PIT COTTAGES, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 18 Female Pedestrian Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

In carr not crossing NE bound

In carr back to traffic

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

140376679 18/10/2014 Time 2321 Vehicles 2 Casualties 1 Slight
E:473761 N: 108062 First Road: B 2158 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Failed to look properly | Vehicle 1 | Very Likely |
| 2nd: | Disobeyed Give Way or Stop sign or markings | Vehicle 1 | Very Likely |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) TRAVELLING SW ALONG EMSWORTH COMMON ROAD FAILED TO GIVE WAY AND TURNED LEFT ONTO B2158 HORNDEAN ROAD COLLIDING WITH VEH 2 (CAR) TRAVELLING SE ALONG B2158 HORNDEAN ROAD.

Occurred on B2158 HORNDEAN ROAD AT JUNCTION WITH EMSWORTH COMMON ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Turning left
Vehicle movement from NE to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 81 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 81 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 18 Female
Not hit and run Breath test Negative
Left hand drive: No

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

140404796 10/11/2014 Time 1600 Vehicles 2 Casualties 1 Slight
E: 473619 N: 108078 First Road: U Road Type Single carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: Central reservation Road surface Wet/Damp
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Failed to signal/Misleading signal | Vehicle 2 | Possible |
| 2nd: | Failed to judge other persons path or speed | Vehicle 1 | Possible |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) TRAVELLING N ALONG EASTLEIGH ROAD TURNED RIGHT ONTO BARTONS ROAD INTO PATH OF VEH 2 (CAR) TRAVELLING W ALONG BARTONS ROAD. VEH 1 STATED VEH 2 WAS INDICATING LEFT FOR EASTLEIGH ROAD.

Occurred on BARTONS ROAD AAT JUNCTION WITH EASTLEIGH ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from S to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 58 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 58 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 55 Male
Not hit and run Breath test Negative
Left hand drive: No

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

150019891 19/01/2015 Time 0750 Vehicles 2 Casualties 1 Slight
E: 473760 N: 108064 First Road: B 2148 Road Type Single carriageway
Speed limit: 60 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (CAR) TRAV W EMSWORTH COMMON ROAD TURNED RIGHT INTO B2148 HORNDEAN ROAD AND COLLIDED WITH THE NEARSIDE OF VEH 2 (CAR) TRAV S HORNDEAN ROAD, CAUSING VEH 2 TO LEAVE THE CARRIAGEWAY TO THE NEARSIDE AND HIT A LAMP POST.
Occurred on B2148 HORNDEAN ROAD AT JUNCTION WITH EMSWORTH COMMON ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from E to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 48 Female
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Going ahead other
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway Overturned
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: Lamp post
Nearside Age of Driver 20 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 20 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

150084597 12/03/2015 Time 0830 Vehicles 2 Casualties 1 Serious
E: 475078 N: 107395 First Road: B 2147 Road Type 1
Speed limit: 30 Junction Detail: Roundabout Give way or controlled B 2147
Crossing: Control None Facilities: Central reservation Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (VAN) TRAVELLING N ALONG B2147 NEW BRIGHTON ROAD ENTERED RBT AND COLLIDED WITH VEH 2 (P/CYCLE) TRAVELLING W ALONG B2147 WESTBOURNE ROAD AND AROUND RBT CAUSING RIDER TO BE KNOCKED OFF.

Occurred on B2147 NEW BRIGHTON ROAD AT JUNCTION WITH B2147 WESTBOURNE ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Turning left
Vehicle movement from S to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 34 Female
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 17 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 17 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

150148852 03/05/2015 Time 1330 Vehicles 2 Casualties 1 Slight
E:474502 N: 107341 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (CAR) TRAVELLING W ALONG SOUTHLEIGH ROAD TURNS LEFT INTO LONGFIELD ROAD AND CLIPS VEH 2 (P/CYCLE) TRAVELLING IN FRONT KNOCKING RIDER OFF.
Occurred on SOUTHLEIGH ROAD AT JUNCTION WITH LONGFIELD ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Turning left
Vehicle movement from E to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 66 Female
Not hit and run Breath test Not requested
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 55 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 55 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

150339479 30/09/2015 Time 1511 Vehicles 2 Casualties 1 Slight
E: 475076 N: 107395 First Road: B 2147 Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (CAR) TRAVELLING N ALONG B2147 NEW BRIGHTON ROAD ENTERED THE RBT AT SOUTHLEIGH ROAD AND COLLIDED WITH VEH 2 (P/CYCLE) TRAVELLING W ACROSS THE RBT.

Occurred on B2147 NEW BRIGHTON ROAD AT JUNCTION WITH SOUTHLEIGH ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Starting
Vehicle movement from S to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Entering roundabout First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 44 Female
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or i First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 45 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 45 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

150369871 24/10/2015 Time 1155 Vehicles 1 Casualties 1 Serious
E:475154 N: 107372 First Road: B 2147 Road Type Single carriageway
Speed limit: 30 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight Raining without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

CAS 1 (PEDESTRIAN) CAME OUT OF THE BUSHES ALONG THE NORTH EDGE OF B2147 WESTBOURNE ROAD AND STEPPED INTO THE ROAD AND WAS HIT BY VEH 1 (CAR) TRAVELLING SE ALONG B2147 WESTBOURNE ROAD. VEH 1 HAD NO CHANCE TO REACT.

Occurred on B2147 WESTBOURNE ROAD 40 METRES NORTHWEST OF LEWIS ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 25 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 61 Male Pedestrian Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

In carr elsewhere S bound

Driver's nearside

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

150398918 16/11/2015 Time 1910 Vehicles 2 Casualties 1 Slight
E:474285 N: 107300 First Road: B 2148 Road Type Dual carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 2 (CAR) TRAVELLING W ALONG SOUTHLEIGH ROAD, ENTERS JUNCTION AT B2148 HORDEAN ROAD TO TURN RIGHT FAILING TO SEE VEH 1 (M/CYCLE) RESULTING IN VEH 1 COLLIDING INTO OFFSIDE OF VEH 2.

Occurred on B2148 HORNDEAN ROAD AT JUNCTION WITH SOUTHLEIGH ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Motorcycle over 500cc Going ahead other
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 47 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 47 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Turning right
Vehicle movement from E to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 57 Female
Not hit and run Breath test Negative
Left hand drive: No

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

150400647 18/11/2015 Time 0850 Vehicles 2 Casualties 1 Slight
E:475076 N: 107464 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (CAR) TRAVELLING SW ALONG SKYLARK AVENUE, DRIVER FAILS TO SEE AND TURNS RIGHT ONTO REDLANDS LANE ACROSS THE PATH OF VEH 2 (P/CYCLE) TRAVELLING SE ALONG REDLANDS LANE AND COLLIDES, KNOCKING THE RIDER OFF
Occurred on REDLANDS LANE AT JUNCTION WITH SKYLARK AVENUE, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from NE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 36 Female
Not hit and run Breath test Driver not contacted
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 65 Female
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 65 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

160021718 15/01/2016 Time 1150 Vehicles 1 Casualties 1 Slight
E:474808 N: 106548 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled B 2148
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Disability or illness, mental or physical | Casualty 1 | Very Likely |
| 2nd: | | | |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

CAS 1 (PEDESTRIAN) TRAVELLING NE ALONG COLDHARBOUR FARM ON THE PAVEMENT FALLS OVER AND ONTO VEH 1 (VAN) STATIONARY AT JUNCTION WAITING TO TURN LEFT ONTO B2148 HORNDEAN ROAD

Occurred on COLDHARBOUR FARM ROAD AT JUNCTION WITH B2148 HORNDEAN ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Waiting to turn left
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 57 Male Pedestrian Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

On footpath / verge NW bound

Movement U/K

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

160066180 14/02/2016 Time 1130 Vehicles 3 Casualties 3 Slight
E:474660 N: 107361 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Poor turn or manoevre | Vehicle 1 | Possible |
| 2nd: | Failed to judge other persons path or speed | Vehicle 1 | Possible |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (M/CYCLE) TRAVELLING SW ALONG HOLLYBANK LANE, TURNS RIGHT ONTO SOUTHLEIGH ROAD AND COLLIDES WITH VEH 2 (P/CYCLE) TRAVELLING SW ALONG SOUTHLEIGH ROAD, CAUSING VEH 2 TO COLLIDE WITH VEH 3 (P/CYCLE) TRAVELLING ALONGSIDE VEH 2.
Occurred on SOUTHLEIGH ROAD AT JUNCTION WITH HOLLYBANK LANE, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Motorcycle - unknown cc Turning right
Vehicle movement from NW to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 46 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 46 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 27 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 2 Vehicle: 2 Age: 27 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

Vehicle Reference 3 Pedal Cycle Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 26 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 3 Vehicle: 3 Age: 26 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

160225104 16/06/2016 Time 1629 Vehicles 2 Casualties 1 Slight
E:473747 N: 108102 First Road: B 2149 Road Type Single carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight Raining without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Failed to look properly | Vehicle 1 | Very Likely |
| 2nd: | Uncorrected, defective eyesight | Vehicle 1 | Possible |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) TRAVELLING NE ALONG BARTONS ROAD, TURNS RIGHT ONTO B2149 HORNDEAN ROAD ACROSS THE PATH OF VEH 2 (CAR) TRAVELLING SE ALONG B2149 HORNDEAN ROAD AND COLLIDES.
Occurred on B2149 HORNDEAN ROAD AT JUNCTION WITH BARTONS ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from SW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 93 Male
Hit and run Breath test Driver not contacted
Left hand drive: No

Vehicle Reference 2 Car Going ahead other
Vehicle movement from NW to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 62 Female
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 62 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

160274493 23/07/2016 Time 0700 Vehicles 2 Casualties 1 Slight
E: 473713 N: 108105 First Road: B 2149 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Dazzling sun | Vehicle 1 | Possible |
| 2nd: | | | |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) TRAVELLING E ALONG BARTONS ROAD, FAILS TO SEE AND COLLIDES WITH THE REAR OF VEH 2 (P/CYCLE) APPROACHING THE JUNCTION WITH B2149 HORNDEAN ROAD, CAUSING THE RIDER TO FALL OFF.

Occurred on B2149 HORNDEAN ROAD AT JUNCTION WITH BARTONS ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from W to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 64 Male
Not hit and run Breath test Not requested
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from W to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 63 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 63 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

160322353 27/08/2016 Time 1220 Vehicles 2 Casualties 1 Serious
E:474579 N: 106887 First Road: B 2148 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Uncorrected, defective eyesight | Vehicle 1 | Very Likely |
| 2nd: | | | |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) TRAVELLING NW ALONG B2148 HORNDEAN ROAD COLLIDED WITH REAR WHEEL OF VEH 2 (P/CYCLE) TRAVELLING IN FRONT CAUSING RIDER TO FALL OFF AND HIT HEAD.
Occurred on B2148 HORNDEAN ROAD AT JUNCTION WITH BELLEVUE LANE, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 89 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from SE to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 55 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 55 Male Driver/rider Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: No

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:** **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

160387708 13/10/2016 Time 2000 Vehicles 2 Casualties 1 Slight
E:473815 N: 108095 First Road: U Road Type Single carriageway
Speed limit: 60 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: no street lighting Fine without high winds
Special Conditions at Site None Carriageway Hazards: None

Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Poor turn or manoevre | Vehicle 2 | Possible |
| 2nd: | Failed to judge other persons path or speed | Vehicle 1 | Possible |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 2 (VAN) TRAVELLING NE ALONG EMSWORTH COMMON ROAD PERFORMED A UTURN IN THE ROAD ACROSS PATH OF VEH 1 (CAR) TRAVELLING BEHIND CAUSING VEH 1 TO COLLIDE WITH OFFSIDE VEH 2.
Occurred on EMSWORTH COMMON ROAD OUTSIDE GRAVEL PIT COTTAGE, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from SW to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 73 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 73 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under U-turn
Vehicle movement from SW to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 20 Male
Not hit and run Breath test Negative
Left hand drive: No

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

160429511 14/11/2016 Time 0910 Vehicles 2 Casualties 1 Slight
E:474281 N: 107296 First Road: B 2148 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Failed to judge other persons path or speed | Vehicle 1 | Possible |
| 2nd: | | | |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) TRAVELLING NW ALONG B2148 HORNDEAN ROAD TURNING RIGHT ONTO SOUTHLEIGH ROAD AND COLLIDES WITH THE REAR OF VEH 2 (P/CYCLE) TRAVELLING IN THE SAME DIRECTION MAKING THE SAME MANOEUVRE
Occurred on B2148 HORNDEAN ROAD AT JUNCTION WITH SOUTHLEIGH ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from SE to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Turning right
Vehicle movement from SE to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 44 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 44 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

160464114 09/12/2016 Time 1615 Vehicles 2 Casualties 2 Slight
E:473735 N: 108107 First Road: B 2149 Road Type Single carriageway
Speed limit: 60 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: Pelican, puffin, toucan etc. Road surface Dry
Darkness: street lighting unknown Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 2 (CAR) TRAVELLING E ALONG BARTONS ROAD, FAILS TO GIVE WAY AND ENTERS B2149 HORNDEAN ROAD ACROSS THE PATH OF VEH 1 (PICK-UP) TRAVELLING N ALONG B2149 HORNDEAN ROAD AND COLLIDES.
Occurred on B2149 HORNDEAN ROAD AT JUNCTION WITH BARTONS ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Going ahead other
Vehicle movement from SE to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 54 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 54 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Starting
Vehicle movement from W to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road Bollard / Refuge Off road: Road sign / ATS
O/S & rebounded Age of Driver 24 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 2 Vehicle: 2 Age: 24 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:** **Notes:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

44170039663 31/01/2017 Time 1703 Vehicles 2 Casualties 2 Slight
E:474971 N: 107398 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Darkness: street lights present and lit Raining without high winds
Special Conditions at Site None Carriageway Hazards: None

Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Inadequate/Masked signs or road markings | Vehicle 1 | Possible |
| 2nd: | Rain, sleet, snow, or fog | Vehicle 1 | Possible |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) TRAVELLING EAST ON SOUTHLEIGH ROAD MOVES ACROSS THE ROAD AND COLLIDES HEAD ON WITH VEH 2 (CAR) TRAVELLING WEST ON SOUTHLEIGH ROAD.
Occurred on SOUTHLEIGH ROAD OUTSIDE NUMBER 621, EMSWORTH, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead other
Vehicle movement from W to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 81 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 81 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Vehicle Reference 2 Car Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 26 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 2 Vehicle: 2 Age: 26 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44170091983 11/03/2017 Time 1450 Vehicles 2 Casualties 1 Slight
E:474294 N: 107305 First Road: B 2148 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (CAR) TRAVELLING SW ALONG SOUTHLEIGH ROAD COLLIDES WITH THE REAR OF VEH 2 (CAR) STATIONARY AT THE JUNCTION WITH B2148 HORDEAN ROAD WAITING TO TURN LEFT.
Occurred on B2148 HORNDEAN ROAD AT JUNCTION WITH SOUTHLEIGH ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Waiting to turn left
Vehicle movement from NE to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 35 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Waiting to turn left
Vehicle movement from NE to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 37 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 37 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44170125748 04/04/2017 Time 1610 Vehicles 2 Casualties 2 Slight
E:475192 N: 107349 First Road: B 2147 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Failed to look properly | Vehicle 1 | Very Likely |
| 2nd: | Junction overshoot | Vehicle 1 | Possible |
| 3rd: | Failed to judge other persons path or speed | Vehicle 1 | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (CAR) TRAVELLING N ALONG LEWIS ROAD, ENTERS ONTO B2147 WESTBOURNE ROAD ACROSS THE PATH OF VEH 2 (CAR) TRAVELLING NW ALONG B2147 WESTBOURNE ROAD AND COLLIDES.
Occurred on B2147 WESTBOURNE ROAD AT JUNCTION WITH LEWIS ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Starting
Vehicle movement from S to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 24 Male
Not hit and run Breath test Not requested
Left hand drive: No

Vehicle Reference 2 Car Going ahead other
Vehicle movement from Park to NW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 36 Female
Not hit and run Breath test Not requested
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 17 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Front seat

Casualty Reference: 2 Vehicle: 2 Age: 58 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Back seat

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44170265975 07/07/2017 Time 1800 Vehicles 2 Casualties 1 Slight
E:474811 N: 106546 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled B 2148
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Passing too close to cyclist, horse rider or pedestrian | Vehicle 2 | Possible |
| 2nd: | Failed to look properly | Vehicle 2 | Possible |
| 3rd: | Careless/Reckless/In a hurry | Vehicle 1 | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 2 (CAR) TRAVELLING SW ALONG COLDHARBOUR FARM ROAD OVERTAKES VEH 1 (P/CYCLE) TRAVELLING IN THE SAME DIRECTION MOVES BACK IN TO SOON AND COLLIDES, CAUSING THE RIDER TO BE KNOCKED OFF.

Occurred on COLDHARBOUR FARM ROAD AT JUNCTION WITH B2148 HORNDEAN ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Pedal Cycle Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 17 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 17 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

Vehicle Reference 2 Car Overtaking moving vehicle O/S
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44170379691 30/09/2017 Time 1800 Vehicles 2 Casualties 1 Slight
E:474282 N: 107297 First Road: B 2148 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp
Daylight Raining without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Road layout (eg bend, hill etc.) | Vehicle 2 | Possible |
| 2nd: | Disobeyed Give Way or Stop sign or markings | Vehicle 2 | Possible |
| 3rd: | Junction restart | Vehicle 2 | Possible |
| 4th: | Failed to look properly | Vehicle 1 | Possible |
| 5th: | Inexperienced or learner driver/rider | Vehicle 1 | Possible |
| 6th: | | | |

VEH 1 PULLING OUT OF SOUTHLEIGH ROAD ONTO HORNDEAN ROAD. VEH 2 TRAVELLING NORTH ON HORNDEAN ROAD. VEH 1 HAS HIT OFFSIDE OF VEH 2.
Occurred on HORNDEAN ROAD JUNCTION WITH SOUTHLEIGH ROAD, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Car Going ahead other
Vehicle movement from E to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 20 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Waiting to turn right
Vehicle movement from S to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 36 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 36 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44170389140 07/10/2017 Time 1345 Vehicles 3 Casualties 1 Slight
E: 473750 N: 108064 First Road: B 2148 Road Type Single carriageway
Speed limit: 40 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH 1 (CAR) TRAVELLING SW ALONG EMSWORTH COMMON ROAD TURNED RIGHT ONTO B2148 HORNDEAN ROAD HITTING OFFSIDE VEH 2 (CAR) TRAVELLING N ALONG B2148 HORNDEAN ROAD. VEH 2 IS PUSHED INTO VEH 3 (CAR) TRAVELLING E ALONG BARTONS ROAD WAITING AT JUNCTION.
Occurred on B2148 HORNDEAN ROAD AT JUNCTION WITH EMSWORTH COMMON ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Car Turning right
Vehicle movement from E to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 75 Male
Not hit and run Breath test Negative
Left hand drive: No

Vehicle Reference 2 Car Going ahead other
Vehicle movement from S to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 54 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 9 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Front seat

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

Vehicle Reference 3 Car Waiting to turn right
Vehicle movement from W to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Jct Approach First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 70 Male
Not hit and run Breath test Negative
Left hand drive: No

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44170484717 14/12/2017 Time 1320 Vehicles 3 Casualties 3 Slight
E:474363 N: 107609 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Inexperienced or learner driver/rider | Vehicle 1 | Very Likely |
| 2nd: | Careless/Reckless/In a hurry | Vehicle 1 | Possible |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH1 (CAR) TRAVELLING AROUND R/H BEND ON WOOLMER STREET COLLIDES WITH VEH2 (CAR) THAT WAS PARKED ON THE NEARSIDE AND WAS PUSHED INTO VEH3 (CAR). OCCUPANTS OF VEH1 SUFFERED MINOR IINJURIES.
Occurred on WOOLMER STREET AT JUNCTION WITH DIANA CLOSE, EMSWORTH, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead right bend
Vehicle movement from W to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Cleared junction or waiting/park First impact Front Hit vehicle:
Hit object in road Parked Vehicle Off road: None
Did not leave carr Age of Driver 17 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 17 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Casualty Reference: 2 Vehicle: 1 Age: 16 Male Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist
Back seat

Casualty Reference: 3 Vehicle: 1 Age: 16 Male Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist
Back seat

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

Vehicle Reference 2 Car Parked
Vehicle movement from Park to Parked No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Cleared junction or waiting/park First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

Vehicle Reference 3 Car Parked
Vehicle movement from Park to Parked No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Cleared junction or waiting/park First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Driver not contacted
Left hand drive: No

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44170484080 14/12/2017 Time 0847 Vehicles 2 Casualties 1 Slight
E:474858 N: 106507 First Road: B 2148 Road Type Single carriageway
Speed limit: 30 Junction Detail: T & Stag Jct Give way or controlled B 2147
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

VEH 2 (CAR) TRAVELLING SW ALONG B2147 NEW BRIGHTON ROAD ENTERS B2148 HORNDEAN ROAD ACROSS THE PATH VEH 1 (P/CYCLE) TRAVELLING NW ALONG B2148 HORNDEAN ROAD TURNING RIGHT ONTO B2147 NEW BRIGHTON ROAD AND COLLIDES. VEH 2 FAILED TO STOP
Occurred on B2148 HORNDEAN ROAD AT JUNCTION WITH B2147 NEW BRIGHTON ROAD, HAVANT, HAMPSHIRE

Vehicle Reference 1 Pedal Cycle Turning right
Vehicle movement from S to NE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 26 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 26 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not known

Vehicle Reference 2 Car Going ahead other
Vehicle movement from NE to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Hit and run Breath test Driver not contacted
Left hand drive: No

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**
Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44180138627 15/04/2018 Time 2002 Vehicles 2 Casualties 2 Slight
E:473754 N: 108072 First Road: B 2148 Road Type Dual carriageway
Speed limit: 60 Junction Detail: T & Stag Jct Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Darkness: street lights present and lit Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: At scene DfT Special Projects:

Causation

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

VEH1 (CAR) TRAVELLING SW ALONG EMSWORTH COMMON ROAD TURNS RIGHT ONTO B2148 WITHOUT GIVING WAY TO VEH2 (CAR) TRAVELLING SE ALONG B2148.
Occurred on B2148, HORNDEAN ROAD, AT JUNCTION WITH EMSWORTH COMMON ROAD, EMSWORTH, HAMPSHIRE.

Vehicle Reference 1 Car Turning right
Vehicle movement from NE to N No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 71 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 55 Female Passenger Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

Front seat

Vehicle Reference 2 Car Going ahead other
Vehicle movement from N to SE No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 24 Male
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 2 Vehicle: 2 Age: 24 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44180171919 09/05/2018 Time 1811 Vehicles 1 Casualties 1 Serious
E: 474841 N: 107387 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Not within 20m of junction

Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None

Place accident reported: At scene DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Crossed road masked by stationary veh | Casualty 1 | Very Likely |
| 2nd: | Failed to look properly | Casualty 1 | Very Likely |
| 3rd: | Failed to judge vehicles path or speed | Casualty 1 | Very Likely |
| 4th: | Careless/Reckless/In a hurry | Casualty 1 | Very Likely |
| 5th: | | | |
| 6th: | | | |

CAS1 (PEDESTRIAN) LEAVES CO OP AND HURRIES NORTH ACROSS SOUTHLEIGH ROAD, FAILING TO NOTICE VEH1 (CAR) TRAVELLING E ALONG SOUTHLEIGH ROAD.
Occurred on SOUTHLEIGH ROAD, OUTSIDE THE CO OP, EMSWORTH, HAMPSHIRE.

Vehicle Reference 1 Car Going ahead other
Vehicle movement from W to E No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 44 Female
Not hit and run Breath test Negative
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 14 Male Pedestrian Severity: Serious
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not a cyclist

In carr elsewhere N bound

Driver's offside masked

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44180245712 01/07/2018 Time 0900 Vehicles 2 Casualties 1 Slight
E: 475093 N: 107396 First Road: B 2147 Road Type Single carriageway
Speed limit: 30 Junction Detail: Roundabout Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

VEH2 (VAN) PULLS OUT ONTO THE RBT TO GO STRAIGHT OVER TRAVELLING W AND DOESN'T GIVE WAY TO VEH1 (P/CYCLE) THAT WAS TRAVELLING S ON THE RBT CAUSING A COLLISION.
Occurred on B2147 WESTBOURNE ROAD AT JUNCTION WITH REDLANDS LANE, EMSWORTH, HAMPSHIRE.

Vehicle Reference 1 Pedal Cycle Going ahead right bend
Vehicle movement from N to SW No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Front Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 45 Male
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 1 Age: 45 Male Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Yes

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Starting
Vehicle movement from SE to W No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Offside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 30 Male
Not hit and run Breath test Driver not contacted
Left hand drive: No

**Accidents between dates** **01/08/2013** **and** **30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

44180264269 13/07/2018 Time 1830 Vehicles 2 Casualties 1 Slight
E:475027 N: 107714 First Road: U Road Type Single carriageway
Speed limit: 30 Junction Detail: Pri Drive Give way or controlled Unclassified
Crossing: Control None Facilities: None within 50m Road surface Dry
Daylight Fine without high winds
Special Conditions at Site None Carriageway Hazards: None
Place accident reported: Elsewhere DfT Special Projects:

Causation

| | Factor: | Participant: | Confidence: |
|---|---|---|---|
| 1st: | Failed to look properly | Vehicle 1 | Possible |
| 2nd: | Failed to judge other persons path or speed | Vehicle 1 | Possible |
| 3rd: | | | |
| 4th: | | | |
| 5th: | | | |
| 6th: | | | |

VEH 1 (TAXI) TRAVELLING W OUT OF NUMBER 18, TURNED LEFT ONTO BRUSHWOOD GROVE AND CLIPPED WHEEL OF VEH 2 (P/CYCLE) TRAVELLING S ALONG BRUSHWOOD GROVE. RIDER OF VEH 2 FELL OFF ONTO PAVEMENT AND VEH 1 DROVE OFF.
Occurred on BRUSHWOOD GROVE AT JUNCTION WITH NUMBER 18, EMSWORTH, HAMPSHIRE

Vehicle Reference 1 Taxi/Private hire car Turning left
Vehicle movement from E to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Nearside Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver Not traced
Not hit and run Breath test Not requested
Left hand drive: No

Vehicle Reference 2 Pedal Cycle Going ahead other
Vehicle movement from N to S No tow / articulation Leaving the main road
On main carriageway No skidding, jack-knifing or overturning
Location at impact Mid Junction - on roundabout or r First impact Back Hit vehicle:
Hit object in road None Off road: None
Did not leave carr Age of Driver 11 Female
Not hit and run Breath test Not applicable
Left hand drive: No

Casualty Reference: 1 Vehicle: 2 Age: 11 Female Driver/rider Severity: Slight
Not a pupil
Seatbelt Not Applicable Cycle helmet: Not known

**Accidents between dates** **01/08/2013 and 30/07/2018** (60) months

**Selection:**

Selected using Pre-defined Query : ; Refined using Accidents within selected Polygons -HC - RPU Statistics Request ("CS WESTBOURNE")

**Notes:**

Accidents involving:

| | Fatal | Serious | Slight | Total |
|---|---|---|---|---|
| Motor vehicles only (excluding 2-wheels) | 0 | 2 | 19 | 21 |
| 2-wheeled motor vehicles | 0 | 0 | 2 | 2 |
| Pedal cycles | 0 | 2 | 11 | 13 |
| Horses & other | 0 | 0 | 0 | 0 |
| Total | 0 | 4 | 31 | 35 |

Casualties:

| | Fatal | Serious | Slight | Total |
|---|---|---|---|---|
| Vehicle driver | 0 | 0 | 18 | 18 |
| Passenger | 0 | 0 | 7 | 7 |
| Motorcycle rider | 0 | 0 | 1 | 1 |
| Cyclist | 0 | 2 | 12 | 14 |
| Pedestrian | 0 | 2 | 2 | 4 |
| Other | 0 | 0 | 0 | 0 |
| Total | 0 | 4 | 40 | 44 |

# APPENDIX D STAGE ONE ROAD SAFETY AUDIT

# Road Safety Audit Report

## Incorporating
## Stage 1 Completion of Preliminary Design;
**Design Team Response to items raised; and**
**Audit Team road safety view of response in respect of design change.**

## Proposed Highway Access and Works
## Long Copse Lane, Emsworth

**Client:**
i-Transport

**Client reference:**
ITB13525-003-TN

Fenley
2 Blaenant
Emmer Green
READING
RG4 8PH

**E:**office@fenley.co.uk
www.fenley.co.uk

**Report Status** 4

| | | | | | |
|---|---|---|---|---|---|
| **Job no** | RSA-17-135 | **Issue no** | 4 | **Date** | April 2018 |
| **Prepared by** | JJF | **Verified by** | AJB | **Approved by** | JJF |
| **Filename and Path** | Fenley/Road Safety Audits/RSA-17/RSA-17-135-4 | | | | |

# document control sheet

| REV | ISSUE PURPOSE | AUTHOR | CHECKED | APPROVED | DATE |
|---|---|---|---|---|---|
| 0 | Stage 1 Road Safety Audit drafted for Audit Team discussion | JJF | | | 1st March 2018 |
| 1 | Stage 1 Road Safety Audit finalised and issued to the Design Team | JJF | AJB | JJF | 6th March 2018 |
| 2 | Report Format amended to incorporate row for Design Team Response in order to maintain an easy record of items raised | JJF | AJB | JJF | 6th March 2018 |
| 3 | Design Team Response Incorporated | Steve Jenkins on behalf of i-Transport | | | 19th April 2018 |
| 4 | Audit Team road safety view of response in respect of design change | JJF | AJB | JJF | 20th April 2018 |

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**2.0 Items raised in any previous Road Safety Audits 3**

**3.0 Items Raised at this Stage 1 Road Safety Audit 4**

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A.2 Local Alignment

A.3 Junctions

A.4 Non-Motorised User (NMU) Provision

A.5 Road Signs, Carriageway Markings and Lighting

A.6 **Stage 1 Audit Team Statement 13**


**Appendices:**


Stage 1 A1 Documents and Drawings provided for this Road Safety Audit

A2 Photographs taken during site visit

A3 Drawing associated with the Design Team Response

## 1.0 INTRODUCTION

1.1 This report has been prepared by Fenley Road Safety Limited and results from a Stage 1 Road Safety Audit of a proposal to provide two simple priority accesses off the north side and highway works along Long Copse Lane to the north of Emsworth. The request for the Audit was made by the Design Team, i-Transport. The Road Safety Audit was carried out during February 2018.

1.2 The Road Safety Audit has been undertaken by an Audit Team whose qualifications and experience accord with the requirements of HD19/15 and were approved by the Senior Engineer in the Highway Advanced section of Hampshire County Council for undertaking Road Safety Audits of all stages on the highway network within County under section 4.9 of the HCC S278 Technical Submission Requirements. The Audit Team consists of the following members:

***Audit Team Leader***
**Jamie Fenning** *BSc (Hons), MSoRSA, MIHE, Highways England RSA Certificate of Competency*
Road Safety / Highway Engineer

***Audit Team Member***
**Angharad Bradley** *BEng (Hons), MSoRSA, MCIHT, Highways England RSA Certificate of Competency*
Road Safety / Highway Engineer

***Others in attendance***
**Farouk Bhatti**
Trainee Road Safety Auditor

1.3 The Road Safety Audit took place at the Reading Office of Fenley Road Safety Limited during the week commencing 26th February 2018. The Road Safety Audit was undertaken in accordance with the Road Safety Audit Brief provided by i-Transport in an email dated the 26th February 2018.

1.4 The Road Safety Audit comprised an examination of the documents provided and these are listed in **Appendix A1**. The documents consisted of a preliminary design drawings of the eastern and western sections of Long Copse Lane, where highway works are proposed, at a scale of 1 in 250 and swept path analyses as well as the Audit Brief that included general details of the scheme, vehicle speed data, observed and forecast traffic flows, details of the expected non-motorised user desire lines, environmental constrains and personal injury collision data. The site of the proposed works was visited on Monday 26th February 2018 between 3:50pm and 4:30pm. During the site visit the sky was clear with scattered clouds, the road surface was dry, albeit surface water ponding was observed, and visibility was good.

1.5 Cyclists and pedestrians as well as an equestrian on a lead rein were observed during the site visit travelling along the Long Copse Lane carriageway. Vehicular traffic including domestic and Light Goods Vehicles, was also observed. The traffic flow was light and free flowing, speeds were not recorded by the Audit Team.

1.6 The terms of reference of the Road Safety Audit are as described in HD 19/15 Incorporating Amendment dated May 2017 except where Hampshire County Council require local variations as detailed within their Road Safety Audit Procedures. The Road Safety Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may, in some instances, have referred to a design standard or document without touching on technical audit.

1.7 All comments and recommendations are referenced to the preliminary design drawings supplied with the Audit Brief and the locations of items raised have been illustrated adjacent to the items along with relevant photographs for clarity, where appropriate

1.8 The proposals subject to this Road Safety Audit include the provision of two simple priority bell mouth accesses off the north side of Long Copse Lane to a residential development to 260 dwellings. Both of the proposed accesses benefit from equestrian give-way and road centreline markings and meet Long Copse Lane perpendicular to the carriageway allowing for 2.4x43 metre visibility splays to be provided in either direction.

1.9 As part of the proposals, Long Copse Lane is to be widened to 5.5 metres between a point approximately 20 metres east of the eastern access and Hollybank Lane to the west, with localised sections narrowing to 4.8 metres wide. The scheme drawings illustrate that the carriageway is to be widened on the northern side with minor works to the carriageway edge on the southern side.

1.10 During the site visit associated with this Road Safety Audit site visit, it was noted that the surface water ponds in proximity of the Wraysbury Park Drive junction with Long Copse Lane, that Redlands Lane has recently been surfaced and that a number of vehicles park on-street alongside Long Copse Court.

***Design Team Response***

1.11 In accordance with national and local standards, this Road Safety Audit was finalised and issued to the Design Team as per the illustrative example within HD19/15. The format of the Audit Report was subsequently revised to incorporate these paragraphs under the sub-heading as well as sufficient space beneath the items and recommendation, within Section 3, for the inclusion of a Design Team Response. This is generally contained within a separate Design Team Response Report, however is included in order to maintain a record of all problems, recommendations and responses for a clear and concise Road Safety Audit trail. The Design Team Response has been prepared by:

| | |
|---|---|
| Name: | Steve Jenkins<br>*BSc MSc MCIHT MRTPI* |
| Position: | Associate Partner |
| Organisation: | i-Transport |
| Address: | Grove House<br>Lutyens Close<br>Basingstoke<br>RG24 8AG |
| Tel: | 01256 338 640 |

1.12 Any drawings or documents associated with the Design Team Response are attached at **Appendix A3**.

1.13 In accordance with Hampshire County Council requirements, this document also includes an "Audit Team road safety view of response in respect of design change" that has been prepared following receipt of the Design Team Response.

1.14 This Road Safety Audit has been undertaken by an Audit Team independent of the Design Team that were not involved in this Road Safety Audit and did not have any influence on the findings.

## 2.0 ITEMS RAISED IN ANY PREVIOUS ROAD SAFETY AUDITS

2.1 The Audit Team have not been made aware that the proposed access or highway works have been subject to a Road Safety Audit previously.

## 3.0 ITEMS RAISED IN THIS STAGE 1 ROAD SAFETY AUDIT

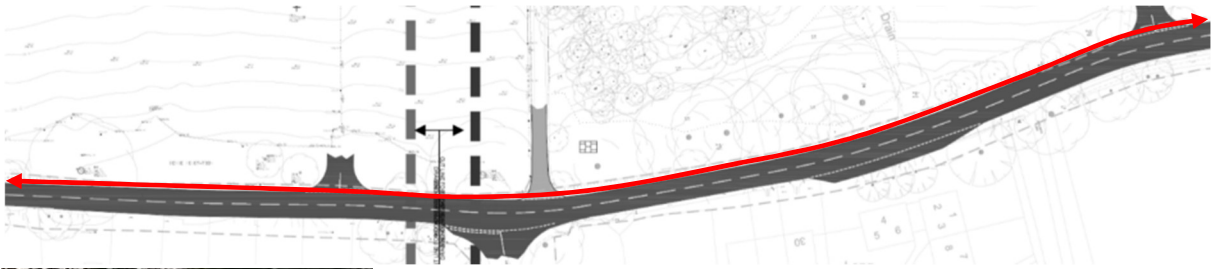
| | |
|---|---|
| **A.1** | **GENERAL** |
| **A.1.1** | **PROBLEM** |
| **Location:** | Long Copse Lane |
| **Summary:** | Existing ditch is present within the northern |
| **Acc. Type:** | Loss of control |

A ditch runs alongside Long Copse Lane within the northern verge which incorporates the drainage requirements of the existing carriageway. The proposals are to widen the existing carriageway along the northern side, and as such the ditch and associated drainage channels will be obsolete. This is likely to result in surface water ponding which could give rise to loss of control type incidents or collisions where a vehicle swerves to avoid surface water.

**RECOMMENDATION:**

It is recommended that the proposals include surface water drainage infrastructure.

**Location Plan:**





**DESIGN TEAM RESPONSE PROVIDED BY i-Transport on the 19th April 2018**

Existing Surface water network to be modified accordingly. The proposed scheme has benefited from specialist drainage and engineering consultancy inputs that have confirmed this can be and will be addressed as part of the detailed design process.

**AUDIT TEAM ROAD SAFETY VIEW OF RESPONSE IN RESPECT OF DESIGN CHANGE:**

Confirmation that surface water drainage will be addressed at detailed design addresses the concern raised at this stage.

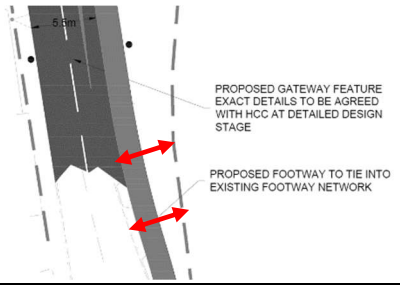
| A.2 | LOCAL ALIGNMENT |
|---|---|
| A.2.1 | PROBLEM |
| Location: | Hollybank Lane |
| Summary: | Proposed widening restricts access to existing driveways |
| Acc. Type: | Vehicle loss of control |

The scheme drawings illustrate that the width of Hollybank Lane is to be increased to 5.5 metres with a 1.8 metre footway provided along the eastern side of the carriageway. The existing driveways off the eastern side of Hollybank Lane fall towards the carriageway. The provision of the road widening and footway will impact upon the vehicular crossovers such that the driveways become inaccessible due to steep gradients.

**RECOMMENDATION:**

It is recommended that vehicular crossovers to driveways are incorporated within the design considerations.

**Location Plan:**






**DESIGN TEAM RESPONSE PROVIDED BY i-Transport on the 19th April 2018**

It has been identified that there is an existing tree in third party land, that would be impacted on with the proposed footway on the eastern side of Hollybank Lane.

Therefore, Hollybank Lane has been revised to provide a 5.5m wide carriageway until south of the junction with Oak Tree Drive. This allows the footway to tie into the existing footway network.

As part of the detailed design process, vehicular crossovers will be incorporated within the design to ensure that appropriate gradients are retained.

**AUDIT TEAM ROAD SAFETY VIEW OF RESPONSE IN RESPECT OF DESIGN CHANGE:**

Confirmation that vehicular crossovers with appropriate gradients will be provided addresses the concern raised at this stage.

