

Transport Assessment  
May 2020

The logo for EAS (Elvidge & Jones) is a dark blue square with the letters 'EAS' in white, bold, sans-serif font.

EAS

# Former Turnford Surfacing Site

Land off Rye Road, Hoddesdon  
Broxbourne Borough Council

Elvidge & Jones

## Document History

JOB NUMBER: 704/2019  
 DOCUMENT REF: Former Turnford Surfacing Site TA  
 REVISIONS: C – For Submission

| Revision | Comments             | By | Checked | Authorised | Date       |
|----------|----------------------|----|---------|------------|------------|
| A        | Working Draft        | AS | SA      | SA         | 13/03/2020 |
| B        | For submission       | AS | SA      | SA         | 20/04/2020 |
| C        | Revised turning head | AS | SA      | SA         | 05/05/2020 |
|          |                      |    |         |            |            |
|          |                      |    |         |            |            |
|          |                      |    |         |            |            |



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## 1 Introduction

- 1.1 This Transport Assessment has been prepared in support of a planning application by Elvidge and Jones for the redevelopment of the old Turnford Surfacing site, Rye Road, Hoddesdon, Hertfordshire, EN11 0EG, for residential development.
- 1.2 A location plan is contained in Appendix A.
- 1.3 The development will require the demolition of the current hardstandings, and redevelopment for up to 104 residential dwellings, which is expected to include:
  - 29 one bedroom apartments
  - 62 two bedroom apartments
  - 13 three bedroom townhouses
- 1.4 In addition to the residential dwellings a proposed community /commercial space with a GFA of 115sqm is proposed at the site frontage which may take the form of a café.
- 1.5 The proposals also include a 5 space disabled car park and a 60 space cycle park for the users of the Rye House Railway Station located at the site frontage; and traffic signal improvements to the Rye Road Bridge between Plumpton Road and Fishermans Way to provide a safer shared environment for vehicles and pedestrians using the bridge. A copy of the proposed development layout is contained in Appendix B.
- 1.6 The site was recently occupied by Wren Kitchens who had been on site since the autumn of 2016 and remained until early 2019 and used the site as a storage and distribution depot for their packaged kitchens for the southeast region.
- 1.7 This assessment has been prepared with regard to Planning Practice Guidance on Travel Plans, Transport Assessments and Statements (2014). The contents of this Transport Assessment (TA) are:
  - Section 2 describes relevant transport policy;
  - Section 3 gives an assessment of the site and its transport facilities;
  - Section 4 describes the proposed development;
  - Section 5 assesses the number of trips that the site is expected to generate;
  - Section 6 assesses the performance of the road network near the site access;
  - Section 7 provides a summary and conclusions.

## 2 Policy review

### Introduction

- 2.1 This section sets out the policy context. Development and growth is encouraged at National, London and local level. How this is made sustainable in the longer term is by encouraging walking, cycling and public transport use.

### National Planning Policy Framework (NPPF) (2019)

- 2.1 The revised National Planning Policy Framework was published in February 2019 and sets out the government's planning policies for England and how these are expected to be applied. The revised Framework replaces the previous National Planning Policy Frameworks published in March 2012 and July 2018.
- 2.2 Planning law requires that applications for planning permission be determined in accordance with the development plan unless material considerations indicate otherwise. The National Planning Policy Framework must be taken into account in preparing the development plan, and is a material consideration in planning decisions. Planning policies and decisions must also reflect relevant international obligations and statutory requirements.
- 2.3 The purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs.
- 2.4 In respect of that, Paragraph 10 of the NPPF states:
- So that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development.*
- 2.5 Section 9 of the NPPF relates to promoting sustainable transport and paragraphs 102 to 104 say:

*102. Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:*

- a) the potential impacts of development on transport networks can be addressed;*
- b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- c) opportunities to promote walking, cycling and public transport use are identified and pursued;*
- d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes, and contribute to making high quality places.*



*103. The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions, and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.*

*104. Planning policies should:*

*a) support an appropriate mix of uses across an area, and within larger scale sites, to minimise the number and length of journeys needed for employment, shopping, leisure, education and other activities;*

*b) be prepared with the active involvement of local highways authorities, other transport infrastructure providers and operators and neighbouring councils, so that strategies and investments for supporting sustainable transport and development patterns are aligned;*

*c) identify and protect, where there is robust evidence, sites and routes which could be critical in developing infrastructure to widen transport choice and realise opportunities for large scale development;*

*d) provide for high quality walking and cycling networks and supporting facilities such as cycle parking (drawing on Local Cycling and Walking Infrastructure Plans);*

*e) provide for any large scale transport facilities that need to be located in the area, and the infrastructure and wider development required to support their operation, expansion and contribution to the wider economy. In doing so they should take into account whether such development is likely to be a nationally significant infrastructure project and any relevant national policy statements; and*

*f) recognise the importance of maintaining a national network of general aviation airfields, and their need to adapt and change over time – taking into account their economic value in serving business, leisure, training and emergency service needs, and the Government's General Aviation Strategy.*

## 2.6 Paragraphs 105 and 106 discuss parking standards:

*105. If setting local parking standards for residential and non-residential development, policies should take into account:*

*a) the accessibility of the development;*

*b) the type, mix and use of development;*

*c) the availability of and opportunities for public transport;*

*d) local car ownership levels; and*

*e) the need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles*

*106. Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of*

*development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11 of this Framework). In town centres, local authorities should seek to improve the quality of parking so that it is convenient, safe and secure, alongside measures to promote accessibility for pedestrians and cyclists.*

- 2.7 Paragraphs 108 to 111 state that, when considering development proposals in relation to transport:

*108. In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured 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."*

*109. Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."*

*110. Within this context, applications for development should:*

*a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*

*b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*

*c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;*

*d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and*

*e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations."*

*111. All developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.*

## Planning Practice Guidance

- 2.8 The Planning Practice Guidance (PPG) document 'Transport Evidence Bases in Plan Making and Decision Taking' has been developed to help local planning authorities assess



strategic transport needs to reflect and, where appropriate, mitigate these in their Local Plan.

- 2.9 In addition, the PPG document Travel plans, transport assessments and statements in decision-taking should also be referred to. This March 2014 document provides advice on when TAs and Transport Statements (TSs) are required and what they should contain.
- 2.10 Both PPG documents aim to provide an interpretive approach to considering the wider impacts that transport has on local communities in terms of aspects such as design, carbon emissions, climate impacts, health and wellbeing.
- 2.11 Travel Plans, TAs and TSs 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.
- 2.12 PPG supports national planning policy which sets out how 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.
- 2.13 PPG sets out that TAs and TSs are to be used to establish whether the residual transport impacts of a proposed development, prior to measures identified through a Travel Plan, are likely to be 'severe', which may be a reason for refusal in accordance with the NPPF. Severity is not quantified and, therefore, needs to be interpreted on a case by case basis, taking into account local factors and conditions.
- 2.14 The principles for the preparation of Travel Plans, TAs and TSs remain. They should be:
  - proportionate to the size and scope of the proposed development to which they relate and tailored to particular local circumstances;
  - established at the earliest possible stage of a development proposal;
  - brought forward through collaborative ongoing working between relevant parties (including local planning and highway authorities); and
  - aimed at improving road safety and reducing the need for new development to increase existing road capacity or provide new roads.
- 2.15 Travel Plans, TAs and TSs should also aim to lessen traffic generation and its detrimental impacts in order to reduce carbon emissions and climate impacts. They should aim to create accessible, connected, inclusive communities that can help improve health outcomes and quality of life for local communities.
- 2.16 In preparing this Transport Assessment, account has been taken of the transport principles outlined in Planning Policy Guidance.

#### **Broxbourne Core Strategy and New Local Plan**

- 2.17 The Core Strategy set out a vision for the future of Broxbourne. It was submitted to the Government in December 2010 and subjected to independent inspection in spring 2011. However, some of its key policies were found to be "unsound" and were recommended for

deletion. The Council therefore decided not to adopt the Core Strategy and to instead prepare a new-style Local Plan that combines strategic policies and site allocations.

### Broxbourne Local Plan (2005)

2.18 In 2004, the Government introduced major changes to the planning system in England. As a result, Broxbourne Borough Council is preparing a New Local Plan. However saved policies from the 2005 Local plan are still being used to assess planning applications. Policies T3 and T11 are relevant to the preparation of this Transport Assessment.

2.19 Policy T3 on Transport and New Development states that:

*(i) All development proposals including re-development and changes of use will be considered against the amount, type and timing of transport movements likely to be generated and the effect on the local highway, public transport systems, footpaths, bridleways, cycle routes and the environment.*

*(ii) Development will not be permitted where:*

*(a) there would be a significant detrimental impact on road congestion and movement, especially at peak travel times;*

*(b) the safety of road users, including cyclists, powered two-wheelers and pedestrians, is compromised;*

*(c) traffic and/or parking generated by the development would severely adversely affect the surrounding environment.*

*(d) insufficient provision is made for access by service and emergency vehicles.*

*(iii) applicants for developments with major traffic implications will be required to submit a local transport assessment.*

2.20 Policy T11 on Car Parking states that:

*(i) Car parking requirements for developments will be assessed in relation to the Council's maximum car parking standards as set out in section 9.7 and revisions to approved supplementary planning guidance.*

*(ii) A reduced level of parking provision is likely to be acceptable where:*

*The development is located within the defined town centres, on the green route or accessibility corridor as defined in supplementary planning guidance or;*

*The development is located close to facilities, services and passenger transport links*

*Where appropriate these reduced parking levels will be supported by a green travel plan*

*(iii) New car parking should be designed, located and landscaped so as to have a minimal effect on the quality of the local environment.*

2.21 Section 9.7 in the Local Plan set out car parking standards but these have been modified in the Supplementary Planning guidance, as described below.



- 2.22 For cycle parking the Local Plan sets a minimum of one space per dwelling unit if no garage or shed is provided. For disabled parking it sets a minimum of one space for every dwelling built to mobility standards.

#### **Borough-wide Supplementary Planning Guidance (adopted 2004; updated 2013)**

- 2.23 The front cover of this document states that it is to be read in conjunction with the Local Plan.
- 2.24 Section 12 on Parking states that maximum car parking standards are to be applied and that in accessibility corridors, such as the area around Rye House station where the proposed development is located (see the map in Appendix 3) the maximum standard is to be reduced by 75%.
- 2.25 Appendix 2 states that the maximum standards for residential developments, before application of the 75% reduction, are 1.5 spaces per unit for one bedroom dwellings, two per unit for two bedroom dwellings and 2.5 per unit for three bedroom dwellings. The appropriate section of the Table states that “The Council will consider up to...75% [of the maximum] within the accessibility corridor”.
- 2.26 The standard for cycle parking is one space per unit if no garage or shed is provided.

#### **Broxbourne Local Plan**

- 2.27 The Regulation 18 version of the Broxbourne Local Plan 2016 to 2031 was published for consultation during a six week period in August & Sept 2016. The Regulation 19 version was submitted to public consultation in 2017. Following the period when representations were invited on the Pre-Submission version of the Local Plan (Regulation 19), the Broxbourne Local Plan 2018-2033 was submitted to the Secretary of State for independent examination on 15th March 2018. All representations have now been made which are being considered by the inspector before writing his report.
- 2.28 The Plan contains one policy of direct relevance to the proposals. This is Policy HOD2: Turnford Surfacing Site which states that “The Council seeks the redevelopment of the Turnford Surfacing Site in accordance with the approved Development Brief”.

#### **Turnford Surfacing Development Brief June 2011**

- 2.29 A development brief was prepared by the Council for the site in June 2011. It has the following objectives:

*The Turnford Surfacing Site will be developed as a high quality residential scheme overlooking the River Lee. A car park at the front end of the site will provide commuter parking for Rye House station and create an attractive gateway into the Lee Valley Regional Park.*

*1. Design must be of the highest standard. This includes the layout of routes and spaces within the site and the design of buildings.*

*2. The scheme must respect and contribute to the protection and enhancement of the Lee Valley Regional Park.*



*3. The development will require to be landscaped to a high quality paying particular attention to the railway line to the west, the Lee Valley Walk to the east and the gateway entrance of the Lee Valley Regional Park to the south of the site.*

*4. The development must achieve, through various measures, at least Sustainable Homes Code Level 3.*

*5. Development will need to maximise opportunities for walking, cycling and the use of public transport.*

*6. The scheme must provide a minimum of 20 car parking spaces for users of Rye House train station.*

#### 2.30 With regard to access and parking:

*Access: Road access into the site will be from Rye Road as indicated on the conceptual layout. Discussion will be required with Hertfordshire Highways regarding the requirement to upgrade Rye Road between Plumpton Road and the site access to a safe adoptable standard with a view to its adoption by the Highway Authority.*