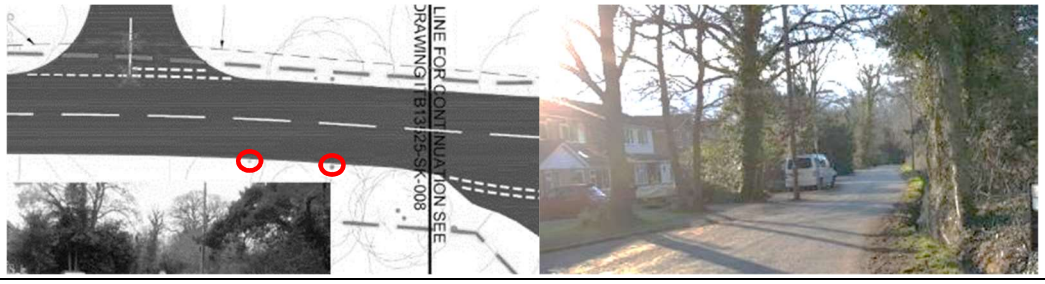
| A.2.2 | PROBLEM |
|---|---|
| **Location:** | West of Wraysbury Park Drive |
| **Summary:** | Proposed carriageway allows vehicles to pass in close proximity to existing street furniture |
| **Acc. Type:** | Vehicle collision with street furniture |

There are currently a number of wooden telegraph / electric poles and lighting columns within the verge of Long Copse Lane. These features will be situated either within the carriageway or within close proximity of vehicles travelling along Long Copse Lane following implementation of the proposals. Vehicles passing within 450mm of street furniture raise the risk of collisions with the street furniture and / or loss of control type incidents where the street furniture is not clearly visible during the hours of darkness. Illustrated below is an example of the scenario and is not exhaustive.

**RECOMMENDATION:**

It is recommended that all street furniture is no less than 450mm from the proposed edge of carriageway

**Location Plan:**




**DESIGN TEAM RESPONSE PROVIDED BY i-Transport on the 19th April 2018**

Existing street furniture will be relocated accordingly. Details in relation to the relocation will be addressed as part of the detailed design process.

**AUDIT TEAM ROAD SAFETY VIEW OF RESPONSE IN RESPECT OF DESIGN CHANGE:**

Relocating street furniture within the carriageway addresses the concerns raised at this stage.

| A.2.3 | PROBLEM |
|---|---|
| **Location:** | Long Copse Lane |
| **Summary:** | Trunks of existing trees will be within close proximity to traffic |
| **Acc. Type:** | Vehicle collision with existing trees |

The scheme drawings illustrate that a number of trees are accommodated within the verge of Long Copse Lane, are to be retained. Whilst the topographical survey illustrates the presence of the trees, the precise diameter of each trunk and height of branches overhanging the proposed carriageway is not accurately represented. Should the proposals be implemented as illustrated, it

is likely that existing tree trunks will be close to passing traffic and that branches will overhang the carriageway at a low level. Illustrated below is an example of the scenario and is not exhaustive.

**RECOMMENDATION:**

It is recommended that a minimum of 450mm clearance is maintained between tree trunks and the edge of carriageway, and canopies allow for vertical clearance above height of anticipated traffic.

**Location Plan:**




**DESIGN TEAM RESPONSE PROVIDED BY i-Transport on the 19th April 2018**

A minimum clearance of 450mm will be maintained between tree trunks and edge of carriageway. Where trees are within 0mm to 449mm from the edge of carriageway these will be investigated for removal as part of detailed design process. Specialist arboriculture input has already begun.

At detailed design stage should crown lifting be required then this will be undertaken to ensure that branches do not overhang the carriageway at a low level.

**AUDIT TEAM ROAD SAFETY VIEW OF RESPONSE IN RESPECT OF DESIGN CHANGE:**

Confirmation that the existing trees will be further assessed during the detailed design process addresses the concerns raised at this stage.

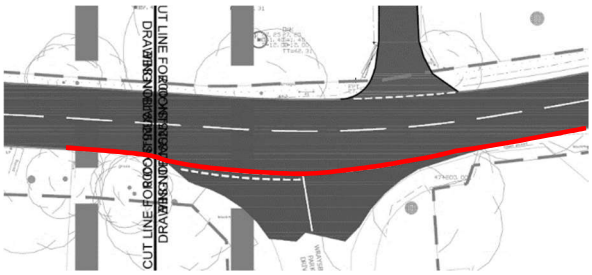
| | |
|---|---|
| **A.3** | **JUNCTIONS** |
| **A.3.1** | **PROBLEM** |
| **Location:** | Wraysbury Park Drive |
| **Summary:** | Edge of carriageway guides traffic towards the vehicles egressing Wraysbury Park Drive and parked vehicles |
| **Acc. Type:** | Side impact and shunts |

The proposed widening of the westbound lane and resulting alignment of Long Copse Lane in proximity of Wraysbury Park Drive, is such that traffic is guided towards vehicles egressing Wraysbury Park Drive, as well as towards the southern verge (to the west of the junction) where vehicles were observed to park. The proposed alignment coupled with the recessed Wraysbury Park Road give-way road marking, could therefore give rise to side impact and shunt type collisions.

**RECOMMENDATION:**

It is recommended that the give-way road marking of Wraysbury Park Drive is amended to allow for a smooth alignment

**Location Plan:**




**DESIGN TEAM RESPONSE PROVIDED BY i-Transport on the 19th April 2018**

To alignment and road markings of the proposed widening has been realigned to allow for a smoother alignment through the junction with Wraysbury Park Drive.

The alignment now ensures that traffic will be guided along Long Copse Lane and away from the southern verge and those vehicles egressing Wraysbury Park Drive.

**AUDIT TEAM ROAD SAFETY VIEW OF RESPONSE IN RESPECT OF DESIGN CHANGE:**

Realigning the give-way line of Wraysbury Park Drive addresses the concern raised at this stage

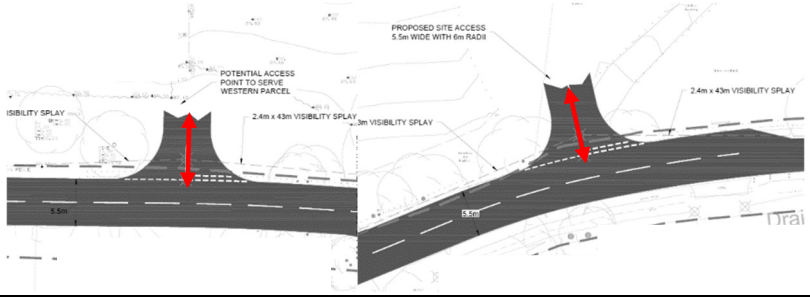
| | |
|---|---|
| **A.4** | **NON-MOTORISED USER (NMU) PROVISION** |
| **A.4.1** | **PROBLEM** |
| **Location:** | Proposed vehicular accesses |
| **Summary:** | No pedestrian facilities are provided |
| **Acc. Type:** | Vehicle pedestrian collision |

The two vehicular accesses proposed do not include pedestrian facilities and therefore it is likely that any pedestrians wishing to travel from within the site to Long Copse lane will walk within the carriageway at risk of vehicles accessing the site.

**RECOMMENDATION:**

It is recommended that pedestrian facilities are provided.

**Location Plan:**



**DESIGN TEAM RESPONSE PROVIDED BY i-Transport on the 19th April 2018**

The site access to the east, has been revised, which locates the junction further west by circa 23m with a footway provided on the eastern side of the access to a proposed new section of footway on the southern side of Long Copse Lane, to provide a pedestrian connectivity to Redlands Lane.

The western site access will not include any specific pedestrian facilities as the internal layout will include high quality pedestrian routes to both the (central) Old Diary Access and the eastern pedestrian only access. To support this, the scheme has been revised to provide an additional section of footway to the east of the Old Diary Farm Access, providing an uncontrolled crossing point with dropped kerbs and tactile paving to provide connections to Wraysbury Park Drive.

**AUDIT TEAM ROAD SAFETY VIEW OF RESPONSE IN RESPECT OF DESIGN CHANGE:**

The provision of a footway alongside the relocated eastern access and adjacent to Old Dairy Farm access to allow for a dropped kerb crossing point with tactile paving to be provided to the existing footway network and the inclusion of an on-site network of footpaths along desire lines, address the concerns raised at this stage.

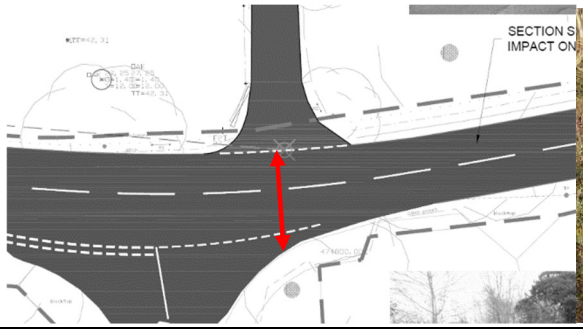
| | |
|---|---|
| **A.4.2** | **PROBLEM** |
| **Location:** | The Old Dairy Farm Access |
| **Summary:** | No pedestrian link to the existing footway network is provided |
| **Acc. Type:** | Vehicle non-motorised user collision |

The proposals retain the access to The Old Dairy Farm that observes minimal traffic and is to be enhanced to “provide main pedestrian/cycle link to site and Wraysbury Park Drive”. As such, the footfall between the proposed footpath / cyclepath link and Wraysbury Park Drive is likely to be significant. However, visibility to the access from the west is restricted, and no measures are proposed to ensure that pedestrians and cyclists are aware of the Long Copse Lane carriageway. This could result in non-motorised users stepping into or attempting to cross Long Copse Lane when it is not safe to do so.

**RECOMMENDATION:**

It is recommended that a crossing point with adequate visibility and physical warning is provided.

**Location Plan:**

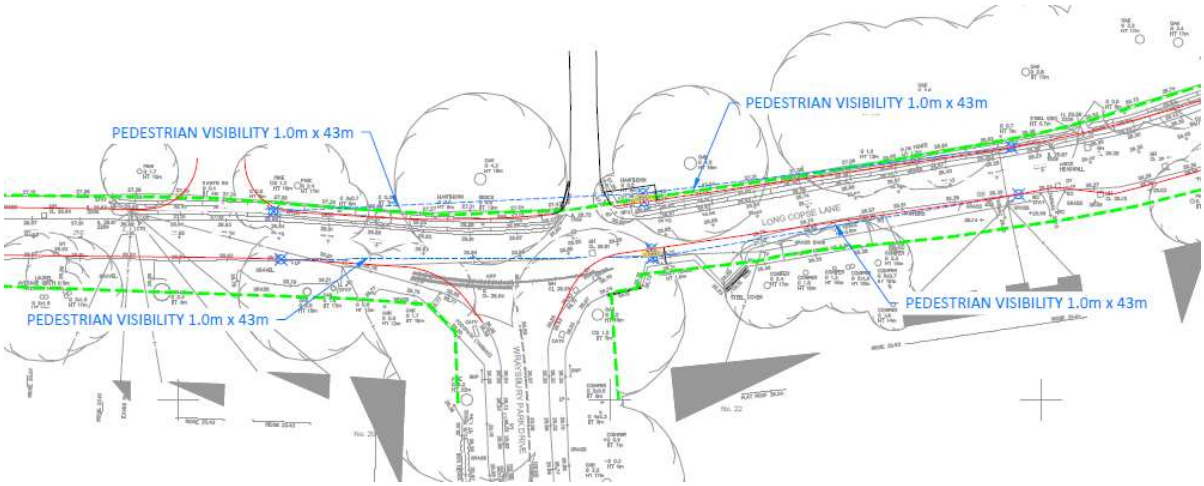





**DESIGN TEAM RESPONSE PROVIDED BY i-Transport on the 19th April 2018**

A vehicle crossover and appropriate signage is to be provided at the end of the Old Dairy Farm access, this will assist pedestrians and cyclists that they are approaching Long Copse Lane.

Pedestrian visibility of 1.0m x 43m can be achieved to the east and west from the location of the uncontrolled crossing point as shown on the extract below.




To enhance the crossing location and to assist the mobility impaired, a section of footway to the east of the Old Dairy Farm access has been provided, with tactile paving.

Exact details to form part of the detailed design process.

**AUDIT TEAM ROAD SAFETY VIEW OF RESPONSE IN RESPECT OF DESIGN CHANGE:**

The provision of a crossing point between Old Dairy Farm access and the existing footway network to the south, addresses the concern raised.

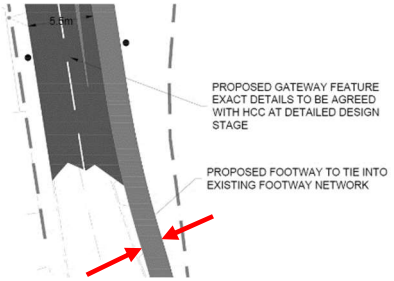
| **A.4.3** | **PROBLEM** |
|---|---|
| **Location:** | Hollybank Lane |
| **Summary:** | A street lighting column is present within existing steep verge |
| **Acc. Type:** | Vehicle / pedestrian collision or Pedestrian / wheelchair / buggy user fall |

The existing verge along the eastern side of Hollybank Lane rises away from the carriageway with the land alongside the illustrated highway boundary approximately 0.5m higher than the top of kerb. This crossfall of approximately 1 in 4 will be uncomfortable for pedestrians as well as wheelchair / buggy users and could result in pedestrians entering the live carriageway, or give rise to trips and falls. The presence of a street lighting column and boundary hedge will become obstructions to pedestrians.

**RECOMMENDATION:**

It is recommended that the cross fall of the proposed footway does not exceed 1 in 40, and is kept clear of obstructions.

**Location Plan:**






**DESIGN TEAM RESPONSE PROVIDED BY i-Transport on the 19th April 2018**

Proposed cross fall to not exceed 1 in 40 and is to be kept clear of obstruction. This will be addressed as part of the detailed design process.

**AUDIT TEAM ROAD SAFETY VIEW OF RESPONSE IN RESPECT OF DESIGN CHANGE:**

Confirmation that the proposed footway will be set at a max. crossfall of 1 in 40 and that it will be kept clear addresses the concern raised.

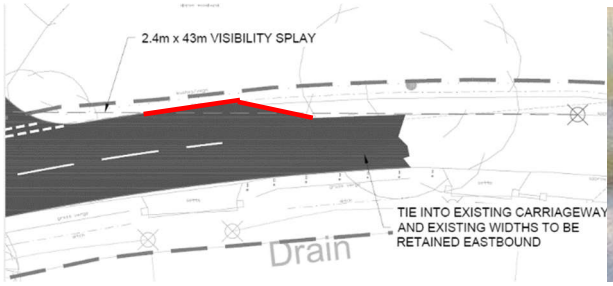
| **A.5** | **ROAD SIGNS, CARRIAGEWAY MARKINGS AND LIGHTING** |
|---|---|
| **A.5.1** | **PROBLEM** |
| **Location:** | Long Copse Lane east |
| **Summary:** | Carriageway width reduces suddenly without warning |
| **Acc. Type:** | Vehicle loss of control |

The proposals include the widening of Long Copse Lane to between 4.8 and 5.5 metres up to a point approximately 20 metres to the east of the proposed eastern access where no street lighting is present. The reduction in carriageway width is formed with a taper than is approximately 6 metres in length. Eastbound traffic travelling along Long Copse Lane may not become aware of the reduction in carriageway width at a safe distance and continue into the verge just beyond the taper or swerve into the path of an oncoming vehicle.

**RECOMMENDATION:**

It is recommended that warning signage, bollards and street lighting is provided

**Location Plan:**






**DESIGN TEAM RESPONSE PROVIDED BY i-Transport on the 19th April 2018**

The design has been revised, which locates the junction further west by circa 23m with a footway provided on the eastern side of the access to a proposed small section of footway on the southern side of Long Copse Lane, to provide a pedestrian connectivity to Redlands Lane. As part of the revision, the taper has been increased to approximately 15m in length to provide a smoother alignment.

As part of the detailed design process, appropriate signage, bollards and street lighting will be considered.

**AUDIT TEAM ROAD SAFETY VIEW OF RESPONSE IN RESPECT OF DESIGN CHANGE:**

The revised scheme and confirmation that signage, bollards and street lighting will be considered at the detailed design stage addresses the concern raised.

## A.6.0 STAGE 1 ROAD SAFETY AUDIT TEAM STATEMENT

A.6.1 We certify that this Road Safety Audit has been carried out in accordance with Road Safety Audit Procedures published by Hampshire County Council.

**Audit Team Leader**

Name: **Jamie Fenning**
*BSc (Hons), MSoRSA, MIHE, HE Certificate of Competency*
Position: Road Safety / Highway Engineer
Organisation: Fenley
Address: 2 Blaenant
Emmer Green
Reading
RG4 8PH

Tel: 07929 857 229
e-mail: jamie@fenley.co.uk

Signed: 

Date: 20th April 2018

**Audit Team Member**

Name: **Angharad Bradley**
*BEng (Hons), MSoRSA, MCIHT, HE Certificate of Competency*
Position: Road Safety / Highway Engineer
Organisation: Fenley
Address: 21 St James Close
Pangbourne
Reading
RG8 7AP
e-mail: angharad@fenley.co.uk

Signed: 

Date: 20th April 2018

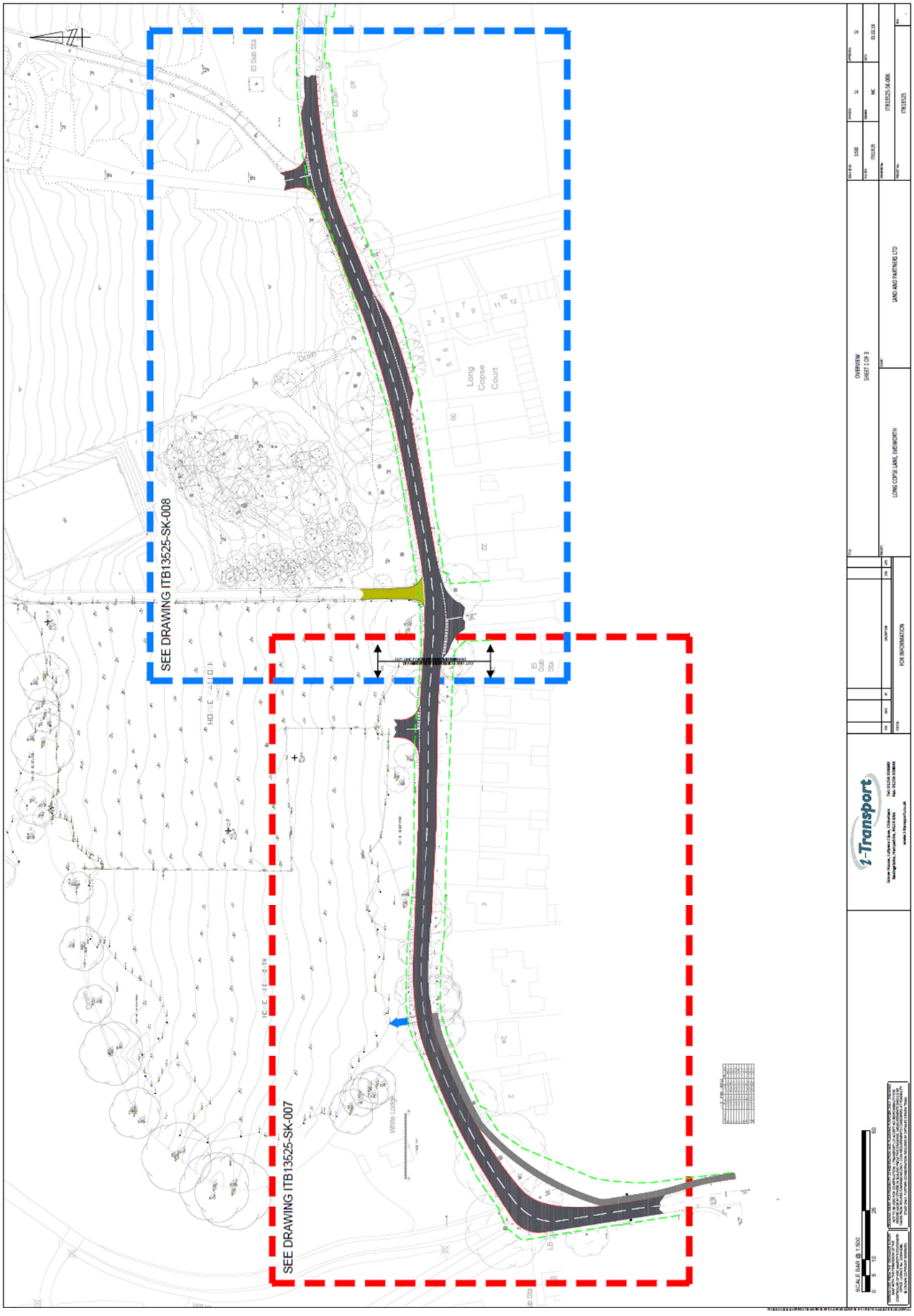
**Others in attendance**

**Farouk Bhatti**
Trainee Road Safety Auditor

# Appendix A1

## Drawings and Documents provided for this Stage 1 Road Safety Audit

| Audit Stage | Drawing No. | Rev | Title |
|---|---|---|---|
| Stage 1 | ITB13525-003 TN | - | Road Safety Audit Brief |
| | ITB13525-Figure T1 | - | Long Copse Lane, Emsworth Site Location Plan |
| | ITB13525-SK-006 | - | Overview (attached) |
| | ITB13525-SK-007 | - | Western Part |
| | ITB13525-SK-008 | - | Eastern Part |
| | ITB13525-SK-012 | - | Refuse Vehicle |
| | ITB13525-SK-013 | - | Refuse Vehicle |
| | ITB13525-SK-014 | - | Two Transit Vans |


SEE DRAWING ITB13525-SK-008
SEE DRAWING ITB13525-SK-007
Long Copse Court
OVERVIEW
SHEET 1 OF 3
LAND AND PARTNERS LTD
LONG COPSE LANE, EMSWORTH
FOR INFORMATION
i-Transport
SCALE BAR @ 1:500

# Appendix A2

## Photographs taken during the site visit on

## Monday 26th February 2018 between 3:50pm and 4:30pm




















White Lodge









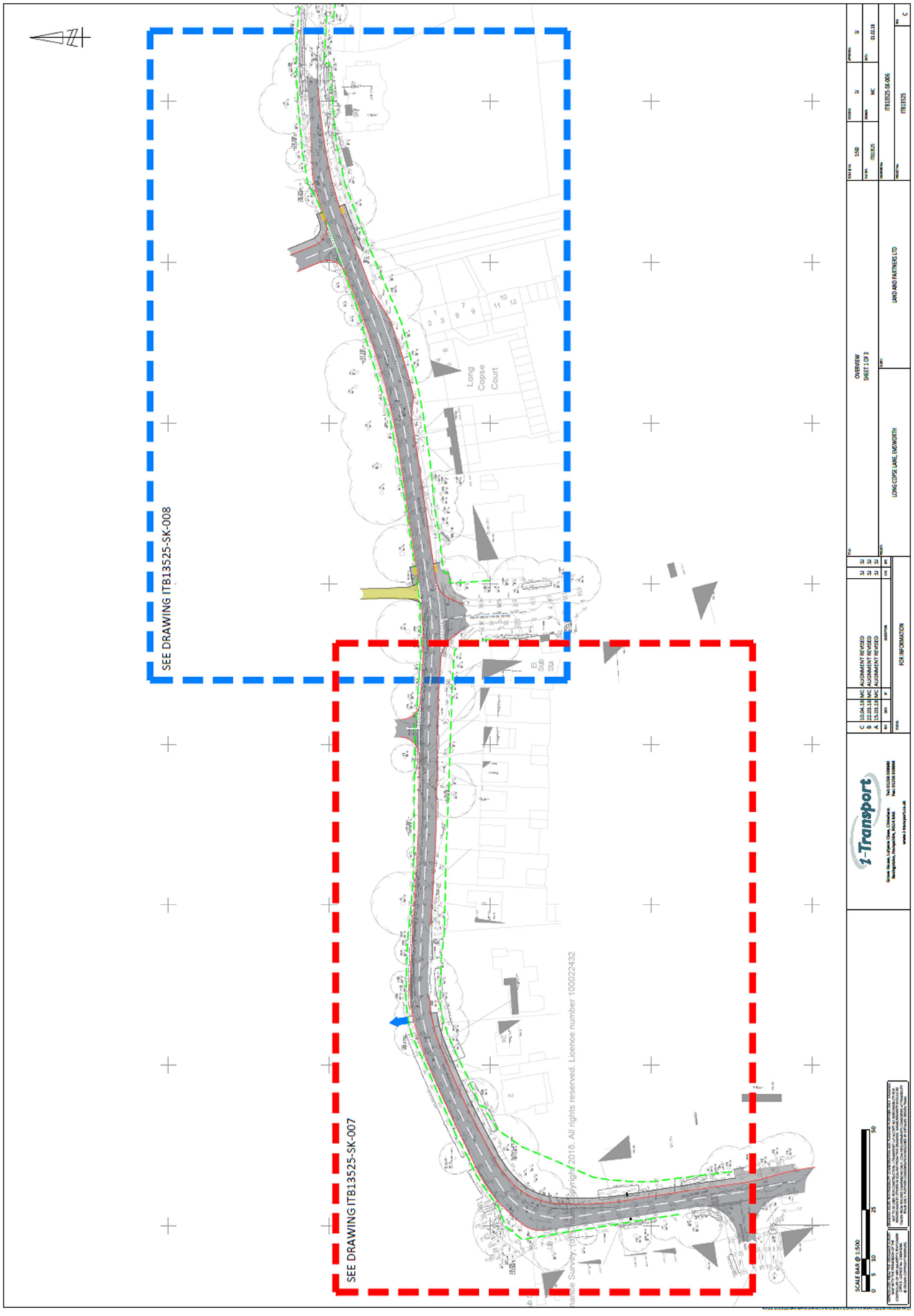





# Appendix A3

## Drawings or Documents associated with the Design Team Response

| Audit Stage | Drawing No. | Rev | Title |
|---|---|---|---|
| Stage 1 | ITB13525-SK-006 | C | Overview Sheet 1 of 3 (Attached) |
| | ITB13525-SK-007 | C | Potential Site Access Arrangements Sheet 2 of 3 |
| | ITB13525-SK-008 | C | Potential Site Access Arrangements Sheet 3 of 3 |
| | ITB13525-SK-012 | C | Vehicle Swept Path Analysis – Refuse Vehicle and Private Car |
| | ITB13525-SK-013 | C | Vehicle Swept Path Analysis – Refuse Vehicle and Private Car |
| | ITB13525-SK-014 | C | Vehicle Swept Path Analysis – Transit Van |


SEE DRAWING ITB13525-SK-008
SEE DRAWING ITB13525-SK-007
Long Copse Court
OVERVIEW
SHEET 1 OF 3
LAND AND PARTNERS LTD
LONG COPSE LANE, EMSWORTH
FOR INFORMATION
i-Transport
SCALE BAR @ 1:500


fenley

# APPENDIX E DISTRIBUTION AND ASSIGNMENT MODEL

| Destination | Total | | Proportion per route | By Route | Route 1 (Site Access) | Route 2 | Route 3 | Route 4 | Route 5 | Route 6 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Proportion by car | Driving a car or van | | Proportion by car | | | | | | |
| Arundel/Westergate | 0.5% | 12 | 100% | 0.5% | Long Copse Lane E | North St N | *Lost in Network* | *Lost in Network* | *Lost in Network* | *Lost in Network* |
| Basingstoke | 0.6% | 13 | 100% | 0.6% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Comley Hill N | *Lost in Network* |
| Bedhampton (Havant) | 1.4% | 34 | 100% | 1.4% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | *Lost in Network* |
| Chichester | 22.9% | 536 | 100% | 22.9% | Long Copse Lane E | North St N | *Lost in Network* | *Lost in Network* | *Lost in Network* | *Lost in Network* |
| East Hampshire | 5.3% | 124 | 100% | 5.3% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Comley Hill N | *Lost in Network* |
| Eastleigh | 2.2% | 51 | 60% | 1.3% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W |
| | | | 40% | 0.87% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | *Lost in Network* |
| Emsworth | 6.0% | 141 | 0% | 0.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | High Street |
| | | | 100% | 6.0% | Long Copse Lane W | Wraysbury Park Drive S | Redlands Lane S | New Brighton Road S | North Street S | High Street |
| Fareham | 4.4% | 103 | 60% | 2.6% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W |
| | | | 40% | 1.8% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | Lost in Network |
| Gosport | 1.3% | 31 | 50% | 0.7% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W |
| | | | 50% | 0.7% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | Lost in Network |
| Hayling Island | 1.0% | 23 | 50% | 0.5% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W |
| | | | 50% | 0.5% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Southleigh Rd W | Southleigh Rd W | Emsworth Road E |
| Leigh Park (Havant) | 0.3% | 8 | 100% | 0.3% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | *Lost in Network* |
| London | 0.9% | 20 | 100% | 0.9% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Comley Hill N | *Lost in Network* |
| Other East | 1.2% | 29 | 100% | 1.2% | Long Copse Lane E | North St N | *Lost in Network* | *Lost in Network* | *Lost in Network* | *Lost in Network* |
| Other North | 2.0% | 47 | 100% | 2.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Comley Hill N | *Lost in Network* |
| Other North East | 2.7% | 64 | 100% | 2.7% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Comley Hill N | *Lost in Network* |
| Other West | 2.0% | 47 | 100% | 2.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W |
| Portsmouth | 20.3% | 476 | 70% | 14.2% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W |
| | | | 30% | 6.1% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | Lost in Network |
| Purbrook/ Widley | 2.4% | 56 | 100% | 2.4% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | *Lost in Network* |
| Rose Green/Bognor Regis/North Bersted/Yapton | 1.3% | 30 | 100% | 1.3% | Long Copse Lane E | North St N | *Lost in Network* | *Lost in Network* | *Lost in Network* | *Lost in Network* |
| Southampton | 2.0% | 48 | 100% | 2.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W |
| Warblington (Havant) | 9.4% | 220 | 100% | 9.4% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Southleigh Rd W | *Lost in Network* | *Lost in Network* |
| Waterlooville | 2.0% | 47 | 100% | 2.0% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Comley Hill N | *Lost in Network* |
| West Leigh (Havant) | 4.2% | 99 | 100% | 4.2% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | *Lost in Network* |
| Winchester | 3.7% | 86 | 100% | 3.7% | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Comley Hill N | *Lost in Network* |
| **Total** | **100.0%** | **2345** | | **100.0%** | | | | | | |

| Route 1 (Site Access) | Proportion of Cars | 45% |
|---|---|---|
| Long Copse Lane E | 26% | 11.6% |
| Long Copse Lane W | 74% | 33.4% |
| Total | 100% | 45% |

| Route 2 | Proportion of Cars | 45% |
|---|---|---|
| Hollybank Lane S | 68% | 30.6% |
| North St N | 26% | 11.6% |
| Wraysbury Park Drive S | 6% | 2.7% |
| Total | 100% | 45% |

| Route 3 | Proportion of Cars | 45% |
|---|---|---|
| Lost in Network | 25.9% | 11.6% |
| Redlands Lane S | 6.0% | 2.7% |
| Southleigh Rd W | 68.1% | 30.6% |
| Total | 100% | 45% |

| Route 4 | Proportion of Cars | 45% |
|---|---|---|
| Horndean Road N | 34.9% | 15.7% |
| Horndean Road S | 23.4% | 10.5% |
| Lost in Network | 25.9% | 11.6% |
| New Brighton Road S | 6.0% | 2.7% |
| Southleigh Rd W | 9.9% | 4.4% |
| Total | 100% | 45% |

| Route 5 | Proportion of Cars | 45% |
|---|---|---|
| Bartons Road W | 17.8% | 8.0% |
| Comley Hill N | 17.1% | 7.7% |
| Lost in Network | 35.3% | 15.9% |
| North Street S | 29.4% | 13.2% |
| Southleigh Rd W | 0.5% | 0.2% |
| Total | 100% | 45% |

| Route 6 | Proportion of Cars | 45% |
|---|---|---|
| A259 W | 23.4% | 10.5% |
| Emsworth Road E | 0.5% | 0.2% |
| High Street | 6.0% | 2.7% |
| Lost in Network | 70.1% | 31.6% |
| Total | 100% | 45% |

**i-Transport Project Title - Long Copse Lane Emsworth**
**Gravity Model** **30 Minute JT**

| Location | Route 1 | Route 2 | Route 3 | Route 4 | Route 5 | Route 6 | Route 7 | Time (mins) | 2011 Census Total Population | P/T | P/T^2 | % of total | Car driver mode split | | % of Car Driver | % By Route | % of Car Driver |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Havant | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | Lost in Network | - | 10 | 45,125 | 4,513 | 451 | 25.9% | 72.6% | 18.8% | 25.7% | 100.0% | 25.7% |
| Chichester | Long Copse Lane E | North St N | Lost in Network | Lost in Network | Lost in Network | Lost in Network | - | 22 | 28,657 | 1,303 | 59 | 3.4% | 77.8% | 2.6% | 3.6% | 100.0% | 3.6% |
| Emsworth | Long Copse Lane W | Wraysbury Park Drive S | Redlands Lane S | New Brighton Road S | North Street S | High Street | - | 8 | 9,492 | 1,187 | 148 | 8.5% | 37.6% | 3.2% | 4.4% | 100.0% | 4.4% |
| Fareham | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W | A27 W | 24 | 42,210 | 1,759 | 73 | 4.2% | 88.8% | 3.7% | 5.1% | 60.0% | 3.1% |
| | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | Lost in Network | - | | | | | | | | | 40.0% | 2.0% |
| Hayling Island | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W | A27 W | 14 | 17,379 | 1,241 | 89 | 5.1% | 63.9% | 3.3% | 4.4% | 50.0% | 2.2% |
| | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Southleigh Rd W | Southleigh Rd W | Emsworth Road E | A27 W | | | | | | | | | 50.0% | 2.2% |
| Portsmouth | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road S | North Street S | A259 W | A27 W | 18 | 238,137 | 13,230 | 735 | 42.3% | 78.9% | 33.4% | 45.4% | 70.0% | 31.8% |
| | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Bartons Road W | Lost in Network | - | | | | | | | | | 30.0% | 13.6% |
| Waterlooville | Long Copse Lane W | Hollybank Lane S | Southleigh Rd W | Horndean Road N | Comley Hill N | Lost in Network | - | 16 | 46,924 | 2,933 | 183 | 10.5% | 79.7% | 8.4% | 11.4% | 100.0% | 11.4% |
| | | | | | | | | | 427,924 | 26,164 | 1,739 | 100.0% | | | 100.0% | | 100.0% |

| Route 1 (Site Access) | Proportion of Cars | 55% |
|---|---|---|
| Long Copse Lane E | 4% | 2.0% |
| Long Copse Lane W | 96% | 53.0% |
| Total | 100% | 55% |

| Route 2 | Proportion of Cars | 55% |
|---|---|---|
| Hollybank Lane S | 92% | 50.6% |
| North St N | 4% | 2.0% |
| Wraysbury Park Drive S | 4% | 2.4% |
| Total | 100% | 55% |

| Route 3 | Proportion of Cars | 55% |
|---|---|---|
| Lost in Network | 4% | 2.0% |
| Redlands Lane S | 4% | 2.4% |
| Southleigh Rd W | 92% | 50.6% |
| Total | 100% | 55% |

| Route 4 | Proportion of Cars | 55% |
|---|---|---|
| Horndean Road N | 53% | 29.0% |
| Horndean Road S | 37% | 20.4% |
| Lost in Network | 4% | 2.0% |
| New Brighton Road S | 4% | 2.4% |
| Southleigh Rd W | 2% | 1.2% |
| Total | 100% | 55% |

| Route 5 | Proportion of Cars | 55% |
|---|---|---|
| Bartons Road W | 41% | 22.7% |
| Comley Hill N | 11% | 6.3% |
| Lost in Network | 4% | 2.0% |
| North Street S | 41% | 22.8% |
| Southleigh Rd W | 2% | 1.2% |
| Total | 100% | 55% |

| Route 6 | Proportion of Cars | 55% |
|---|---|---|
| A259 W | 37% | 20.4% |
| Emsworth Road E | 2% | 1.2% |
| Lost in Network | 56% | 31.0% |
| High Street | 4% | 2.4% |
| Total | 100% | 55% |

| Route 1 (Site Access) | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Long Copse Lane E | 11.6% | 2.0% | 13.6% |
| Long Copse Lane W | 33.4% | 53.0% | 86.4% |
| Total | 46.0% | 54% | 100.0% |

| Route 2 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Hollybank Lane S | 30.6% | 50.6% | 81.3% |
| North St N | 11.6% | 2.0% | 13.6% |
| Wraysbury Park Drive S | 2.7% | 2.4% | 5.1% |
| Total | 45.0% | 55.0% | 100.0% |

| Route 3 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Lost in Network | 11.6% | 2.0% | 13.6% |
| Redlands Lane S | 2.7% | 2.4% | 5.1% |
| Southleigh Rd W | 30.6% | 50.6% | 81.3% |
| Total | 45.0% | 55.0% | 100.0% |

| Route 4 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Horndean Road N | 15.7% | 29.0% | 44.7% |
| Horndean Road S | 10.5% | 20.4% | 30.9% |
| Lost in Network | 11.6% | 2.0% | 13.6% |
| New Brighton Road S | 2.7% | 2.4% | 5.1% |
| Southleigh Rd W | 4.4% | 1.2% | 5.7% |
| Total | 45.0% | 55.0% | 100.0% |

| Route 5 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| Bartons Road W | 8.0% | 22.7% | 30.7% |
| Comley Hill N | 7.7% | 6.3% | 14.0% |
| Lost in Network | 15.9% | 2.0% | 17.9% |
| North Street S | 13.2% | 22.8% | 36.0% |
| Southleigh Rd W | 0.2% | 1.2% | 1.4% |
| Total | 45.0% | 55.0% | 100.0% |

| Route 6 | Journey to Work | Gravity | Combined |
|---|---|---|---|
| A259 W | 10.5% | 20.4% | 30.9% |
| Emsworth Road E | 0.2% | 1.2% | 1.4% |
| High Street | 2.7% | 2.4% | 5.1% |
| Lost in Network | 31.6% | 31.0% | 62.6% |
| Total | 45.0% | 55.0% | 100.0% |

# APPENDIX F JUNCTION MODELLING OUTPUTS

# Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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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:** Eastern Site Access Long Copse Lane Junction.j9
**Path:** T:\Projects\13000 Series\13525ITB Long Copse Lane, Emsworth\Tech\Junction Assessments\Picady
**Report generation date:** 12/10/2018 14:14:41

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»2023 'with development', AM
»2023 'with development', PM

### Summary of junction performance

| | AM | | | | PM | | | |
|---|---|---|---|---|---|---|---|---|
| | Queue (Veh) | Delay (s) | RFC | LOS | Queue (Veh) | Delay (s) | RFC | LOS |
| | 2023 'with development' | | | | | | | |
| Stream B-AC | 0.3 | 8.24 | 0.21 | A | 0.1 | 7.27 | 0.09 | A |
| Stream C-AB | 0.0 | 5.84 | 0.01 | A | 0.0 | 5.98 | 0.02 | 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** | Eastern Site Access Junction |
| **Location** | Emsworth |
| **Site number** | ITB13525 |
| **Date** | 12/02/2018 |
| **Version** | |
| **Status** | |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | I-TRANSPORT\Hotdesk |
| **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 | perHour | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D2 | 2023 'with development' | PM | ONE HOUR | 16:45 | 18:15 | 15 |

## Analysis Set Details

| ID | Network flow scaling factor (%) |
|---|---|
| A1 | 100.000 |

# 2023 'with development', 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. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Eastern Site Access | T-Junction | Two-way | | 4.75 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | Long Copse Lane W | | Major |
| B | Eastern Site Access | | Minor |
| C | Long Copse Lane E | | 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 - Long Copse Lane E | 6.00 | | | 75.0 | ✓ | 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 - Eastern Site Access | One lane | 3.60 | 55 | 48 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|---|
| 1 | B-A | 550 | 0.100 | 0.253 | 0.159 | 0.362 |
| 1 | B-C | 693 | 0.106 | 0.269 | - | - |
| 1 | C-B | 617 | 0.239 | 0.239 | - | - |

*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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane W | | ✓ | 53 | 100.000 |
| B - Eastern Site Access | | ✓ | 103 | 100.000 |
| C - Long Copse Lane E | | ✓ | 28 | 100.000 |

# Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane W | B - Eastern Site Access | C - Long Copse Lane E |
| From | A - Long Copse Lane W | 0 | 24 | 29 |
| | B - Eastern Site Access | 89 | 0 | 14 |
| | C - Long Copse Lane E | 24 | 4 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane W | B - Eastern Site Access | C - Long Copse Lane E |
| From | A - Long Copse Lane W | 0 | 0 | 0 |
| | B - Eastern Site Access | 0 | 0 | 0 |
| | C - Long Copse Lane E | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.21 | 8.24 | 0.3 | A |
| C-AB | 0.01 | 5.84 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 78 | 555 | 0.140 | 77 | 0.2 | 7.518 | A |
| C-AB | 3 | 620 | 0.005 | 3 | 0.0 | 5.836 | A |
| C-A | 18 | | | 18 | | | |
| A-B | 18 | | | 18 | | | |
| A-C | 22 | | | 22 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 93 | 553 | 0.167 | 92 | 0.2 | 7.814 | A |
| C-AB | 4 | 620 | 0.006 | 4 | 0.0 | 5.837 | A |
| C-A | 21 | | | 21 | | | |
| A-B | 22 | | | 22 | | | |
| A-C | 26 | | | 26 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 113 | 550 | 0.206 | 113 | 0.3 | 8.236 | A |
| C-AB | 5 | 621 | 0.007 | 5 | 0.0 | 5.839 | A |
| C-A | 26 | | | 26 | | | |
| A-B | 26 | | | 26 | | | |
| A-C | 32 | | | 32 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 113 | 550 | 0.206 | 113 | 0.3 | 8.244 | A |
| C-AB | 5 | 621 | 0.007 | 5 | 0.0 | 5.842 | A |
| C-A | 26 | | | 26 | | | |
| A-B | 26 | | | 26 | | | |
| A-C | 32 | | | 32 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 93 | 553 | 0.167 | 93 | 0.2 | 7.826 | A |
| C-AB | 4 | 620 | 0.006 | 4 | 0.0 | 5.840 | A |
| C-A | 21 | | | 21 | | | |
| A-B | 22 | | | 22 | | | |
| A-C | 26 | | | 26 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 78 | 555 | 0.140 | 78 | 0.2 | 7.544 | A |
| C-AB | 3 | 620 | 0.005 | 3 | 0.0 | 5.836 | A |
| C-A | 18 | | | 18 | | | |
| A-B | 18 | | | 18 | | | |
| A-C | 22 | | | 22 | | | |

# 2023 'with development', PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Eastern Site Access | T-Junction | Two-way | | 2.22 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D2 | 2023 'with development' | PM | ONE HOUR | 16:45 | 18:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane W | | ✓ | 90 | 100.000 |
| B - Eastern Site Access | | ✓ | 44 | 100.000 |
| C - Long Copse Lane E | | ✓ | 40 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane W | B - Eastern Site Access | C - Long Copse Lane E |
| From | A - Long Copse Lane W | 0 | 68 | 22 |
| | B - Eastern Site Access | 38 | 0 | 6 |
| | C - Long Copse Lane E | 29 | 11 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane W | B - Eastern Site Access | C - Long Copse Lane E |
| From | A - Long Copse Lane W | 0 | 0 | 0 |
| | B - Eastern Site Access | 0 | 0 | 0 |
| | C - Long Copse Lane E | 3 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.09 | 7.27 | 0.1 | A |
| C-AB | 0.02 | 5.98 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 33 | 551 | 0.060 | 33 | 0.1 | 6.947 | A |
| C-AB | 9 | 616 | 0.014 | 9 | 0.0 | 5.930 | A |
| C-A | 22 | | | 22 | | | |
| A-B | 51 | | | 51 | | | |
| A-C | 17 | | | 17 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 40 | 548 | 0.072 | 40 | 0.1 | 7.082 | A |
| C-AB | 10 | 615 | 0.017 | 10 | 0.0 | 5.950 | A |
| C-A | 26 | | | 26 | | | |
| A-B | 61 | | | 61 | | | |
| A-C | 20 | | | 20 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 48 | 544 | 0.089 | 48 | 0.1 | 7.268 | A |
| C-AB | 13 | 615 | 0.021 | 13 | 0.0 | 5.978 | A |
| C-A | 31 | | | 31 | | | |
| A-B | 75 | | | 75 | | | |
| A-C | 24 | | | 24 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 48 | 544 | 0.089 | 48 | 0.1 | 7.268 | A |
| C-AB | 13 | 615 | 0.021 | 13 | 0.0 | 5.979 | A |
| C-A | 31 | | | 31 | | | |
| A-B | 75 | | | 75 | | | |
| A-C | 24 | | | 24 | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 40 | 548 | 0.072 | 40 | 0.1 | 7.084 | A |
| C-AB | 10 | 615 | 0.017 | 10 | 0.0 | 5.952 | A |
| C-A | 26 | | | 26 | | | |
| A-B | 61 | | | 61 | | | |
| A-C | 20 | | | 20 | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 33 | 551 | 0.060 | 33 | 0.1 | 6.957 | A |
| C-AB | 9 | 616 | 0.014 | 9 | 0.0 | 5.932 | A |
| C-A | 22 | | | 22 | | | |
| A-B | 51 | | | 51 | | | |
| A-C | 17 | | | 17 | | | |

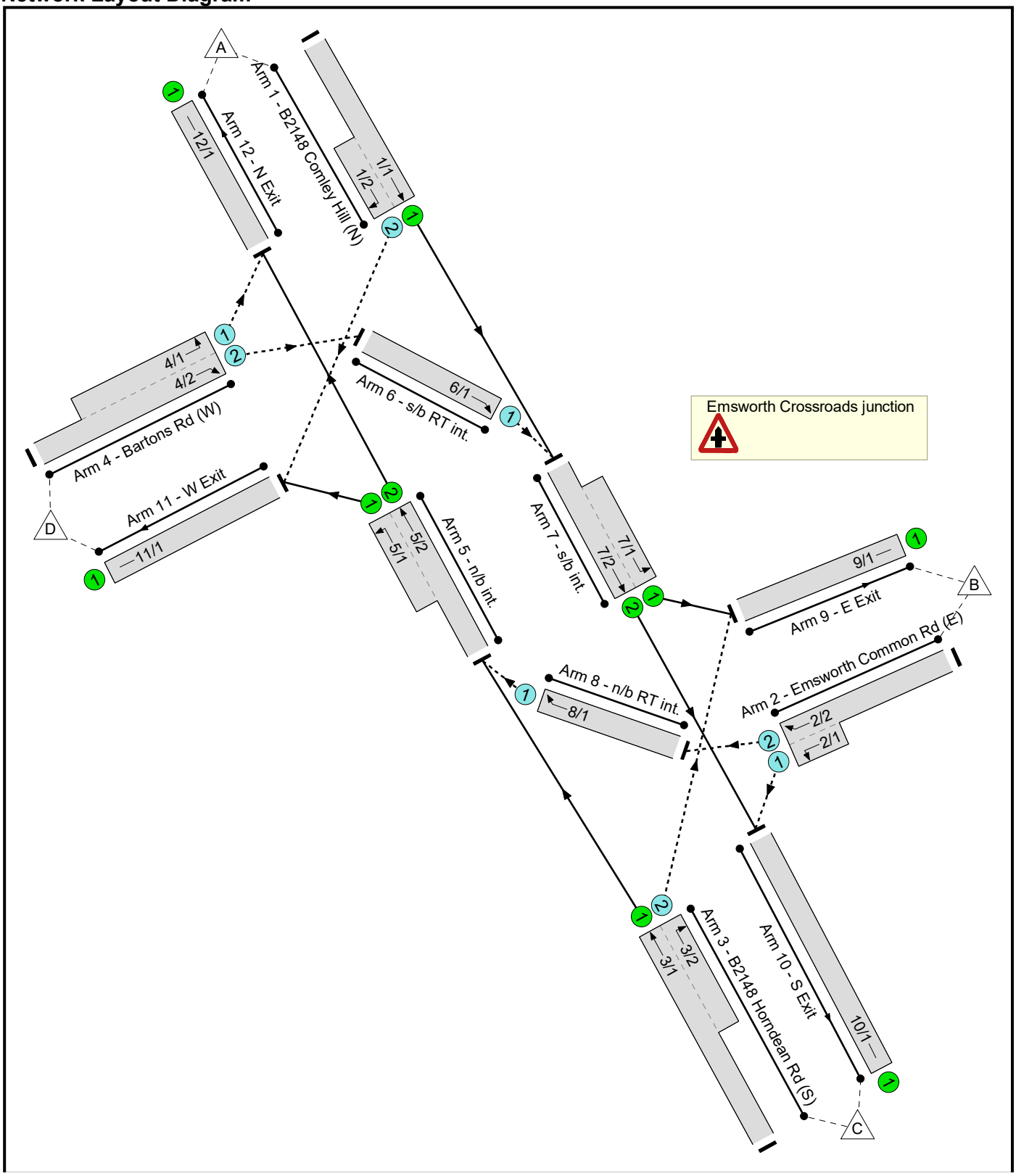
# Full Input Data And Results

## User and Project Details

| | |
|---|---|
| **Project:** | **ITB13535 Emsworth** |
| **Title:** | **Emsworth Common Crossroads junction** |
| **Location:** | |
| **Additional detail:** | |
| **File name:** | Emsworth Common Crossroads ic.lsg3x |
| **Author:** | |
| **Company:** | |
| **Address:** | |

Full Input Data And Results

## Network Layout Diagram



Full Input Data And Results

## Give-Way Lane Input Data

**Junction: Emsworth Crossroads junction**

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 (B2148 Comley Hill (N)) | 11/1 (Right) | 672 | 0 | 5/2 | 0.25 | All | - | - | - | - | - |
| | | | | 5/1 | 0.25 | All | | | | | |
| 2/1 (Emsworth Common Rd (E)) | 10/1 (Left) | 637 | 0 | 7/2 | 0.23 | All | - | - | - | - | - |
| | | | | 7/1 | 0.09 | All | | | | | |
| 2/2 (Emsworth Common Rd (E)) | 8/1 (Ahead) | 659 | 0 | 7/2 | 0.25 | All | - | - | - | - | - |
| | | | | 3/2 | 0.36 | All | | | | | |
| | | | | 7/1 | 0.10 | All | | | | | |
| 3/2 (B2148 Horndean Rd (S)) | 9/1 (Right) | 669 | 0 | 7/2 | 0.24 | All | - | - | - | - | - |
| 4/1 (Bartons Rd (W)) | 12/1 (Left) | 667 | 0 | 5/2 | 0.16 | All | - | - | - | - | - |
| | | | | 5/1 | 0.10 | All | | | | | |
| 4/2 (Bartons Rd (W)) | 6/1 (Right) | 643 | 0 | 1/2 | 0.36 | All | - | - | - | - | - |
| | | | | 5/2 | 0.25 | All | | | | | |
| | | | | 5/1 | 0.10 | All | | | | | |
| 6/1 (s/b RT int.) | 7/2 (Ahead) | 620 | 0 | 1/1 | 0.16 | All | - | - | - | - | - |
| 8/1 (n/b RT int.) | 5/2 (Ahead) | 626 | 0 | 3/1 | 0.16 | All | - | - | - | - | - |

Full Input Data And Results

## Lane Input Data

| Junction: Emsworth Crossroads junction | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 (B2148 Comley Hill (N)) | U | | 2 | 3 | 60.0 | User | 1900 | - | - | - | - | - |
| 1/2 (B2148 Comley Hill (N)) | O | | 2 | 3 | 5.2 | User | 1900 | - | - | - | - | - |
| 2/1 (Emsworth Common Rd (E)) | O | | 2 | 3 | 3.5 | User | 1900 | - | - | - | - | - |
| 2/2 (Emsworth Common Rd (E)) | O | | 2 | 3 | 60.0 | User | 1900 | - | - | - | - | - |
| 3/1 (B2148 Horndean Rd (S)) | U | | 2 | 3 | 60.0 | User | 1900 | - | - | - | - | - |
| 3/2 (B2148 Horndean Rd (S)) | O | | 2 | 3 | 7.8 | User | 1900 | - | - | - | - | - |
| 4/1 (Bartons Rd (W)) | O | | 2 | 3 | 9.6 | User | 1900 | - | - | - | - | - |
| 4/2 (Bartons Rd (W)) | O | | 2 | 3 | 60.0 | User | 1900 | - | - | - | - | - |
| 5/1 (n/b int.) | U | | 2 | 3 | 6.4 | User | 1900 | - | - | - | - | - |
| 5/2 (n/b int.) | U | | 2 | 3 | 6.4 | User | 1900 | - | - | - | - | - |
| 6/1 (s/b RT int.) | O | | 2 | 3 | 1.9 | User | 1900 | - | - | - | - | - |
| 7/1 (s/b int.) | U | | 2 | 3 | 7.3 | User | 1900 | - | - | - | - | - |
| 7/2 (s/b int.) | U | | 2 | 3 | 7.3 | User | 1900 | - | - | - | - | - |
| 8/1 (n/b RT int.) | O | | 2 | 3 | 2.1 | User | 1900 | - | - | - | - | - |
| 9/1 (E Exit) | U | | 2 | 3 | 60.0 | Inf | - | - | - | - | - | - |
| 10/1 (S Exit) | U | | 2 | 3 | 60.0 | Inf | - | - | - | - | - | - |
| 11/1 (W Exit) | U | | 2 | 3 | 60.0 | Inf | - | - | - | - | - | - |
| 12/1 (N Exit) | U | | 2 | 3 | 60.0 | Inf | - | - | - | - | - | - |

Full Input Data And Results

## Traffic Flow Groups

| Flow Group | Start Time | End Time | Duration | Formula |
|---|---|---|---|---|
| 1: '2018 AM Observed' | 08:00 | 09:00 | 01:00 | |
| 2: '2018 PM Observed' | 17:00 | 18:00 | 01:00 | |
| 3: '2023 AM Without Development' | 08:00 | 09:00 | 01:00 | |
| 4: '2023 PM Without Development' | 17:00 | 18:00 | 01:00 | |
| 5: '2023 AM With Development' | 08:00 | 09:00 | 01:00 | |
| 6: '2023 PM With Development' | 17:00 | 18:00 | 01:00 | |

**Scenario 1: '1'** (FG1: '2018 AM Observed', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| | | Destination | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 150 | 175 | 75 | 400 |
| | B | 54 | 0 | 22 | 168 | 244 |
| | C | 201 | 67 | 0 | 276 | 544 |
| | D | 39 | 260 | 167 | 0 | 466 |
| | Tot. | 294 | 477 | 364 | 519 | 1654 |

Full Input Data And Results

## Traffic Lane Flows

| Lane | Scenario 1: 1 |
|---|---|
| **Junction: Emsworth Crossroads junction** | |
| 1/1 (with short) | 400(In) 325(Out) |
| 1/2 (short) | 75 |
| 2/1 (short) | 22 |
| 2/2 (with short) | 244(In) 222(Out) |
| 3/1 (with short) | 544(In) 477(Out) |
| 3/2 (short) | 67 |
| 4/1 (short) | 39 |
| 4/2 (with short) | 466(In) 427(Out) |
| 5/1 (short) | 444 |
| 5/2 (with short) | 699(In) 255(Out) |
| 6/1 | 427 |
| 7/1 (short) | 410 |
| 7/2 (with short) | 752(In) 342(Out) |
| 8/1 | 222 |
| 9/1 | 477 |
| 10/1 | 364 |
| 11/1 | 519 |
| 12/1 | 294 |

Full Input Data And Results

## Lane Saturation Flows

| Junction: Emsworth Crossroads junction | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **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 (B2148 Comley Hill (N) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 1/2 (B2148 Comley Hill (N) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/1 (Emsworth Common Rd (E) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/2 (Emsworth Common Rd (E) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/1 (B2148 Horndean Rd (S) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/2 (B2148 Horndean Rd (S) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/1 (Bartons Rd (W) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/2 (Bartons Rd (W) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/1 (n/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/2 (n/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 6/1 (s/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/1 (s/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/2 (s/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 8/1 (n/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 9/1 (E Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 10/1 (S Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 11/1 (W Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 12/1 (N Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |

Full Input Data And Results

**Scenario 2: '2'** (FG2: '2018 PM Observed', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| Origin | Destination | | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| | A | 0 | 74 | 214 | 80 | 368 |
| | B | 95 | 0 | 63 | 351 | 509 |
| | C | 180 | 18 | 0 | 251 | 449 |
| | D | 63 | 149 | 179 | 0 | 391 |
| | Tot. | 338 | 241 | 456 | 682 | 1717 |

## Traffic Lane Flows

| Lane | Scenario 2: 2 |
|---|---|
| **Junction: Emsworth Crossroads junction** | |
| 1/1 (with short) | 368(In) 288(Out) |
| 1/2 (short) | 80 |
| 2/1 (short) | 63 |
| 2/2 (with short) | 509(In) 446(Out) |
| 3/1 (with short) | 449(In) 431(Out) |
| 3/2 (short) | 18 |
| 4/1 (short) | 63 |
| 4/2 (with short) | 391(In) 328(Out) |
| 5/1 (short) | 602 |
| 5/2 (with short) | 877(In) 275(Out) |
| 6/1 | 328 |
| 7/1 (short) | 223 |
| 7/2 (with short) | 616(In) 393(Out) |
| 8/1 | 446 |
| 9/1 | 241 |
| 10/1 | 456 |
| 11/1 | 682 |
| 12/1 | 338 |

Full Input Data And Results

## Lane Saturation Flows

| Junction: Emsworth Crossroads junction | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **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 (B2148 Comley Hill (N) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 1/2 (B2148 Comley Hill (N) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/1 (Emsworth Common Rd (E) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/2 (Emsworth Common Rd (E) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/1 (B2148 Horndean Rd (S) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/2 (B2148 Horndean Rd (S) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/1 (Bartons Rd (W) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/2 (Bartons Rd (W) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/1 (n/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/2 (n/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 6/1 (s/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/1 (s/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/2 (s/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 8/1 (n/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 9/1 (E Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 10/1 (S Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 11/1 (W Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 12/1 (N Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |

Full Input Data And Results

**Scenario 3: '3'** (FG3: '2023 AM Without Development', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| Origin | Destination | | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| | A | 0 | 161 | 188 | 80 | 429 |
| | B | 58 | 0 | 24 | 182 | 264 |
| | C | 217 | 72 | 0 | 298 | 587 |
| | D | 54 | 286 | 183 | 0 | 523 |
| | Tot. | 329 | 519 | 395 | 560 | 1803 |

## Traffic Lane Flows

| Lane | Scenario 3: 3 |
|---|---|
| **Junction: Emsworth Crossroads junction** | |
| 1/1 (with short) | 429(In) 349(Out) |
| 1/2 (short) | 80 |
| 2/1 (short) | 24 |
| 2/2 (with short) | 264(In) 240(Out) |
| 3/1 (with short) | 587(In) 515(Out) |
| 3/2 (short) | 72 |
| 4/1 (short) | 54 |
| 4/2 (with short) | 523(In) 469(Out) |
| 5/1 (short) | 480 |
| 5/2 (with short) | 755(In) 275(Out) |
| 6/1 | 469 |
| 7/1 (short) | 447 |
| 7/2 (with short) | 818(In) 371(Out) |
| 8/1 | 240 |
| 9/1 | 519 |
| 10/1 | 395 |
| 11/1 | 560 |
| 12/1 | 329 |

Full Input Data And Results

## Lane Saturation Flows

| Junction: Emsworth Crossroads junction | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **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 (B2148 Comley Hill (N) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 1/2 (B2148 Comley Hill (N) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/1 (Emsworth Common Rd (E) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/2 (Emsworth Common Rd (E) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/1 (B2148 Horndean Rd (S) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/2 (B2148 Horndean Rd (S) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/1 (Bartons Rd (W) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/2 (Bartons Rd (W) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/1 (n/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/2 (n/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 6/1 (s/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/1 (s/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/2 (s/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 8/1 (n/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 9/1 (E Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 10/1 (S Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 11/1 (W Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 12/1 (N Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |

Full Input Data And Results

**Scenario 4: '4'** (FG4: '2023 PM Without Development', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| Origin | Destination | | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| | A | 0 | 79 | 230 | 86 | 395 |
| | B | 102 | 0 | 68 | 381 | 551 |
| | C | 193 | 19 | 0 | 272 | 484 |
| | D | 75 | 163 | 193 | 0 | 431 |
| | Tot. | 370 | 261 | 491 | 739 | 1861 |

## Traffic Lane Flows

| Lane | Scenario 4: 4 |
|---|---|
| **Junction: Emsworth Crossroads junction** | |
| 1/1 (with short) | 395(In) 309(Out) |
| 1/2 (short) | 86 |
| 2/1 (short) | 68 |
| 2/2 (with short) | 551(In) 483(Out) |
| 3/1 (with short) | 484(In) 465(Out) |
| 3/2 (short) | 19 |
| 4/1 (short) | 75 |
| 4/2 (with short) | 431(In) 356(Out) |
| 5/1 (short) | 653 |
| 5/2 (with short) | 948(In) 295(Out) |
| 6/1 | 356 |
| 7/1 (short) | 242 |
| 7/2 (with short) | 665(In) 423(Out) |
| 8/1 | 483 |
| 9/1 | 261 |
| 10/1 | 491 |
| 11/1 | 739 |
| 12/1 | 370 |

Full Input Data And Results

## Lane Saturation Flows

| Junction: Emsworth Crossroads junction | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **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 (B2148 Comley Hill (N) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 1/2 (B2148 Comley Hill (N) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/1 (Emsworth Common Rd (E) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/2 (Emsworth Common Rd (E) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/1 (B2148 Horndean Rd (S) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/2 (B2148 Horndean Rd (S) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/1 (Bartons Rd (W) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/2 (Bartons Rd (W) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/1 (n/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/2 (n/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 6/1 (s/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/1 (s/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/2 (s/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 8/1 (n/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 9/1 (E Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 10/1 (S Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 11/1 (W Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 12/1 (N Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |

Full Input Data And Results

**Scenario 5: '5'** (FG5: '2023 AM With Development', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| Origin | Destination | | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| | A | 0 | 161 | 193 | 80 | 434 |
| | B | 58 | 0 | 24 | 182 | 264 |
| | C | 234 | 72 | 0 | 336 | 642 |
| | D | 54 | 286 | 194 | 0 | 534 |
| | Tot. | 346 | 519 | 411 | 598 | 1874 |

## Traffic Lane Flows

| Lane | Scenario 5: 5 |
|---|---|
| **Junction: Emsworth Crossroads junction** | |
| 1/1 (with short) | 434(In) 354(Out) |
| 1/2 (short) | 80 |
| 2/1 (short) | 24 |
| 2/2 (with short) | 264(In) 240(Out) |
| 3/1 (with short) | 642(In) 570(Out) |
| 3/2 (short) | 72 |
| 4/1 (short) | 54 |
| 4/2 (with short) | 534(In) 480(Out) |
| 5/1 (short) | 518 |
| 5/2 (with short) | 810(In) 292(Out) |
| 6/1 | 480 |
| 7/1 (short) | 447 |
| 7/2 (with short) | 834(In) 387(Out) |
| 8/1 | 240 |
| 9/1 | 519 |
| 10/1 | 411 |
| 11/1 | 598 |
| 12/1 | 346 |

Full Input Data And Results

## Lane Saturation Flows

| Junction: Emsworth Crossroads junction | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **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 (B2148 Comley Hill (N) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 1/2 (B2148 Comley Hill (N) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/1 (Emsworth Common Rd (E) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/2 (Emsworth Common Rd (E) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/1 (B2148 Horndean Rd (S) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/2 (B2148 Horndean Rd (S) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/1 (Bartons Rd (W) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/2 (Bartons Rd (W) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/1 (n/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/2 (n/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 6/1 (s/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/1 (s/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/2 (s/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 8/1 (n/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 9/1 (E Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 10/1 (S Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 11/1 (W Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 12/1 (N Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |

Full Input Data And Results

**Scenario 6: '6'** (FG6: '2023 PM With Development', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| Origin | Destination | | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| | A | 0 | 79 | 243 | 86 | 408 |
| | B | 102 | 0 | 68 | 381 | 551 |
| | C | 200 | 19 | 0 | 288 | 507 |
| | D | 75 | 163 | 221 | 0 | 459 |
| | Tot. | 377 | 261 | 532 | 755 | 1925 |

## Traffic Lane Flows

| Lane | Scenario 6: 6 |
|---|---|
| **Junction: Emsworth Crossroads junction** | |
| 1/1 (with short) | 408(In) 322(Out) |
| 1/2 (short) | 86 |
| 2/1 (short) | 68 |
| 2/2 (with short) | 551(In) 483(Out) |
| 3/1 (with short) | 507(In) 488(Out) |
| 3/2 (short) | 19 |
| 4/1 (short) | 75 |
| 4/2 (with short) | 459(In) 384(Out) |
| 5/1 (short) | 669 |
| 5/2 (with short) | 971(In) 302(Out) |
| 6/1 | 384 |
| 7/1 (short) | 242 |
| 7/2 (with short) | 706(In) 464(Out) |
| 8/1 | 483 |
| 9/1 | 261 |
| 10/1 | 532 |
| 11/1 | 755 |
| 12/1 | 377 |

Full Input Data And Results

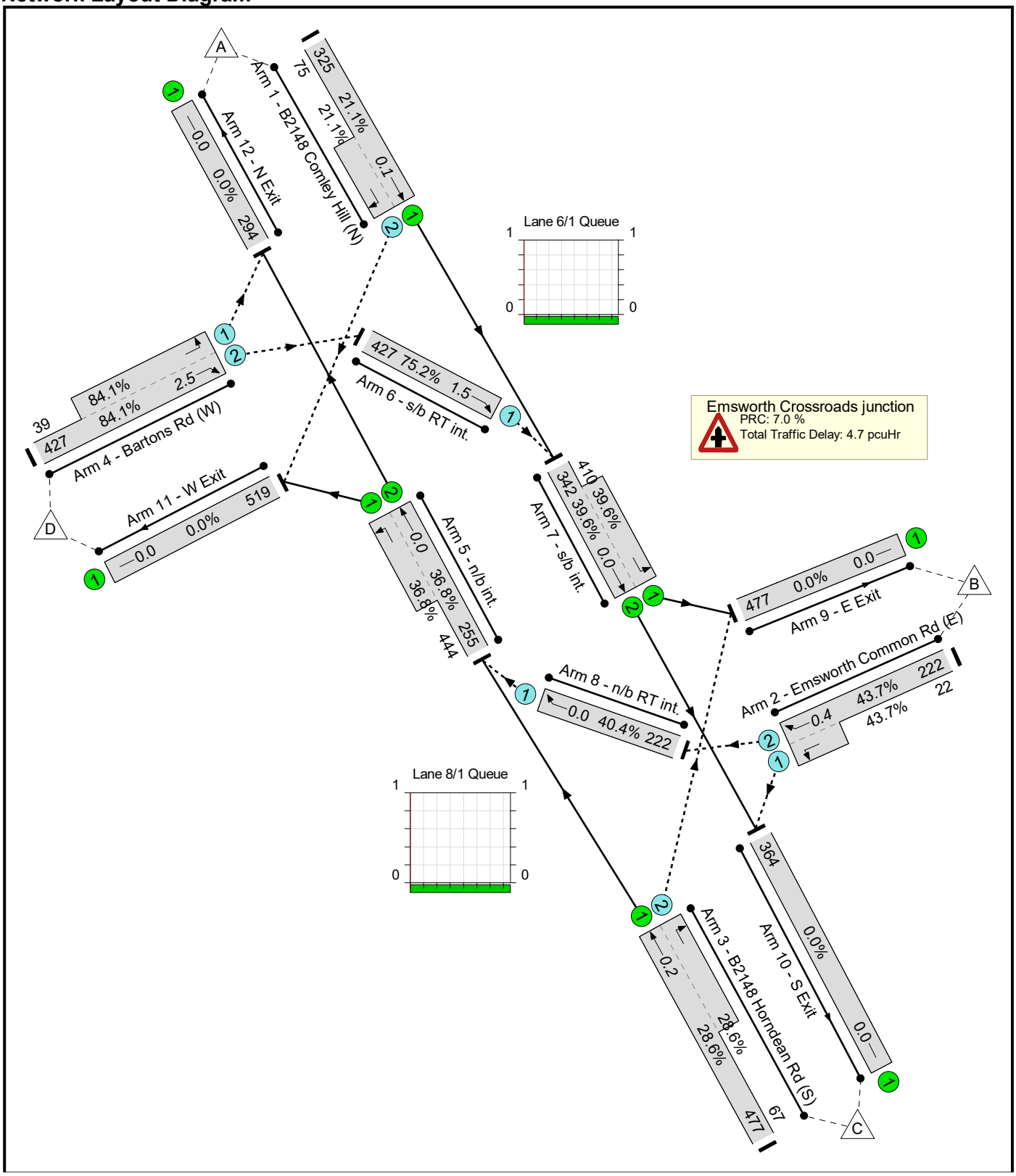
## Lane Saturation Flows

| Junction: Emsworth Crossroads junction | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **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 (B2148 Comley Hill (N) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 1/2 (B2148 Comley Hill (N) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/1 (Emsworth Common Rd (E) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 2/2 (Emsworth Common Rd (E) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/1 (B2148 Horndean Rd (S) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 3/2 (B2148 Horndean Rd (S) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/1 (Bartons Rd (W) Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 4/2 (Bartons Rd (W) Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/1 (n/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 5/2 (n/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 6/1 (s/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/1 (s/b int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 7/2 (s/b int. Lane 2) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 8/1 (n/b RT int. Lane 1) | This lane uses a directly entered Saturation Flow | | | | | | 1900 | 1900 |
| 9/1 (E Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 10/1 (S Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 11/1 (W Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |
| 12/1 (N Exit Lane 1) | Infinite Saturation Flow | | | | | | Inf | Inf |

Full Input Data And Results

**Scenario 1: '1'** (FG1: '2018 AM Observed', Plan 1: 'Network Control Plan 1')

**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: Emsworth Common Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **84.1%** |
| **Emsworth Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **84.1%** |
| 1/1+1/2 | B2148 Comley Hill (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 400 | 1900:1900 | 1544+356 | 21.1 : 21.1% |
| 2/2+2/1 | Emsworth Common Rd (E) Ahead Left | O | N/A | N/A | - | | - | - | - | 244 | 1900:1900 | 508+50 | 43.7 : 43.7% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 544 | 1900:1900 | 1666+234 | 28.6 : 28.6% |
| 4/2+4/1 | Bartons Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 466 | 1900:1900 | 508+46 | 84.1 : 84.1% |
| 5/2+5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 699 | 1900:1900 | 693+1207 | 36.8 : 36.8% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 427 | 1900 | 568 | 75.2% |
| 7/2+7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 752 | 1900:1900 | 864+1036 | 39.6 : 39.6% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 222 | 1900 | 549 | 40.4% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 477 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 364 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 519 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 294 | Inf | Inf | 0.0% |

Full Input Data And Results

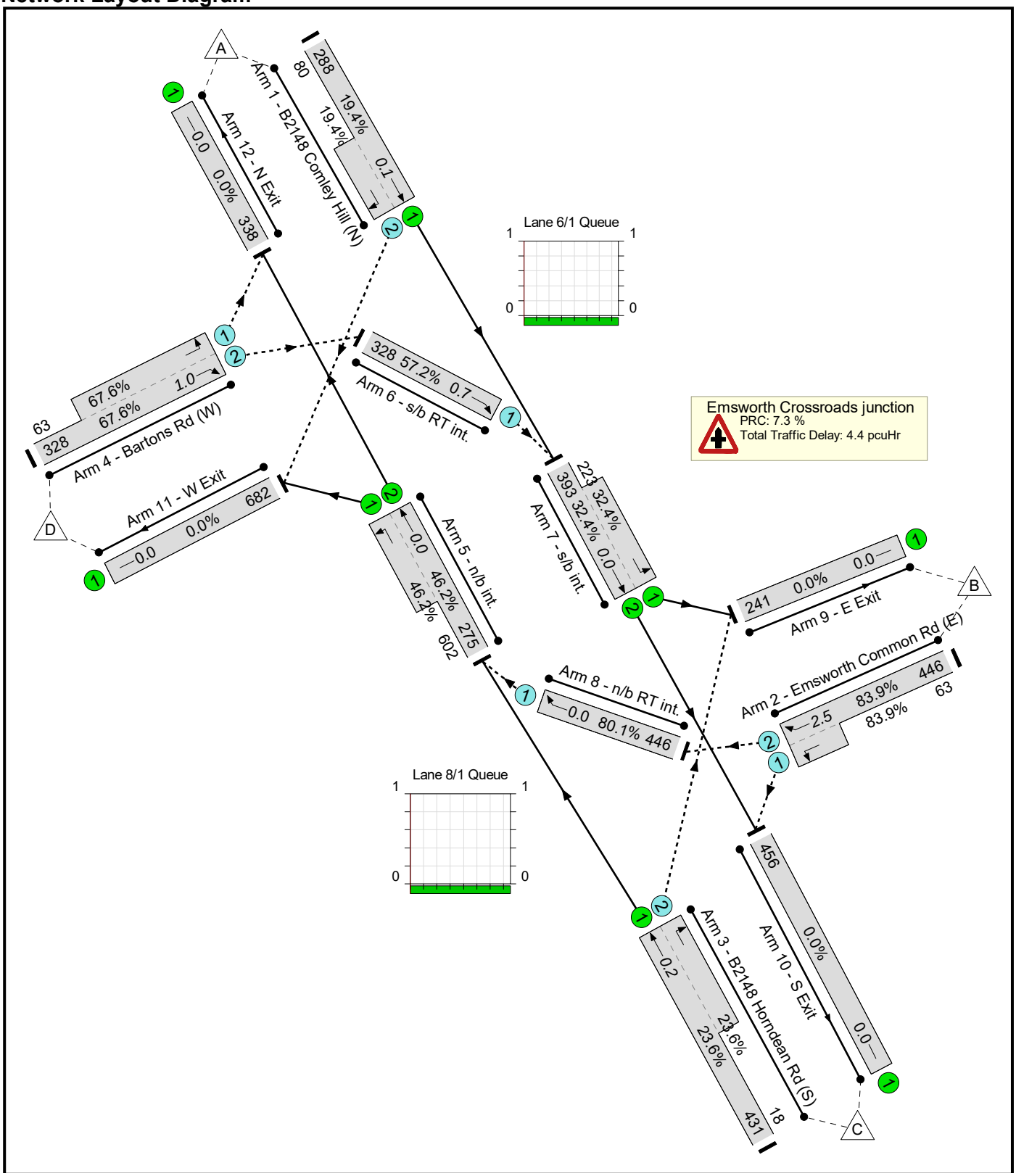
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Emsworth Common Crossroads junction** | **-** | **-** | **2211** | **0** | **0** | **0.0** | **4.7** | **0.0** | **4.7** | **-** | **-** | **-** | **-** |
| **Emsworth Crossroads junction** | **-** | **-** | **2211** | **0** | **0** | **0.0** | **4.7** | **0.0** | **4.7** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 400 | 400 | 75 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 2/2+2/1 | 244 | 244 | 488 | 0 | 0 | 0.0 | 0.4 | - | 0.4 (0.4+0.0) | 5.7 (5.7:5.7) | 0.0 | 0.4 | 0.4 |
| 3/1+3/2 | 544 | 544 | 67 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.2+0.0) | 1.3 (1.3:1.3) | 0.0 | 0.2 | 0.2 |
| 4/2+4/1 | 466 | 466 | 932 | 0 | 0 | 0.0 | 2.5 | - | 2.5 (2.3+0.2) | 19.3 (19.3:19.3) | 0.0 | 2.5 | 2.5 |
| 5/2+5/1 | 699 | 699 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 6/1 | 427 | 427 | 427 | 0 | 0 | 0.0 | 1.5 | - | 1.5 | 12.5 | 0.0 | 1.5 | 1.5 |
| 7/2+7/1 | 752 | 752 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 8/1 | 222 | 222 | 222 | 0 | 0 | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9/1 | 477 | 477 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 364 | 364 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 519 | 519 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 294 | 294 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 7.0 Total Delay Over All Lanes(pcuHr): 4.70

Full Input Data And Results

**Scenario 2: '2'** (FG2: '2018 PM Observed', Plan 1: 'Network Control Plan 1')

## 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: Emsworth Common Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **83.9%** |
| **Emsworth Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **83.9%** |
| 1/1+1/2 | B2148 Comley Hill (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 368 | 1900:1900 | 1487+413 | 19.4 : 19.4% |
| 2/2+2/1 | Emsworth Common Rd (E) Ahead Left | O | N/A | N/A | - | | - | - | - | 509 | 1900:1900 | 532+75 | 83.9 : 83.9% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 449 | 1900:1900 | 1824+76 | 23.6 : 23.6% |
| 4/2+4/1 | Bartons Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 391 | 1900:1900 | 485+93 | 67.6 : 67.6% |
| 5/2+5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 877 | 1900:1900 | 596+1304 | 46.2 : 46.2% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 328 | 1900 | 574 | 57.2% |
| 7/2+7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 616 | 1900:1900 | 1212+688 | 32.4 : 32.4% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 446 | 1900 | 557 | 80.1% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 241 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 456 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 682 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 338 | Inf | Inf | 0.0% |

Full Input Data And Results

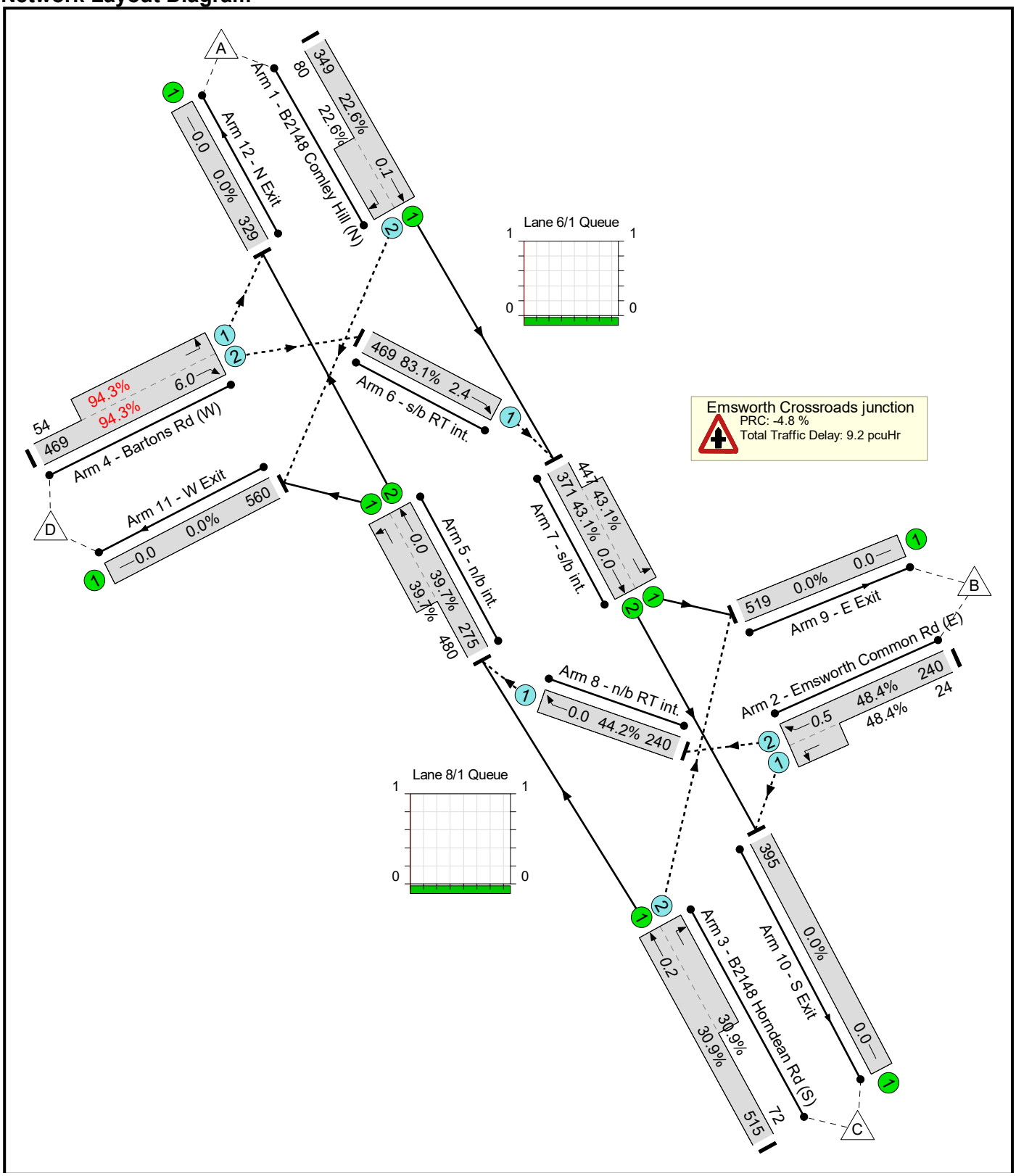
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Emsworth Common Crossroads junction** | **-** | **-** | **2672** | **0** | **0** | **0.0** | **4.4** | **0.0** | **4.4** | **-** | **-** | **-** | **-** |
| **Emsworth Crossroads junction** | **-** | **-** | **2672** | **0** | **0** | **0.0** | **4.4** | **0.0** | **4.4** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 368 | 368 | 80 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 2/2+2/1 | 509 | 509 | 1018 | 0 | 0 | 0.0 | 2.5 | - | 2.5 (2.2+0.3) | 17.5 (17.5:17.5) | 0.0 | 2.5 | 2.5 |
| 3/1+3/2 | 449 | 449 | 18 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.2 | 0.2 |
| 4/2+4/1 | 391 | 391 | 782 | 0 | 0 | 0.0 | 1.0 | - | 1.0 (0.9+0.2) | 9.5 (9.5:9.5) | 0.0 | 1.0 | 1.0 |
| 5/2+5/1 | 877 | 877 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 6/1 | 328 | 328 | 328 | 0 | 0 | 0.0 | 0.7 | - | 0.7 | 7.3 | 0.0 | 0.7 | 0.7 |
| 7/2+7/1 | 616 | 616 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 8/1 | 446 | 446 | 446 | 0 | 0 | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9/1 | 241 | 241 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 456 | 456 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 682 | 682 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 338 | 338 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 7.3 Total Delay Over All Lanes(pcuHr): 4.44

Full Input Data And Results

**Scenario 3: '3'** (FG3: '2023 AM Without Development', Plan 1: 'Network Control Plan 1')

## 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: Emsworth Common Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **94.3%** |
| **Emsworth Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **94.3%** |
| 1/1+1/2 | B2148 Comley Hill (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 429 | 1900:1900 | 1546+354 | 22.6 : 22.6% |
| 2/2+2/1 | Emsworth Common Rd (E) Ahead Left | O | N/A | N/A | - | | - | - | - | 264 | 1900:1900 | 495+50 | 48.4 : 48.4% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 587 | 1900:1900 | 1667+233 | 30.9 : 30.9% |
| 4/2+4/1 | Bartons Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 523 | 1900:1900 | 497+57 | 94.3 : 94.3% |
| 5/2+5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 755 | 1900:1900 | 692+1208 | 39.7 : 39.7% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 469 | 1900 | 564 | 83.1% |
| 7/2+7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 818 | 1900:1900 | 862+1038 | 43.1 : 43.1% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 240 | 1900 | 543 | 44.2% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 519 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 395 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 560 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 329 | Inf | Inf | 0.0% |

Full Input Data And Results

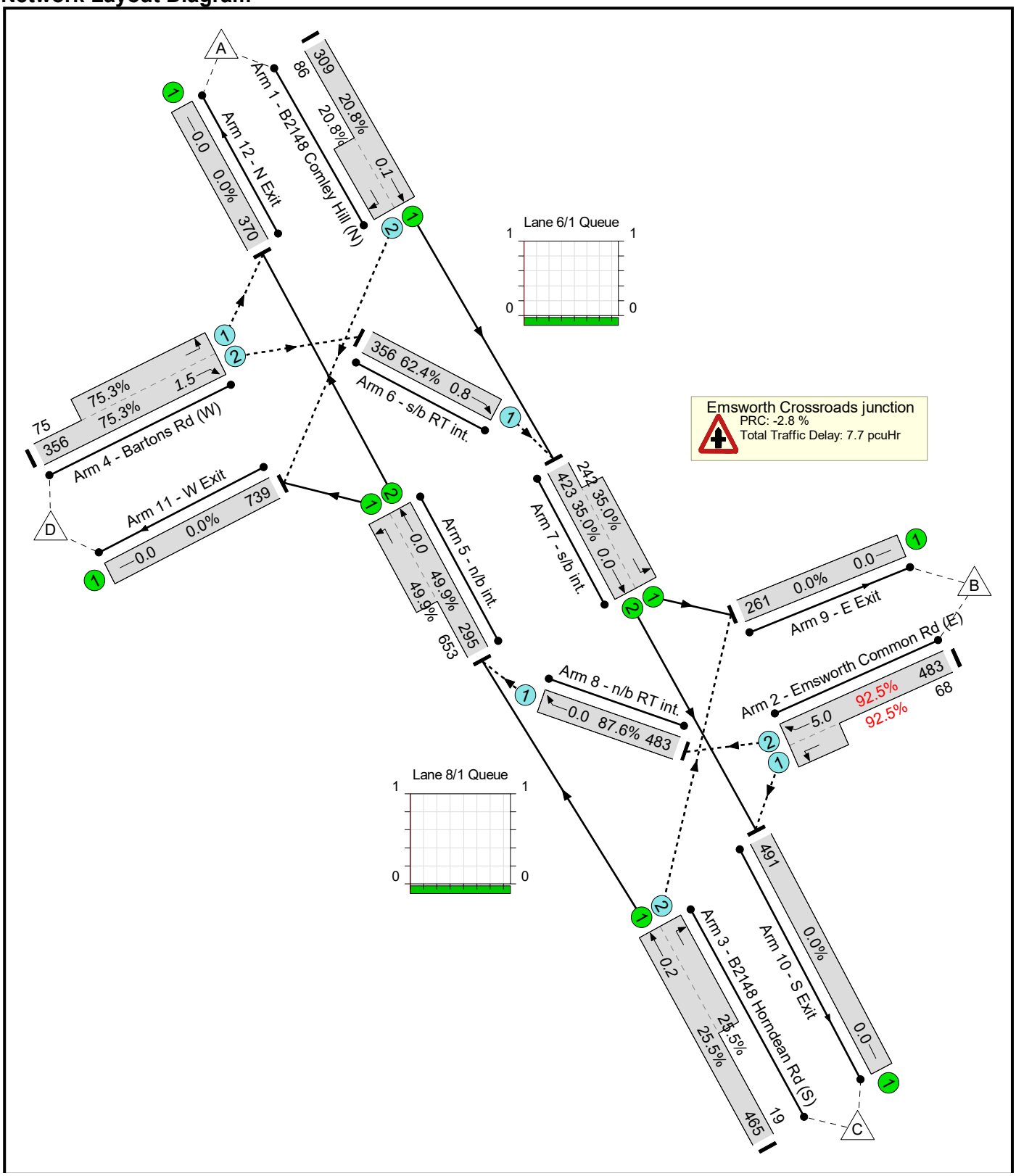
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Emsworth Common Crossroads junction** | **-** | **-** | **2435** | **0** | **0** | **0.0** | **9.2** | **0.0** | **9.2** | **-** | **-** | **-** | **-** |
| **Emsworth Crossroads junction** | **-** | **-** | **2435** | **0** | **0** | **0.0** | **9.2** | **0.0** | **9.2** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 429 | 429 | 80 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 2/2+2/1 | 264 | 264 | 528 | 0 | 0 | 0.0 | 0.5 | - | 0.5 (0.4+0.0) | 6.4 (6.4:6.4) | 0.0 | 0.5 | 0.5 |
| 3/1+3/2 | 587 | 587 | 72 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.2+0.0) | 1.4 (1.4:1.4) | 0.0 | 0.2 | 0.2 |
| 4/2+4/1 | 523 | 523 | 1046 | 0 | 0 | 0.0 | 6.0 | - | 6.0 (5.4+0.6) | 41.2 (41.2:41.2) | 0.0 | 6.0 | 6.0 |
| 5/2+5/1 | 755 | 755 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 6/1 | 469 | 469 | 469 | 0 | 0 | 0.0 | 2.4 | - | 2.4 | 18.0 | 0.0 | 2.4 | 2.4 |
| 7/2+7/1 | 818 | 818 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 8/1 | 240 | 240 | 240 | 0 | 0 | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9/1 | 519 | 519 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 395 | 395 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 560 | 560 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 329 | 329 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): -4.8 Total Delay Over All Lanes(pcuHr): 9.18

Full Input Data And Results

**Scenario 4: '4'** (FG4: '2023 PM Without Development', Plan 1: 'Network Control Plan 1')

## 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: Emsworth Common Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **92.5%** |
| **Emsworth Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **92.5%** |
| 1/1+1/2 | B2148 Comley Hill (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 395 | 1900:1900 | 1486+414 | 20.8 : 20.8% |
| 2/2+2/1 | Emsworth Common Rd (E) Ahead Left | O | N/A | N/A | - | | - | - | - | 551 | 1900:1900 | 522+73 | 92.5 : 92.5% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 484 | 1900:1900 | 1825+75 | 25.5 : 25.5% |
| 4/2+4/1 | Bartons Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 431 | 1900:1900 | 473+100 | 75.3 : 75.3% |
| 5/2+5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 948 | 1900:1900 | 591+1309 | 49.9 : 49.9% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 356 | 1900 | 570 | 62.4% |
| 7/2+7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 665 | 1900:1900 | 1209+691 | 35.0 : 35.0% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 483 | 1900 | 551 | 87.6% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 261 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 491 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 739 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 370 | Inf | Inf | 0.0% |

Full Input Data And Results

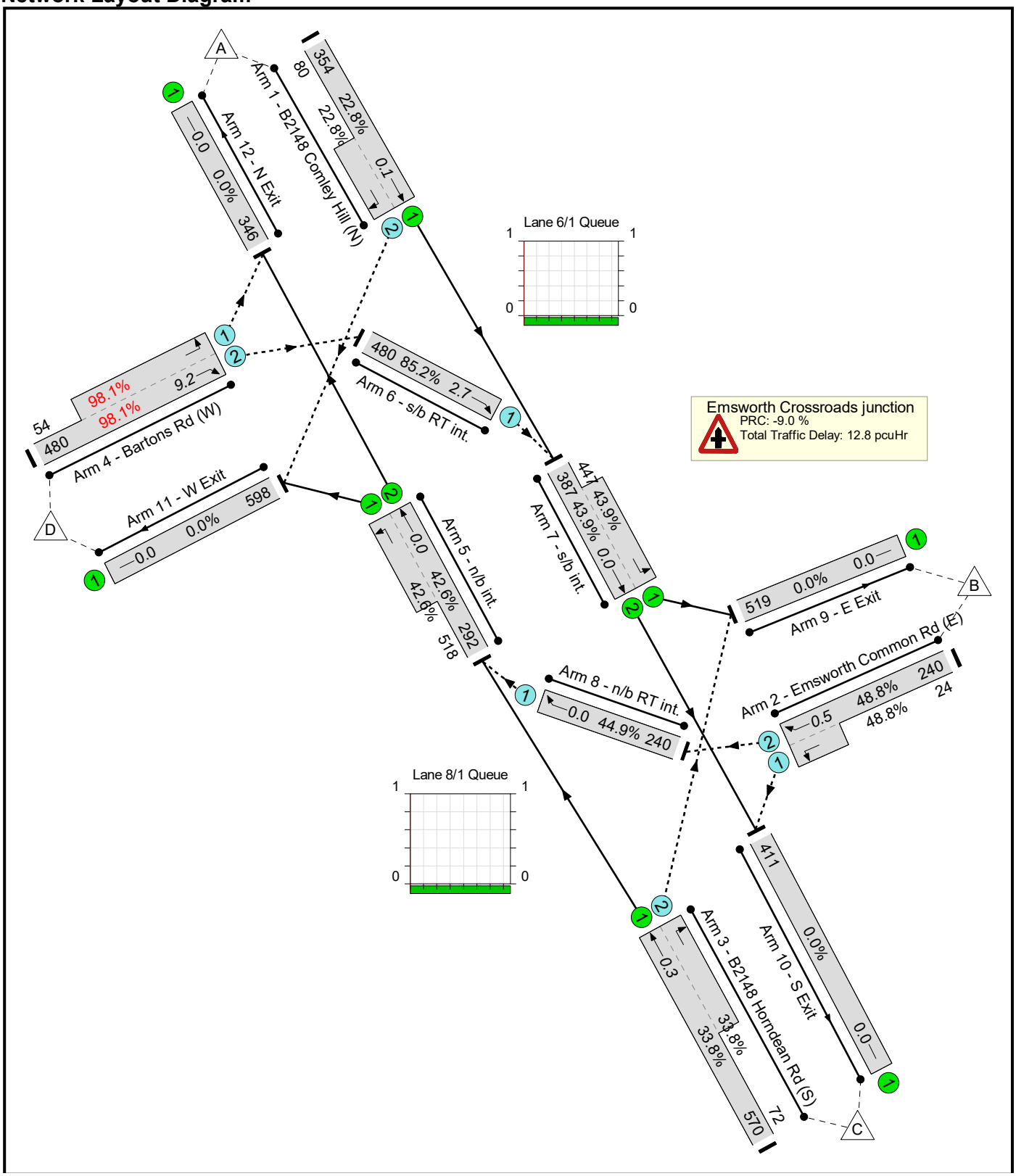
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Emsworth Common Crossroads junction** | **-** | **-** | **2908** | **0** | **0** | **0.0** | **7.7** | **0.0** | **7.7** | **-** | **-** | **-** | **-** |
| **Emsworth Crossroads junction** | **-** | **-** | **2908** | **0** | **0** | **0.0** | **7.7** | **0.0** | **7.7** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 395 | 395 | 86 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 2/2+2/1 | 551 | 551 | 1102 | 0 | 0 | 0.0 | 5.0 | - | 5.0 (4.4+0.6) | 33.0 (33.0:33.0) | 0.0 | 5.0 | 5.0 |
| 3/1+3/2 | 484 | 484 | 19 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.2+0.0) | 1.3 (1.3:1.3) | 0.0 | 0.2 | 0.2 |
| 4/2+4/1 | 431 | 431 | 862 | 0 | 0 | 0.0 | 1.5 | - | 1.5 (1.2+0.3) | 12.5 (12.5:12.5) | 0.0 | 1.5 | 1.5 |
| 5/2+5/1 | 948 | 948 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 6/1 | 356 | 356 | 356 | 0 | 0 | 0.0 | 0.8 | - | 0.8 | 8.3 | 0.0 | 0.8 | 0.8 |
| 7/2+7/1 | 665 | 665 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 8/1 | 483 | 483 | 483 | 0 | 0 | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9/1 | 261 | 261 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 491 | 491 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 739 | 739 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 370 | 370 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): -2.8 Total Delay Over All Lanes(pcuHr): 7.66

Full Input Data And Results

**Scenario 5: '5'** (FG5: '2023 AM With Development', Plan 1: 'Network Control Plan 1')

## 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: Emsworth Common Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **98.1%** |
| **Emsworth Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **98.1%** |
| 1/1+1/2 | B2148 Comley Hill (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 434 | 1900:1900 | 1550+350 | 22.8 : 22.8% |
| 2/2+2/1 | Emsworth Common Rd (E) Ahead Left | O | N/A | N/A | - | | - | - | - | 264 | 1900:1900 | 491+49 | 48.8 : 48.8% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 642 | 1900:1900 | 1687+213 | 33.8 : 33.8% |
| 4/2+4/1 | Bartons Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 534 | 1900:1900 | 489+55 | 98.1 : 98.1% |
| 5/2+5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 810 | 1900:1900 | 685+1215 | 42.6 : 42.6% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 480 | 1900 | 563 | 85.2% |
| 7/2+7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 834 | 1900:1900 | 882+1018 | 43.9 : 43.9% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 240 | 1900 | 534 | 44.9% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 519 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 411 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 598 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 346 | Inf | Inf | 0.0% |

Full Input Data And Results

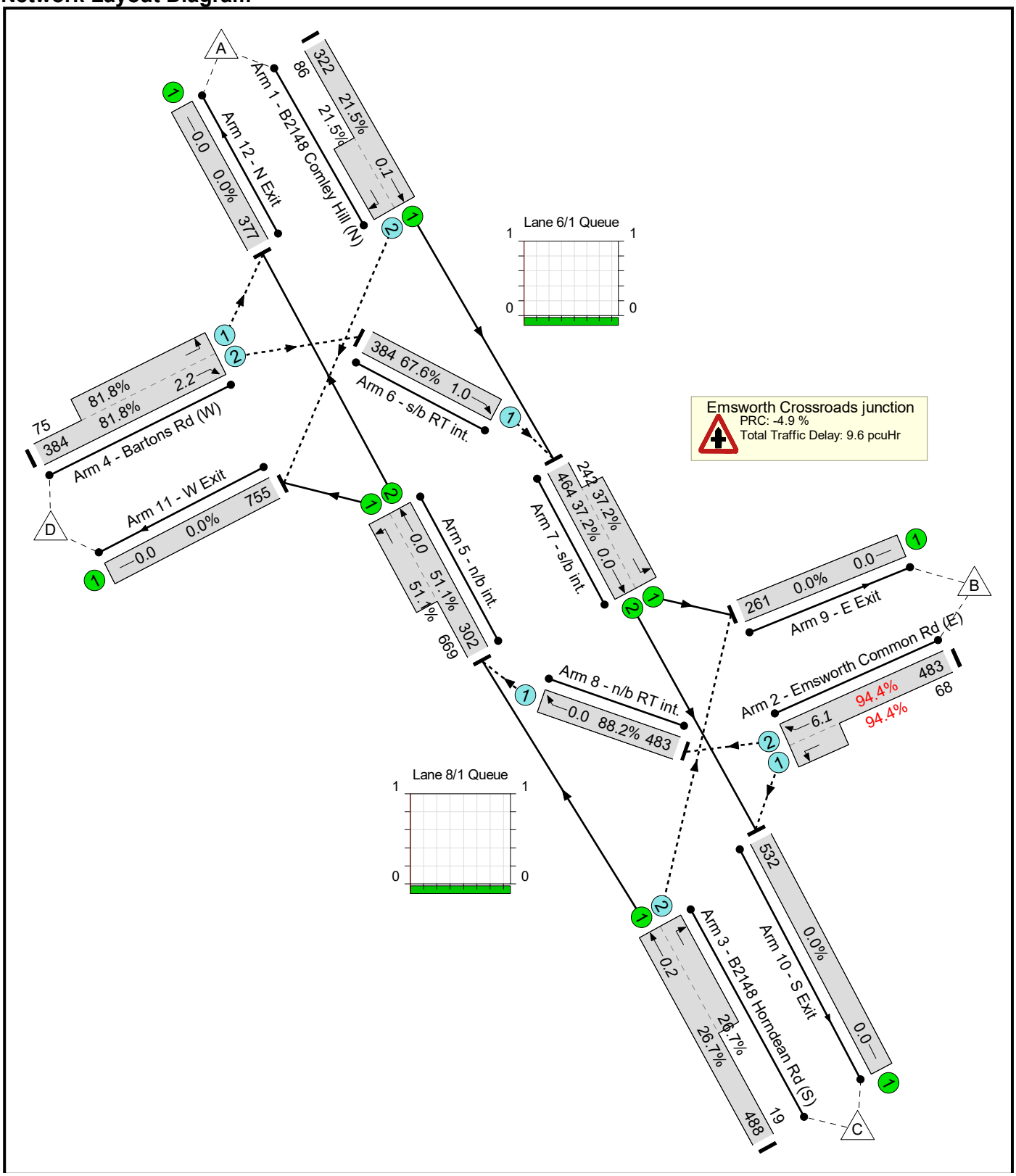
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Emsworth Common Crossroads junction** | **-** | **-** | **2468** | **0** | **0** | **0.0** | **12.8** | **0.0** | **12.8** | **-** | **-** | **-** | **-** |
| **Emsworth Crossroads junction** | **-** | **-** | **2468** | **0** | **0** | **0.0** | **12.8** | **0.0** | **12.8** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 434 | 434 | 80 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 2/2+2/1 | 264 | 264 | 528 | 0 | 0 | 0.0 | 0.5 | - | 0.5 (0.4+0.0) | 6.5 (6.5:6.5) | 0.0 | 0.5 | 0.5 |
| 3/1+3/2 | 642 | 642 | 72 | 0 | 0 | 0.0 | 0.3 | - | 0.3 (0.2+0.0) | 1.4 (1.4:1.4) | 0.0 | 0.3 | 0.3 |
| 4/2+4/1 | 534 | 534 | 1068 | 0 | 0 | 0.0 | 9.2 | - | 9.2 (8.3+0.9) | 62.3 (62.3:62.3) | 0.0 | 9.2 | 9.2 |
| 5/2+5/1 | 810 | 810 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 6/1 | 480 | 480 | 480 | 0 | 0 | 0.0 | 2.7 | - | 2.7 | 20.3 | 0.0 | 2.7 | 2.7 |
| 7/2+7/1 | 834 | 834 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 8/1 | 240 | 240 | 240 | 0 | 0 | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9/1 | 519 | 519 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 411 | 411 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 598 | 598 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 346 | 346 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): -9.0 Total Delay Over All Lanes(pcuHr): 12.83

Full Input Data And Results

**Scenario 6: '6'** (FG6: '2023 PM With Development', Plan 1: 'Network Control Plan 1')

## 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: Emsworth Common Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **94.4%** |
| **Emsworth Crossroads junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **94.4%** |
| 1/1+1/2 | B2148 Comley Hill (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 408 | 1900:1900 | 1500+400 | 21.5 : 21.5% |
| 2/2+2/1 | Emsworth Common Rd (E) Ahead Left | O | N/A | N/A | - | | - | - | - | 551 | 1900:1900 | 512+72 | 94.4 : 94.4% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 507 | 1900:1900 | 1829+71 | 26.7 : 26.7% |
| 4/2+4/1 | Bartons Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 459 | 1900:1900 | 470+92 | 81.8 : 81.8% |
| 5/2+5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 971 | 1900:1900 | 591+1309 | 51.1 : 51.1% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 384 | 1900 | 568 | 67.6% |
| 7/2+7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 706 | 1900:1900 | 1249+651 | 37.2 : 37.2% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 483 | 1900 | 548 | 88.2% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 261 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 532 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 755 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 377 | 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: Emsworth Common Crossroads junction** | **-** | **-** | **2992** | **0** | **0** | **0.0** | **9.6** | **0.0** | **9.6** | **-** | **-** | **-** | **-** |
| **Emsworth Crossroads junction** | **-** | **-** | **2992** | **0** | **0** | **0.0** | **9.6** | **0.0** | **9.6** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 408 | 408 | 86 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 2/2+2/1 | 551 | 551 | 1102 | 0 | 0 | 0.0 | 6.1 | - | 6.1 (5.4+0.8) | 40.0 (40.0:40.0) | 0.0 | 6.1 | 6.1 |
| 3/1+3/2 | 507 | 507 | 19 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.2+0.0) | 1.3 (1.3:1.3) | 0.0 | 0.2 | 0.2 |
| 4/2+4/1 | 459 | 459 | 918 | 0 | 0 | 0.0 | 2.2 | - | 2.2 (1.8+0.4) | 16.9 (16.9:16.9) | 0.0 | 2.2 | 2.2 |
| 5/2+5/1 | 971 | 971 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 6/1 | 384 | 384 | 384 | 0 | 0 | 0.0 | 1.0 | - | 1.0 | 9.7 | 0.0 | 1.0 | 1.0 |
| 7/2+7/1 | 706 | 706 | - | - | - | 0.0 | 0.0 | - | 0.0 (0.0+0.0) | 0.0 (0.0:0.0) | 0.0 | 0.0 | 0.0 |
| 8/1 | 483 | 483 | 483 | 0 | 0 | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9/1 | 261 | 261 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 532 | 532 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 755 | 755 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 377 | 377 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): -4.9 Total Delay Over All Lanes(pcuHr): 9.62

# Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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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:** Emsworth Common Crossroads.j9
**Path:** T:\Projects\13000 Series\13525ITB Long Copse Lane, Emsworth\Tech\Junction Assessments\Picady
**Report generation date:** 19/06/2018 14:55:52

»2018 Observed, AM
»2018 Observed, PM
»2023 'without development', AM
»2023 'without development', PM
»2023 'with development' , AM
»2023 'with development', PM

### Summary of junction performance

| | AM | | | | PM | | | |
|---|---|---|---|---|---|---|---|---|
| | Queue (Veh) | Delay (s) | RFC | LOS | Queue (Veh) | Delay (s) | RFC | LOS |
| | 2018 Observed | | | | | | | |
| Stream B-C | 0.1 | 12.81 | 0.08 | B | 8.3 | 496.47 | 1.23 | F |
| Stream B-AD | 1.9 | 30.72 | 0.67 | D | 50.8 | 394.85 | 1.22 | F |
| Stream A-BCD | 0.2 | 9.62 | 0.17 | A | 0.3 | 11.40 | 0.22 | B |
| Stream D-A | 4.9 | 489.98 | 1.17 | F | 4.0 | 205.74 | 0.96 | F |
| Stream D-BC | 38.8 | 292.02 | 1.16 | F | 11.2 | 115.26 | 0.99 | F |
| Stream C-ABD | 0.2 | 9.67 | 0.17 | A | 0.0 | 7.54 | 0.04 | A |
| | 2023 'without development' | | | | | | | |
| Stream B-C | 0.1 | 20.66 | 0.13 | C | 13.6 | 849.26 | 1.33 | F |
| Stream B-AD | 3.4 | 50.49 | 0.80 | F | 90.9 | 760.48 | 1.40 | F |
| Stream A-BCD | 0.2 | 10.07 | 0.19 | B | 0.3 | 13.26 | 0.26 | B |
| Stream D-A | 9.5 | 724.80 | 1.23 | F | 7.8 | 377.64 | 1.11 | F |
| Stream D-BC | 72.2 | 612.73 | 1.33 | F | 30.0 | 277.47 | 1.16 | F |
| Stream C-ABD | 0.2 | 10.84 | 0.19 | B | 0.0 | 7.91 | 0.04 | A |
| | 2023 'with development' | | | | | | | |
| Stream B-C | 0.2 | 30.95 | 0.18 | D | 15.8 | 1048.25 | 1.41 | F |
| Stream B-AD | 4.3 | 65.22 | 0.85 | F | 107.5 | 959.86 | 1.48 | F |
| Stream A-BCD | 0.2 | 10.51 | 0.20 | B | 0.4 | 13.85 | 0.27 | B |
| Stream D-A | 11.0 | 859.99 | 1.31 | F | 10.3 | 560.30 | 1.21 | F |
| Stream D-BC | 88.7 | 750.63 | 1.40 | F | 46.3 | 476.75 | 1.27 | F |
| Stream C-ABD | 0.2 | 11.28 | 0.20 | B | 0.0 | 8.23 | 0.05 | 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** | Emsworth Common Crossroads |
| **Location** | Emsworth |
| **Site number** | ITB13525 |
| **Date** | 19/06/2018 |
| **Version** | |
| **Status** | |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | I-TRANSPORT\Hotdesk |
| **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 | perHour | 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 segment length (min) |
|---|---|---|---|---|---|---|
| **D1** | 2018 Observed | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| **D2** | 2018 Observed | PM | ONE HOUR | 16:15 | 17:45 | 15 |
| **D3** | 2023 'without development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| **D4** | 2023 'without development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |
| **D5** | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| **D6** | 2023 'with development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |

## Analysis Set Details

| ID | Network flow scaling factor (%) |
|---|---|
| **A1** | 100.000 |

# 2018 Observed, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Emsworth Common Crossroads | Right-Left Stagger | Two-way | | 92.30 | F |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | Comley Hill (N) | | Major |
| B | Emsworth Common Road | | Minor |
| C | Horndean Road (S) | | Major |
| D | Bartons Road | | Minor |

### 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) |
|---|---|---|---|---|---|---|---|---|
| A - Comley Hill (N) | 7.00 | ✓ | 3.38 | ✓ | 3.38 | 38.0 | ✓ | 4.00 |
| C - Horndean Road (S) | 7.50 | ✓ | 3.30 | ✓ | 3.30 | 40.0 | ✓ | 4.00 |

*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 | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate flare length | Flare length (PCU) | Visibility to left (m) | Visibility to right (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| B - Emsworth Common Road | One lane plus flare | 10.00 | 8.00 | 5.00 | 3.50 | 3.50 | ✓ | 2.00 | 58 | 39 |
| D - Bartons Road | One lane plus flare | 10.00 | 6.50 | 4.00 | 3.50 | 3.50 | ✓ | 1.00 | 48 | 43 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for A-D | Slope for B-A | Slope for B-D | Slope for C-A | Slope for C-B | Slope for C-D | Slope for D-B | Slope for D-C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | A-D | 672 | - | - | - | 0.249 | 0.249 | 0.249 | - | 0.249 | - | - |
| 1 | B-AD | 626 | 0.099 | 0.251 | - | - | - | 0.158 | 0.359 | 0.158 | 0.099 | 0.251 |
| 1 | B-C | 637 | 0.091 | 0.231 | - | - | - | - | - | - | 0.091 | 0.231 |
| 1 | C-B | 669 | 0.242 | 0.242 | - | - | - | - | - | - | 0.242 | 0.242 |
| 1 | D-A | 667 | - | - | - | 0.247 | 0.098 | 0.247 | - | 0.098 | - | - |
| 1 | D-BC | 620 | 0.160 | 0.160 | 0.362 | 0.254 | 0.100 | 0.254 | - | 0.100 | - | - |

*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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2018 Observed | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Comley Hill (N) | | ✓ | 387 | 100.000 |
| B - Emsworth Common Road | | ✓ | 237 | 100.000 |
| C - Horndean Road (S) | | ✓ | 540 | 100.000 |
| D - Bartons Road | | ✓ | 457 | 100.000 |

# Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 144 | 172 | 71 |
| | B - Emsworth Common Road | 53 | 0 | 21 | 163 |
| | C - Horndean Road (S) | 201 | 67 | 0 | 272 |
| | D - Bartons Road | 38 | 253 | 166 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 4 | 2 | 6 |
| | B - Emsworth Common Road | 2 | 0 | 5 | 3 |
| | C - Horndean Road (S) | 0 | 0 | 0 | 1 |
| | D - Bartons Road | 3 | 3 | 1 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 0.08 | 12.81 | 0.1 | B |
| B-AD | 0.67 | 30.72 | 1.9 | D |
| A-BCD | 0.17 | 9.62 | 0.2 | A |
| A-B | | | | |
| A-C | | | | |
| D-A | 1.17 | 489.98 | 4.9 | F |
| D-BC | 1.16 | 292.02 | 38.8 | F |
| C-ABD | 0.17 | 9.67 | 0.2 | A |
| C-D | | | | |
| C-A | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 16 | 466 | 0.034 | 16 | 0.0 | 7.986 | A |
| B-AD | 163 | 444 | 0.366 | 160 | 0.6 | 12.602 | B |
| A-BCD | 53 | 511 | 0.105 | 53 | 0.1 | 7.856 | A |
| A-B | 108 | | | 108 | | | |
| A-C | 129 | | | 129 | | | |
| D-A | 29 | 337 | 0.085 | 28 | 0.1 | 11.668 | B |
| D-BC | 315 | 466 | 0.676 | 308 | 1.9 | 21.763 | C |
| C-ABD | 50 | 531 | 0.095 | 50 | 0.1 | 7.474 | A |
| C-D | 205 | | | 205 | | | |
| C-A | 151 | | | 151 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 19 | 422 | 0.045 | 19 | 0.0 | 8.927 | A |
| B-AD | 194 | 410 | 0.473 | 193 | 0.9 | 16.464 | C |
| A-BCD | 64 | 486 | 0.131 | 64 | 0.1 | 8.515 | A |
| A-B | 129 | | | 129 | | | |
| A-C | 155 | | | 155 | | | |
| D-A | 34 | 163 | 0.209 | 34 | 0.3 | 27.627 | D |
| D-BC | 377 | 438 | 0.861 | 366 | 4.6 | 44.566 | E |
| C-ABD | 60 | 503 | 0.120 | 60 | 0.1 | 8.131 | A |
| C-D | 245 | | | 245 | | | |
| C-A | 181 | | | 181 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 23 | 328 | 0.070 | 23 | 0.1 | 11.799 | B |
| B-AD | 238 | 364 | 0.653 | 234 | 1.7 | 27.022 | D |
| A-BCD | 78 | 453 | 0.173 | 78 | 0.2 | 9.588 | A |
| A-B | 159 | | | 159 | | | |
| A-C | 189 | | | 189 | | | |
| D-A | 42 | 36 | 1.173 | 29 | 3.6 | 328.404 | F |
| D-BC | 461 | 399 | 1.155 | 390 | 22.5 | 147.853 | F |
| C-ABD | 74 | 464 | 0.159 | 74 | 0.2 | 9.228 | A |
| C-D | 299 | | | 299 | | | |
| C-A | 221 | | | 221 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 23 | 304 | 0.076 | 23 | 0.1 | 12.813 | B |
| B-AD | 238 | 353 | 0.674 | 237 | 1.9 | 30.723 | D |
| A-BCD | 78 | 452 | 0.173 | 78 | 0.2 | 9.621 | A |
| A-B | 159 | | | 159 | | | |
| A-C | 189 | | | 189 | | | |
| D-A | 42 | 41 | 1.031 | 37 | 4.9 | 489.978 | F |
| D-BC | 461 | 398 | 1.159 | 396 | 38.8 | 292.023 | F |
| C-ABD | 74 | 446 | 0.166 | 74 | 0.2 | 9.673 | A |
| C-D | 299 | | | 299 | | | |
| C-A | 221 | | | 221 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 19 | 391 | 0.048 | 19 | 0.1 | 9.688 | A |
| B-AD | 194 | 387 | 0.502 | 198 | 1.0 | 19.360 | C |
| A-BCD | 64 | 485 | 0.132 | 64 | 0.2 | 8.556 | A |
| A-B | 129 | | | 129 | | | |
| A-C | 155 | | | 155 | | | |
| D-A | 34 | 44 | 0.777 | 35 | 4.6 | 393.265 | F |
| D-BC | 377 | 434 | 0.867 | 423 | 27.1 | 281.573 | F |
| C-ABD | 60 | 466 | 0.129 | 60 | 0.2 | 8.874 | A |
| C-D | 245 | | | 245 | | | |
| C-A | 181 | | | 181 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 16 | 447 | 0.035 | 16 | 0.0 | 8.352 | A |
| B-AD | 163 | 427 | 0.381 | 164 | 0.6 | 13.813 | B |
| A-BCD | 53 | 510 | 0.105 | 54 | 0.1 | 7.896 | A |
| A-B | 108 | | | 108 | | | |
| A-C | 129 | | | 129 | | | |
| D-A | 29 | 136 | 0.210 | 46 | 0.3 | 47.050 | E |
| D-BC | 315 | 462 | 0.683 | 414 | 2.6 | 108.850 | F |
| C-ABD | 50 | 504 | 0.100 | 51 | 0.1 | 7.936 | A |
| C-D | 205 | | | 205 | | | |
| C-A | 151 | | | 151 | | | |

# 2018 Observed, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Emsworth Common Crossroads | Right-Left Stagger | Two-way | | 151.40 | F |

### 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 segment length (min) |
|---|---|---|---|---|---|---|
| D2 | 2018 Observed | PM | ONE HOUR | 16:15 | 17:45 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Comley Hill (N) | | ✓ | 366 | 100.000 |
| B - Emsworth Common Road | | ✓ | 505 | 100.000 |
| C - Horndean Road (S) | | ✓ | 446 | 100.000 |
| D - Bartons Road | | ✓ | 389 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 73 | 213 | 80 |
| | B - Emsworth Common Road | 94 | 0 | 62 | 349 |
| | C - Horndean Road (S) | 178 | 18 | 0 | 250 |
| | D - Bartons Road | 63 | 148 | 178 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 1 | 0 | 0 |
| | B - Emsworth Common Road | 1 | 0 | 2 | 1 |
| | C - Horndean Road (S) | 1 | 0 | 0 | 0 |
| | D - Bartons Road | 0 | 1 | 1 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 1.23 | 496.47 | 8.3 | F |
| B-AD | 1.22 | 394.85 | 50.8 | F |
| A-BCD | 0.22 | 11.40 | 0.3 | B |
| A-B | | | | |
| A-C | | | | |
| D-A | 0.96 | 205.74 | 4.0 | F |
| D-BC | 0.99 | 115.26 | 11.2 | F |
| C-ABD | 0.04 | 7.54 | 0.0 | A |
| C-D | | | | |
| C-A | | | | |

## Main Results for each time segment

### 16:15 - 16:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 47 | 352 | 0.132 | 46 | 0.2 | 11.735 | B |
| B-AD | 334 | 473 | 0.705 | 325 | 2.2 | 23.127 | C |
| A-BCD | 60 | 508 | 0.119 | 60 | 0.1 | 8.023 | A |
| A-B | 55 | | | 55 | | | |
| A-C | 160 | | | 160 | | | |
| D-A | 47 | 429 | 0.111 | 47 | 0.1 | 9.420 | A |
| D-BC | 245 | 459 | 0.535 | 241 | 1.1 | 16.231 | C |
| C-ABD | 14 | 556 | 0.024 | 13 | 0.0 | 6.631 | A |
| C-D | 188 | | | 188 | | | |
| C-A | 134 | | | 134 | | | |

### 16:30 - 16:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 56 | 160 | 0.349 | 54 | 0.5 | 33.711 | D |
| B-AD | 398 | 443 | 0.898 | 384 | 5.7 | 51.354 | F |
| A-BCD | 72 | 474 | 0.152 | 72 | 0.2 | 8.953 | A |
| A-B | 66 | | | 66 | | | |
| A-C | 191 | | | 191 | | | |
| D-A | 57 | 321 | 0.176 | 56 | 0.2 | 13.581 | B |
| D-BC | 293 | 426 | 0.689 | 289 | 2.0 | 25.730 | D |
| C-ABD | 16 | 533 | 0.030 | 16 | 0.0 | 6.958 | A |
| C-D | 225 | | | 225 | | | |
| C-A | 160 | | | 160 | | | |

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 68 | 56 | 1.229 | 48 | 5.5 | 293.031 | F |
| B-AD | 488 | 404 | 1.209 | 397 | 28.4 | 176.962 | F |
| A-BCD | 88 | 426 | 0.207 | 88 | 0.3 | 10.625 | B |
| A-B | 80 | | | 80 | | | |
| A-C | 234 | | | 234 | | | |
| D-A | 69 | 94 | 0.734 | 63 | 1.9 | 99.250 | F |
| D-BC | 359 | 377 | 0.953 | 338 | 7.4 | 69.625 | F |
| C-ABD | 20 | 502 | 0.039 | 20 | 0.0 | 7.459 | A |
| C-D | 275 | | | 275 | | | |
| C-A | 196 | | | 196 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 68 | 60 | 1.138 | 57 | 8.3 | 496.474 | F |
| B-AD | 488 | 399 | 1.222 | 398 | 50.8 | 367.360 | F |
| A-BCD | 88 | 404 | 0.219 | 88 | 0.3 | 11.404 | B |
| A-B | 80 | | | 80 | | | |
| A-C | 234 | | | 234 | | | |
| D-A | 69 | 72 | 0.964 | 61 | 4.0 | 205.737 | F |
| D-BC | 359 | 363 | 0.988 | 344 | 11.2 | 115.264 | F |
| C-ABD | 20 | 497 | 0.040 | 20 | 0.0 | 7.540 | A |
| C-D | 275 | | | 275 | | | |
| C-A | 196 | | | 196 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 56 | 64 | 0.866 | 56 | 8.2 | 495.194 | F |
| B-AD | 398 | 435 | 0.916 | 427 | 43.8 | 394.848 | F |
| A-BCD | 72 | 425 | 0.169 | 72 | 0.2 | 10.221 | B |
| A-B | 66 | | | 66 | | | |
| A-C | 191 | | | 191 | | | |
| D-A | 57 | 200 | 0.284 | 71 | 0.4 | 30.795 | D |
| D-BC | 293 | 395 | 0.743 | 324 | 3.4 | 61.820 | F |
| C-ABD | 16 | 524 | 0.031 | 16 | 0.0 | 7.097 | A |
| C-D | 225 | | | 225 | | | |
| C-A | 160 | | | 160 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 47 | 73 | 0.639 | 65 | 3.6 | 352.935 | F |
| B-AD | 334 | 468 | 0.713 | 457 | 12.8 | 230.378 | F |
| A-BCD | 60 | 464 | 0.130 | 60 | 0.2 | 8.934 | A |
| A-B | 55 | | | 55 | | | |
| A-C | 160 | | | 160 | | | |
| D-A | 47 | 381 | 0.125 | 49 | 0.1 | 10.872 | B |
| D-BC | 245 | 435 | 0.565 | 253 | 1.4 | 20.667 | C |
| C-ABD | 14 | 553 | 0.025 | 14 | 0.0 | 6.673 | A |
| C-D | 188 | | | 188 | | | |
| C-A | 134 | | | 134 | | | |