*This upgrading is required to include the provision of a safe pedestrian route between the proposed car park and Rye House Station as well as extension of the existing footway from the junction with Plumpton Road along Rye Road to the site boundary. It is anticipated that a design and indicative costing for the above will be provided by Broxbourne Council.*

*A single access road will extend through the site as indicated on the conceptual layout. A turning head is to be provided at the northern extremity of this road for residents and refuse / service vehicles.*

*Parking: Residential parking is to be provided in accordance with Local Plan Policy T11 on Parking Standards. The site is within the accessibility corridor, an area of the borough in close proximity to public transport. Therefore 75% of the maximum parking requirements will be applied. Maximum requirements are set out below:*

*1 bedroom dwellings – 1.5 spaces per dwelling*

*2 bedroom dwellings – 2 spaces per dwelling*

*3 bedroom dwellings – 2.5 spaces per dwelling*

*4 or more bedroom dwellings – 3 spaces per dwelling*

*The development must also provide cycle racks as part of the car parking frontage element of the scheme. Local Plan Policy T11 states there must be 5 cycle spaces per peak period train.*

#### 2.31 The provision regarding car parking standards may be taken to mean that the “maximum requirements” listed are to be reduced to 75% in view of the site’s location in an accessibility corridor, in line with the Supplementary Planning Guidance.

### 3 Existing site assessment

#### Site location and local facilities

- 3.1 The site is located off Rye Road, opposite Fisherman's Way and Rye House railway station in the northeast of Hoddesdon. The site is linear in shape and narrow; it is bordered to the west by the railway line, to the north by greenfield, to the east by the River Lea Navigation and to the south by Rye Road.
- 3.2 To the west of the railway line are the New River, Plumpton Business Park and a large residential area of Hoddesdon. To the east of the River Lea Navigation are Rye House Gatehouse, Rye House Nature Reserve, the Rye House Speedway and Rye House Go Kart Track. Rye Road continues as a private toll road (50p toll) through the Thames Water Sewage Treatment Works to the B181. To the south of the site via Fisherman's Way and Normandy Way is the Pindar Road industrial estate.
- 3.3 **Appendix A** contains a location and facilities plan. The plan illustrates the distance from the site to local facilities and public transport facilities. Walk isochrones of 400 metres (five minutes' walk) to 1.6 kilometres (20 minutes' walk or eight minutes' cycle) are also shown.
- 3.4 Rye House railway station is within a one to two minute walk of the site. Within a five minute walk are the bus stops on the Old Highway, Rye Meads Nature Reserve, the Rye House Speedway, Rye House Go Kart Track and Plumpton Business Park.
- 3.5 Within a ten minute walk of the site are a number of local shops including local food shops, takeaways and restaurants, bakers, pharmacy and dry cleaners. Rye Park Primary School and the Pindar Road industrial area with its many employment opportunities also lie within this distance.
- 3.6 Within a 15 minute walk of the site are a Co-op Store, Tesco Express, post office, optician, Forres Primary School, the John Warner Secondary School and Leisure Centre and Cranbourne Primary School.
- 3.7 Within a 20 minute walk or an eight minute cycle of the site is a further row of local shops, petrol station, dental practice, doctors' surgery, Morrison's Superstore and the edge of Hoddesdon town centre. The town centre is partially pedestrianised and includes a large number of shops as well as local and regional connecting bus services.
- 3.8 Thus there are ample local facilities available within a short walk of the site that will not require a journey by car, and within a slightly longer walk or a short cycle ride all of the town centre facilities and services are accessible.

#### Pedestrian and cycle access

- 3.9 There is a narrow footway alongside Rye Road where it crosses the New River and the railway. There is a proposal to replace the New River bridge by a wider bridge that would allow a two metre footway and a six metre carriageway. However, the railway bridge and the approaches to the bridges will remain unchanged. Except on the railway bridge itself the footway at present is demarcated by nothing more than a broad white line.
- 3.10 The current road layout is illustrated on a sketch in **Appendix C**.



- 3.11 To the west of the bridge, along Rye Road to the town centre via Stanstead Road, there are footways on both sides of the carriageway and appropriate levels of street lighting.
- 3.12 The Old Highway, branching north from Rye Road, forms the main route for journeys to local schools, including Rye Park Nursery School, Forres Primary School, the John Warner Secondary School and Cranbourne Primary School. Site observations have identified large numbers of students walking and cycling or scootering to schools in the local estate roads off the Old Highway, either accompanied or unaccompanied.
- 3.13 The Pindar Road Industrial Estate is a large employment area located to the south of the development site and accessible via Fisherman's Way and Normandy Way. From observation it is clear that many local residents walk and cycle to the estate and there are footways with suitable street lighting extending from the site to the employment area.
- 3.14 Separating the north of Hoddesdon from the town centre is the Dinant Link Road, a dual carriageway through the centre of the town. It is crossed by a signalised pedestrian crossing and an underpass at the end of Burford Street.
- 3.15 There are public rights of way along the River Lea and the New River close to the site, providing access to leisure paths and the Hertfordshire Way which passes along both watercourses close to the site. The Hertfordshire Way is a 194 mile circular recreational route along public rights of way, much of it in open countryside.
- 3.16 Part of the National Cycle Routes 61 and 1 are along the towpath beside the River Lea between Broxbourne and Hertford. At both points it leaves the river, with route 61 continuing to St Albans and route 1 into East London.

### Public transport

- 3.17 The nearest bus stops are on the Old Highway within a five minute walk from the site boundary. They are served by route 410. Table 3.1 summarises the routes and frequencies for this service. The service does not operate during the evenings or on Sundays.

| Route & days of operation | Serves   | Distance from site (metres) | Frequency   |
|---------------------------|--|-----------------------------|---|
| 410 (Monday to Saturday)  | Harlow – Hunsdon- Stanstead<br>Abbotts – Hoddesdon –<br>Broxbourne – Cheshunt –<br>Waltham Cross – Holdbrook<br>Estate | 320                         | 2 per hour Monday to<br>Friday, hourly on<br>Saturday |

*Table 3.1: Bus routes and frequencies*

- 3.18 Thus within a five minute walk of the site there are two buses per hour in each direction which provide access to local centres in the region and could therefore provide a viable method of travel for short to medium distance journeys without the need to travel by car.
- 3.19 Rye House station is across Rye Road from the site. It is on the Hertford East branch of the West Anglian main line and is managed by Abellio Greater Anglia. At least two services per hour operate to both Hertford East and London Liverpool Street serving Hackney Downs, Tottenham Hale, Ponders End, Brimsdown, Enfield Lock, Waltham Cross, Cheshunt, Broxbourne, St Margaret's and Ware. The new station at Meridian Water may also be served when it opens in September 2019. There are connections at Tottenham Hale for the Victoria Line and for Stratford and the Docklands, at Cheshunt for Enfield and at Broxbourne for Harlow, Stansted Airport, Cambridge and King's Lynn.

- 3.20 This very convenient rail service provides an ideal opportunity for travel to and from London and to reach other medium to longer distance destinations by sustainable means.

#### The local road network

- 3.21 Rye Road runs past the site access, continuing southwest and then west to join Stanstead Road and so link with Hoddesdon town centre. 300 metres west of the site access, Old Highway runs northwest, also joining Stanstead Road. Both routes give a link with the A10, the first via the Dinant Link Road and the second via Stanstead High Street and the A414.
- 3.22 To the northeast Rye Road continues to the B181, though a 50p toll is payable at an automatic barrier en route. The B181 connects with Harlow, either direct or via the A414.
- 3.23 As noted above, Rye Road is approximately 3.7 metres wide over the railway bridge and 4 metres wide over the New River bridge to the west. Under the current proposal the carriageway over this bridge will be widened to six metres but the pinch point over the railway bridge will remain. There is also a three tonne weight restriction over the bridges. Currently traffic operates on a priority and line of sight basis, with westbound traffic giving way to eastbound.
- 3.24 East of the site the bridge over the Lea Navigation is also quite narrow and there are other single track sections further on. The whole road east of the site has a 20 mph speed limit and is traffic calmed in places, with speed humps.
- 3.25 There is an alternative access to the site via Pindar Road, Normandy Way and Fishermans' Way. This links with the A1170 on the northeast side of Hoddesdon town centre.

#### Local parking provision

- 3.26 The first 55 metres of Rye Road west of Plumpton Road, and the first 53 metres of Plumpton Road north of Rye Road, have double yellow lines and there are also double yellow lines at the north end of Fishermans Way. Rye Road itself is too narrow for parking to be possible. It is safe to say that there are no convenient locations for on-street parking close to the site.

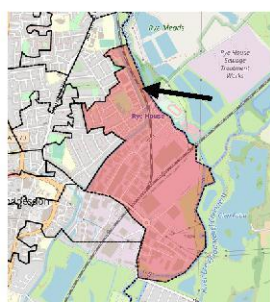
#### Census data

- 3.27 Data on the method of travel to work were obtained from the 2011 Census for the Lower Layer Super Output Area (LSOA) Broxbourne 002D, containing the site, and for Broxbourne Borough as a whole. Table 3.2 shows the data obtained while Figure 3.1 shows the extent of the LSOA.
- 3.28 While car driving is the main mode, it accounts for just under two thirds of work journeys in the LSOA with rail making up 16%. Walking comes third with 10% but bus and cycling are little used. The proportions are similar to those for the Borough as a whole except that the proportions walking and using rail are slightly higher, reflecting the urban location and the closeness of Rye House station. Travel to and from the site may be expected to show a higher proportion using rail.



|                                | LSOA Broxbourne 002D |        | Broxbourne Boro' |
|--------------------------------|----------------------|--------|------------------|
|                                | Number               | %      | %                |
| Rail                           | 118                  | 16.3%  | 15.3%            |
| Bus, minibus or coach          | 15                   | 2.1%   | 3.1%             |
| Taxi                           | 4                    | 0.6%   | 1.1%             |
| Motorcycle, scooter or moped   | 8                    | 1.1%   | 0.9%             |
| Driving a car or van           | 456                  | 63.2%  | 65.6%            |
| Passenger in a car or van      | 36                   | 5.0%   | 4.7%             |
| Bicycle                        | 11                   | 1.5%   | 1.4%             |
| On foot                        | 72                   | 10.0%  | 7.3%             |
| Other method of travel to work | 2                    | 0.3%   | 0.6%             |
| Total travelling to work       | 722                  | 100.0% | 100.0%           |

*Table 3.2: Journey to work mode for LSOA Broxbourne 002D and for Broxbourne Borough (Nomis Table QS701EW)*



*Figure 3.1: LSOA Broxbourne 002D. The arrow shows the site location*

- 3.29 Data from the 2011 Census were also used to assess local levels of car ownership. Table 3.3 summarises the data for the LSOA and Broxbourne Borough.

|   | LSOA Broxbourne 002D |       | Broxbourne Boro' |
|---|----------------------|-------|------------------|
|   | Number               | %     | %                |
| No cars or vans in household            | 111                  | 18.3  | 17.5             |
| 1 car or van in household               | 280                  | 46.1  | 42.2             |
| 2 cars or vans in household             | 177                  | 29.2  | 29.7             |
| 3 cars or vans in household             | 30                   | 4.9   | 7.5              |
| 4 or more cars or vans in household     | 9                    | 1.5   | 3.1              |
| All categories: car or van availability | 607                  | 100.0 | 100.0            |
| Sum of all cars or vans in the area     | 762                  | -     | -                |
| Cars per household                      | 1.26                 | -     | 1.38             |

*Table 3.3: Car availability in the LSOA and Borough (Nomis Table KS404EW)*

- 3.30 Car ownership is slightly below the Borough average, with more one car households, slightly more car-less households and fewer with two or more cars. This could reflect the socio-economic character of the area and also its proximity to the railway station, making it more attractive to rail commuters.

### Accident analysis

3.31 An accident analysis was carried out for an earlier (2016) Transport Assessment relating to this site. The area covered Rye Road between Farm Lane and the mobile home site, Fishermans Way and its branches and the northern section of Normandy Way, between April 2010 and May 2014. During that period seven slight injury-accidents and one serious accident were recorded. Two involved pedestrians (one a child), one a child cyclist, two involved motorcyclists and the rest involved cars or vans. The accidents are summarised below:

- One slight accident recorded to the west of the junction of the Old Highway and Rye Road involved a typical shunt accident with one car driving into the rear of another car.
- Another slight accident just to the west of the junction of the Old Highway and Rye Road involved a van pulling out of a space along Rye Road into the path of a motorcyclist.
- A serious accident at the junction of the Old Highway and Rye Road involved a car, reversing on Rye Road, colliding with a pedestrian who was crossing the carriageway.
- A slight accident on Rye Road, 25 metres northeast of the junction with Bosanquet Road, was a result of a car giving way to an opposing vehicle on Rye Road, and a child on a pedal cycle colliding with the rear of the waiting vehicle.
- A slight accident occurred on the railway bridge as a result of a car going southwest stopping to allow another car, going northeast, to pass. However, the latter car, whose driver was over the limit, collided with the first car head-on and then with two parked cars.
- A slight accident occurred when a car, going southwest, stopped at the railway bridge to give way to oncoming traffic but a following car failed to stop and ran into its rear.
- A slight accident in Colthurst Gardens, off Fishermans Way, occurred when a driver reversing out of a driveway hit a three year old child in the road.
- A slight accident occurred when a motorcyclist travelling northeast along Normandy Way changed course to avoid a car that was edging slowly out of Fishermans Way but skidded (it was raining) and collided with an oncoming car.