# 2023 'without development', AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Emsworth Common Crossroads | Right-Left Stagger | Two-way | | 189.66 | F |

### 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 segment length (min) |
|---|---|---|---|---|---|---|
| D3 | 2023 'without development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Comley Hill (N) | | ✓ | 416 | 100.000 |
| B - Emsworth Common Road | | ✓ | 257 | 100.000 |
| C - Horndean Road (S) | | ✓ | 583 | 100.000 |
| D - Bartons Road | | ✓ | 513 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 155 | 185 | 76 |
| | B - Emsworth Common Road | 57 | 0 | 23 | 177 |
| | C - Horndean Road (S) | 217 | 72 | 0 | 294 |
| | D - Bartons Road | 53 | 278 | 182 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 4 | 0 | 5 |
| | B - Emsworth Common Road | 2 | 0 | 4 | 3 |
| | C - Horndean Road (S) | 0 | 0 | 0 | 1 |
| | D - Bartons Road | 2 | 3 | 1 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 0.13 | 20.66 | 0.1 | C |
| B-AD | 0.80 | 50.49 | 3.4 | F |
| A-BCD | 0.19 | 10.07 | 0.2 | B |
| A-B | | | | |
| A-C | | | | |
| D-A | 1.23 | 724.80 | 9.5 | F |
| D-BC | 1.33 | 612.73 | 72.2 | F |
| C-ABD | 0.19 | 10.84 | 0.2 | B |
| C-D | | | | |
| C-A | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 17 | 455 | 0.038 | 17 | 0.0 | 8.220 | A |
| B-AD | 176 | 431 | 0.409 | 173 | 0.7 | 13.859 | B |
| A-BCD | 57 | 505 | 0.113 | 57 | 0.1 | 8.013 | A |
| A-B | 117 | | | 117 | | | |
| A-C | 139 | | | 139 | | | |
| D-A | 40 | 276 | 0.144 | 39 | 0.2 | 15.145 | C |
| D-BC | 346 | 455 | 0.761 | 335 | 2.8 | 27.954 | D |
| C-ABD | 54 | 520 | 0.104 | 54 | 0.1 | 7.715 | A |
| C-D | 221 | | | 221 | | | |
| C-A | 163 | | | 163 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 21 | 398 | 0.052 | 21 | 0.1 | 9.529 | A |
| B-AD | 210 | 394 | 0.534 | 209 | 1.1 | 19.238 | C |
| A-BCD | 68 | 479 | 0.143 | 68 | 0.2 | 8.767 | A |
| A-B | 139 | | | 139 | | | |
| A-C | 166 | | | 166 | | | |
| D-A | 48 | 48 | 0.992 | 36 | 3.0 | 229.071 | F |
| D-BC | 414 | 422 | 0.979 | 388 | 9.1 | 74.825 | F |
| C-ABD | 65 | 488 | 0.133 | 65 | 0.2 | 8.494 | A |
| C-D | 264 | | | 264 | | | |
| C-A | 195 | | | 195 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 25 | 260 | 0.098 | 25 | 0.1 | 15.330 | C |
| B-AD | 258 | 342 | 0.753 | 252 | 2.6 | 37.480 | E |
| A-BCD | 84 | 443 | 0.189 | 84 | 0.2 | 10.016 | B |
| A-B | 171 | | | 171 | | | |
| A-C | 204 | | | 204 | | | |
| D-A | 58 | 49 | 1.181 | 46 | 6.2 | 450.185 | F |
| D-BC | 506 | 382 | 1.326 | 379 | 40.9 | 258.401 | F |
| C-ABD | 79 | 443 | 0.179 | 79 | 0.2 | 9.899 | A |
| C-D | 324 | | | 324 | | | |
| C-A | 239 | | | 239 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 25 | 199 | 0.127 | 25 | 0.1 | 20.664 | C |
| B-AD | 258 | 322 | 0.800 | 255 | 3.4 | 50.487 | F |
| A-BCD | 84 | 441 | 0.190 | 84 | 0.2 | 10.071 | B |
| A-B | 171 | | | 171 | | | |
| A-C | 204 | | | 204 | | | |
| D-A | 58 | 47 | 1.235 | 46 | 9.4 | 679.841 | F |
| D-BC | 506 | 382 | 1.328 | 381 | 72.2 | 531.754 | F |
| C-ABD | 79 | 411 | 0.193 | 79 | 0.2 | 10.844 | B |
| C-D | 324 | | | 324 | | | |
| C-A | 239 | | | 239 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 21 | 326 | 0.063 | 21 | 0.1 | 11.796 | B |
| B-AD | 210 | 350 | 0.601 | 217 | 1.6 | 28.375 | D |
| A-BCD | 68 | 476 | 0.144 | 69 | 0.2 | 8.837 | A |
| A-B | 139 | | | 139 | | | |
| A-C | 166 | | | 166 | | | |
| D-A | 48 | 51 | 0.936 | 47 | 9.5 | 724.798 | F |
| D-BC | 414 | 420 | 0.984 | 414 | 72.2 | 612.730 | F |
| C-ABD | 65 | 420 | 0.154 | 65 | 0.2 | 10.156 | B |
| C-D | 264 | | | 264 | | | |
| C-A | 195 | | | 195 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 17 | 402 | 0.043 | 17 | 0.0 | 9.365 | A |
| B-AD | 176 | 385 | 0.458 | 179 | 0.9 | 17.730 | C |
| A-BCD | 57 | 504 | 0.114 | 57 | 0.1 | 8.066 | A |
| A-B | 117 | | | 117 | | | |
| A-C | 139 | | | 139 | | | |
| D-A | 40 | 55 | 0.725 | 50 | 7.0 | 610.128 | F |
| D-BC | 346 | 449 | 0.771 | 443 | 48.0 | 491.169 | F |
| C-ABD | 54 | 448 | 0.121 | 54 | 0.1 | 9.143 | A |
| C-D | 221 | | | 221 | | | |
| C-A | 163 | | | 163 | | | |

# 2023 'without development', PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Emsworth Common Crossroads | Right-Left Stagger | Two-way | | 298.10 | F |

### 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 segment length (min) |
|---|---|---|---|---|---|---|
| D4 | 2023 'without development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Comley Hill (N) | | ✓ | 393 | 100.000 |
| B - Emsworth Common Road | | ✓ | 547 | 100.000 |
| C - Horndean Road (S) | | ✓ | 481 | 100.000 |
| D - Bartons Road | | ✓ | 429 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 78 | 229 | 86 |
| | B - Emsworth Common Road | 101 | 0 | 67 | 379 |
| | C - Horndean Road (S) | 191 | 19 | 0 | 271 |
| | D - Bartons Road | 75 | 162 | 192 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 1 | 0 | 0 |
| | B - Emsworth Common Road | 1 | 0 | 1 | 1 |
| | C - Horndean Road (S) | 1 | 0 | 0 | 0 |
| | D - Bartons Road | 0 | 1 | 1 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 1.33 | 849.26 | 13.6 | F |
| B-AD | 1.40 | 760.48 | 90.9 | F |
| A-BCD | 0.26 | 13.26 | 0.3 | B |
| A-B | | | | |
| A-C | | | | |
| D-A | 1.11 | 377.64 | 7.8 | F |
| D-BC | 1.16 | 277.47 | 30.0 | F |
| C-ABD | 0.04 | 7.91 | 0.0 | A |
| C-D | | | | |
| C-A | | | | |

## Main Results for each time segment

### 16:15 - 16:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 50 | 296 | 0.171 | 50 | 0.2 | 14.590 | B |
| B-AD | 361 | 461 | 0.783 | 349 | 3.1 | 29.438 | D |
| A-BCD | 65 | 494 | 0.131 | 64 | 0.1 | 8.356 | A |
| A-B | 59 | | | 59 | | | |
| A-C | 172 | | | 172 | | | |
| D-A | 56 | 391 | 0.144 | 56 | 0.2 | 10.716 | B |
| D-BC | 267 | 446 | 0.598 | 261 | 1.4 | 18.959 | C |
| C-ABD | 14 | 547 | 0.026 | 14 | 0.0 | 6.750 | A |
| C-D | 204 | | | 204 | | | |
| C-A | 144 | | | 144 | | | |

### 16:30 - 16:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 60 | 59 | 1.020 | 47 | 3.6 | 211.680 | F |
| B-AD | 432 | 429 | 1.005 | 401 | 10.8 | 83.047 | F |
| A-BCD | 77 | 457 | 0.169 | 77 | 0.2 | 9.476 | A |
| A-B | 70 | | | 70 | | | |
| A-C | 206 | | | 206 | | | |
| D-A | 67 | 252 | 0.267 | 67 | 0.4 | 19.330 | C |
| D-BC | 318 | 408 | 0.780 | 312 | 3.0 | 35.140 | E |
| C-ABD | 17 | 522 | 0.033 | 17 | 0.0 | 7.123 | A |
| C-D | 244 | | | 244 | | | |
| C-A | 172 | | | 172 | | | |

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 74 | 59 | 1.241 | 56 | 8.0 | 455.986 | F |
| B-AD | 528 | 386 | 1.370 | 384 | 47.0 | 292.843 | F |
| A-BCD | 95 | 402 | 0.236 | 95 | 0.3 | 11.686 | B |
| A-B | 86 | | | 86 | | | |
| A-C | 252 | | | 252 | | | |
| D-A | 83 | 74 | 1.113 | 63 | 5.2 | 215.949 | F |
| D-BC | 390 | 355 | 1.098 | 340 | 15.5 | 123.222 | F |
| C-ABD | 21 | 488 | 0.043 | 21 | 0.0 | 7.702 | A |
| C-D | 298 | | | 298 | | | |
| C-A | 210 | | | 210 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 74 | 56 | 1.326 | 54 | 12.8 | 746.302 | F |
| B-AD | 528 | 377 | 1.402 | 377 | 84.9 | 624.663 | F |
| A-BCD | 95 | 366 | 0.260 | 95 | 0.3 | 13.259 | B |
| A-B | 86 | | | 86 | | | |
| A-C | 252 | | | 252 | | | |
| D-A | 83 | 77 | 1.078 | 72 | 7.8 | 377.639 | F |
| D-BC | 390 | 335 | 1.165 | 332 | 30.0 | 265.752 | F |
| C-ABD | 21 | 476 | 0.044 | 21 | 0.0 | 7.908 | A |
| C-D | 298 | | | 298 | | | |
| C-A | 210 | | | 210 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 60 | 59 | 1.020 | 57 | 13.6 | 849.261 | F |
| B-AD | 432 | 408 | 1.057 | 408 | 90.9 | 760.477 | F |
| A-BCD | 77 | 375 | 0.207 | 78 | 0.3 | 12.134 | B |
| A-B | 70 | | | 70 | | | |
| A-C | 206 | | | 206 | | | |
| D-A | 67 | 80 | 0.839 | 70 | 7.2 | 346.417 | F |
| D-BC | 318 | 357 | 0.892 | 345 | 23.2 | 277.473 | F |
| C-ABD | 17 | 494 | 0.035 | 17 | 0.0 | 7.544 | A |
| C-D | 244 | | | 244 | | | |
| C-A | 172 | | | 172 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 50 | 64 | 0.787 | 60 | 11.3 | 756.882 | F |
| B-AD | 361 | 443 | 0.815 | 438 | 71.6 | 668.220 | F |
| A-BCD | 65 | 403 | 0.161 | 65 | 0.2 | 10.661 | B |
| A-B | 59 | | | 59 | | | |
| A-C | 172 | | | 172 | | | |
| D-A | 56 | 145 | 0.390 | 82 | 0.7 | 76.235 | F |
| D-BC | 267 | 386 | 0.691 | 348 | 2.8 | 121.151 | F |
| C-ABD | 14 | 525 | 0.027 | 14 | 0.0 | 7.057 | A |
| C-D | 204 | | | 204 | | | |
| C-A | 144 | | | 144 | | | |

# 2023 'with development' , AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Emsworth Common Crossroads | Right-Left Stagger | Two-way | | 227.01 | F |

### 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 segment length (min) |
|---|---|---|---|---|---|---|
| D5 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Comley Hill (N) | | ✓ | 421 | 100.000 |
| B - Emsworth Common Road | | ✓ | 257 | 100.000 |
| C - Horndean Road (S) | | ✓ | 638 | 100.000 |
| D - Bartons Road | | ✓ | 524 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 155 | 190 | 76 |
| | B - Emsworth Common Road | 57 | 0 | 23 | 177 |
| | C - Horndean Road (S) | 234 | 72 | 0 | 332 |
| | D - Bartons Road | 53 | 278 | 193 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 4 | 2 | 5 |
| | B - Emsworth Common Road | 2 | 0 | 4 | 3 |
| | C - Horndean Road (S) | 0 | 0 | 0 | 1 |
| | D - Bartons Road | 2 | 3 | 1 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 0.18 | 30.95 | 0.2 | D |
| B-AD | 0.85 | 65.22 | 4.3 | F |
| A-BCD | 0.20 | 10.51 | 0.2 | B |
| A-B | | | | |
| A-C | | | | |
| D-A | 1.31 | 859.99 | 11.0 | F |
| D-BC | 1.40 | 750.63 | 88.7 | F |
| C-ABD | 0.20 | 11.28 | 0.2 | B |
| C-D | | | | |
| C-A | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 17 | 450 | 0.039 | 17 | 0.0 | 8.323 | A |
| B-AD | 176 | 421 | 0.419 | 173 | 0.7 | 14.429 | B |
| A-BCD | 57 | 496 | 0.115 | 57 | 0.1 | 8.196 | A |
| A-B | 117 | | | 117 | | | |
| A-C | 143 | | | 143 | | | |
| D-A | 40 | 248 | 0.161 | 39 | 0.2 | 17.156 | C |
| D-BC | 355 | 448 | 0.792 | 342 | 3.2 | 31.026 | D |
| C-ABD | 54 | 516 | 0.105 | 54 | 0.1 | 7.776 | A |
| C-D | 250 | | | 250 | | | |
| C-A | 176 | | | 176 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 21 | 388 | 0.053 | 21 | 0.1 | 9.793 | A |
| B-AD | 210 | 382 | 0.551 | 208 | 1.2 | 20.549 | C |
| A-BCD | 68 | 467 | 0.146 | 68 | 0.2 | 9.023 | A |
| A-B | 139 | | | 139 | | | |
| A-C | 171 | | | 171 | | | |
| D-A | 48 | 46 | 1.036 | 36 | 3.2 | 249.280 | F |
| D-BC | 423 | 415 | 1.021 | 390 | 11.7 | 90.592 | F |
| C-ABD | 65 | 484 | 0.134 | 65 | 0.2 | 8.590 | A |
| C-D | 298 | | | 298 | | | |
| C-A | 210 | | | 210 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 25 | 227 | 0.112 | 25 | 0.1 | 17.842 | C |
| B-AD | 258 | 326 | 0.791 | 250 | 3.1 | 43.791 | E |
| A-BCD | 84 | 428 | 0.196 | 84 | 0.2 | 10.434 | B |
| A-B | 171 | | | 171 | | | |
| A-C | 209 | | | 209 | | | |
| D-A | 58 | 47 | 1.245 | 44 | 6.8 | 510.079 | F |
| D-BC | 519 | 372 | 1.393 | 371 | 48.7 | 313.365 | F |
| C-ABD | 79 | 435 | 0.183 | 79 | 0.2 | 10.114 | B |
| C-D | 365 | | | 365 | | | |
| C-A | 258 | | | 258 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 25 | 141 | 0.180 | 25 | 0.2 | 30.949 | D |
| B-AD | 258 | 302 | 0.854 | 253 | 4.3 | 65.224 | F |
| A-BCD | 84 | 426 | 0.197 | 84 | 0.2 | 10.507 | B |
| A-B | 171 | | | 171 | | | |
| A-C | 209 | | | 209 | | | |
| D-A | 58 | 45 | 1.307 | 43 | 10.6 | 785.643 | F |
| D-BC | 519 | 372 | 1.396 | 371 | 85.5 | 638.159 | F |
| C-ABD | 79 | 398 | 0.199 | 79 | 0.2 | 11.277 | B |
| C-D | 365 | | | 365 | | | |
| C-A | 258 | | | 258 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 21 | 291 | 0.071 | 21 | 0.1 | 13.364 | B |
| B-AD | 210 | 329 | 0.639 | 220 | 1.9 | 35.386 | E |
| A-BCD | 68 | 463 | 0.147 | 69 | 0.2 | 9.126 | A |
| A-B | 139 | | | 139 | | | |
| A-C | 171 | | | 171 | | | |
| D-A | 48 | 48 | 0.984 | 46 | 11.0 | 859.991 | F |
| D-BC | 423 | 412 | 1.028 | 411 | 88.7 | 750.635 | F |
| C-ABD | 65 | 402 | 0.161 | 65 | 0.2 | 10.678 | B |
| C-D | 298 | | | 298 | | | |
| C-A | 210 | | | 210 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 17 | 382 | 0.045 | 17 | 0.0 | 9.892 | A |
| B-AD | 176 | 364 | 0.484 | 180 | 1.0 | 19.970 | C |
| A-BCD | 57 | 494 | 0.116 | 57 | 0.1 | 8.255 | A |
| A-B | 117 | | | 117 | | | |
| A-C | 143 | | | 143 | | | |
| D-A | 40 | 52 | 0.763 | 48 | 9.0 | 758.453 | F |
| D-BC | 355 | 443 | 0.801 | 438 | 67.9 | 645.402 | F |
| C-ABD | 54 | 429 | 0.127 | 54 | 0.1 | 9.627 | A |
| C-D | 250 | | | 250 | | | |
| C-A | 176 | | | 176 | | | |

# 2023 'with development', PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Emsworth Common Crossroads | Right-Left Stagger | Two-way | | 396.36 | F |

### 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 segment length (min) |
|---|---|---|---|---|---|---|
| D6 | 2023 'with development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Comley Hill (N) | | ✓ | 406 | 100.000 |
| B - Emsworth Common Road | | ✓ | 547 | 100.000 |
| C - Horndean Road (S) | | ✓ | 504 | 100.000 |
| D - Bartons Road | | ✓ | 457 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 78 | 242 | 86 |
| | B - Emsworth Common Road | 101 | 0 | 67 | 379 |
| | C - Horndean Road (S) | 198 | 19 | 0 | 287 |
| | D - Bartons Road | 75 | 162 | 220 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | A - Comley Hill (N) | B - Emsworth Common Road | C - Horndean Road (S) | D - Bartons Road |
| From | A - Comley Hill (N) | 0 | 1 | 0 | 0 |
| | B - Emsworth Common Road | 1 | 0 | 1 | 1 |
| | C - Horndean Road (S) | 1 | 0 | 0 | 0 |
| | D - Bartons Road | 0 | 1 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 1.41 | 1048.25 | 15.8 | F |
| B-AD | 1.48 | 959.86 | 107.5 | F |
| A-BCD | 0.27 | 13.85 | 0.4 | B |
| A-B | | | | |
| A-C | | | | |
| D-A | 1.21 | 560.30 | 10.3 | F |
| D-BC | 1.27 | 476.75 | 46.3 | F |
| C-ABD | 0.05 | 8.23 | 0.0 | A |
| C-D | | | | |
| C-A | | | | |

## Main Results for each time segment

### 16:15 - 16:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 50 | 278 | 0.182 | 50 | 0.2 | 15.729 | C |
| B-AD | 361 | 451 | 0.800 | 348 | 3.4 | 31.631 | D |
| A-BCD | 65 | 490 | 0.132 | 64 | 0.2 | 8.442 | A |
| A-B | 59 | | | 59 | | | |
| A-C | 182 | | | 182 | | | |
| D-A | 56 | 360 | 0.157 | 56 | 0.2 | 11.818 | B |
| D-BC | 288 | 444 | 0.648 | 281 | 1.7 | 21.290 | C |
| C-ABD | 14 | 540 | 0.026 | 14 | 0.0 | 6.841 | A |
| C-D | 216 | | | 216 | | | |
| C-A | 149 | | | 149 | | | |

### 16:30 - 16:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 60 | 57 | 1.051 | 46 | 3.8 | 225.404 | F |
| B-AD | 432 | 417 | 1.034 | 395 | 12.6 | 95.200 | F |
| A-BCD | 77 | 451 | 0.171 | 77 | 0.2 | 9.614 | A |
| A-B | 70 | | | 70 | | | |
| A-C | 218 | | | 218 | | | |
| D-A | 67 | 193 | 0.350 | 66 | 0.5 | 28.170 | D |
| D-BC | 343 | 404 | 0.849 | 333 | 4.3 | 45.127 | E |
| C-ABD | 17 | 514 | 0.033 | 17 | 0.0 | 7.249 | A |
| C-D | 258 | | | 258 | | | |
| C-A | 178 | | | 178 | | | |

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 74 | 57 | 1.297 | 54 | 8.7 | 508.344 | F |
| B-AD | 528 | 370 | 1.427 | 369 | 52.5 | 341.652 | F |
| A-BCD | 95 | 394 | 0.241 | 95 | 0.3 | 11.999 | B |
| A-B | 86 | | | 86 | | | |
| A-C | 266 | | | 266 | | | |
| D-A | 83 | 68 | 1.214 | 60 | 6.2 | 265.077 | F |
| D-BC | 421 | 352 | 1.195 | 344 | 23.4 | 171.079 | F |
| C-ABD | 21 | 477 | 0.044 | 21 | 0.0 | 7.897 | A |
| C-D | 316 | | | 316 | | | |
| C-A | 218 | | | 218 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 74 | 52 | 1.408 | 52 | 14.3 | 860.373 | F |
| B-AD | 528 | 357 | 1.482 | 356 | 95.5 | 737.511 | F |
| A-BCD | 95 | 355 | 0.268 | 95 | 0.4 | 13.852 | B |
| A-B | 86 | | | 86 | | | |
| A-C | 266 | | | 266 | | | |
| D-A | 83 | 69 | 1.198 | 66 | 10.2 | 504.601 | F |
| D-BC | 421 | 330 | 1.275 | 329 | 46.3 | 394.912 | F |
| C-ABD | 21 | 458 | 0.046 | 21 | 0.0 | 8.235 | A |
| C-D | 316 | | | 316 | | | |
| C-A | 218 | | | 218 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 60 | 55 | 1.088 | 54 | 15.8 | 1048.248 | F |
| B-AD | 432 | 384 | 1.123 | 384 | 107.5 | 959.864 | F |
| A-BCD | 77 | 359 | 0.216 | 78 | 0.3 | 12.814 | B |
| A-B | 70 | | | 70 | | | |
| A-C | 217 | | | 217 | | | |
| D-A | 67 | 72 | 0.937 | 67 | 10.3 | 560.299 | F |
| D-BC | 343 | 351 | 0.978 | 343 | 46.3 | 476.753 | F |
| C-ABD | 17 | 470 | 0.036 | 17 | 0.0 | 7.947 | A |
| C-D | 258 | | | 258 | | | |
| C-A | 178 | | | 178 | | | |

### 17:30 - 17:45

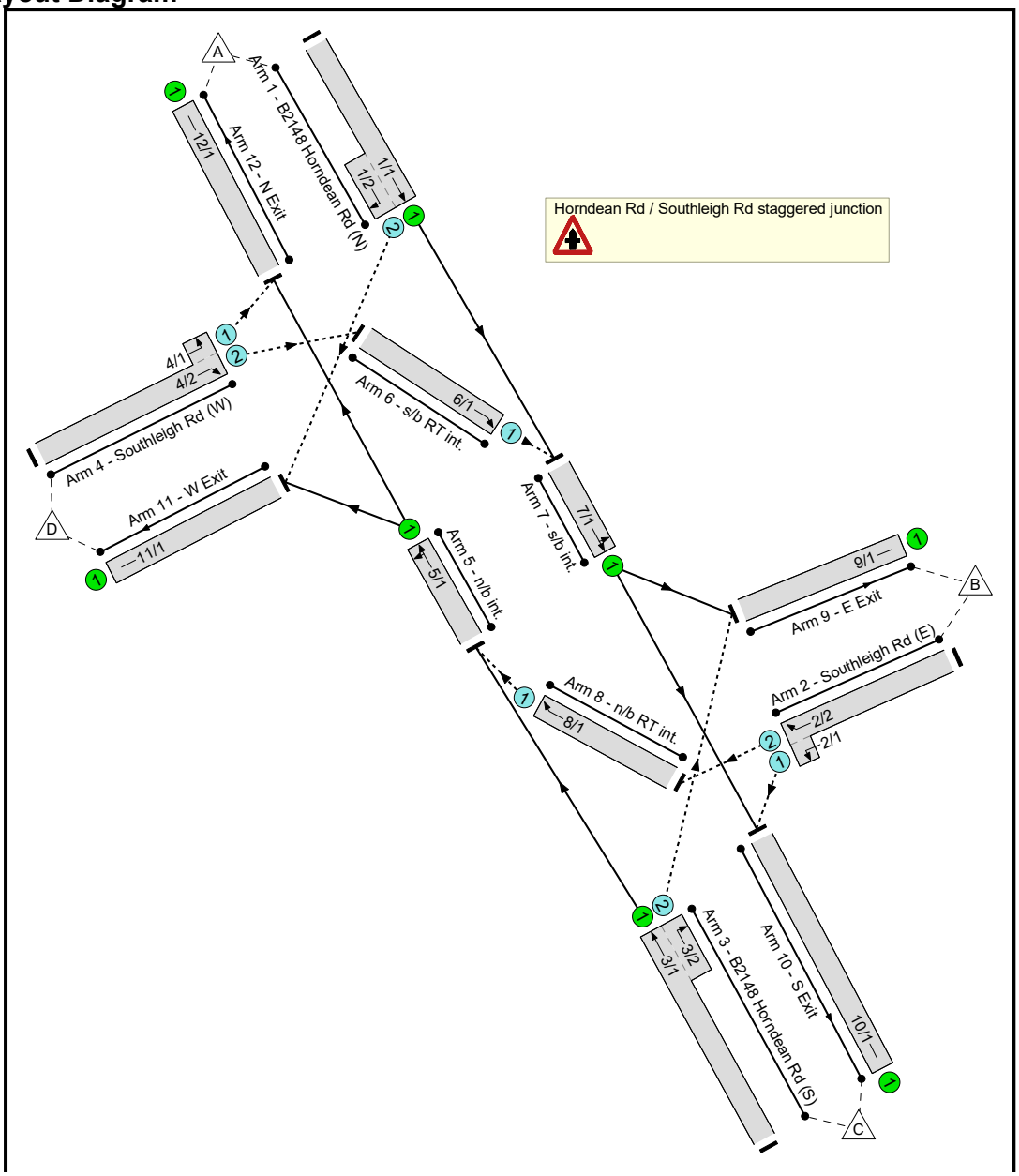
| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 50 | 60 | 0.845 | 56 | 14.3 | 969.225 | F |
| B-AD | 361 | 416 | 0.868 | 412 | 94.7 | 883.555 | F |
| A-BCD | 65 | 382 | 0.170 | 65 | 0.2 | 11.370 | B |
| A-B | 59 | | | 59 | | | |
| A-C | 182 | | | 182 | | | |
| D-A | 56 | 78 | 0.726 | 71 | 6.7 | 448.967 | F |
| D-BC | 288 | 376 | 0.766 | 368 | 26.3 | 360.167 | F |
| C-ABD | 14 | 495 | 0.029 | 14 | 0.0 | 7.487 | A |
| C-D | 216 | | | 216 | | | |
| C-A | 149 | | | 149 | | | |

# Full Input Data And Results

## User and Project Details

| | |
|---|---|
| **Project:** | **ITB13535 Emsworth** |
| **Title:** | **Horndean Rd / Southleigh Rd staggered junction** |
| **Location:** | |
| **Additional detail:** | |
| **File name:** | Horndean Rd_Southleigh Rd.lsg3x |
| **Author:** | |
| **Company:** | |
| **Address:** | |

## Network Layout Diagram



Full Input Data And Results

## Give-Way Lane Input Data

**Junction: Horndean Rd / Southleigh Rd staggered junction**

| 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1/2 (B2148 Horndean Rd (N)) | 11/1 (Right) | 787 | 0 | 5/1 | 0.28 | All | - | - | - | - | - |
| 2/1 (Southleigh Rd (E)) | 10/1 (Left) | 670 | 0 | 7/1 | 0.24 | All | - | - | - | - | - |
| 2/2 (Southleigh Rd (E)) | 8/1 (Right) | 644 | 0 | 7/1 | 0.26 | All | - | - | - | - | - |
| | | | | 3/2 | 0.37 | All | | | | | |
| 3/2 (B2148 Horndean Rd (S)) | 9/1 (Right) | 772 | 0 | 7/1 | 0.28 | All | - | - | - | - | - |
| 4/1 (Southleigh Rd (W)) | 12/1 (Left) | 694 | 0 | 5/1 | 0.25 | All | - | - | - | - | - |
| 4/2 (Southleigh Rd (W)) | 6/1 (Right) | 657 | 0 | 1/2 | 0.37 | All | - | - | - | - | - |
| | | | | 5/1 | 0.26 | All | | | | | |
| 6/1 (s/b RT int.) | 7/1 (Ahead) | 657 | 0 | 1/1 | 0.16 | All | - | - | - | - | - |
| 8/1 (n/b RT int.) | 5/1 (Ahead) | 644 | 0 | 3/1 | 0.16 | All | - | - | - | - | - |

Full Input Data And Results

## Lane Input Data

**Junction: Horndean Rd / Southleigh Rd staggered junction**

| 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 (B2148 Horndean Rd (N)) | U | | 2 | 3 | 60.0 | User | 1900 | - | - | - | - | - |
| 1/2 (B2148 Horndean Rd (N)) | O | | 2 | 3 | 4.0 | User | 1900 | - | - | - | - | - |
| 2/1 (Southleigh Rd (E)) | O | | 2 | 3 | 1.4 | User | 1900 | - | - | - | - | - |
| 2/2 (Southleigh Rd (E)) | O | | 2 | 3 | 60.0 | User | 1900 | - | - | - | - | - |
| 3/1 (B2148 Horndean Rd (S)) | U | | 2 | 3 | 60.0 | User | 1900 | - | - | - | - | - |
| 3/2 (B2148 Horndean Rd (S)) | O | | 2 | 3 | 4.0 | User | 1900 | - | - | - | - | - |
| 4/1 (Southleigh Rd (W)) | O | | 2 | 3 | 1.7 | User | 1900 | - | - | - | - | - |
| 4/2 (Southleigh Rd (W)) | O | | 2 | 3 | 60.0 | User | 1900 | - | - | - | - | - |
| 5/1 (n/b int.) | U | | 2 | 3 | 5.2 | User | 1900 | - | - | - | - | - |
| 6/1 (s/b RT int.) | O | | 2 | 3 | 2.4 | User | 1900 | - | - | - | - | - |
| 7/1 (s/b int.) | U | | 2 | 3 | 5.2 | User | 1900 | - | - | - | - | - |
| 8/1 (n/b RT int.) | O | | 2 | 3 | 2.4 | User | 1900 | - | - | - | - | - |
| 9/1 (E Exit) | U | | 2 | 3 | 60.0 | Inf | - | - | - | - | - | - |
| 10/1 (S Exit) | U | | 2 | 3 | 60.0 | Inf | - | - | - | - | - | - |
| 11/1 (W Exit) | U | | 2 | 3 | 60.0 | Inf | - | - | - | - | - | - |
| 12/1 (N Exit) | U | | 2 | 3 | 60.0 | Inf | - | - | - | - | - | - |

Full Input Data And Results

## Traffic Flow Groups

| Flow Group | Start Time | End Time | Duration | Formula |
|---|---|---|---|---|
| 1: '2018 AM Observed' | 08:00 | 09:00 | 01:00 | |
| 2: '2018 PM Observed' | 17:00 | 18:00 | 01:00 | |
| 3: '2023 AM Without Development' | 08:00 | 09:00 | 01:00 | |
| 4: '2023 PM Without Development' | 17:00 | 18:00 | 01:00 | |
| 5: '2023 AM With Development' | 08:00 | 09:00 | 01:00 | |
| 6: '2023 PM With Development' | 17:00 | 18:00 | 01:00 | |

**Scenario 1: '1'** (FG1: '2018 AM Observed', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| | | Destination | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 118 | 231 | 16 | 365 |
| | B | 231 | 0 | 101 | 80 | 412 |
| | C | 245 | 45 | 0 | 34 | 324 |
| | D | 65 | 93 | 63 | 0 | 221 |
| | Tot. | 541 | 256 | 395 | 130 | 1322 |

Full Input Data And Results

## Traffic Lane Flows

| Lane | Scenario 1: 1 |
|---|---|
| **Junction: Horndean Rd / Southleigh Rd staggered junction** | |
| 1/1 (with short) | 365(In) 349(Out) |
| 1/2 (short) | 16 |
| 2/1 (short) | 101 |
| 2/2 (with short) | 412(In) 311(Out) |
| 3/1 (with short) | 324(In) 279(Out) |
| 3/2 (short) | 45 |
| 4/1 (short) | 65 |
| 4/2 (with short) | 221(In) 156(Out) |
| 5/1 | 590 |
| 6/1 | 156 |
| 7/1 | 505 |
| 8/1 | 311 |
| 9/1 | 256 |
| 10/1 | 395 |
| 11/1 | 130 |
| 12/1 | 541 |

**Scenario 2: '2'** (FG2: '2018 PM Observed', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| | | Destination | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 185 | 220 | 51 | 456 |
| | B | 263 | 0 | 54 | 86 | 403 |
| | C | 273 | 66 | 0 | 59 | 398 |
| | D | 15 | 95 | 40 | 0 | 150 |
| | Tot. | 551 | 346 | 314 | 196 | 1407 |

Full Input Data And Results

## Traffic Lane Flows

| Lane | Scenario 2: 2 |
|---|---|
| **Junction: Horndean Rd / Southleigh Rd staggered junction** | |
| 1/1 (with short) | 456(In) 405(Out) |
| 1/2 (short) | 51 |
| 2/1 (short) | 54 |
| 2/2 (with short) | 403(In) 349(Out) |
| 3/1 (with short) | 398(In) 332(Out) |
| 3/2 (short) | 66 |
| 4/1 (short) | 15 |
| 4/2 (with short) | 150(In) 135(Out) |
| 5/1 | 681 |
| 6/1 | 135 |
| 7/1 | 540 |
| 8/1 | 349 |
| 9/1 | 346 |
| 10/1 | 314 |
| 11/1 | 196 |
| 12/1 | 551 |

**Scenario 3: '3'** (FG3: '2023 AM Without Development', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| | | Destination | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 127 | 252 | 17 | 396 |
| | B | 249 | 0 | 109 | 86 | 444 |
| | C | 265 | 48 | 0 | 37 | 350 |
| | D | 70 | 100 | 68 | 0 | 238 |
| | Tot. | 584 | 275 | 429 | 140 | 1428 |

Full Input Data And Results

## Traffic Lane Flows

| Lane | Scenario 3: 3 |
|---|---|
| **Junction: Horndean Rd / Southleigh Rd staggered junction** | |
| 1/1 (with short) | 396(In) 379(Out) |
| 1/2 (short) | 17 |
| 2/1 (short) | 109 |
| 2/2 (with short) | 444(In) 335(Out) |
| 3/1 (with short) | 350(In) 302(Out) |
| 3/2 (short) | 48 |
| 4/1 (short) | 70 |
| 4/2 (with short) | 238(In) 168(Out) |
| 5/1 | 637 |
| 6/1 | 168 |
| 7/1 | 547 |
| 8/1 | 335 |
| 9/1 | 275 |
| 10/1 | 429 |
| 11/1 | 140 |
| 12/1 | 584 |

**Scenario 4: '4'** (FG4: '2023 PM Without Development', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| | | Destination | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 199 | 237 | 55 | 491 |
| | B | 282 | 0 | 58 | 92 | 432 |
| | C | 296 | 71 | 0 | 63 | 430 |
| | D | 16 | 102 | 43 | 0 | 161 |
| | Tot. | 594 | 372 | 338 | 210 | 1514 |

Full Input Data And Results

## Traffic Lane Flows

| Lane | Scenario 4: 4 |
|---|---|
| **Junction: Horndean Rd / Southleigh Rd staggered junction** | |
| 1/1 (with short) | 491(In) 436(Out) |
| 1/2 (short) | 55 |
| 2/1 (short) | 58 |
| 2/2 (with short) | 432(In) 374(Out) |
| 3/1 (with short) | 430(In) 359(Out) |
| 3/2 (short) | 71 |
| 4/1 (short) | 16 |
| 4/2 (with short) | 161(In) 145(Out) |
| 5/1 | 733 |
| 6/1 | 145 |
| 7/1 | 581 |
| 8/1 | 374 |
| 9/1 | 372 |
| 10/1 | 338 |
| 11/1 | 210 |
| 12/1 | 594 |

**Scenario 5: '5'** (FG5: '2023 AM With Development', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| | | Destination | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 142 | 252 | 17 | 411 |
| | B | 303 | 0 | 147 | 93 | 543 |
| | C | 265 | 59 | 0 | 37 | 361 |
| | D | 70 | 102 | 68 | 0 | 240 |
| | Tot. | 638 | 303 | 467 | 147 | 1555 |

Full Input Data And Results

## Traffic Lane Flows

| Lane | Scenario 5: 5 |
|---|---|
| **Junction: Horndean Rd / Southleigh Rd staggered junction** | |
| 1/1 (with short) | 411(In) 394(Out) |
| 1/2 (short) | 17 |
| 2/1 (short) | 147 |
| 2/2 (with short) | 543(In) 396(Out) |
| 3/1 (with short) | 361(In) 302(Out) |
| 3/2 (short) | 59 |
| 4/1 (short) | 70 |
| 4/2 (with short) | 240(In) 170(Out) |
| 5/1 | 698 |
| 6/1 | 170 |
| 7/1 | 564 |
| 8/1 | 396 |
| 9/1 | 303 |
| 10/1 | 467 |
| 11/1 | 147 |
| 12/1 | 638 |

**Scenario 6: '6'** (FG6: '2023 PM With Development', Plan 1: 'Network Control Plan 1')

## Traffic Flows, Desired

**Desired Flow :**

| | | Destination | | | | |
|---|---|---|---|---|---|---|
| | | A | B | C | D | Tot. |
| Origin | A | 0 | 240 | 237 | 55 | 532 |
| | B | 306 | 0 | 74 | 95 | 475 |
| | C | 296 | 99 | 0 | 63 | 458 |
| | D | 16 | 108 | 43 | 0 | 167 |
| | Tot. | 618 | 447 | 354 | 213 | 1632 |

Full Input Data And Results

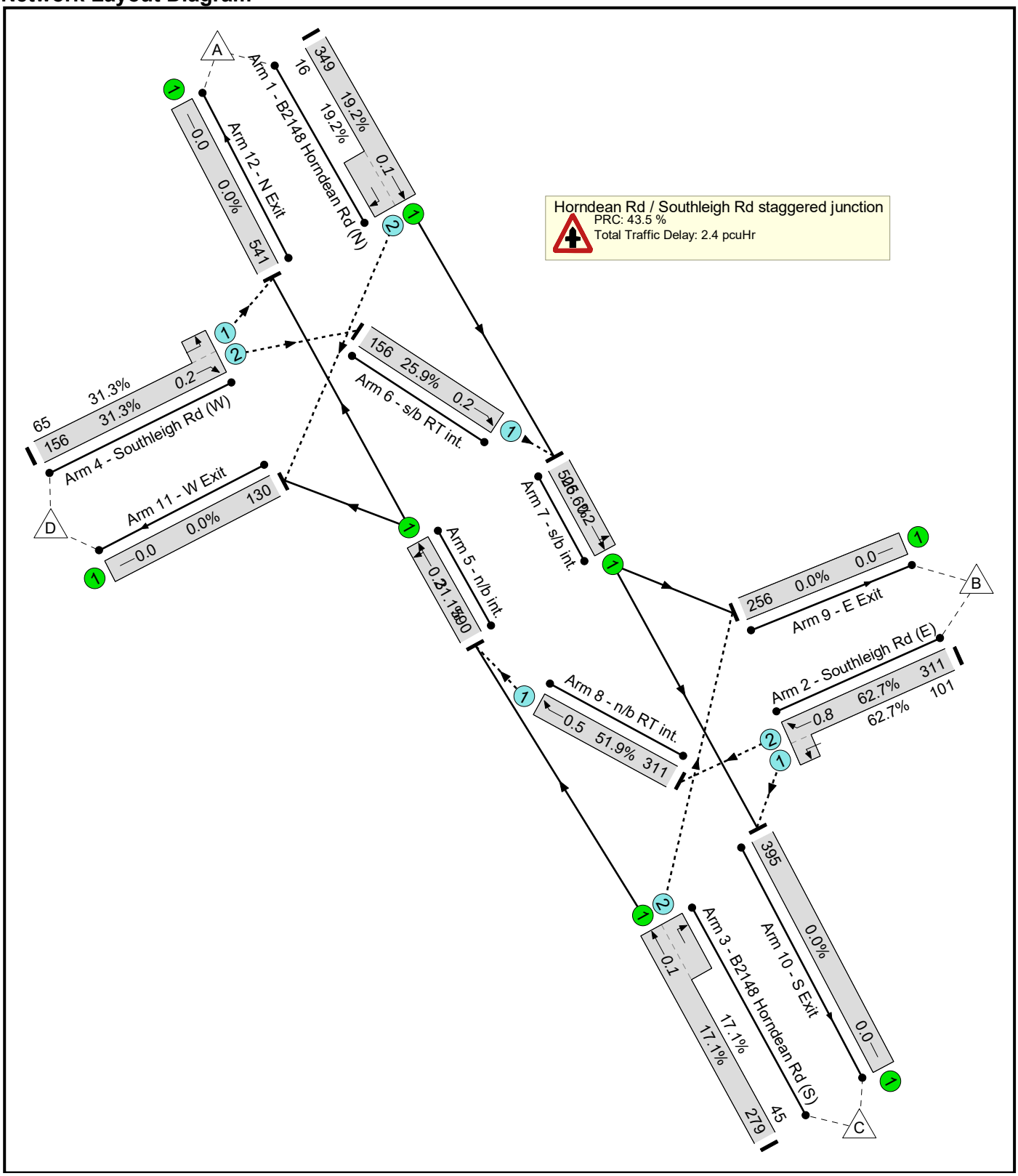
## Traffic Lane Flows

| Lane | Scenario 6: 6 |
|---|---|
| **Junction: Horndean Rd / Southleigh Rd staggered junction** | |
| 1/1 (with short) | 532(In) 477(Out) |
| 1/2 (short) | 55 |
| 2/1 (short) | 74 |
| 2/2 (with short) | 475(In) 401(Out) |
| 3/1 (with short) | 458(In) 359(Out) |
| 3/2 (short) | 99 |
| 4/1 (short) | 16 |
| 4/2 (with short) | 167(In) 151(Out) |
| 5/1 | 760 |
| 6/1 | 151 |
| 7/1 | 628 |
| 8/1 | 401 |
| 9/1 | 447 |
| 10/1 | 354 |
| 11/1 | 213 |
| 12/1 | 618 |

Full Input Data And Results

**Scenario 1: '1'** (FG1: '2018 AM Observed', Plan 1: 'Network Control Plan 1')

## 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: Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **62.7%** |
| **Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **62.7%** |
| 1/1+1/2 | B2148 Horndean Rd (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 365 | 1900:1900 | 1817+83 | 19.2 : 19.2% |
| 2/2+2/1 | Southleigh Rd (E) Right Left | O | N/A | N/A | - | | - | - | - | 412 | 1900:1900 | 496+161 | 62.7 : 62.7% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 324 | 1900:1900 | 1636+264 | 17.1 : 17.1% |
| 4/2+4/1 | Southleigh Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 221 | 1900:1900 | 498+207 | 31.3 : 31.3% |
| 5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 590 | 1900 | 1900 | 31.1% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 156 | 1900 | 601 | 25.9% |
| 7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 505 | 1900 | 1900 | 26.6% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 311 | 1900 | 599 | 51.9% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 256 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 395 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 130 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 541 | Inf | Inf | 0.0% |

Full Input Data And Results

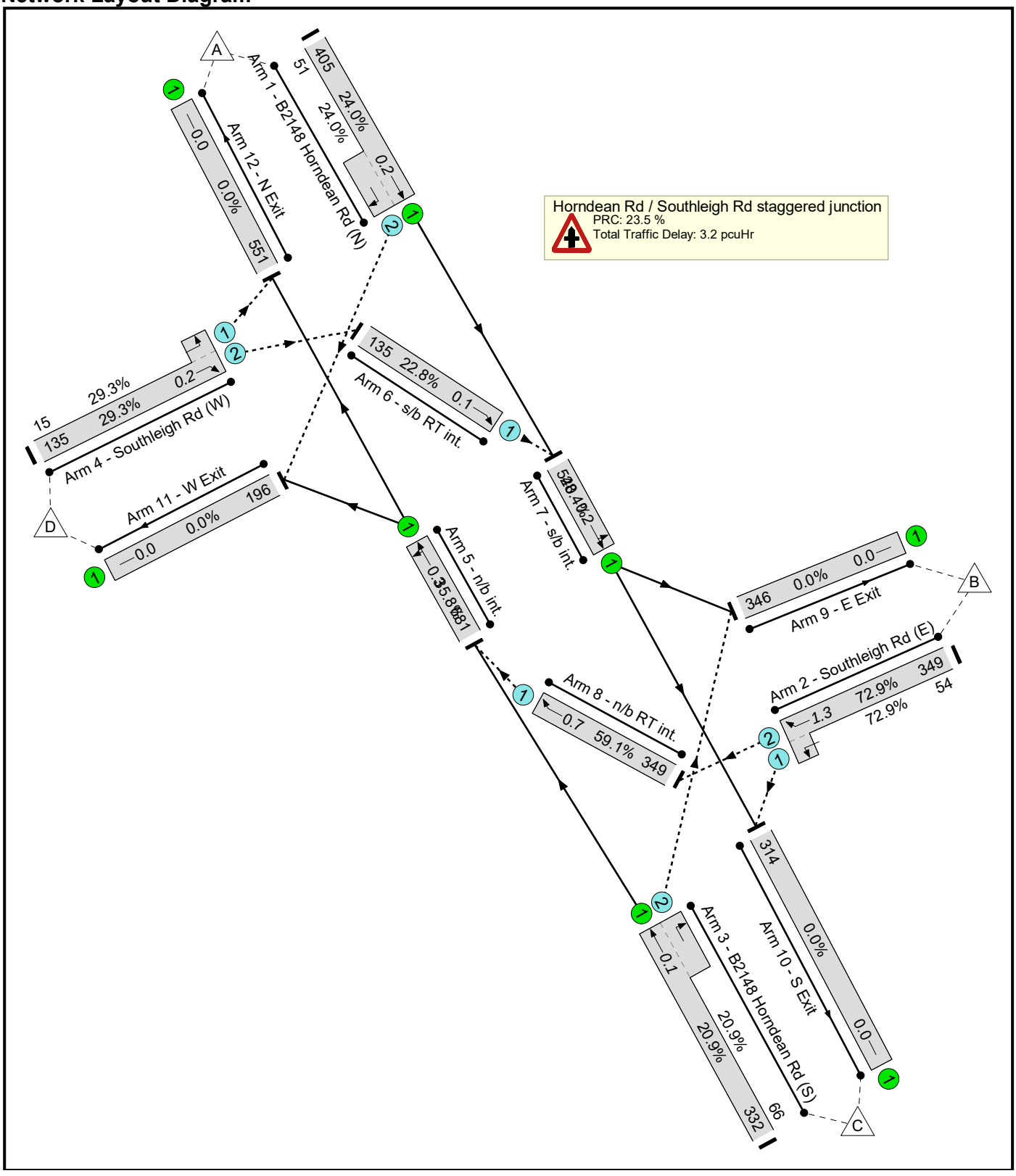
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1794** | **0** | **0** | **0.0** | **2.4** | **0.0** | **2.4** | **-** | **-** | **-** | **-** |
| **Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1794** | **0** | **0** | **0.0** | **2.4** | **0.0** | **2.4** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 365 | 365 | 16 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 2/2+2/1 | 412 | 412 | 824 | 0 | 0 | 0.0 | 0.8 | - | 0.8 (0.6+0.2) | 7.3 (7.3:7.3) | 0.0 | 0.8 | 0.8 |
| 3/1+3/2 | 324 | 324 | 45 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.1 (1.1:1.1) | 0.0 | 0.1 | 0.1 |
| 4/2+4/1 | 221 | 221 | 442 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.2+0.1) | 3.7 (3.7:3.7) | 0.0 | 0.2 | 0.2 |
| 5/1 | 590 | 590 | - | - | - | 0.0 | 0.2 | - | 0.2 | 1.4 | 0.0 | 0.2 | 0.2 |
| 6/1 | 156 | 156 | 156 | 0 | 0 | 0.0 | 0.2 | - | 0.2 | 4.0 | 0.0 | 0.2 | 0.2 |
| 7/1 | 505 | 505 | - | - | - | 0.0 | 0.2 | - | 0.2 | 1.3 | 0.0 | 0.2 | 0.2 |
| 8/1 | 311 | 311 | 311 | 0 | 0 | 0.0 | 0.5 | - | 0.5 | 6.2 | 0.0 | 0.5 | 0.5 |
| 9/1 | 256 | 256 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 395 | 395 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 130 | 130 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 541 | 541 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 43.5 Total Delay Over All Lanes(pcuHr): 2.40

Full Input Data And Results

**Scenario 2: '2'** (FG2: '2018 PM Observed', Plan 1: 'Network Control Plan 1')

## 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: Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **72.9%** |
| **Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **72.9%** |
| 1/1+1/2 | B2148 Horndean Rd (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 456 | 1900:1900 | 1688+213 | 24.0 : 24.0% |
| 2/2+2/1 | Southleigh Rd (E) Right Left | O | N/A | N/A | - | | - | - | - | 403 | 1900:1900 | 479+74 | 72.9 : 72.9% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 398 | 1900:1900 | 1585+315 | 20.9 : 20.9% |
| 4/2+4/1 | Southleigh Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 150 | 1900:1900 | 461+51 | 29.3 : 29.3% |
| 5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 681 | 1900 | 1900 | 35.8% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 135 | 1900 | 592 | 22.8% |
| 7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 540 | 1900 | 1900 | 28.4% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 349 | 1900 | 591 | 59.1% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 346 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 314 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 196 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 551 | Inf | Inf | 0.0% |

Full Input Data And Results

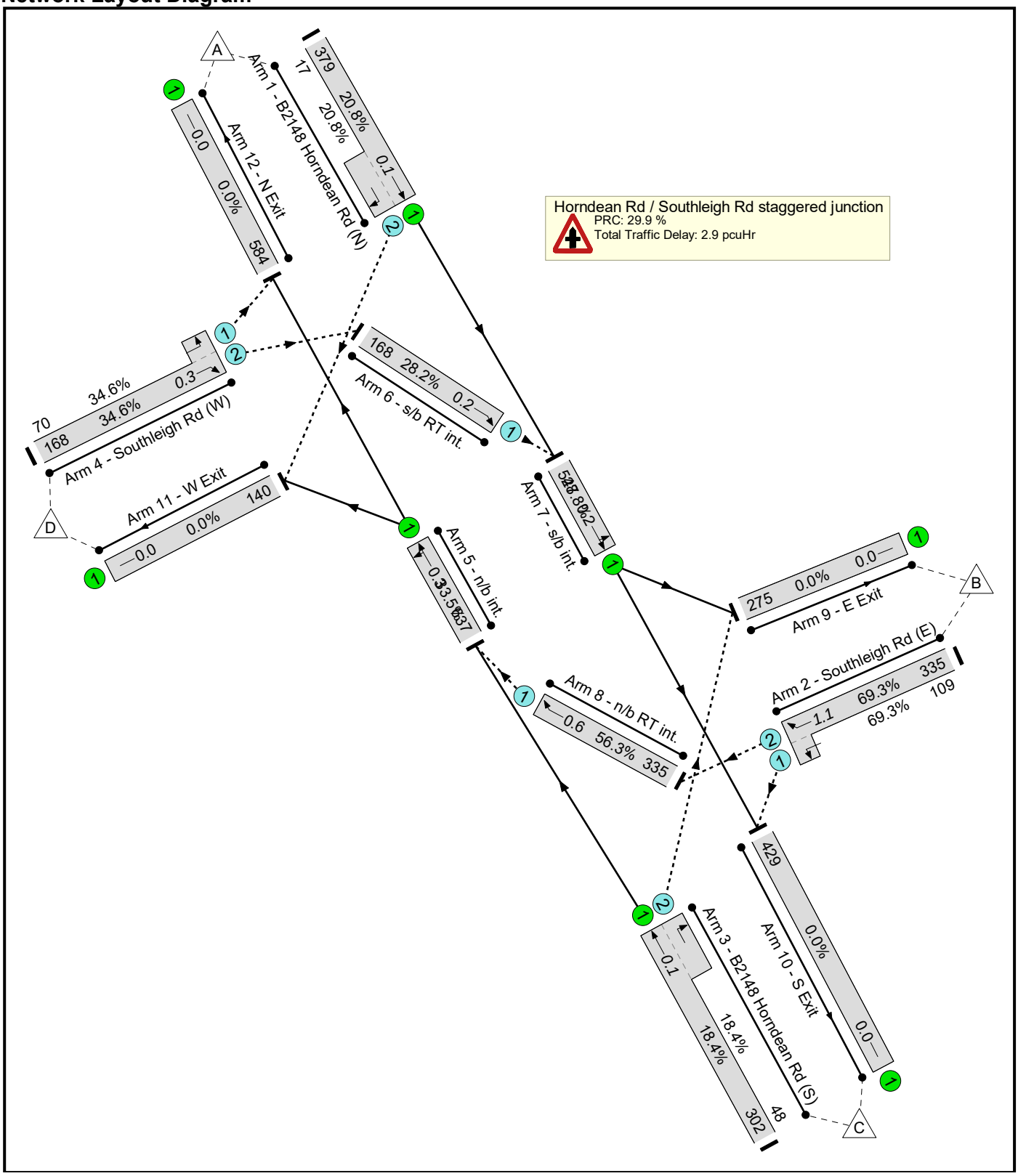
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1707** | **0** | **0** | **0.0** | **3.2** | **0.0** | **3.2** | **-** | **-** | **-** | **-** |
| **Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1707** | **0** | **0** | **0.0** | **3.2** | **0.0** | **3.2** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 456 | 456 | 51 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.2 | 0.2 |
| 2/2+2/1 | 403 | 403 | 806 | 0 | 0 | 0.0 | 1.3 | - | 1.3 (1.1+0.2) | 11.8 (11.8:11.8) | 0.0 | 1.3 | 1.3 |
| 3/1+3/2 | 398 | 398 | 66 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 4/2+4/1 | 150 | 150 | 300 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.2+0.0) | 5.0 (5.0:5.0) | 0.0 | 0.2 | 0.2 |
| 5/1 | 681 | 681 | - | - | - | 0.0 | 0.3 | - | 0.3 | 1.5 | 0.0 | 0.3 | 0.3 |
| 6/1 | 135 | 135 | 135 | 0 | 0 | 0.0 | 0.1 | - | 0.1 | 3.9 | 0.0 | 0.1 | 0.1 |
| 7/1 | 540 | 540 | - | - | - | 0.0 | 0.2 | - | 0.2 | 1.3 | 0.0 | 0.2 | 0.2 |
| 8/1 | 349 | 349 | 349 | 0 | 0 | 0.0 | 0.7 | - | 0.7 | 7.4 | 0.0 | 0.7 | 0.7 |
| 9/1 | 346 | 346 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 314 | 314 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 196 | 196 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 551 | 551 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 23.5 Total Delay Over All Lanes(pcuHr): 3.16

Full Input Data And Results

**Scenario 3: '3'** (FG3: '2023 AM Without Development', Plan 1: 'Network Control Plan 1')

## 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: Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **69.3%** |
| **Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **69.3%** |
| 1/1+1/2 | B2148 Horndean Rd (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 396 | 1900:1900 | 1818+82 | 20.8 : 20.8% |
| 2/2+2/1 | Southleigh Rd (E) Right Left | O | N/A | N/A | - | | - | - | - | 444 | 1900:1900 | 484+157 | 69.3 : 69.3% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 350 | 1900:1900 | 1639+261 | 18.4 : 18.4% |
| 4/2+4/1 | Southleigh Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 238 | 1900:1900 | 485+202 | 34.6 : 34.6% |
| 5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 637 | 1900 | 1900 | 33.5% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 168 | 1900 | 596 | 28.2% |
| 7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 547 | 1900 | 1900 | 28.8% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 335 | 1900 | 595 | 56.3% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 275 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 429 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 140 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 584 | Inf | Inf | 0.0% |

Full Input Data And Results

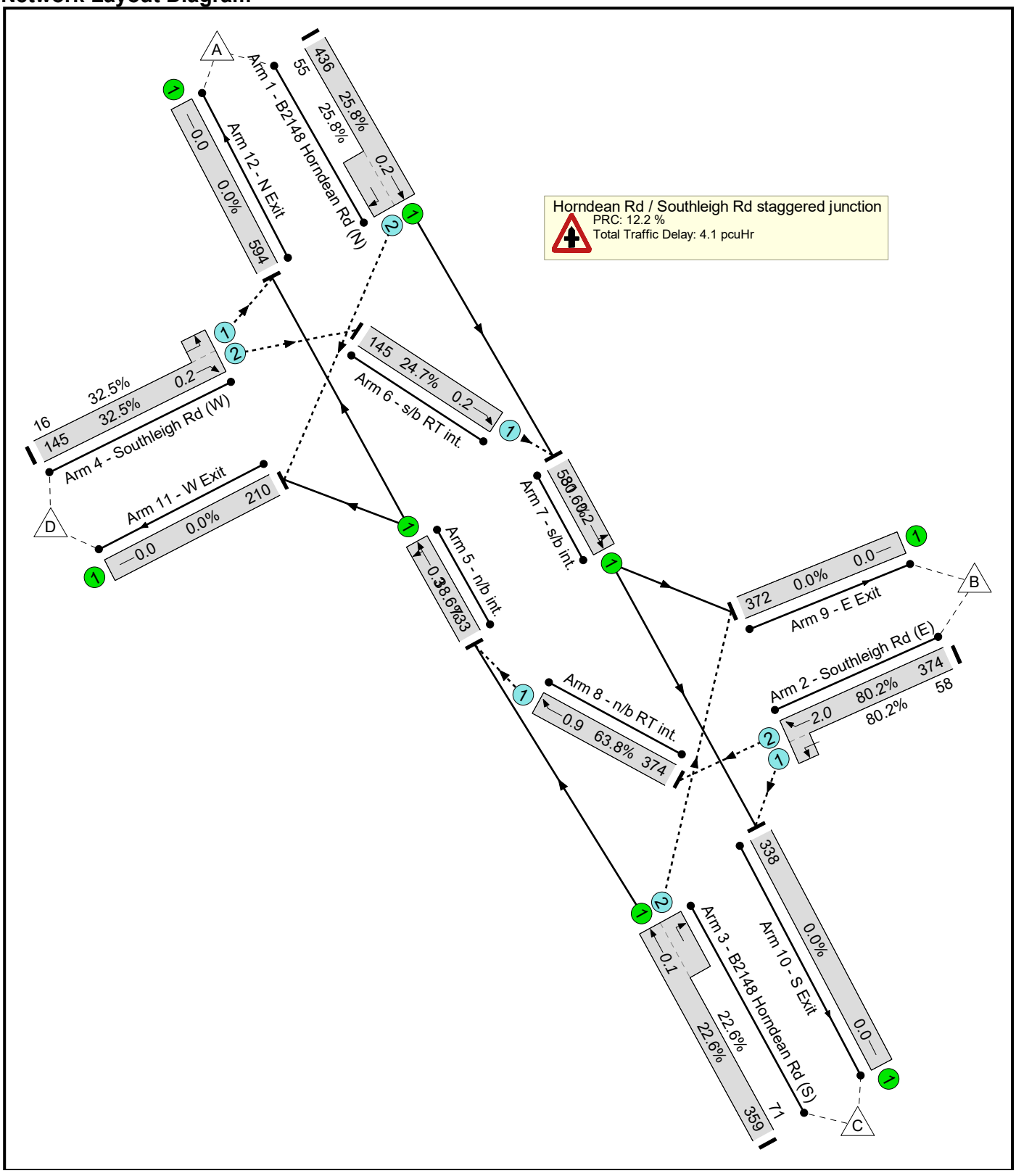
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1932** | **0** | **0** | **0.0** | **2.9** | **0.0** | **2.9** | **-** | **-** | **-** | **-** |
| **Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1932** | **0** | **0** | **0.0** | **2.9** | **0.0** | **2.9** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 396 | 396 | 17 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 2/2+2/1 | 444 | 444 | 888 | 0 | 0 | 0.0 | 1.1 | - | 1.1 (0.8+0.3) | 9.0 (9.0:9.0) | 0.0 | 1.1 | 1.1 |
| 3/1+3/2 | 350 | 350 | 48 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 4/2+4/1 | 238 | 238 | 476 | 0 | 0 | 0.0 | 0.3 | - | 0.3 (0.2+0.1) | 4.0 (4.0:4.0) | 0.0 | 0.3 | 0.3 |
| 5/1 | 637 | 637 | - | - | - | 0.0 | 0.3 | - | 0.3 | 1.4 | 0.0 | 0.3 | 0.3 |
| 6/1 | 168 | 168 | 168 | 0 | 0 | 0.0 | 0.2 | - | 0.2 | 4.2 | 0.0 | 0.2 | 0.2 |
| 7/1 | 547 | 547 | - | - | - | 0.0 | 0.2 | - | 0.2 | 1.3 | 0.0 | 0.2 | 0.2 |
| 8/1 | 335 | 335 | 335 | 0 | 0 | 0.0 | 0.6 | - | 0.6 | 6.9 | 0.0 | 0.6 | 0.6 |
| 9/1 | 275 | 275 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 429 | 429 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 140 | 140 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 584 | 584 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 29.9 Total Delay Over All Lanes(pcuHr): 2.91

Full Input Data And Results

**Scenario 4: '4'** (FG4: '2023 PM Without Development', Plan 1: 'Network Control Plan 1')

## 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: Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **80.2%** |
| **Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **80.2%** |
| 1/1+1/2 | B2148 Horndean Rd (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 491 | 1900:1900 | 1687+213 | 25.8 : 25.8% |
| 2/2+2/1 | Southleigh Rd (E) Right Left | O | N/A | N/A | - | | - | - | - | 432 | 1900:1900 | 466+72 | 80.2 : 80.2% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 430 | 1900:1900 | 1586+314 | 22.6 : 22.6% |
| 4/2+4/1 | Southleigh Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 161 | 1900:1900 | 446+49 | 32.5 : 32.5% |
| 5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 733 | 1900 | 1900 | 38.6% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 145 | 1900 | 587 | 24.7% |
| 7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 581 | 1900 | 1900 | 30.6% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 374 | 1900 | 586 | 63.8% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 372 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 338 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 210 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 594 | Inf | Inf | 0.0% |

Full Input Data And Results

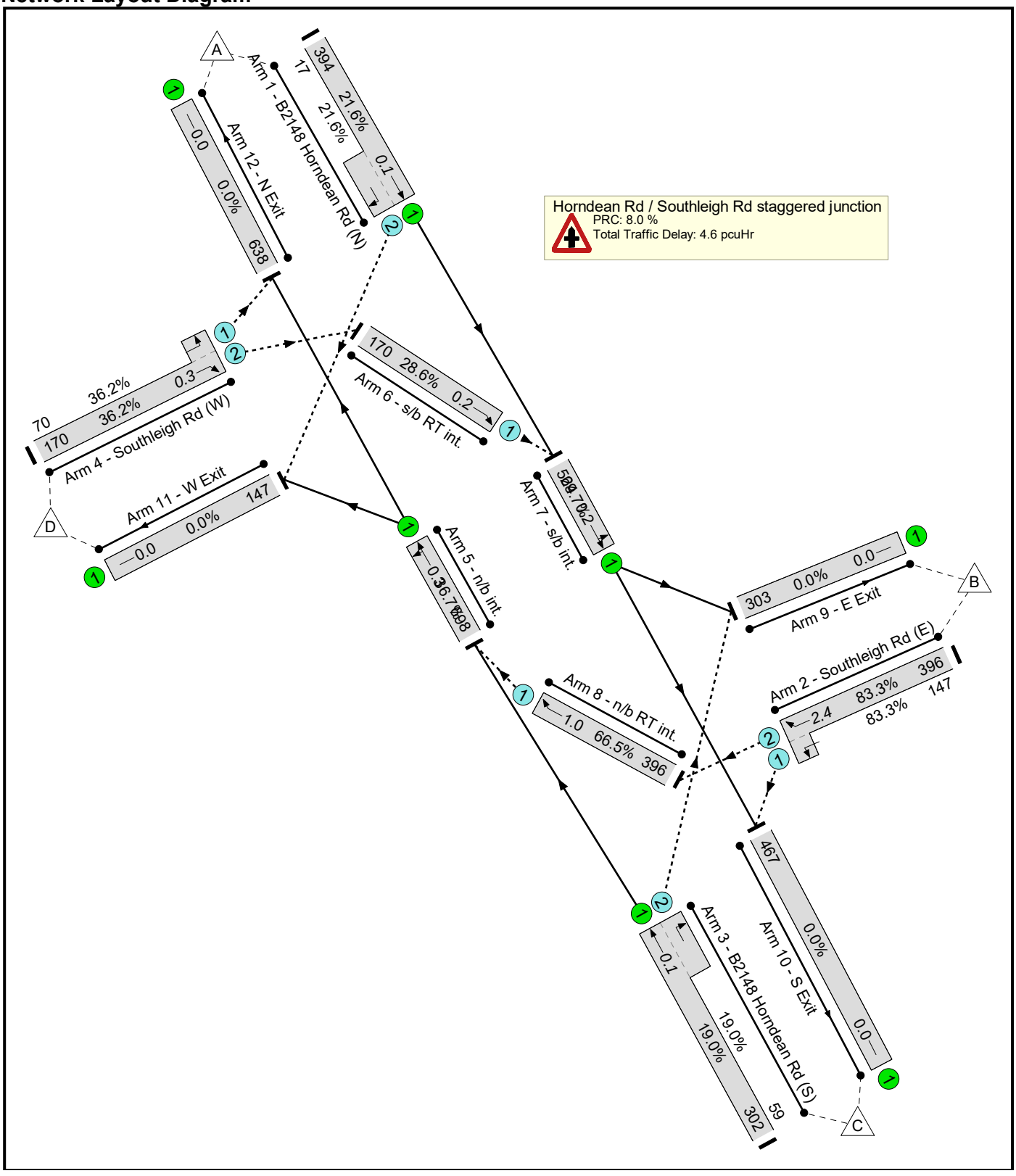
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1831** | **0** | **0** | **0.0** | **4.1** | **0.0** | **4.1** | **-** | **-** | **-** | **-** |
| **Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1831** | **0** | **0** | **0.0** | **4.1** | **0.0** | **4.1** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 491 | 491 | 55 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.2+0.0) | 1.3 (1.3:1.3) | 0.0 | 0.2 | 0.2 |
| 2/2+2/1 | 432 | 432 | 864 | 0 | 0 | 0.0 | 2.0 | - | 2.0 (1.7+0.3) | 16.3 (16.3:16.3) | 0.0 | 2.0 | 2.0 |
| 3/1+3/2 | 430 | 430 | 71 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 4/2+4/1 | 161 | 161 | 322 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.2+0.0) | 5.4 (5.4:5.4) | 0.0 | 0.2 | 0.2 |
| 5/1 | 733 | 733 | - | - | - | 0.0 | 0.3 | - | 0.3 | 1.5 | 0.0 | 0.3 | 0.3 |
| 6/1 | 145 | 145 | 145 | 0 | 0 | 0.0 | 0.2 | - | 0.2 | 4.1 | 0.0 | 0.2 | 0.2 |
| 7/1 | 581 | 581 | - | - | - | 0.0 | 0.2 | - | 0.2 | 1.4 | 0.0 | 0.2 | 0.2 |
| 8/1 | 374 | 374 | 374 | 0 | 0 | 0.0 | 0.9 | - | 0.9 | 8.4 | 0.0 | 0.9 | 0.9 |
| 9/1 | 372 | 372 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 338 | 338 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 210 | 210 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 594 | 594 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 12.2 Total Delay Over All Lanes(pcuHr): 4.09

Full Input Data And Results

**Scenario 5: '5'** (FG5: '2023 AM With Development', Plan 1: 'Network Control Plan 1')

## 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: Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **N/A** | **-** | **-** | | **-** | **-** | **-** | **-** | **-** | **-** | **83.3%** |
| **Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **N/A** | **-** | **-** | | **-** | **-** | **-** | **-** | **-** | **-** | **83.3%** |
| 1/1+1/2 | B2148 Horndean Rd (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 411 | 1900:1900 | 1821+79 | 21.6 : 21.6% |
| 2/2+2/1 | Southleigh Rd (E) Right Left | O | N/A | N/A | - | | - | - | - | 543 | 1900:1900 | 475+176 | 83.3 : 83.3% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 361 | 1900:1900 | 1589+311 | 19.0 : 19.0% |
| 4/2+4/1 | Southleigh Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 240 | 1900:1900 | 469+193 | 36.2 : 36.2% |
| 5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 698 | 1900 | 1900 | 36.7% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 170 | 1900 | 594 | 28.6% |
| 7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 564 | 1900 | 1900 | 29.7% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 396 | 1900 | 595 | 66.5% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 303 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 467 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 147 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 638 | Inf | Inf | 0.0% |

Full Input Data And Results

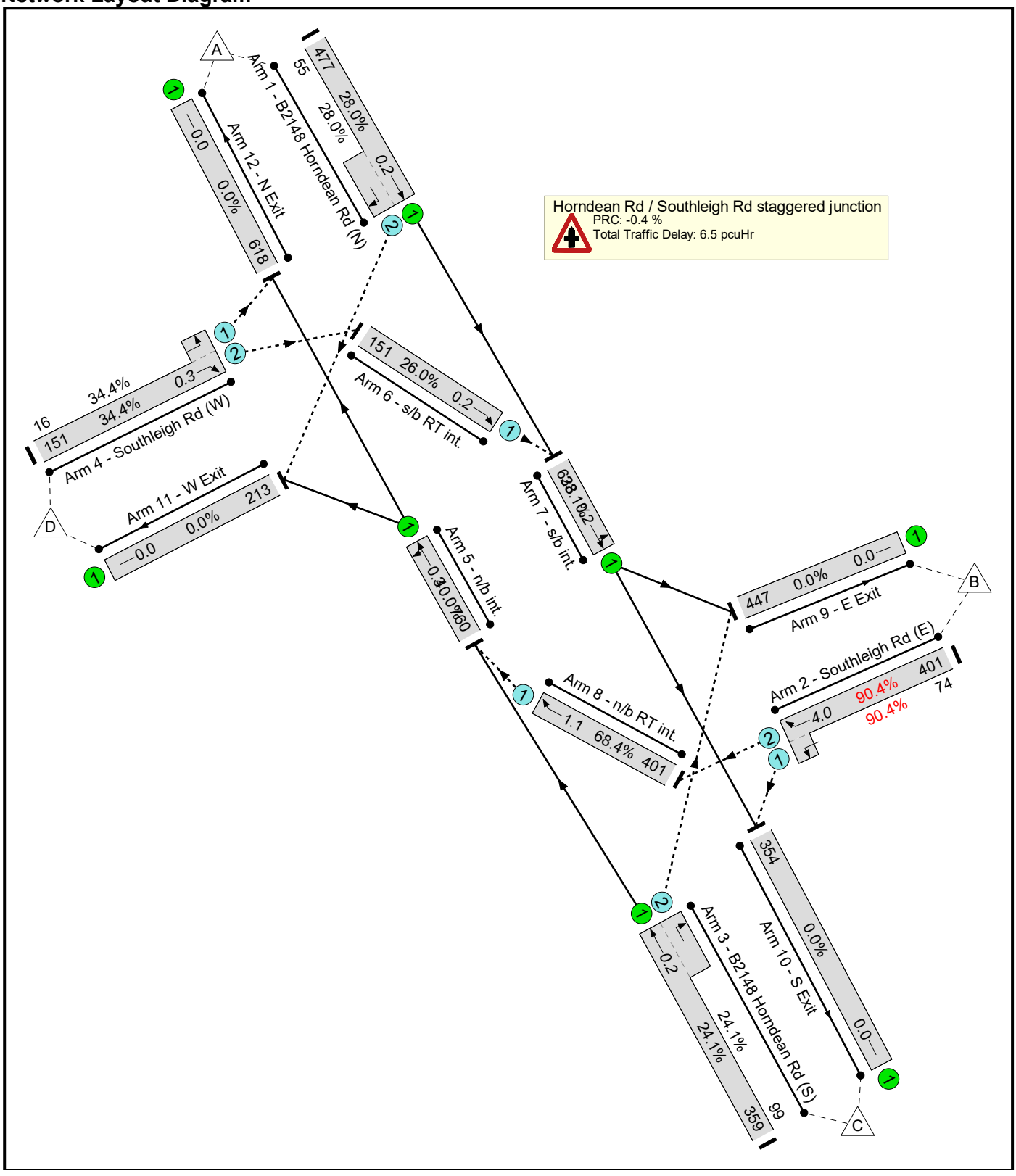
| Item | Arriving (pcu) | Leaving (pcu) | Turners In Gaps (pcu) | Turners When Unopposed (pcu) | Turners In Intergreen (pcu) | Uniform Delay (pcuHr) | Rand + Oversat Delay (pcuHr) | Storage Area Uniform Delay (pcuHr) | Total Delay (pcuHr) | Av. Delay Per PCU (s/pcu) | Max. Back of Uniform Queue (pcu) | Rand + Oversat Queue (pcu) | Mean Max Queue (pcu) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Network: Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **2208** | **0** | **0** | **0.0** | **4.6** | **0.0** | **4.6** | **-** | **-** | **-** | **-** |
| **Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **2208** | **0** | **0** | **0.0** | **4.6** | **0.0** | **4.6** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 411 | 411 | 17 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 2/2+2/1 | 543 | 543 | 1086 | 0 | 0 | 0.0 | 2.4 | - | 2.4 (1.7+0.6) | 15.9 (15.9:15.9) | 0.0 | 2.4 | 2.4 |
| 3/1+3/2 | 361 | 361 | 59 | 0 | 0 | 0.0 | 0.1 | - | 0.1 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.1 | 0.1 |
| 4/2+4/1 | 240 | 240 | 480 | 0 | 0 | 0.0 | 0.3 | - | 0.3 (0.2+0.1) | 4.3 (4.3:4.3) | 0.0 | 0.3 | 0.3 |
| 5/1 | 698 | 698 | - | - | - | 0.0 | 0.3 | - | 0.3 | 1.5 | 0.0 | 0.3 | 0.3 |
| 6/1 | 170 | 170 | 170 | 0 | 0 | 0.0 | 0.2 | - | 0.2 | 4.2 | 0.0 | 0.2 | 0.2 |
| 7/1 | 564 | 564 | - | - | - | 0.0 | 0.2 | - | 0.2 | 1.3 | 0.0 | 0.2 | 0.2 |
| 8/1 | 396 | 396 | 396 | 0 | 0 | 0.0 | 1.0 | - | 1.0 | 8.9 | 0.0 | 1.0 | 1.0 |
| 9/1 | 303 | 303 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 467 | 467 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 147 | 147 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 638 | 638 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): 8.0 Total Delay Over All Lanes(pcuHr): 4.62

Full Input Data And Results

**Scenario 6: '6'** (FG6: '2023 PM With Development', Plan 1: 'Network Control Plan 1')

## 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: Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **90.4%** |
| **Horndean Rd / Southleigh Rd staggered junction** | - | - | **N/A** | - | - | | - | - | - | - | - | - | **90.4%** |
| 1/1+1/2 | B2148 Horndean Rd (N) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 532 | 1900:1900 | 1704+196 | 28.0 : 28.0% |
| 2/2+2/1 | Southleigh Rd (E) Right Left | O | N/A | N/A | - | | - | - | - | 475 | 1900:1900 | 444+82 | 90.4 : 90.4% |
| 3/1+3/2 | B2148 Horndean Rd (S) Ahead Right | U+O | N/A | N/A | - | | - | - | - | 458 | 1900:1900 | 1489+411 | 24.1 : 24.1% |
| 4/2+4/1 | Southleigh Rd (W) Right Left | O | N/A | N/A | - | | - | - | - | 167 | 1900:1900 | 439+47 | 34.4 : 34.4% |
| 5/1 | n/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 760 | 1900 | 1900 | 40.0% |
| 6/1 | s/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 151 | 1900 | 581 | 26.0% |
| 7/1 | s/b int. Left Ahead | U | N/A | N/A | - | | - | - | - | 628 | 1900 | 1900 | 33.1% |
| 8/1 | n/b RT int. Ahead | O | N/A | N/A | - | | - | - | - | 401 | 1900 | 586 | 68.4% |
| 9/1 | E Exit | U | N/A | N/A | - | | - | - | - | 447 | Inf | Inf | 0.0% |
| 10/1 | S Exit | U | N/A | N/A | - | | - | - | - | 354 | Inf | Inf | 0.0% |
| 11/1 | W Exit | U | N/A | N/A | - | | - | - | - | 213 | Inf | Inf | 0.0% |
| 12/1 | N Exit | U | N/A | N/A | - | | - | - | - | 618 | 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: Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1990** | **0** | **0** | **0.0** | **6.5** | **0.0** | **6.5** | **-** | **-** | **-** | **-** |
| **Horndean Rd / Southleigh Rd staggered junction** | **-** | **-** | **1990** | **0** | **0** | **0.0** | **6.5** | **0.0** | **6.5** | **-** | **-** | **-** | **-** |
| 1/1+1/2 | 532 | 532 | 55 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.2+0.0) | 1.3 (1.3:1.3) | 0.0 | 0.2 | 0.2 |
| 2/2+2/1 | 475 | 475 | 950 | 0 | 0 | 0.0 | 4.0 | - | 4.0 (3.4+0.6) | 30.6 (30.6:30.6) | 0.0 | 4.0 | 4.0 |
| 3/1+3/2 | 458 | 458 | 99 | 0 | 0 | 0.0 | 0.2 | - | 0.2 (0.1+0.0) | 1.2 (1.2:1.2) | 0.0 | 0.2 | 0.2 |
| 4/2+4/1 | 167 | 167 | 334 | 0 | 0 | 0.0 | 0.3 | - | 0.3 (0.2+0.0) | 5.6 (5.6:5.6) | 0.0 | 0.3 | 0.3 |
| 5/1 | 760 | 760 | - | - | - | 0.0 | 0.3 | - | 0.3 | 1.6 | 0.0 | 0.3 | 0.3 |
| 6/1 | 151 | 151 | 151 | 0 | 0 | 0.0 | 0.2 | - | 0.2 | 4.2 | 0.0 | 0.2 | 0.2 |
| 7/1 | 628 | 628 | - | - | - | 0.0 | 0.2 | - | 0.2 | 1.4 | 0.0 | 0.2 | 0.2 |
| 8/1 | 401 | 401 | 401 | 0 | 0 | 0.0 | 1.1 | - | 1.1 | 9.6 | 0.0 | 1.1 | 1.1 |
| 9/1 | 447 | 447 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10/1 | 354 | 354 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11/1 | 213 | 213 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12/1 | 618 | 618 | - | - | - | 0.0 | 0.0 | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