3.32 The first map in **Appendix D** shows the location of the accidents; the details of the accidents are not given as these were confidential.

3.33 To give a more up to date picture the Crashmap website was interrogated for accidents in the same area between 2014 and 2018. The second map in **Appendix D** shows the locations. The accident on the railway bridge is the same as one of those that occurred earlier while the other four, all slight, are more recent. Three involved a car hitting a pedestrian (all of whom were adults) while the fourth (one of those on Old Highway, just north of Rye Road) involved three cars. No accidents were recorded on Fishermans Way or the north section of Normandy Way.

3.34 Over a period of just under nine years there have been twelve accidents. Two occurred at the railway bridge, where a driver in the non-priority direction was waiting for another to

pass, but both were very different in nature and one involved criminal behaviour. Five involved pedestrians but one was in the Fishermans Way estate, away from the through road, and another was on Old Highway, not on the main route into Hoddesdon. While the narrow railway bridge can be seen as problematic there are no other identifiable traffic hazards.



## 4 The proposed development

### The development proposals

- 4.1 The development will require the demolition of the current buildings and hardstandings, and redevelopment for up to 104 residential dwellings, which is expected to include:
- 29 one bedroom apartments
  - 62 two bedroom apartments
  - 13 three bedroom townhouses
- 4.2 In addition to the residential dwellings a proposed community /commercial space with a GFA of 115sqm is proposed at the site frontage which may take the form of a café.
- 4.3 Access to the development will be by a spine road, 5.5 metres wide (6m at the entrance), that will meet Rye Road at a priority junction east of the railway bridge and opposite the junction with Fishermans Way, forming a crossroads. Block A will be to the east of the spine road, the houses to the east and Block D will terminate it at its north end where it will split into two branches to give access to the parking on the ground floor of the building.
- 4.4 The pedestrian environment will include a tactile crossing point at the site access across Rye Road and a second crossing point to the rear of the access bellmouth. There is then an open pedestrian area to the front of the community space/café, before a formal 2m footway which runs to the proposed town houses. Just before the town houses a raised table will bring the pedestrians up to a shared surface adjacent to the town houses, whilst also providing a speed restraint to the access road. The 6.0 metre wide shared surface access road then continues to the rear of the site to Block D.
- 4.5 The towpath along the west bank of the River Lee Navigation will remain as at present but will open up into a new area of public open space within the site, located between Block A and the new town houses. Pedestrian access to the site from the towpath will be via a new ramp located to the west of the town houses.

### Car Parking

- 4.6 The 2011 *Turnford Surfacing Development Brief* and the 2013 update of the Supplementary Planning Guidance both set maximum parking standards of 1.5 spaces for one bedroom dwellings, two spaces for two bedroom dwellings and 2.5 spaces for three bedroom dwellings. As the site is within 400 metres of a railway station these standards are subject to a reduction to 75% to reflect its accessibility by public transport.
- 4.7 Table 4.1 shows the numbers of dwellings in each block, broken down by numbers of bedrooms, and the maximum numbers of spaces that they are “permitted”, without and with the 75% reduction.



|                            | Block A (south) |           | Houses    | Block D (north) |           | Disabled Bays | Total |
|----------------------------|-----------------|-----------|-----------|-----------------|-----------|---------------|-------|
|                            | 1 bedroom       | 2 bedroom | 3 bedroom | 1 bedroom       | 2 bedroom |               |       |
| No. of units               | 9               | 17        | 13        | 20              | 45        | -             | 104   |
| Spaces per unit            | 1.5             | 2.0       | 2.5       | 1.5             | 2.0       | -             | -     |
| Maximum spaces             | 14              | 34        | 32.5      | 30              | 90        | -             | 204   |
| Maximum by block           | 48              |           | 32.5      | 120             |           | -             | 204   |
| With 75% reduction         | 36              |           | 24        | 90              |           | -             | 150   |
| Spaces provided            | 36              |           | 26        | 90              |           | (11)          | 152   |
| Additional Visitor Parking | 3               |           | 3         | 6               |           |               | 12    |

*Table 4.1: Parking provision compared with Broxbourne Borough Council maximum standards*

- 4.8 The number of spaces thus corresponds with the standards, with an additional allowance for visitor parking.
- 4.9 Of the total of 164 residential car parking spaces, 11 will be disabled bays.
- 4.10 No car parking will be provided for the community / commercial space which is intended to be accessed by visitors and staff by foot, cycle or public transport.
- 4.11 Vehicle tracking for a medium size car has been included in **Appendix E** that demonstrates that the spaces are accessible.

### Cycle Parking

- 4.12 An enclosed vertical cycle parking rack is proposed at the side of Block A providing 14 spaces, in addition there is provision for another 12 vertical cycle racks internal within the building adjacent to the main stair core and the main entrance. This will provide the required minimum of 1 cycle space per apartment.
- 4.13 The townhouses will allow for 1 cycle space in each of the car-ports.
- 4.14 The northern Block D will have secure covered cycle parking within the building, spread across the stair cores. Three cycle storage rooms provide a total of 70 cycle parking spaces exceeding the required 1 cycle space per apartment.

### Servicing

- 4.15 Refuse vehicles will be able to draw up alongside the bin stores for Blocks A and D and will collect bins from outside the houses. A turning head outside Block D will enable lorries to collect from the bin store, turn and to exit the site in forward gear. Swept path analysis has been carried out to demonstrate that this is possible (**Appendix E**). Large vehicles such as refuse lorries will be able to gain access to the site via Normandy Way and Fishermans Way, avoiding the weight restriction over the bridges on Rye Road.

### Highway access

- 4.16 As noted in Section 3, there are two highway accesses to the site from the west: via Stanstead Road or Old Highway and then Rye Road, crossing over the New River and railway bridges, or via Essex Road, Pindar Road, Normandy Way and Fishermans Way. This

route is slightly longer (2.1 kilometres to the town centre, compared with 1.8 kilometres) and possibly more congested along Essex Road. It is expected that most drivers will prefer the Rye Road route, which will also give more direct access to places outside Hoddesdon.