C1 PRC for Signalled Lanes (%): 0.0 Total Delay for Signalled Lanes (pcuHr): 0.00 Cycle Time (s): 90
PRC Over All Lanes (%): -0.4 Total Delay Over All Lanes(pcuHr): 6.48

# Junctions 9

## ARCADY 9 - Roundabout Module

Version: 9.5.0.6896
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+44 (0)1344 379777 software@trl.co.uk 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:** Redlands Roundabout.j9
**Path:** T:\Projects\13000 Series\13525ITB Long Copse Lane, Emsworth\Tech\Junction Assessments\Arcady
**Report generation date:** 19/06/2018 13:54:33

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»2018 Observed, AM
»2018 Observed, PM
»2023 'without development', AM
»2023 'without development', PM
»2023 'with development', AM
»2023 'with development', PM

### Summary of junction performance

| | AM | | | | PM | | | |
|---|---|---|---|---|---|---|---|---|
| | Queue (Veh) | Delay (s) | RFC | LOS | Queue (Veh) | Delay (s) | RFC | LOS |
| | 2018 Observed | | | | | | | |
| 1 - Redlands Lane | 0.3 | 4.93 | 0.21 | A | 0.1 | 4.20 | 0.10 | A |
| 2 - Westbourne Road | 0.4 | 3.89 | 0.27 | A | 0.5 | 4.05 | 0.33 | A |
| 3 - New Brighton Road | 0.3 | 4.27 | 0.25 | A | 0.4 | 4.64 | 0.30 | A |
| 4 - Southleigh Road | 0.4 | 6.09 | 0.30 | A | 0.4 | 6.09 | 0.28 | A |
| | 2023 'without development' | | | | | | | |
| 1 - Redlands Lane | 0.3 | 5.15 | 0.23 | A | 0.1 | 4.31 | 0.11 | A |
| 2 - Westbourne Road | 0.4 | 4.05 | 0.30 | A | 0.5 | 4.23 | 0.35 | A |
| 3 - New Brighton Road | 0.4 | 4.43 | 0.28 | A | 0.5 | 4.85 | 0.33 | A |
| 4 - Southleigh Road | 0.5 | 6.37 | 0.32 | A | 0.4 | 6.44 | 0.31 | A |
| | 2023 'with development' | | | | | | | |
| 1 - Redlands Lane | 0.3 | 5.19 | 0.24 | A | 0.1 | 4.32 | 0.11 | A |
| 2 - Westbourne Road | 0.4 | 4.06 | 0.30 | A | 0.5 | 4.23 | 0.35 | A |
| 3 - New Brighton Road | 0.4 | 4.44 | 0.28 | A | 0.5 | 4.89 | 0.33 | A |
| 4 - Southleigh Road | 0.5 | 6.24 | 0.32 | A | 0.4 | 6.41 | 0.30 | 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** | Redlands Lane / Westbourne Road / Southleigh Road Roundabout |
| **Location** | Emsworth |
| **Site number** | ITB13525 |
| **Date** | 07/02/2018 |
| **Version** | |
| **Status** | |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | I-TRANSPORT\Hotdesk |
| **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 | perHour | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2018 Observed | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D2 | 2018 Observed | PM | ONE HOUR | 16:15 | 17:45 | 15 |
| D3 | 2023 'without development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D4 | 2023 'without development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |
| D5 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D6 | 2023 'with development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |

## Analysis Set Details

| ID | Network flow scaling factor (%) |
|---|---|
| A1 | 100.000 |

# 2018 Observed, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Redlands Roundabout | Standard Roundabout | | 1, 2, 3, 4 | 4.70 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description |
|---|---|---|
| 1 | Redlands Lane | |
| 2 | Westbourne Road | |
| 3 | New Brighton Road | |
| 4 | Southleigh Road | |

### Roundabout Geometry

| Arm | V - Approach road half-width (m) | E - Entry width (m) | l' - Effective flare length (m) | R - Entry radius (m) | D - Inscribed circle diameter (m) | PHI - Conflict (entry) angle (deg) | Exit only |
|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 2.75 | 5.00 | 19.0 | 8.7 | 28.0 | 48.0 | |
| 2 - Westbourne Road | 3.05 | 5.86 | 15.6 | 16.0 | 28.0 | 39.0 | |
| 3 - New Brighton Road | 3.05 | 6.20 | 12.6 | 9.0 | 28.0 | 54.0 | |
| 4 - Southleigh Road | 3.34 | 4.12 | 3.2 | 9.5 | 28.0 | 56.0 | |

### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

| Arm | Final slope | Final intercept (PCU/hr) |
|---|---|---|
| 1 - Redlands Lane | 0.510 | 1160 |
| 2 - Westbourne Road | 0.585 | 1401 |
| 3 - New Brighton Road | 0.522 | 1246 |
| 4 - Southleigh Road | 0.467 | 980 |

*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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2018 Observed | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| 1 - Redlands Lane | | ✓ | 179 | 100.000 |
| 2 - Westbourne Road | | ✓ | 317 | 100.000 |
| 3 - New Brighton Road | | ✓ | 260 | 100.000 |
| 4 - Southleigh Road | | ✓ | 230 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 1 | 55 | 79 | 44 |
| | 2 - Westbourne Road | 14 | 3 | 175 | 125 |
| | 3 - New Brighton Road | 27 | 178 | 1 | 54 |
| | 4 - Southleigh Road | 18 | 168 | 38 | 6 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 0 | 2 | 0 | 2 |
| | 2 - Westbourne Road | 0 | 0 | 1 | 2 |
| | 3 - New Brighton Road | 0 | 0 | 0 | 2 |
| | 4 - Southleigh Road | 6 | 2 | 3 | 0 |

## Results

### Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| 1 - Redlands Lane | 0.21 | 4.93 | 0.3 | A |
| 2 - Westbourne Road | 0.27 | 3.89 | 0.4 | A |
| 3 - New Brighton Road | 0.25 | 4.27 | 0.3 | A |
| 4 - Southleigh Road | 0.30 | 6.09 | 0.4 | A |

### Main Results for each time segment

#### 07:45 - 08:00

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 135 | 295 | 997 | 0.135 | 134 | 0.2 | 4.169 | A |
| 2 - Westbourne Road | 239 | 127 | 1308 | 0.182 | 238 | 0.2 | 3.359 | A |
| 3 - New Brighton Road | 196 | 145 | 1165 | 0.168 | 195 | 0.2 | 3.708 | A |
| 4 - Southleigh Road | 173 | 168 | 880 | 0.197 | 172 | 0.2 | 5.081 | A |

### 08:00 - 08:15

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 161 | 354 | 967 | 0.166 | 161 | 0.2 | 4.462 | A |
| 2 - Westbourne Road | 285 | 152 | 1293 | 0.220 | 285 | 0.3 | 3.568 | A |
| 3 - New Brighton Road | 234 | 173 | 1149 | 0.203 | 234 | 0.3 | 3.929 | A |
| 4 - Southleigh Road | 207 | 201 | 865 | 0.239 | 206 | 0.3 | 5.466 | A |

### 08:15 - 08:30

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 197 | 433 | 927 | 0.213 | 197 | 0.3 | 4.932 | A |
| 2 - Westbourne Road | 349 | 186 | 1274 | 0.274 | 349 | 0.4 | 3.890 | A |
| 3 - New Brighton Road | 286 | 212 | 1129 | 0.254 | 286 | 0.3 | 4.268 | A |
| 4 - Southleigh Road | 253 | 246 | 844 | 0.300 | 253 | 0.4 | 6.088 | A |

### 08:30 - 08:45

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 197 | 434 | 926 | 0.213 | 197 | 0.3 | 4.935 | A |
| 2 - Westbourne Road | 349 | 186 | 1273 | 0.274 | 349 | 0.4 | 3.894 | A |
| 3 - New Brighton Road | 286 | 212 | 1129 | 0.254 | 286 | 0.3 | 4.272 | A |
| 4 - Southleigh Road | 253 | 247 | 844 | 0.300 | 253 | 0.4 | 6.093 | A |

### 08:45 - 09:00

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 161 | 355 | 967 | 0.166 | 161 | 0.2 | 4.470 | A |
| 2 - Westbourne Road | 285 | 152 | 1293 | 0.220 | 285 | 0.3 | 3.575 | A |
| 3 - New Brighton Road | 234 | 174 | 1149 | 0.203 | 234 | 0.3 | 3.936 | A |
| 4 - Southleigh Road | 207 | 202 | 864 | 0.239 | 207 | 0.3 | 5.482 | A |

### 09:00 - 09:15

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 135 | 297 | 996 | 0.135 | 135 | 0.2 | 4.182 | A |
| 2 - Westbourne Road | 239 | 127 | 1308 | 0.183 | 239 | 0.2 | 3.370 | A |
| 3 - New Brighton Road | 196 | 145 | 1164 | 0.168 | 196 | 0.2 | 3.720 | A |
| 4 - Southleigh Road | 173 | 169 | 879 | 0.197 | 173 | 0.2 | 5.100 | A |

# 2018 Observed, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Redlands Roundabout | Standard Roundabout | | 1, 2, 3, 4 | 4.68 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D2 | 2018 Observed | PM | ONE HOUR | 16:15 | 17:45 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| 1 - Redlands Lane | | ✓ | 84 | 100.000 |
| 2 - Westbourne Road | | ✓ | 395 | 100.000 |
| 3 - New Brighton Road | | ✓ | 307 | 100.000 |
| 4 - Southleigh Road | | ✓ | 208 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 0 | 17 | 48 | 19 |
| | 2 - Westbourne Road | 28 | 2 | 204 | 161 |
| | 3 - New Brighton Road | 66 | 188 | 0 | 53 |
| | 4 - Southleigh Road | 29 | 129 | 48 | 2 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 0 | 0 | 0 | 0 |
| | 2 - Westbourne Road | 0 | 0 | 0 | 0 |
| | 3 - New Brighton Road | 0 | 1 | 0 | 2 |
| | 4 - Southleigh Road | 0 | 1 | 4 | 0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| 1 - Redlands Lane | 0.10 | 4.20 | 0.1 | A |
| 2 - Westbourne Road | 0.33 | 4.05 | 0.5 | A |
| 3 - New Brighton Road | 0.30 | 4.64 | 0.4 | A |
| 4 - Southleigh Road | 0.28 | 6.09 | 0.4 | A |

## Main Results for each time segment

### 16:15 - 16:30

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 63 | 276 | 1018 | 0.062 | 63 | 0.1 | 3.771 | A |
| 2 - Westbourne Road | 297 | 88 | 1349 | 0.221 | 296 | 0.3 | 3.418 | A |
| 3 - New Brighton Road | 231 | 159 | 1152 | 0.201 | 230 | 0.2 | 3.900 | A |
| 4 - Southleigh Road | 157 | 213 | 866 | 0.181 | 156 | 0.2 | 5.061 | A |

### 16:30 - 16:45

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 76 | 331 | 989 | 0.076 | 75 | 0.1 | 3.940 | A |
| 2 - Westbourne Road | 355 | 105 | 1338 | 0.265 | 355 | 0.4 | 3.661 | A |
| 3 - New Brighton Road | 276 | 190 | 1136 | 0.243 | 276 | 0.3 | 4.183 | A |
| 4 - Southleigh Road | 187 | 255 | 847 | 0.221 | 187 | 0.3 | 5.455 | A |

### 16:45 - 17:00

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 92 | 406 | 951 | 0.097 | 92 | 0.1 | 4.194 | A |
| 2 - Westbourne Road | 435 | 129 | 1324 | 0.328 | 434 | 0.5 | 4.044 | A |
| 3 - New Brighton Road | 338 | 233 | 1114 | 0.303 | 338 | 0.4 | 4.633 | A |
| 4 - Southleigh Road | 229 | 312 | 820 | 0.279 | 229 | 0.4 | 6.081 | A |

### 17:00 - 17:15

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 92 | 406 | 950 | 0.097 | 92 | 0.1 | 4.195 | A |
| 2 - Westbourne Road | 435 | 129 | 1324 | 0.328 | 435 | 0.5 | 4.048 | A |
| 3 - New Brighton Road | 338 | 233 | 1114 | 0.303 | 338 | 0.4 | 4.640 | A |
| 4 - Southleigh Road | 229 | 313 | 820 | 0.279 | 229 | 0.4 | 6.091 | A |

### 17:15 - 17:30

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 76 | 332 | 989 | 0.076 | 76 | 0.1 | 3.944 | A |
| 2 - Westbourne Road | 355 | 105 | 1338 | 0.265 | 356 | 0.4 | 3.665 | A |
| 3 - New Brighton Road | 276 | 191 | 1136 | 0.243 | 276 | 0.3 | 4.190 | A |
| 4 - Southleigh Road | 187 | 256 | 846 | 0.221 | 187 | 0.3 | 5.465 | A |

**17:30 - 17:45**

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| **1 - Redlands Lane** | 63 | 278 | 1017 | 0.062 | 63 | 0.1 | 3.778 | A |
| **2 - Westbourne Road** | 297 | 88 | 1348 | 0.221 | 298 | 0.3 | 3.429 | A |
| **3 - New Brighton Road** | 231 | 160 | 1152 | 0.201 | 231 | 0.3 | 3.913 | A |
| **4 - Southleigh Road** | 157 | 214 | 866 | 0.181 | 157 | 0.2 | 5.082 | A |

# 2023 'without development', AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Redlands Roundabout | Standard Roundabout | | 1, 2, 3, 4 | 4.89 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D3 | 2023 'without development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| 1 - Redlands Lane | | ✓ | 192 | 100.000 |
| 2 - Westbourne Road | | ✓ | 342 | 100.000 |
| 3 - New Brighton Road | | ✓ | 280 | 100.000 |
| 4 - Southleigh Road | | ✓ | 247 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 1 | 59 | 85 | 47 |
| | 2 - Westbourne Road | 15 | 3 | 189 | 135 |
| | 3 - New Brighton Road | 29 | 192 | 1 | 58 |
| | 4 - Southleigh Road | 19 | 181 | 41 | 6 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 0 | 2 | 0 | 2 |
| | 2 - Westbourne Road | 0 | 0 | 1 | 2 |
| | 3 - New Brighton Road | 0 | 0 | 0 | 2 |
| | 4 - Southleigh Road | 5 | 2 | 2 | 0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| 1 - Redlands Lane | 0.23 | 5.15 | 0.3 | A |
| 2 - Westbourne Road | 0.30 | 4.05 | 0.4 | A |
| 3 - New Brighton Road | 0.28 | 4.43 | 0.4 | A |
| 4 - Southleigh Road | 0.32 | 6.37 | 0.5 | A |

## Main Results for each time segment

### 07:45 - 08:00

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 145 | 318 | 986 | 0.147 | 144 | 0.2 | 4.271 | A |
| 2 - Westbourne Road | 257 | 136 | 1303 | 0.198 | 256 | 0.2 | 3.436 | A |
| 3 - New Brighton Road | 211 | 155 | 1159 | 0.182 | 210 | 0.2 | 3.789 | A |
| 4 - Southleigh Road | 186 | 181 | 876 | 0.212 | 185 | 0.3 | 5.201 | A |

### 08:00 - 08:15

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 173 | 381 | 954 | 0.181 | 172 | 0.2 | 4.606 | A |
| 2 - Westbourne Road | 307 | 163 | 1287 | 0.239 | 307 | 0.3 | 3.672 | A |
| 3 - New Brighton Road | 252 | 186 | 1143 | 0.220 | 251 | 0.3 | 4.038 | A |
| 4 - Southleigh Road | 222 | 216 | 860 | 0.258 | 222 | 0.3 | 5.639 | A |

### 08:15 - 08:30

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 211 | 466 | 910 | 0.232 | 211 | 0.3 | 5.146 | A |
| 2 - Westbourne Road | 377 | 199 | 1266 | 0.297 | 376 | 0.4 | 4.043 | A |
| 3 - New Brighton Road | 308 | 228 | 1121 | 0.275 | 308 | 0.4 | 4.427 | A |
| 4 - Southleigh Road | 272 | 265 | 838 | 0.325 | 271 | 0.5 | 6.353 | A |

### 08:30 - 08:45

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 211 | 467 | 910 | 0.232 | 211 | 0.3 | 5.153 | A |
| 2 - Westbourne Road | 377 | 199 | 1266 | 0.297 | 377 | 0.4 | 4.047 | A |
| 3 - New Brighton Road | 308 | 228 | 1121 | 0.275 | 308 | 0.4 | 4.431 | A |
| 4 - Southleigh Road | 272 | 265 | 837 | 0.325 | 272 | 0.5 | 6.365 | A |

### 08:45 - 09:00

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 173 | 382 | 953 | 0.181 | 173 | 0.2 | 4.615 | A |
| 2 - Westbourne Road | 307 | 163 | 1287 | 0.239 | 308 | 0.3 | 3.677 | A |
| 3 - New Brighton Road | 252 | 186 | 1143 | 0.220 | 252 | 0.3 | 4.044 | A |
| 4 - Southleigh Road | 222 | 217 | 860 | 0.258 | 223 | 0.4 | 5.657 | A |

**09:00 - 09:15**

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 145 | 320 | 985 | 0.147 | 145 | 0.2 | 4.285 | A |
| 2 - Westbourne Road | 257 | 136 | 1303 | 0.198 | 258 | 0.2 | 3.445 | A |
| 3 - New Brighton Road | 211 | 156 | 1159 | 0.182 | 211 | 0.2 | 3.799 | A |
| 4 - Southleigh Road | 186 | 182 | 876 | 0.212 | 186 | 0.3 | 5.225 | A |

# 2023 'without development', PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Redlands Roundabout | Standard Roundabout | | 1, 2, 3, 4 | 4.90 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D4 | 2023 'without development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| 1 - Redlands Lane | | ✓ | 90 | 100.000 |
| 2 - Westbourne Road | | ✓ | 424 | 100.000 |
| 3 - New Brighton Road | | ✓ | 330 | 100.000 |
| 4 - Southleigh Road | | ✓ | 223 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 0 | 18 | 52 | 20 |
| | 2 - Westbourne Road | 30 | 2 | 219 | 173 |
| | 3 - New Brighton Road | 71 | 202 | 0 | 57 |
| | 4 - Southleigh Road | 31 | 138 | 52 | 2 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 0 | 0 | 0 | 0 |
| | 2 - Westbourne Road | 0 | 0 | 0 | 0 |
| | 3 - New Brighton Road | 0 | 1 | 0 | 2 |
| | 4 - Southleigh Road | 0 | 2 | 4 | 0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| 1 - Redlands Lane | 0.11 | 4.31 | 0.1 | A |
| 2 - Westbourne Road | 0.35 | 4.23 | 0.5 | A |
| 3 - New Brighton Road | 0.33 | 4.85 | 0.5 | A |
| 4 - Southleigh Road | 0.31 | 6.44 | 0.4 | A |

## Main Results for each time segment

### 16:15 - 16:30

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 68 | 297 | 1007 | 0.067 | 67 | 0.1 | 3.833 | A |
| 2 - Westbourne Road | 319 | 94 | 1345 | 0.237 | 318 | 0.3 | 3.502 | A |
| 3 - New Brighton Road | 248 | 170 | 1146 | 0.217 | 247 | 0.3 | 3.999 | A |
| 4 - Southleigh Road | 168 | 229 | 854 | 0.197 | 167 | 0.2 | 5.234 | A |

### 16:30 - 16:45

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 81 | 356 | 976 | 0.083 | 81 | 0.1 | 4.021 | A |
| 2 - Westbourne Road | 381 | 113 | 1333 | 0.286 | 381 | 0.4 | 3.779 | A |
| 3 - New Brighton Road | 297 | 204 | 1129 | 0.263 | 296 | 0.4 | 4.323 | A |
| 4 - Southleigh Road | 200 | 274 | 833 | 0.241 | 200 | 0.3 | 5.688 | A |

### 16:45 - 17:00

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 99 | 435 | 935 | 0.106 | 99 | 0.1 | 4.308 | A |
| 2 - Westbourne Road | 467 | 139 | 1318 | 0.354 | 466 | 0.5 | 4.222 | A |
| 3 - New Brighton Road | 363 | 250 | 1105 | 0.329 | 363 | 0.5 | 4.845 | A |
| 4 - Southleigh Road | 246 | 335 | 805 | 0.305 | 245 | 0.4 | 6.429 | A |

### 17:00 - 17:15

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 99 | 436 | 934 | 0.106 | 99 | 0.1 | 4.310 | A |
| 2 - Westbourne Road | 467 | 139 | 1318 | 0.354 | 467 | 0.5 | 4.228 | A |
| 3 - New Brighton Road | 363 | 250 | 1105 | 0.329 | 363 | 0.5 | 4.851 | A |
| 4 - Southleigh Road | 246 | 336 | 804 | 0.305 | 246 | 0.4 | 6.441 | A |

### 17:15 - 17:30

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 81 | 357 | 975 | 0.083 | 81 | 0.1 | 4.027 | A |
| 2 - Westbourne Road | 381 | 113 | 1333 | 0.286 | 382 | 0.4 | 3.788 | A |
| 3 - New Brighton Road | 297 | 204 | 1129 | 0.263 | 297 | 0.4 | 4.332 | A |
| 4 - Southleigh Road | 200 | 275 | 832 | 0.241 | 201 | 0.3 | 5.706 | A |

**17:30 - 17:45**

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 68 | 299 | 1006 | 0.067 | 68 | 0.1 | 3.841 | A |
| 2 - Westbourne Road | 319 | 95 | 1344 | 0.237 | 320 | 0.3 | 3.513 | A |
| 3 - New Brighton Road | 248 | 171 | 1146 | 0.217 | 249 | 0.3 | 4.014 | A |
| 4 - Southleigh Road | 168 | 230 | 853 | 0.197 | 168 | 0.2 | 5.258 | A |

# 2023 'with development', AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Redlands Roundabout | Standard Roundabout | | 1, 2, 3, 4 | 4.87 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D5 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| 1 - Redlands Lane | | ✓ | 198 | 100.000 |
| 2 - Westbourne Road | | ✓ | 342 | 100.000 |
| 3 - New Brighton Road | | ✓ | 281 | 100.000 |
| 4 - Southleigh Road | | ✓ | 247 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 1 | 59 | 91 | 47 |
| | 2 - Westbourne Road | 15 | 3 | 189 | 135 |
| | 3 - New Brighton Road | 30 | 192 | 1 | 58 |
| | 4 - Southleigh Road | 19 | 181 | 41 | 6 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 0 | 2 | 0 | 2 |
| | 2 - Westbourne Road | 0 | 0 | 1 | 2 |
| | 3 - New Brighton Road | 0 | 0 | 0 | 2 |
| | 4 - Southleigh Road | 5 | 0 | 2 | 0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| 1 - Redlands Lane | 0.24 | 5.19 | 0.3 | A |
| 2 - Westbourne Road | 0.30 | 4.06 | 0.4 | A |
| 3 - New Brighton Road | 0.28 | 4.44 | 0.4 | A |
| 4 - Southleigh Road | 0.32 | 6.24 | 0.5 | A |

## Main Results for each time segment

### 07:45 - 08:00

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 149 | 318 | 988 | 0.151 | 148 | 0.2 | 4.286 | A |
| 2 - Westbourne Road | 257 | 140 | 1300 | 0.198 | 256 | 0.2 | 3.445 | A |
| 3 - New Brighton Road | 212 | 155 | 1159 | 0.183 | 211 | 0.2 | 3.792 | A |
| 4 - Southleigh Road | 186 | 181 | 889 | 0.209 | 185 | 0.3 | 5.109 | A |

### 08:00 - 08:15

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 178 | 381 | 956 | 0.186 | 178 | 0.2 | 4.626 | A |
| 2 - Westbourne Road | 307 | 168 | 1284 | 0.239 | 307 | 0.3 | 3.684 | A |
| 3 - New Brighton Road | 253 | 186 | 1143 | 0.221 | 252 | 0.3 | 4.042 | A |
| 4 - Southleigh Road | 222 | 217 | 872 | 0.255 | 222 | 0.3 | 5.535 | A |

### 08:15 - 08:30

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 218 | 466 | 913 | 0.239 | 218 | 0.3 | 5.178 | A |
| 2 - Westbourne Road | 377 | 206 | 1262 | 0.298 | 376 | 0.4 | 4.060 | A |
| 3 - New Brighton Road | 309 | 228 | 1121 | 0.276 | 309 | 0.4 | 4.433 | A |
| 4 - Southleigh Road | 272 | 266 | 849 | 0.320 | 271 | 0.5 | 6.225 | A |

### 08:30 - 08:45

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 218 | 467 | 912 | 0.239 | 218 | 0.3 | 5.185 | A |
| 2 - Westbourne Road | 377 | 206 | 1262 | 0.298 | 377 | 0.4 | 4.064 | A |
| 3 - New Brighton Road | 309 | 228 | 1121 | 0.276 | 309 | 0.4 | 4.437 | A |
| 4 - Southleigh Road | 272 | 266 | 849 | 0.320 | 272 | 0.5 | 6.236 | A |

### 08:45 - 09:00

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 178 | 382 | 955 | 0.186 | 178 | 0.2 | 4.636 | A |
| 2 - Westbourne Road | 307 | 168 | 1284 | 0.239 | 308 | 0.3 | 3.691 | A |
| 3 - New Brighton Road | 253 | 186 | 1143 | 0.221 | 253 | 0.3 | 4.048 | A |
| 4 - Southleigh Road | 222 | 218 | 872 | 0.255 | 223 | 0.3 | 5.549 | A |

**09:00 - 09:15**

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 149 | 320 | 987 | 0.151 | 149 | 0.2 | 4.300 | A |
| 2 - Westbourne Road | 257 | 141 | 1300 | 0.198 | 258 | 0.2 | 3.454 | A |
| 3 - New Brighton Road | 212 | 156 | 1159 | 0.183 | 212 | 0.2 | 3.804 | A |
| 4 - Southleigh Road | 186 | 182 | 888 | 0.209 | 186 | 0.3 | 5.131 | A |

# 2023 'with development', PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Use circulating lanes | Arm order | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Redlands Roundabout | Standard Roundabout | | 1, 2, 3, 4 | 4.90 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D6 | 2023 'with development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| 1 - Redlands Lane | | ✓ | 92 | 100.000 |
| 2 - Westbourne Road | | ✓ | 424 | 100.000 |
| 3 - New Brighton Road | | ✓ | 335 | 100.000 |
| 4 - Southleigh Road | | ✓ | 223 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 0 | 18 | 54 | 20 |
| | 2 - Westbourne Road | 30 | 2 | 219 | 173 |
| | 3 - New Brighton Road | 76 | 202 | 0 | 57 |
| | 4 - Southleigh Road | 31 | 138 | 52 | 2 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | | |
|---|---|---|---|---|---|
| | | 1 - Redlands Lane | 2 - Westbourne Road | 3 - New Brighton Road | 4 - Southleigh Road |
| From | 1 - Redlands Lane | 0 | 0 | 0 | 0 |
| | 2 - Westbourne Road | 0 | 0 | 0 | 0 |
| | 3 - New Brighton Road | 0 | 1 | 0 | 2 |
| | 4 - Southleigh Road | 0 | 1 | 4 | 0 |

# Results

## Results Summary for whole modelled period

| Arm | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| 1 - Redlands Lane | 0.11 | 4.32 | 0.1 | A |
| 2 - Westbourne Road | 0.35 | 4.23 | 0.5 | A |
| 3 - New Brighton Road | 0.33 | 4.89 | 0.5 | A |
| 4 - Southleigh Road | 0.30 | 6.41 | 0.4 | A |

## Main Results for each time segment

### 16:15 - 16:30

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 69 | 297 | 1007 | 0.069 | 69 | 0.1 | 3.837 | A |
| 2 - Westbourne Road | 319 | 96 | 1344 | 0.238 | 318 | 0.3 | 3.505 | A |
| 3 - New Brighton Road | 252 | 170 | 1147 | 0.220 | 251 | 0.3 | 4.015 | A |
| 4 - Southleigh Road | 168 | 232 | 857 | 0.196 | 167 | 0.2 | 5.208 | A |

### 16:30 - 16:45

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 83 | 356 | 977 | 0.085 | 83 | 0.1 | 4.026 | A |
| 2 - Westbourne Road | 381 | 115 | 1332 | 0.286 | 381 | 0.4 | 3.783 | A |
| 3 - New Brighton Road | 301 | 204 | 1129 | 0.267 | 301 | 0.4 | 4.342 | A |
| 4 - Southleigh Road | 200 | 278 | 836 | 0.240 | 200 | 0.3 | 5.661 | A |

### 16:45 - 17:00

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 101 | 435 | 935 | 0.108 | 101 | 0.1 | 4.315 | A |
| 2 - Westbourne Road | 467 | 141 | 1317 | 0.354 | 466 | 0.5 | 4.229 | A |
| 3 - New Brighton Road | 369 | 250 | 1106 | 0.334 | 368 | 0.5 | 4.880 | A |
| 4 - Southleigh Road | 246 | 341 | 807 | 0.304 | 245 | 0.4 | 6.402 | A |

### 17:00 - 17:15

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 101 | 436 | 935 | 0.108 | 101 | 0.1 | 4.317 | A |
| 2 - Westbourne Road | 467 | 141 | 1317 | 0.355 | 467 | 0.5 | 4.234 | A |
| 3 - New Brighton Road | 369 | 250 | 1105 | 0.334 | 369 | 0.5 | 4.887 | A |
| 4 - Southleigh Road | 246 | 341 | 807 | 0.304 | 246 | 0.4 | 6.414 | A |

### 17:15 - 17:30

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 83 | 357 | 976 | 0.085 | 83 | 0.1 | 4.030 | A |
| 2 - Westbourne Road | 381 | 115 | 1332 | 0.286 | 382 | 0.4 | 3.789 | A |
| 3 - New Brighton Road | 301 | 204 | 1129 | 0.267 | 302 | 0.4 | 4.355 | A |
| 4 - Southleigh Road | 200 | 279 | 835 | 0.240 | 201 | 0.3 | 5.679 | A |

**17:30 - 17:45**

| Arm | Total Demand (Veh/hr) | Circulating flow (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|---|
| 1 - Redlands Lane | 69 | 299 | 1006 | 0.069 | 69 | 0.1 | 3.844 | A |
| 2 - Westbourne Road | 319 | 96 | 1343 | 0.238 | 320 | 0.3 | 3.517 | A |
| 3 - New Brighton Road | 252 | 171 | 1146 | 0.220 | 253 | 0.3 | 4.031 | A |
| 4 - Southleigh Road | 168 | 234 | 856 | 0.196 | 168 | 0.2 | 5.231 | A |

# Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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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:** Southleigh Road Hollybank Junction.j9
**Path:** T:\Projects\13000 Series\13525ITB Long Copse Lane, Emsworth\Tech\Junction Assessments\Picady
**Report generation date:** 19/06/2018 13:48:00

»2018 Observed, AM
»2018 Observed, PM
»2023 'without development', AM
»2023 'without development', PM
»2023 'with development', AM
»2023 'with development' , PM

### Summary of junction performance

| | AM | | | | PM | | | |
|---|---|---|---|---|---|---|---|---|
| | Queue (Veh) | Delay (s) | RFC | LOS | Queue (Veh) | Delay (s) | RFC | LOS |
| | 2018 Observed | | | | | | | |
| Stream B-C | 0.0 | 6.56 | 0.03 | A | 0.0 | 6.34 | 0.01 | A |
| Stream B-A | 0.2 | 9.27 | 0.19 | A | 0.2 | 9.14 | 0.14 | A |
| Stream C-AB | 0.0 | 5.36 | 0.02 | A | 0.1 | 5.48 | 0.04 | A |
| | 2023 'without development' | | | | | | | |
| Stream B-C | 0.0 | 6.67 | 0.03 | A | 0.0 | 6.42 | 0.02 | A |
| Stream B-A | 0.3 | 9.64 | 0.20 | A | 0.2 | 9.42 | 0.16 | A |
| Stream C-AB | 0.0 | 5.32 | 0.03 | A | 0.1 | 5.44 | 0.05 | A |
| | 2023 'with development' | | | | | | | |
| Stream B-C | 0.0 | 7.78 | 0.04 | A | 0.0 | 6.79 | 0.02 | A |
| Stream B-A | 0.8 | 13.77 | 0.44 | B | 0.3 | 10.74 | 0.26 | B |
| Stream C-AB | 0.0 | 5.36 | 0.03 | A | 0.1 | 5.54 | 0.05 | 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** | Southleigh Road / Hollybank Lane Junction |
| **Location** | Emsworth |
| **Site number** | ITB13525 |
| **Date** | 13/06/2018 |
| **Version** | |
| **Status** | |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | I-TRANSPORT\Hotdesk |
| **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 | perHour | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2018 Observed | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D2 | 2018 Observed | PM | ONE HOUR | 16:15 | 17:45 | 15 |
| D3 | 2023 'without development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D4 | 2023 'without development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |
| D5 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D6 | 2023 'with development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |

## Analysis Set Details

| ID | Network flow scaling factor (%) |
|---|---|
| A1 | 100.000 |

# 2018 Observed, AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Southleigh Road / Hollybank Lane | T-Junction | Two-way | | 1.56 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | Southleigh Road (W) | | Major |
| B | Hollybank Lane | | Minor |
| C | Southleigh Road (E) | | 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 - Southleigh Road (E) | 7.46 | | | 65.0 | ✓ | 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 | Width at give-way (m) | Width at 5m (m) | Width at 10m (m) | Width at 15m (m) | Width at 20m (m) | Estimate flare length | Flare length (PCU) | Visibility to left (m) | Visibility to right (m) |
|---|---|---|---|---|---|---|---|---|---|---|
| B - Hollybank Lane | One lane plus flare | 10.00 | 6.00 | 4.00 | 3.50 | 3.50 | ✓ | 1.00 | 74 | 58 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|---|
| 1 | B-A | 594 | 0.101 | 0.256 | 0.161 | 0.366 |
| 1 | B-C | 660 | 0.095 | 0.240 | - | - |
| 1 | C-B | 612 | 0.222 | 0.222 | - | - |

*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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2018 Observed | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Southleigh Road (W) | | ✓ | 257 | 100.000 |
| B - Hollybank Lane | | ✓ | 97 | 100.000 |
| C - Southleigh Road (E) | | ✓ | 235 | 100.000 |

# Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 44 | 213 |
| | B - Hollybank Lane | 81 | 0 | 16 |
| | C - Southleigh Road (E) | 225 | 10 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 2 | 3 |
| | B - Hollybank Lane | 1 | 0 | 0 |
| | C - Southleigh Road (E) | 2 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 0.03 | 6.56 | 0.0 | A |
| B-A | 0.19 | 9.27 | 0.2 | A |
| C-AB | 0.02 | 5.36 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 12 | 598 | 0.020 | 12 | 0.0 | 6.138 | A |
| B-A | 61 | 513 | 0.119 | 60 | 0.1 | 7.953 | A |
| C-AB | 10 | 682 | 0.015 | 10 | 0.0 | 5.353 | A |
| C-A | 167 | | | 167 | | | |
| A-B | 33 | | | 33 | | | |
| A-C | 160 | | | 160 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 14 | 585 | 0.025 | 14 | 0.0 | 6.305 | A |
| B-A | 73 | 498 | 0.146 | 73 | 0.2 | 8.461 | A |
| C-AB | 13 | 697 | 0.018 | 13 | 0.0 | 5.257 | A |
| C-A | 199 | | | 199 | | | |
| A-B | 40 | | | 40 | | | |
| A-C | 191 | | | 191 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 18 | 566 | 0.031 | 18 | 0.0 | 6.559 | A |
| B-A | 89 | 478 | 0.187 | 89 | 0.2 | 9.254 | A |
| C-AB | 17 | 718 | 0.023 | 17 | 0.0 | 5.131 | A |
| C-A | 242 | | | 242 | | | |
| A-B | 48 | | | 48 | | | |
| A-C | 235 | | | 235 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 18 | 566 | 0.031 | 18 | 0.0 | 6.560 | A |
| B-A | 89 | 478 | 0.187 | 89 | 0.2 | 9.265 | A |
| C-AB | 17 | 718 | 0.023 | 17 | 0.0 | 5.136 | A |
| C-A | 242 | | | 242 | | | |
| A-B | 48 | | | 48 | | | |
| A-C | 235 | | | 235 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 14 | 585 | 0.025 | 14 | 0.0 | 6.307 | A |
| B-A | 73 | 498 | 0.146 | 73 | 0.2 | 8.475 | A |
| C-AB | 13 | 697 | 0.018 | 13 | 0.0 | 5.263 | A |
| C-A | 199 | | | 199 | | | |
| A-B | 40 | | | 40 | | | |
| A-C | 191 | | | 191 | | | |

**09:00 - 09:15**

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 12 | 598 | 0.020 | 12 | 0.0 | 6.144 | A |
| B-A | 61 | 513 | 0.119 | 61 | 0.1 | 7.975 | A |
| C-AB | 10 | 682 | 0.015 | 10 | 0.0 | 5.358 | A |
| C-A | 167 | | | 167 | | | |
| A-B | 33 | | | 33 | | | |
| A-C | 160 | | | 160 | | | |

# 2018 Observed, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Southleigh Road / Hollybank Lane | T-Junction | Two-way | | 1.30 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D2 | 2018 Observed | PM | ONE HOUR | 16:15 | 17:45 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Southleigh Road (W) | | ✓ | 279 | 100.000 |
| B - Hollybank Lane | | ✓ | 67 | 100.000 |
| C - Southleigh Road (E) | | ✓ | 233 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 81 | 198 |
| | B - Hollybank Lane | 60 | 0 | 7 |
| | C - Southleigh Road (E) | 215 | 18 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 0 | 2 |
| | B - Hollybank Lane | 5 | 0 | 0 |
| | C - Southleigh Road (E) | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 0.01 | 6.34 | 0.0 | A |
| B-A | 0.14 | 9.14 | 0.2 | A |
| C-AB | 0.04 | 5.48 | 0.1 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 16:15 - 16:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 5 | 604 | 0.009 | 5 | 0.0 | 6.015 | A |
| B-A | 45 | 493 | 0.092 | 45 | 0.1 | 8.017 | A |
| C-AB | 18 | 675 | 0.026 | 18 | 0.0 | 5.473 | A |
| C-A | 158 | | | 158 | | | |
| A-B | 61 | | | 61 | | | |
| A-C | 149 | | | 149 | | | |

### 16:30 - 16:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 6 | 592 | 0.011 | 6 | 0.0 | 6.146 | A |
| B-A | 54 | 479 | 0.113 | 54 | 0.1 | 8.460 | A |
| C-AB | 23 | 689 | 0.033 | 22 | 0.0 | 5.402 | A |
| C-A | 187 | | | 187 | | | |
| A-B | 73 | | | 73 | | | |
| A-C | 178 | | | 178 | | | |

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 8 | 575 | 0.013 | 8 | 0.0 | 6.340 | A |
| B-A | 66 | 460 | 0.144 | 66 | 0.2 | 9.136 | A |
| C-AB | 30 | 708 | 0.042 | 30 | 0.1 | 5.308 | A |
| C-A | 227 | | | 227 | | | |
| A-B | 89 | | | 89 | | | |
| A-C | 218 | | | 218 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 8 | 575 | 0.013 | 8 | 0.0 | 6.341 | A |
| B-A | 66 | 460 | 0.144 | 66 | 0.2 | 9.143 | A |
| C-AB | 30 | 708 | 0.042 | 30 | 0.1 | 5.311 | A |
| C-A | 227 | | | 227 | | | |
| A-B | 89 | | | 89 | | | |
| A-C | 218 | | | 218 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 6 | 592 | 0.011 | 6 | 0.0 | 6.147 | A |
| B-A | 54 | 479 | 0.113 | 54 | 0.1 | 8.470 | A |
| C-AB | 23 | 689 | 0.033 | 23 | 0.0 | 5.403 | A |
| C-A | 187 | | | 187 | | | |
| A-B | 73 | | | 73 | | | |
| A-C | 178 | | | 178 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 5 | 603 | 0.009 | 5 | 0.0 | 6.017 | A |
| B-A | 45 | 493 | 0.092 | 45 | 0.1 | 8.038 | A |
| C-AB | 18 | 675 | 0.026 | 18 | 0.0 | 5.476 | A |
| C-A | 158 | | | 158 | | | |
| A-B | 61 | | | 61 | | | |
| A-C | 149 | | | 149 | | | |