- 4.17 The route to the northeast along Rye Road is not expected to attract much traffic and no special measures are proposed.
- 4.18 The road over the bridges is not only narrow but has a pedestrian path (partly kerbed, partly demarcated by a white line) on the south side. Priority over the railway bridge is given to eastbound traffic with westbound traffic waiting at a give way line about 20 metres east of the mid-point of the bridge.
- 4.19 Issues can occur when a large number of vehicle and pedestrian movements are taking place. The location of the give way line and the humped profile of the bridge make it hard for westbound drivers to judge in good time whether they will need to wait. This can lead to westbound vehicles having to brake sharply, with a risk of being hit by a following vehicle, or to two vehicles meeting at the apex of the bridge. The risk of an accident is aggravated if pedestrian movements, for example to and from the railway station, are heavy.
- 4.20 The proposed replacement of the bridge over the New River with a wider one will improve matters but will not eliminate the issues at the railway bridge.
- 4.21 Without major reconstruction it is not possible to provide a full width footway or widen the highway to allow two vehicles to pass on the railway bridge. As such a proposed improvement scheme has been prepared in consultation with the highway authority, working within the current width constraints and with the following aims:
  - Improving the current give way arrangements and preventing two vehicles meeting at the pinch point on the bridge.
  - Improving the safe passage of pedestrians and cyclists over the bridge.
  - Avoid queuing vehicles, on Rye Road, blocking Fishermans Way or the site entrance.
- 4.22 The proposed scheme is illustrated in **Appendix F**. The main element is replacing the give way arrangement with traffic signals. Combined with a yellow box marking at the site access / Rye Road / Fishermans Way junction, this will help to prevent queueing traffic blocking back over the junction. The signal arrangement and site access crossroads arrangement with Fishermans Way have been modelled as part of the traffic impact assessment in the next section of this report.
- 4.23 Swept path analysis (also in **Appendix F**) has been undertaken to illustrate that two large cars can pass over the railway bridge and pass two cars waiting at the signal stop lines. Rye Road bridge has a three tonne weight limit, preventing large light goods and all heavy goods vehicles from crossing it, and these are not accommodated in the proposed signal improvements scheme.
- 4.24 From the site access point a visibility splay of 2.4 by 43 metres can be achieved to the southwest to the railway bridge deck, which meets the Manual for Streets (MfS) requirements for a 30 mph design speed. To the northeast, to the narrow bridge over the River Lea Navigation, a visibility splay of 2.4 by 19 metres can be achieved to the centre of the highway which is to a position just short of the brow of the bridge. A 'y' distance of 19 metres is suitable for a design speed of between 16 mph and 17 mph based on the guidance in MfS.



- 4.25 An Automatic Traffic Counter (ATC) survey undertaken between 17th May 2019 and 23rd May 2019. The ATC was laid at the extent of the visibility splay at the southwestern extent of River Lea bridge deck. The ATC survey recorded an average 85<sup>th</sup> percentile speed of 16.9mph for southwest-bound traffic (between the hours of 10AM 12AM and 2PM to 4PM on weekdays only as per TA 22/81).
- 4.26 **Appendix G** gives the results. It can therefore be seen that the 19 metre 'y' distance, which is suitable for a design speed of up to 17 mph, is acceptable.

### Road Safety Audit

- 4.27 The proposed access improvements were subjected to a safety audit (Stage 1) on 13<sup>th</sup> November 2015 by the TMS Consultancy. A copy of the Safety Audit is included in **Appendix H**. This resulted in three comments which have now been accommodated on the proposed improvement scheme contained in **Appendix H**. The three areas of concern are summarised below:
- There was no tactile crossing in place between the footway leaving the development site and the coloured surface footway on the opposite side of Rye Road. A tactile crossing point is now shown.
  - A 'junction' ahead sign was recommended on the approach to the junction from the south-west. This is now shown on the sketch.
  - The traffic signal head on the south-western approach was too close to the stop line. The signal head has now been moved to the current location of the give-way sign which is setback from the stop-line.
- 4.28 Further comments were received in response to the submission of a draft Transport Assessment to Hertfordshire County Council Highways in the form of a Road Safety Review to follow the above audit. A copy of the Road Safety Review has also been included in **Appendix H**. The areas of concern are summarised below:
- An additional recommendation was made to build out the kerbing on the corner of Fishermans Way, and to relocate the give-way line at Fishermans Way, to protect pedestrians from vehicles at the corner of Rye Road and Fishermans Way. This recommendation has been accommodated on the proposed signal improvements drawing.
  - A comment was made that drivers at the signal stop lines might struggle to view the signal head, and a recommendation was made to add a secondary signal head to the back of each signal pole, facing the opposing signal head; also that the signal heads would need to be on high signal poles owing to the vertical geometry of the bridge. This recommendation has been accommodated.
- 4.29 Additional comments provided outside of the safety review but as part of the overall response to the draft Transport Assessment included:
- The proposed junction layout be moved to a topographical survey base rather than OS mapping to improve the accuracy of the proposal and to address concerns regarding the road width. This has been done.
  - Taking into account how pedestrians cross Rye Road to the west of the bridge, a dropped kerb / tactile crossing has been added to the proposed access works to facilitate pedestrians crossing to the west of Plumpton Road.

- 4.30 Due to the age of the Safety Audit, HCC requested as part of 2019 pre-application discussions that the Stage 1 Safety Audit be repeated. A copy of the new Road Safety Audit undertaken by TMS Consultancy in October 2019 is also attached in **Appendix H**.
- 4.31 It can be seen that this safety audit raised no further road safety issues, therefore confirming that the comments raised in the previous audit and by the highway authority have been addressed.

#### **Proposed station car park**

- 4.32 For users of Rye House rail station, the proposal includes 5 disabled car parking spaces and a cycle parking store with a capacity for 60 cycles, at the south end of the spine road. These will meet a need as at present the station has no car park.
- 4.33 In a pre-application discussion Hertfordshire County Council Highways Officers raised the following comments regarding the proposed car parking:
- Concerns over a 'free-for-all' car park at this location, especially of this relatively small size, as there would be a risk of vehicles travelling along this narrow section of Rye Road, entering the site to search for a place, only to exit again if all spaces were full.
  - The potential for a bus stop and turning facility should be considered. The weight restriction on the bridge was acknowledged but the potential demand in the area to route a bus service along Fishermans Way to the station was considered.
- 4.34 As a result of this discussion it is proposed that the station car park be for disabled users only.
- 4.35 The 60 cycle spaces will be provided in a covered and secure, double tier cycle rack. It is expected that the final choice of rack type will be agreed with Hertfordshire County Council.
- 4.36 It is anticipated that there would be a legal agreement between the site owner and Network Rail regarding the management and maintenance of the disabled car parking spaces.

#### **Public transport improvements**

- 4.37 As part of pre-application comments from Hertfordshire County Council Highways the potential for the developer to fund the upgrading of the existing bus stops on Old Highway (the closest to the site) was raised; to include Kassel kerbing and real time information (where possible). It was commented that it would be difficult to install a shelter on the western side of Old Highway due to the narrowness of the footway and this might have some impact therefore on the likelihood that real time information could be provided on both sides of the road.
- 4.38 The developer has confirmed that the funding could be made available towards these improvements and the works could be secured as part of future Section 278 works.



## 5 Trip generation assessment

### Current and previous uses

- 5.1 From Autumn 2016 until early 2019, the site was occupied by Wren Kitchens who used it as a storage and distribution depot for their packaged kitchens in London and the southeast. Earlier, the owner was Bardon Aggregates who bought it from Turnford Surfacing in 2008/9 and then sold it to the current owners. Because of the recession the owners did not make full use of the site until it was sold to Wren.
- 5.2 Turnford Surfacing had used the site for a tarmac batching plant. Planning permission for this was granted in October 1988 and the permission was subsequently associated with a Section 52 agreement signed in September 1990 regarding the "construction of two sections of road across property and financial contribution thereto (£300,000); HGVs not to use Rye Road (other than to cross it to Normandy Way)".
- 5.3 The financial contribution went towards building Fishermans Way and the Normandy Way Bridge and on their completion all Turnford Surfacing HGV traffic was required to use these roads. Because of this ban on using Rye Road, and the suitability of the new route for HGVs, the Turnford Surfacing site was permitted to operate 24 hours per day.
- 5.4 On 18<sup>th</sup> January 2018 Broxbourne Borough Council served an enforcement notice on Wren Kitchens and the landowner against the use of the land for haulage and distribution (i.e. a B8 land use), citing the resulting traffic impacts and the light pollution, noise and general disturbance as having a harmful impact on local residents and on the wider environment. This notice gave a three month time limit for compliance.
- 5.5 It is therefore likely that if planning permission were not granted for residential development the site would either revert to use as a batching plant or a similar industrial (B1 and / or B2) operation.

### Former traffic generation as a batching plant

- 5.6 The tarmac batching plant generated a significant number of deliveries of aggregates and bitumen to the site and, after mixing, collection and delivery of the surfacing products to construction sites around England. As such there would have been a large volume of heavy goods vehicles and mobile asphalt plant to and from the development site, 24 hours per day and seven days a week.
- 5.7 As the batching plant has not been in use for some time, existing traffic data are not available for the site. However, a TRICS analysis has been undertaken for a single tarmac production site in Hayes, London Borough of Hillingdon. **Appendix I** contains the TRICS trip rates and these have been used to estimate the trips to and from the Turnford Surfacing site (which has an area of 1.2 hectares compared with 2.8 hectares for the Hayes site).
- 5.8 Table 5.1 shows the resulting estimates. The Tarmac production plant generates a consistent volume of traffic throughout the day with a very high percentage of HGV traffic.

|              | Cars in | Cars out | OGVs in | OGVs out | Total |
|--------------|---------|----------|---------|----------|-------|
| 07:00-08:00  | 13      | 12       | 5       | 12       | 42    |
| 08:00-09:00  | 6       | 6        | 3       | 5        | 21    |
| 09:00-10:00  | 8       | 9        | 6       | 7        | 30    |
| 10:00-11:00  | 9       | 9        | 7       | 7        | 33    |
| 11:00-12:00  | 11      | 10       | 8       | 7        | 36    |
| 12:00-13:00  | 9       | 14       | 7       | 8        | 37    |
| 13:00-14:00  | 6       | 8        | 4       | 5        | 23    |
| 14:00-15:00  | 8       | 10       | 8       | 7        | 33    |
| 15:00-16:00  | 8       | 9        | 6       | 3        | 26    |
| 16:00-17:00  | 7       | 7        | 5       | 2        | 21    |
| 17:00-18:00  | 5       | 6        | 2       | 0        | 13    |
| 18:00-19:00  | 3       | 4        | 0       | 1        | 8     |
| Daily trips: | 78      | 87       | 51      | 53       | 269   |

*Table 5.1 Estimated vehicle movements at the former batching plant (TRICS 7.2.2)*

#### Estimated trip generation at an industrial estate on the site

- 5.9 TRICS was also used to estimate the number of trips expected to be generated by a current or possible future use for industrial (B2) activity. The data were obtained for eight suburban and edge of town sites in London and southeast England. Table 5.2 below, shows the vehicle trip rates per hectare of site area and the estimated trip numbers for a 1.2 hectare site. Appendix I gives the full TRICS output.

|                      | 08:00 – 09:00 |        |        | 17:00 – 18:00 |        |        | 05:00 – 20:00 |         |         |
|----------------------|---------------|--------|--------|---------------|--------|--------|---------------|---------|---------|
| Trip rates:          | In            | Out    | Total  | In            | Out    | Total  | In            | Out     | Total   |
| Vehicles             | 29.944        | 12.190 | 42.134 | 6.394         | 21.941 | 28.335 | 224.449       | 212.350 | 436.799 |
| o/w OGVs             | 1.242         | 0.966  | 2.208  | 0.276         | 0.184  | 0.460  | 13.017        | 12.450  | 25.467  |
| <b>Trip numbers:</b> |               |        |        |               |        |        |               |         |         |
| Vehicles             | 36            | 15     | 51     | 8             | 26     | 34     | 269           | 255     | 524     |
| o/w OGVs             | 1             | 1      | 3      | 0             | 0      | 1      | 16            | 15      | 31      |

*Table 5.2 Vehicle trip rates per hectare and estimated trip numbers for an industrial development on a 1.2 hectare site (TRICS 7.5.4)*

- 5.10 This use would suggest a marked increase in traffic compared with the batching plant, with 51 movements between 08:00 – 09:00 instead of 21 and 34 between 17:00 – 18:00 instead of 13. Throughout the day there would be 524 movements instead of 269. However, only 6% of the movements would be HGVs compared with 39% for the batching plant.