# 2023 'without development', AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Southleigh Road / Hollybank Lane | T-Junction | Two-way | | 1.62 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D3 | 2023 'without development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Southleigh Road (W) | | ✓ | 276 | 100.000 |
| B - Hollybank Lane | | ✓ | 104 | 100.000 |
| C - Southleigh Road (E) | | ✓ | 253 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 47 | 229 |
| | B - Hollybank Lane | 87 | 0 | 17 |
| | C - Southleigh Road (E) | 242 | 11 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 2 | 3 |
| | B - Hollybank Lane | 1 | 0 | 0 |
| | C - Southleigh Road (E) | 2 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 0.03 | 6.67 | 0.0 | A |
| B-A | 0.20 | 9.64 | 0.3 | A |
| C-AB | 0.03 | 5.32 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 13 | 593 | 0.022 | 13 | 0.0 | 6.198 | A |
| B-A | 65 | 507 | 0.129 | 65 | 0.1 | 8.133 | A |
| C-AB | 11 | 688 | 0.016 | 11 | 0.0 | 5.318 | A |
| C-A | 179 | | | 179 | | | |
| A-B | 35 | | | 35 | | | |
| A-C | 172 | | | 172 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 15 | 579 | 0.026 | 15 | 0.0 | 6.384 | A |
| B-A | 78 | 491 | 0.159 | 78 | 0.2 | 8.710 | A |
| C-AB | 14 | 704 | 0.020 | 14 | 0.0 | 5.216 | A |
| C-A | 213 | | | 213 | | | |
| A-B | 42 | | | 42 | | | |
| A-C | 206 | | | 206 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 19 | 558 | 0.034 | 19 | 0.0 | 6.670 | A |
| B-A | 96 | 469 | 0.204 | 96 | 0.3 | 9.624 | A |
| C-AB | 19 | 727 | 0.026 | 19 | 0.0 | 5.084 | A |
| C-A | 259 | | | 259 | | | |
| A-B | 52 | | | 52 | | | |
| A-C | 252 | | | 252 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 19 | 558 | 0.034 | 19 | 0.0 | 6.672 | A |
| B-A | 96 | 469 | 0.204 | 96 | 0.3 | 9.638 | A |
| C-AB | 19 | 727 | 0.026 | 19 | 0.0 | 5.086 | A |
| C-A | 259 | | | 259 | | | |
| A-B | 52 | | | 52 | | | |
| A-C | 252 | | | 252 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 15 | 579 | 0.026 | 15 | 0.0 | 6.386 | A |
| B-A | 78 | 491 | 0.159 | 78 | 0.2 | 8.730 | A |
| C-AB | 14 | 704 | 0.020 | 14 | 0.0 | 5.222 | A |
| C-A | 213 | | | 213 | | | |
| A-B | 42 | | | 42 | | | |
| A-C | 206 | | | 206 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 13 | 593 | 0.022 | 13 | 0.0 | 6.204 | A |
| B-A | 65 | 507 | 0.129 | 66 | 0.1 | 8.162 | A |
| C-AB | 11 | 688 | 0.016 | 11 | 0.0 | 5.321 | A |
| C-A | 179 | | | 179 | | | |
| A-B | 35 | | | 35 | | | |
| A-C | 172 | | | 172 | | | |

# 2023 'without development', PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Southleigh Road / Hollybank 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 | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) |
|---|---|---|---|---|---|---|
| D4 | 2023 'without development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Southleigh Road (W) | | ✓ | 300 | 100.000 |
| B - Hollybank Lane | | ✓ | 72 | 100.000 |
| C - Southleigh Road (E) | | ✓ | 250 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 87 | 213 |
| | B - Hollybank Lane | 64 | 0 | 8 |
| | C - Southleigh Road (E) | 231 | 19 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 0 | 1 |
| | B - Hollybank Lane | 5 | 0 | 0 |
| | C - Southleigh Road (E) | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 0.02 | 6.42 | 0.0 | A |
| B-A | 0.16 | 9.42 | 0.2 | A |
| C-AB | 0.05 | 5.44 | 0.1 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 16:15 - 16:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 6 | 600 | 0.010 | 6 | 0.0 | 6.063 | A |
| B-A | 48 | 488 | 0.099 | 48 | 0.1 | 8.163 | A |
| C-AB | 19 | 681 | 0.028 | 19 | 0.0 | 5.440 | A |
| C-A | 169 | | | 169 | | | |
| A-B | 65 | | | 65 | | | |
| A-C | 160 | | | 160 | | | |

### 16:30 - 16:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 7 | 587 | 0.012 | 7 | 0.0 | 6.207 | A |
| B-A | 58 | 473 | 0.122 | 57 | 0.1 | 8.654 | A |
| C-AB | 24 | 695 | 0.035 | 24 | 0.0 | 5.364 | A |
| C-A | 200 | | | 200 | | | |
| A-B | 78 | | | 78 | | | |
| A-C | 191 | | | 191 | | | |

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 9 | 569 | 0.015 | 9 | 0.0 | 6.422 | A |
| B-A | 70 | 452 | 0.156 | 70 | 0.2 | 9.415 | A |
| C-AB | 33 | 716 | 0.045 | 32 | 0.1 | 5.265 | A |
| C-A | 243 | | | 243 | | | |
| A-B | 96 | | | 96 | | | |
| A-C | 235 | | | 235 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 9 | 569 | 0.015 | 9 | 0.0 | 6.423 | A |
| B-A | 70 | 452 | 0.156 | 70 | 0.2 | 9.423 | A |
| C-AB | 33 | 716 | 0.045 | 33 | 0.1 | 5.266 | A |
| C-A | 243 | | | 243 | | | |
| A-B | 96 | | | 96 | | | |
| A-C | 235 | | | 235 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 7 | 587 | 0.012 | 7 | 0.0 | 6.208 | A |
| B-A | 58 | 473 | 0.122 | 58 | 0.1 | 8.666 | A |
| C-AB | 24 | 695 | 0.035 | 24 | 0.0 | 5.366 | A |
| C-A | 200 | | | 200 | | | |
| A-B | 78 | | | 78 | | | |
| A-C | 191 | | | 191 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 6 | 600 | 0.010 | 6 | 0.0 | 6.067 | A |
| B-A | 48 | 488 | 0.099 | 48 | 0.1 | 8.184 | A |
| C-AB | 19 | 681 | 0.028 | 19 | 0.0 | 5.442 | A |
| C-A | 169 | | | 169 | | | |
| A-B | 65 | | | 65 | | | |
| A-C | 160 | | | 160 | | | |

# 2023 'with development', AM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Southleigh Road / Hollybank Lane | T-Junction | Two-way | | 3.63 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D5 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Southleigh Road (W) | | ✓ | 303 | 100.000 |
| B - Hollybank Lane | | ✓ | 203 | 100.000 |
| C - Southleigh Road (E) | | ✓ | 253 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 74 | 229 |
| | B - Hollybank Lane | 186 | 0 | 17 |
| | C - Southleigh Road (E) | 242 | 11 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 1 | 3 |
| | B - Hollybank Lane | 1 | 0 | 0 |
| | C - Southleigh Road (E) | 2 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 0.04 | 7.78 | 0.0 | A |
| B-A | 0.44 | 13.77 | 0.8 | B |
| C-AB | 0.03 | 5.36 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 13 | 559 | 0.023 | 13 | 0.0 | 6.593 | A |
| B-A | 140 | 505 | 0.277 | 139 | 0.4 | 9.786 | A |
| C-AB | 11 | 684 | 0.017 | 11 | 0.0 | 5.349 | A |
| C-A | 179 | | | 179 | | | |
| A-B | 56 | | | 56 | | | |
| A-C | 172 | | | 172 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 15 | 530 | 0.029 | 15 | 0.0 | 6.993 | A |
| B-A | 167 | 489 | 0.342 | 167 | 0.5 | 11.160 | B |
| C-AB | 14 | 699 | 0.021 | 14 | 0.0 | 5.252 | A |
| C-A | 213 | | | 213 | | | |
| A-B | 67 | | | 67 | | | |
| A-C | 206 | | | 206 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 19 | 482 | 0.039 | 19 | 0.0 | 7.768 | A |
| B-A | 205 | 466 | 0.439 | 204 | 0.8 | 13.664 | B |
| C-AB | 19 | 721 | 0.027 | 19 | 0.0 | 5.124 | A |
| C-A | 259 | | | 259 | | | |
| A-B | 81 | | | 81 | | | |
| A-C | 252 | | | 252 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 19 | 481 | 0.039 | 19 | 0.0 | 7.784 | A |
| B-A | 205 | 466 | 0.439 | 205 | 0.8 | 13.767 | B |
| C-AB | 19 | 721 | 0.027 | 19 | 0.0 | 5.127 | A |
| C-A | 259 | | | 259 | | | |
| A-B | 81 | | | 81 | | | |
| A-C | 252 | | | 252 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 15 | 529 | 0.029 | 15 | 0.0 | 7.009 | A |
| B-A | 167 | 489 | 0.342 | 168 | 0.5 | 11.267 | B |
| C-AB | 14 | 699 | 0.021 | 14 | 0.0 | 5.260 | A |
| C-A | 213 | | | 213 | | | |
| A-B | 67 | | | 67 | | | |
| A-C | 206 | | | 206 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 13 | 558 | 0.023 | 13 | 0.0 | 6.608 | A |
| B-A | 140 | 505 | 0.277 | 141 | 0.4 | 9.898 | A |
| C-AB | 11 | 684 | 0.017 | 11 | 0.0 | 5.355 | A |
| C-A | 179 | | | 179 | | | |
| A-B | 56 | | | 56 | | | |
| A-C | 172 | | | 172 | | | |

# 2023 'with development' , PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Southleigh Road / Hollybank Lane | T-Junction | Two-way | | 1.87 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D6 | 2023 'with development' | PM | ONE HOUR | 16:15 | 17:45 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Southleigh Road (W) | | ✓ | 375 | 100.000 |
| B - Hollybank Lane | | ✓ | 115 | 100.000 |
| C - Southleigh Road (E) | | ✓ | 250 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 162 | 213 |
| | B - Hollybank Lane | 107 | 0 | 8 |
| | C - Southleigh Road (E) | 231 | 19 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Southleigh Road (W) | B - Hollybank Lane | C - Southleigh Road (E) |
| From | A - Southleigh Road (W) | 0 | 0 | 1 |
| | B - Hollybank Lane | 3 | 0 | 0 |
| | C - Southleigh Road (E) | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-C | 0.02 | 6.79 | 0.0 | A |
| B-A | 0.26 | 10.74 | 0.3 | B |
| C-AB | 0.05 | 5.54 | 0.1 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 16:15 - 16:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 6 | 583 | 0.010 | 6 | 0.0 | 6.242 | A |
| B-A | 81 | 492 | 0.164 | 80 | 0.2 | 8.711 | A |
| C-AB | 19 | 670 | 0.029 | 19 | 0.0 | 5.536 | A |
| C-A | 169 | | | 169 | | | |
| A-B | 122 | | | 122 | | | |
| A-C | 160 | | | 160 | | | |

### 16:30 - 16:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 7 | 565 | 0.013 | 7 | 0.0 | 6.451 | A |
| B-A | 96 | 476 | 0.202 | 96 | 0.3 | 9.470 | A |
| C-AB | 25 | 682 | 0.036 | 25 | 0.0 | 5.474 | A |
| C-A | 200 | | | 200 | | | |
| A-B | 146 | | | 146 | | | |
| A-C | 191 | | | 191 | | | |

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 9 | 539 | 0.016 | 9 | 0.0 | 6.789 | A |
| B-A | 118 | 453 | 0.260 | 117 | 0.3 | 10.715 | B |
| C-AB | 33 | 700 | 0.047 | 33 | 0.1 | 5.392 | A |
| C-A | 242 | | | 242 | | | |
| A-B | 178 | | | 178 | | | |
| A-C | 235 | | | 235 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 9 | 539 | 0.016 | 9 | 0.0 | 6.792 | A |
| B-A | 118 | 453 | 0.260 | 118 | 0.3 | 10.735 | B |
| C-AB | 33 | 700 | 0.047 | 33 | 0.1 | 5.395 | A |
| C-A | 242 | | | 242 | | | |
| A-B | 178 | | | 178 | | | |
| A-C | 235 | | | 235 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 7 | 565 | 0.013 | 7 | 0.0 | 6.457 | A |
| B-A | 96 | 476 | 0.202 | 97 | 0.3 | 9.500 | A |
| C-AB | 25 | 682 | 0.036 | 25 | 0.1 | 5.478 | A |
| C-A | 200 | | | 200 | | | |
| A-B | 146 | | | 146 | | | |
| A-C | 191 | | | 191 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-C | 6 | 582 | 0.010 | 6 | 0.0 | 6.249 | A |
| B-A | 81 | 492 | 0.164 | 81 | 0.2 | 8.755 | A |
| C-AB | 19 | 670 | 0.029 | 19 | 0.0 | 5.539 | A |
| C-A | 169 | | | 169 | | | |
| A-B | 122 | | | 122 | | | |
| A-C | 160 | | | 160 | | | |

# Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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+44 (0)1344 379777 software@trl.co.uk 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:** Western Site Access Long Copse Lane Junction.j9
**Path:** T:\Projects\13000 Series\13525ITB Long Copse Lane, Emsworth\Tech\Junction Assessments\Picady
**Report generation date:** 12/10/2018 14:13:29

---

»2023 'with development', AM
»2023 'with development', PM

### Summary of junction performance

| | AM | | | | PM | | | |
|---|---|---|---|---|---|---|---|---|
| | Queue (Veh) | Delay (s) | RFC | LOS | Queue (Veh) | Delay (s) | RFC | LOS |
| | 2023 'with development' | | | | | | | |
| Stream B-AC | 0.0 | 7.07 | 0.04 | A | 0.0 | 7.17 | 0.02 | A |
| Stream C-AB | 0.0 | 5.43 | 0.00 | A | 0.0 | 5.72 | 0.01 | 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** | Western Site Access Junction |
| **Location** | Emsworth |
| **Site number** | ITB13525 |
| **Date** | 12/02/2018 |
| **Version** | |
| **Status** | |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | I-TRANSPORT\Hotdesk |
| **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 | perHour | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D2 | 2023 'with development' | PM | ONE HOUR | 16:45 | 18:15 | 15 |

## Analysis Set Details

| ID | Network flow scaling factor (%) |
|---|---|
| A1 | 100.000 |

# 2023 'with development', 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. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Western Site Access | T-Junction | Two-way | | 0.76 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | Long Copse Lane W | | Major |
| B | Western Site Access | | Minor |
| C | Long Copse Lane E | | 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 - Long Copse Lane E | 6.00 | | | 75.0 | ✓ | 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 - Western Site Access | One lane | 3.70 | 32 | 25 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|---|
| 1 | B-A | 535 | 0.097 | 0.246 | 0.155 | 0.352 |
| 1 | B-C | 685 | 0.105 | 0.265 | - | - |
| 1 | C-B | 617 | 0.239 | 0.239 | - | - |

*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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane W | | ✓ | 52 | 100.000 |
| B - Western Site Access | | ✓ | 19 | 100.000 |
| C - Long Copse Lane E | | ✓ | 114 | 100.000 |

# Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane W | B - Western Site Access | C - Long Copse Lane E |
| From | A - Long Copse Lane W | 0 | 4 | 48 |
| | B - Western Site Access | 15 | 0 | 4 |
| | C - Long Copse Lane E | 113 | 1 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane W | B - Western Site Access | C - Long Copse Lane E |
| From | A - Long Copse Lane W | 0 | 0 | 0 |
| | B - Western Site Access | 0 | 0 | 0 |
| | C - Long Copse Lane E | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.04 | 7.07 | 0.0 | A |
| C-AB | 0.00 | 5.43 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 14 | 540 | 0.026 | 14 | 0.0 | 6.845 | A |
| C-AB | 0.86 | 664 | 0.001 | 0.86 | 0.0 | 5.425 | A |
| C-A | 85 | | | 85 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 36 | | | 36 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 17 | 536 | 0.032 | 17 | 0.0 | 6.939 | A |
| C-AB | 1 | 674 | 0.002 | 1 | 0.0 | 5.352 | A |
| C-A | 101 | | | 101 | | | |
| A-B | 4 | | | 4 | | | |
| A-C | 43 | | | 43 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 21 | 530 | 0.039 | 21 | 0.0 | 7.068 | A |
| C-AB | 1 | 686 | 0.002 | 1 | 0.0 | 5.254 | A |
| C-A | 124 | | | 124 | | | |
| A-B | 4 | | | 4 | | | |
| A-C | 53 | | | 53 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 21 | 530 | 0.039 | 21 | 0.0 | 7.068 | A |
| C-AB | 1 | 686 | 0.002 | 1 | 0.0 | 5.256 | A |
| C-A | 124 | | | 124 | | | |
| A-B | 4 | | | 4 | | | |
| A-C | 53 | | | 53 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 17 | 536 | 0.032 | 17 | 0.0 | 6.939 | A |
| C-AB | 1 | 674 | 0.002 | 1 | 0.0 | 5.354 | A |
| C-A | 101 | | | 101 | | | |
| A-B | 4 | | | 4 | | | |
| A-C | 43 | | | 43 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 14 | 540 | 0.026 | 14 | 0.0 | 6.848 | A |
| C-AB | 0.86 | 664 | 0.001 | 0.87 | 0.0 | 5.427 | A |
| C-A | 85 | | | 85 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 36 | | | 36 | | | |

# 2023 'with development', PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Western Site Access | T-Junction | Two-way | | 0.41 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D2 | 2023 'with development' | PM | ONE HOUR | 16:45 | 18:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane W | | ✓ | 108 | 100.000 |
| B - Western Site Access | | ✓ | 8 | 100.000 |
| C - Long Copse Lane E | | ✓ | 70 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane W | B - Western Site Access | C - Long Copse Lane E |
| From | A - Long Copse Lane W | 0 | 11 | 97 |
| | B - Western Site Access | 7 | 0 | 1 |
| | C - Long Copse Lane E | 67 | 3 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane W | B - Western Site Access | C - Long Copse Lane E |
| From | A - Long Copse Lane W | 0 | 0 | 0 |
| | B - Western Site Access | 0 | 0 | 0 |
| | C - Long Copse Lane E | 1 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.02 | 7.17 | 0.0 | A |
| C-AB | 0.01 | 5.72 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 6 | 523 | 0.012 | 6 | 0.0 | 6.959 | A |
| C-AB | 2 | 631 | 0.004 | 2 | 0.0 | 5.722 | A |
| C-A | 50 | | | 50 | | | |
| A-B | 8 | | | 8 | | | |
| A-C | 73 | | | 73 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 7 | 518 | 0.014 | 7 | 0.0 | 7.047 | A |
| C-AB | 3 | 634 | 0.005 | 3 | 0.0 | 5.701 | A |
| C-A | 60 | | | 60 | | | |
| A-B | 10 | | | 10 | | | |
| A-C | 87 | | | 87 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 9 | 511 | 0.017 | 9 | 0.0 | 7.172 | A |
| C-AB | 4 | 638 | 0.006 | 4 | 0.0 | 5.671 | A |
| C-A | 73 | | | 73 | | | |
| A-B | 12 | | | 12 | | | |
| A-C | 107 | | | 107 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 9 | 511 | 0.017 | 9 | 0.0 | 7.172 | A |
| C-AB | 4 | 638 | 0.006 | 4 | 0.0 | 5.674 | A |
| C-A | 73 | | | 73 | | | |
| A-B | 12 | | | 12 | | | |
| A-C | 107 | | | 107 | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 7 | 518 | 0.014 | 7 | 0.0 | 7.048 | A |
| C-AB | 3 | 634 | 0.005 | 3 | 0.0 | 5.704 | A |
| C-A | 60 | | | 60 | | | |
| A-B | 10 | | | 10 | | | |
| A-C | 87 | | | 87 | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 6 | 523 | 0.012 | 6 | 0.0 | 6.962 | A |
| C-AB | 2 | 631 | 0.004 | 2 | 0.0 | 5.725 | A |
| C-A | 50 | | | 50 | | | |
| A-B | 8 | | | 8 | | | |
| A-C | 73 | | | 73 | | | |

# Junctions 9

## PICADY 9 - Priority Intersection Module

Version: 9.5.0.6896
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+44 (0)1344 379777 software@trl.co.uk 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:** Wraysbury Park Drive Long Copse Lane Junction.j9
**Path:** T:\Projects\13000 Series\13525ITB Long Copse Lane, Emsworth\Tech\Junction Assessments\Picady
**Report generation date:** 19/06/2018 13:37:52

---

»2018 Observed, AM
»2018 Observed, PM
»2023 'without development', AM
»2023 'without development', PM
»2023 'with development' , AM
»2023 'with development', PM

### Summary of junction performance

| | AM | | | | PM | | | |
|---|---|---|---|---|---|---|---|---|
| | Queue (Veh) | Delay (s) | RFC | LOS | Queue (Veh) | Delay (s) | RFC | LOS |
| | 2018 Observed | | | | | | | |
| Stream B-AC | 0.0 | 6.35 | 0.03 | A | 0.0 | 6.06 | 0.03 | A |
| Stream C-AB | 0.0 | 5.86 | 0.01 | A | 0.0 | 5.99 | 0.03 | A |
| | 2023 'without development' | | | | | | | |
| Stream B-AC | 0.0 | 6.38 | 0.04 | A | 0.0 | 6.05 | 0.04 | A |
| Stream C-AB | 0.0 | 5.87 | 0.02 | A | 0.0 | 6.00 | 0.03 | A |
| | 2023 'with development' | | | | | | | |
| Stream B-AC | 0.0 | 6.77 | 0.04 | A | 0.0 | 6.48 | 0.05 | A |
| Stream C-AB | 0.0 | 5.93 | 0.02 | A | 0.0 | 5.71 | 0.03 | 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** | Wraysbury Park Drive / Long Copse Lane Junction |
| **Location** | Emsworth |
| **Site number** | ITB13525 |
| **Date** | 09/02/2018 |
| **Version** | |
| **Status** | |
| **Identifier** | |
| **Client** | |
| **Jobnumber** | |
| **Enumerator** | I-TRANSPORT\basingstoke.hotdesk |
| **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 | perHour | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2018 Observed | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D2 | 2018 Observed | PM | ONE HOUR | 16:45 | 18:15 | 15 |
| D3 | 2023 'without development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D4 | 2023 'without development' | PM | ONE HOUR | 16:45 | 18:15 | 15 |
| D5 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |
| D6 | 2023 'with development' | PM | ONE HOUR | 16:45 | 18:15 | 15 |

## Analysis Set Details

| ID | Network flow scaling factor (%) |
|---|---|
| A1 | 100.000 |

# 2018 Observed, 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. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Wraysbury Park Junction | T-Junction | Two-way | | 2.62 | A |

### Junction Network Options

| Driving side | Lighting |
|---|---|
| Left | Normal/unknown |

## Arms

### Arms

| Arm | Name | Description | Arm type |
|---|---|---|---|
| A | Long Copse Lane E | | Major |
| B | Wraysbury Park | | Minor |
| C | Long Copse Lane W | | 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 - Long Copse Lane W | 6.00 | | | 75.0 | ✓ | 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 - Wraysbury Park | One lane | 3.56 | 27 | 32 |

### Slope / Intercept / Capacity

#### Priority Intersection Slopes and Intercepts

| Junction | Stream | Intercept (Veh/hr) | Slope for A-B | Slope for A-C | Slope for C-A | Slope for C-B |
|---|---|---|---|---|---|---|
| 1 | B-A | 530 | 0.097 | 0.244 | 0.154 | 0.349 |
| 1 | B-C | 680 | 0.104 | 0.264 | - | - |
| 1 | C-B | 617 | 0.239 | 0.239 | - | - |

*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 segment length (min) |
|---|---|---|---|---|---|---|
| D1 | 2018 Observed | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

## Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane E | | ✓ | 21 | 100.000 |
| B - Wraysbury Park | | ✓ | 18 | 100.000 |
| C - Long Copse Lane W | | ✓ | 23 | 100.000 |

# Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 3 | 18 |
| | B - Wraysbury Park | 9 | 0 | 9 |
| | C - Long Copse Lane W | 15 | 8 | 0 |

# Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 0 | 0 |
| | B - Wraysbury Park | 0 | 0 | 0 |
| | C - Long Copse Lane W | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.03 | 6.35 | 0.0 | A |
| C-AB | 0.01 | 5.86 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 14 | 590 | 0.023 | 13 | 0.0 | 6.246 | A |
| C-AB | 6 | 621 | 0.010 | 6 | 0.0 | 5.853 | A |
| C-A | 11 | | | 11 | | | |
| A-B | 2 | | | 2 | | | |
| A-C | 14 | | | 14 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 16 | 589 | 0.027 | 16 | 0.0 | 6.288 | A |
| C-AB | 7 | 622 | 0.012 | 7 | 0.0 | 5.858 | A |
| C-A | 13 | | | 13 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 16 | | | 16 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 20 | 587 | 0.034 | 20 | 0.0 | 6.347 | A |
| C-AB | 9 | 623 | 0.015 | 9 | 0.0 | 5.865 | A |
| C-A | 16 | | | 16 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 20 | | | 20 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 20 | 587 | 0.034 | 20 | 0.0 | 6.347 | A |
| C-AB | 9 | 623 | 0.015 | 9 | 0.0 | 5.865 | A |
| C-A | 16 | | | 16 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 20 | | | 20 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 16 | 589 | 0.027 | 16 | 0.0 | 6.289 | A |
| C-AB | 7 | 622 | 0.012 | 7 | 0.0 | 5.861 | A |
| C-A | 13 | | | 13 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 16 | | | 16 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 14 | 590 | 0.023 | 14 | 0.0 | 6.247 | A |
| C-AB | 6 | 621 | 0.010 | 6 | 0.0 | 5.856 | A |
| C-A | 11 | | | 11 | | | |
| A-B | 2 | | | 2 | | | |
| A-C | 14 | | | 14 | | | |

# 2018 Observed, PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Wraysbury Park Junction | T-Junction | Two-way | | 2.89 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D2 | 2018 Observed | PM | ONE HOUR | 16:45 | 18:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane E | | ✓ | 25 | 100.000 |
| B - Wraysbury Park | | ✓ | 19 | 100.000 |
| C - Long Copse Lane W | | ✓ | 31 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 9 | 16 |
| | B - Wraysbury Park | 6 | 0 | 13 |
| | C - Long Copse Lane W | 14 | 17 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 0 | 6 |
| | B - Wraysbury Park | 0 | 0 | 0 |
| | C - Long Copse Lane W | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.03 | 6.06 | 0.0 | A |
| C-AB | 0.03 | 5.99 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 14 | 618 | 0.023 | 14 | 0.0 | 5.965 | A |
| C-AB | 13 | 620 | 0.021 | 13 | 0.0 | 5.933 | A |
| C-A | 10 | | | 10 | | | |
| A-B | 7 | | | 7 | | | |
| A-C | 12 | | | 12 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 17 | 616 | 0.028 | 17 | 0.0 | 6.006 | A |
| C-AB | 16 | 620 | 0.025 | 16 | 0.0 | 5.954 | A |
| C-A | 12 | | | 12 | | | |
| A-B | 8 | | | 8 | | | |
| A-C | 14 | | | 14 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 21 | 615 | 0.034 | 21 | 0.0 | 6.063 | A |
| C-AB | 19 | 621 | 0.031 | 19 | 0.0 | 5.983 | A |
| C-A | 15 | | | 15 | | | |
| A-B | 10 | | | 10 | | | |
| A-C | 18 | | | 18 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 21 | 615 | 0.034 | 21 | 0.0 | 6.063 | A |
| C-AB | 19 | 621 | 0.031 | 19 | 0.0 | 5.986 | A |
| C-A | 15 | | | 15 | | | |
| A-B | 10 | | | 10 | | | |
| A-C | 18 | | | 18 | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 17 | 616 | 0.028 | 17 | 0.0 | 6.008 | A |
| C-AB | 16 | 620 | 0.025 | 16 | 0.0 | 5.957 | A |
| C-A | 12 | | | 12 | | | |
| A-B | 8 | | | 8 | | | |
| A-C | 14 | | | 14 | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 14 | 618 | 0.023 | 14 | 0.0 | 5.965 | A |
| C-AB | 13 | 620 | 0.021 | 13 | 0.0 | 5.936 | A |
| C-A | 10 | | | 10 | | | |
| A-B | 7 | | | 7 | | | |
| A-C | 12 | | | 12 | | | |

# 2023 'without development', 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. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Wraysbury Park Junction | T-Junction | Two-way | | 2.71 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D3 | 2023 'without development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane E | | ✓ | 22 | 100.000 |
| B - Wraysbury Park | | ✓ | 20 | 100.000 |
| C - Long Copse Lane W | | ✓ | 25 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 3 | 19 |
| | B - Wraysbury Park | 10 | 0 | 10 |
| | C - Long Copse Lane W | 16 | 9 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 0 | 0 |
| | B - Wraysbury Park | 0 | 0 | 0 |
| | C - Long Copse Lane W | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.04 | 6.38 | 0.0 | A |
| C-AB | 0.02 | 5.87 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 15 | 589 | 0.026 | 15 | 0.0 | 6.267 | A |
| C-AB | 7 | 621 | 0.011 | 7 | 0.0 | 5.858 | A |
| C-A | 12 | | | 12 | | | |
| A-B | 2 | | | 2 | | | |
| A-C | 14 | | | 14 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 18 | 588 | 0.031 | 18 | 0.0 | 6.314 | A |
| C-AB | 8 | 622 | 0.013 | 8 | 0.0 | 5.863 | A |
| C-A | 14 | | | 14 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 17 | | | 17 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 22 | 586 | 0.038 | 22 | 0.0 | 6.379 | A |
| C-AB | 10 | 623 | 0.016 | 10 | 0.0 | 5.871 | A |
| C-A | 17 | | | 17 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 21 | | | 21 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 22 | 586 | 0.038 | 22 | 0.0 | 6.379 | A |
| C-AB | 10 | 623 | 0.016 | 10 | 0.0 | 5.871 | A |
| C-A | 17 | | | 17 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 21 | | | 21 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 18 | 588 | 0.031 | 18 | 0.0 | 6.317 | A |
| C-AB | 8 | 622 | 0.013 | 8 | 0.0 | 5.866 | A |
| C-A | 14 | | | 14 | | | |
| A-B | 3 | | | 3 | | | |
| A-C | 17 | | | 17 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 15 | 589 | 0.026 | 15 | 0.0 | 6.270 | A |
| C-AB | 7 | 621 | 0.011 | 7 | 0.0 | 5.860 | A |
| C-A | 12 | | | 12 | | | |
| A-B | 2 | | | 2 | | | |
| A-C | 14 | | | 14 | | | |

# 2023 'without development', PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Wraysbury Park Junction | T-Junction | Two-way | | 2.86 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D4 | 2023 'without development' | PM | ONE HOUR | 16:45 | 18:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane E | | ✓ | 27 | 100.000 |
| B - Wraysbury Park | | ✓ | 20 | 100.000 |
| C - Long Copse Lane W | | ✓ | 33 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 10 | 17 |
| | B - Wraysbury Park | 6 | 0 | 14 |
| | C - Long Copse Lane W | 15 | 18 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 0 | 6 |
| | B - Wraysbury Park | 0 | 0 | 0 |
| | C - Long Copse Lane W | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.04 | 6.05 | 0.0 | A |
| C-AB | 0.03 | 6.00 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 15 | 620 | 0.024 | 15 | 0.0 | 5.950 | A |
| C-AB | 14 | 620 | 0.022 | 14 | 0.0 | 5.939 | A |
| C-A | 11 | | | 11 | | | |
| A-B | 8 | | | 8 | | | |
| A-C | 13 | | | 13 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 18 | 619 | 0.029 | 18 | 0.0 | 5.993 | A |
| C-AB | 17 | 620 | 0.027 | 17 | 0.0 | 5.962 | A |
| C-A | 13 | | | 13 | | | |
| A-B | 9 | | | 9 | | | |
| A-C | 15 | | | 15 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 22 | 617 | 0.036 | 22 | 0.0 | 6.053 | A |
| C-AB | 20 | 621 | 0.033 | 20 | 0.0 | 5.993 | A |
| C-A | 16 | | | 16 | | | |
| A-B | 11 | | | 11 | | | |
| A-C | 19 | | | 19 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 22 | 617 | 0.036 | 22 | 0.0 | 6.053 | A |
| C-AB | 20 | 621 | 0.033 | 20 | 0.0 | 5.996 | A |
| C-A | 16 | | | 16 | | | |
| A-B | 11 | | | 11 | | | |
| A-C | 19 | | | 19 | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 18 | 619 | 0.029 | 18 | 0.0 | 5.996 | A |
| C-AB | 17 | 620 | 0.027 | 17 | 0.0 | 5.965 | A |
| C-A | 13 | | | 13 | | | |
| A-B | 9 | | | 9 | | | |
| A-C | 15 | | | 15 | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 15 | 620 | 0.024 | 15 | 0.0 | 5.951 | A |
| C-AB | 14 | 620 | 0.022 | 14 | 0.0 | 5.942 | A |
| C-A | 11 | | | 11 | | | |
| A-B | 8 | | | 8 | | | |
| A-C | 13 | | | 13 | | | |

# 2023 'with development' , 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. If HV% at the junction is genuinely zero, please ignore this warning. |

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Wraysbury Park Junction | T-Junction | Two-way | | 1.11 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D5 | 2023 'with development' | AM | ONE HOUR | 07:45 | 09:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane E | | ✓ | 112 | 100.000 |
| B - Wraysbury Park | | ✓ | 21 | 100.000 |
| C - Long Copse Lane W | | ✓ | 52 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 8 | 104 |
| | B - Wraysbury Park | 11 | 0 | 10 |
| | C - Long Copse Lane W | 42 | 10 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 0 | 0 |
| | B - Wraysbury Park | 0 | 0 | 0 |
| | C - Long Copse Lane W | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.04 | 6.77 | 0.0 | A |
| C-AB | 0.02 | 5.93 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 07:45 - 08:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 16 | 567 | 0.028 | 16 | 0.0 | 6.529 | A |
| C-AB | 8 | 618 | 0.013 | 8 | 0.0 | 5.896 | A |
| C-A | 31 | | | 31 | | | |
| A-B | 6 | | | 6 | | | |
| A-C | 78 | | | 78 | | | |

### 08:00 - 08:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 19 | 562 | 0.034 | 19 | 0.0 | 6.628 | A |
| C-AB | 10 | 619 | 0.015 | 10 | 0.0 | 5.910 | A |
| C-A | 37 | | | 37 | | | |
| A-B | 7 | | | 7 | | | |
| A-C | 93 | | | 93 | | | |

### 08:15 - 08:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 23 | 555 | 0.042 | 23 | 0.0 | 6.767 | A |
| C-AB | 12 | 619 | 0.019 | 12 | 0.0 | 5.928 | A |
| C-A | 45 | | | 45 | | | |
| A-B | 9 | | | 9 | | | |
| A-C | 115 | | | 115 | | | |

### 08:30 - 08:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 23 | 555 | 0.042 | 23 | 0.0 | 6.767 | A |
| C-AB | 12 | 619 | 0.019 | 12 | 0.0 | 5.931 | A |
| C-A | 45 | | | 45 | | | |
| A-B | 9 | | | 9 | | | |
| A-C | 115 | | | 115 | | | |

### 08:45 - 09:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 19 | 562 | 0.034 | 19 | 0.0 | 6.629 | A |
| C-AB | 10 | 619 | 0.015 | 10 | 0.0 | 5.910 | A |
| C-A | 37 | | | 37 | | | |
| A-B | 7 | | | 7 | | | |
| A-C | 93 | | | 93 | | | |

### 09:00 - 09:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 16 | 567 | 0.028 | 16 | 0.0 | 6.532 | A |
| C-AB | 8 | 618 | 0.013 | 8 | 0.0 | 5.899 | A |
| C-A | 31 | | | 31 | | | |
| A-B | 6 | | | 6 | | | |
| A-C | 78 | | | 78 | | | |

# 2023 'with development', PM

### Data Errors and Warnings

*No errors or warnings*

## Junction Network

### Junctions

| Junction | Name | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|---|---|---|---|---|---|---|
| 1 | Wraysbury Park Junction | T-Junction | Two-way | | 1.46 | 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 segment length (min) |
|---|---|---|---|---|---|---|
| D6 | 2023 'with development' | PM | ONE HOUR | 16:45 | 18:15 | 15 |

| Vehicle mix source | PCU Factor for a HV (PCU) |
|---|---|
| HV Percentages | 2.00 |

### Demand overview (Traffic)

| Arm | Linked arm | Use O-D data | Average Demand (Veh/hr) | Scaling Factor (%) |
|---|---|---|---|---|
| A - Long Copse Lane E | | ✓ | 67 | 100.000 |
| B - Wraysbury Park | | ✓ | 25 | 100.000 |
| C - Long Copse Lane W | | ✓ | 98 | 100.000 |

## Origin-Destination Data

### Demand (Veh/hr)

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 12 | 55 |
| | B - Wraysbury Park | 10 | 0 | 15 |
| | C - Long Copse Lane W | 80 | 18 | 0 |

## Vehicle Mix

### Heavy Vehicle Percentages

| | | To | | |
|---|---|---|---|---|
| | | A - Long Copse Lane E | B - Wraysbury Park | C - Long Copse Lane W |
| From | A - Long Copse Lane E | 0 | 0 | 2 |
| | B - Wraysbury Park | 0 | 0 | 0 |
| | C - Long Copse Lane W | 0 | 0 | 0 |

# Results

## Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (Veh) | Max LOS |
|---|---|---|---|---|
| B-AC | 0.05 | 6.48 | 0.0 | A |
| C-AB | 0.03 | 5.71 | 0.0 | A |
| C-A | | | | |
| A-B | | | | |
| A-C | | | | |

## Main Results for each time segment

### 16:45 - 17:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 19 | 592 | 0.032 | 19 | 0.0 | 6.280 | A |
| C-AB | 15 | 645 | 0.023 | 15 | 0.0 | 5.712 | A |
| C-A | 59 | | | 59 | | | |
| A-B | 9 | | | 9 | | | |
| A-C | 41 | | | 41 | | | |

### 17:00 - 17:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 22 | 588 | 0.038 | 22 | 0.0 | 6.366 | A |
| C-AB | 18 | 651 | 0.028 | 18 | 0.0 | 5.692 | A |
| C-A | 70 | | | 70 | | | |
| A-B | 11 | | | 11 | | | |
| A-C | 49 | | | 49 | | | |

### 17:15 - 17:30

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 28 | 583 | 0.047 | 27 | 0.0 | 6.484 | A |
| C-AB | 23 | 658 | 0.035 | 23 | 0.0 | 5.665 | A |
| C-A | 85 | | | 85 | | | |
| A-B | 13 | | | 13 | | | |
| A-C | 61 | | | 61 | | | |

### 17:30 - 17:45

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 28 | 583 | 0.047 | 28 | 0.0 | 6.484 | A |
| C-AB | 23 | 658 | 0.035 | 23 | 0.0 | 5.666 | A |
| C-A | 85 | | | 85 | | | |
| A-B | 13 | | | 13 | | | |
| A-C | 61 | | | 61 | | | |

### 17:45 - 18:00

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 22 | 588 | 0.038 | 23 | 0.0 | 6.369 | A |
| C-AB | 18 | 651 | 0.028 | 18 | 0.0 | 5.695 | A |
| C-A | 70 | | | 70 | | | |
| A-B | 11 | | | 11 | | | |
| A-C | 49 | | | 49 | | | |

### 18:00 - 18:15

| Stream | Total Demand (Veh/hr) | Capacity (Veh/hr) | RFC | Throughput (Veh/hr) | End queue (Veh) | Delay (s) | Unsignalised level of service |
|---|---|---|---|---|---|---|---|
| B-AC | 19 | 592 | 0.032 | 19 | 0.0 | 6.286 | A |
| C-AB | 15 | 645 | 0.023 | 15 | 0.0 | 5.715 | A |
| C-A | 59 | | | 59 | | | |
| A-B | 9 | | | 9 | | | |
| A-C | 41 | | | 41 | | | |




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