### Estimated trip generation by residential development on the site

- 5.11 The TRICS database was interrogated to obtain multi-modal trip rates for flats and houses for private sale. Although there may be an element of affordable housing, assuming private housing assures robustness as trip rates (especially vehicle trip rates) for private housing tend to be higher than for affordable.
- 5.12 Data were obtained for suburban, edge of town and neighbourhood centre sites in East Anglia and southwest and southeast England (excluding London). The data for private houses were screened to eliminate developments that also contained apartments as, in those cases, apartments formed the minority rather than the majority of the units. The data for private apartments did not include any edge of town or neighbourhood centre locations. The private apartments data covered six sites; those for private houses covered 22. Appendix J contains the full TRICS data.
- 5.13 Table 5.3 shows the vehicle trip rates per unit and the estimated trip numbers for a development of 91 private apartments while Table 5.4 does the same for a development of 13 private houses.

| Trip rates:   | 08:00 – 09:00 |       |       | 17:00 – 18:00 |       |       | 07:00 – 22:00 |       |       |
|---------------|---------------|-------|-------|---------------|-------|-------|---------------|-------|-------|
|               | In            | Out   | Total | In            | Out   | Total | In            | Out   | Total |
| Vehicles      | 0.070         | 0.335 | 0.405 | 0.330         | 0.085 | 0.415 | 2.091         | 1.918 | 4.009 |
| o/w OGVs      | 0             | 0     | 0     | 0             | 0     | 0     | 0.015         | 0.020 | 0.035 |
| <b>Trips:</b> |               |       |       |               |       |       |               |       |       |
| Vehicles      | 6             | 30    | 37    | 30            | 8     | 38    | 190           | 175   | 365   |
| o/w OGVs      | 0             | 0     | 0     | 0             | 0     | 0     | 1             | 2     | 3     |

*Table 5.3 Vehicle trip rates per unit and estimated trip numbers for a development of 91 private apartments (TRICS 7.5.4)*

| Trip rates:   | 08:00 – 09:00 |       |       | 17:00 – 18:00 |       |       | 07:00 – 19:00 |       |       |
|---------------|---------------|-------|-------|---------------|-------|-------|---------------|-------|-------|
|               | In            | Out   | Total | In            | Out   | Total | In            | Out   | Total |
| Vehicles      | 0.156         | 0.391 | 0.547 | 0.345         | 0.155 | 0.5   | 2.398         | 2.429 | 4.827 |
| o/w OGVs      | 0.001         | 0.001 | 0.002 | 0.001         | 0     | 0.001 | 0.015         | 0.013 | 0.028 |
| <b>Trips:</b> |               |       |       |               |       |       |               |       |       |
| Vehicles      | 2             | 5     | 7     | 4             | 2     | 7     | 31            | 32    | 63    |
| o/w OGVs      | 0             | 0     | 0     | 0             | 0     | 0     | 0             | 0     | 0     |

*Table 5.4 Vehicle trip rates per unit and estimated trip numbers for a development of 13 private houses (TRICS 7.5.4)*

- 5.14 Table 5.5 gives the total estimated vehicle trips generated by the proposed residential development.

| Total trips: | 08:00 - 09:00 |     |       | 17:00 - 18:00 |     |       | Whole day |     |       |
|--------------|---------------|-----|-------|---------------|-----|-------|-----------|-----|-------|
|              | In            | Out | Total | In            | Out | Total | In        | Out | Total |
| Vehicles     | 8             | 36  | 44    | 35            | 10  | 44    | 221       | 206 | 428   |
| o/w OGVs     | 0             | 0   | 0     | 0             | 0   | 0     | 2         | 2   | 4     |

*Table 5.5 Estimated total vehicle trips generated by the proposed development*

- 5.15 It can be seen that the proposed development will generate more vehicle trips than the batching plant might be expected to. During the peaks the increase ranges from 32 movements 08:00 – 09:00 to 33 movements 17:00 – 18:00 and 159 movements throughout the day. However, there will be a large reduction in the number of HGV movements: eight in the morning peak, two in the afternoon peak and 101 throughout the day.
- 5.16 In contrast, the comparison with the industrial estate shows a net reduction of 7 vehicles in the AM peak and an increase of 10 in the PM peak, but throughout the day there would be a reduction of 96, 28 of which would be HGVs.
- 5.17 As HGVs would have to travel via Fishermans Way, residential development will result in a much improved environment along that road compared with a B2 development.

#### Impact of the station car park

- 5.18 Assuming, as is likely, that all 5 station car park spaces are occupied on a weekday, these need to be added to the potential traffic crossing the railway bridge. Experience elsewhere suggests that the peak times of station car park travel will be before the standard AM peak and after the standard PM peak, with 75% of arrivals being between 07:00 – 08:00 and 25% between 08:00 – 09:00. Departures in the afternoon tend to be more spread, with 5% 15:00 – 16:00, 10% 16:00 – 17:00, 20% 17:00 – 18:00, 50% 18:00 – 19:00 and 15% later in the evening.
- 5.19 This suggests that the car park will lead to 1 additional eastbound movements along Rye Road between 08:00 – 09:00 and 1 westbound between 17:00 – 18:00. These will not have a marked impact on traffic levels.

#### Impact of the commercial / community unit

- 5.20 No car parking is proposed for the commercial / community unit, as it is intended that all trips to and from the unit will be by sustainable means, i.e. foot, cycle or public transport.
- 5.21 The exception to this will be servicing which is could be expected to add up a few vehicular trips over the day.
- 5.22 On this basis it is unlikely that the unit will have a perceptible traffic impact.



## 6 Traffic impact assessment

### Baseline traffic survey and forecasts

- 6.1 An Automatic Traffic Counter (ATC) survey was undertaken between 17th May 2019 and 23rd May 2019 on Rye Road to measure vehicle volumes and speeds. The ATC was laid at the southwestern extent of the River Lea bridge deck adjacent to the site. In addition a turning count survey was undertaken on the 21<sup>st</sup> May 2019 at the junction of Rye Road and Fishermans Way.
- 6.2 The results of the baseline traffic counts are shown in **Appendix G** and in diagrammatic form in Figure 1 in **Appendix K**.
- 6.3 The traffic counts were projected to 2025, five years after the planning application, with growth factors from the National Traffic Model using the Temprow 7.2 program. The resulting baseline forecasts are shown in Figure 2 in **Appendix K**.
- 6.4 The distribution of car trips to and from the proposed development is based on the 2011 Census journey to work origin-destination data. Figure 3 in **Appendix K** shows the percentages of traffic using the different arms of the Rye Road / Fishermans Way junction and the resulting generated traffic flows. Figure 4 shows the generated traffic flows added to the 2025 baseline flows.

### Modelling of the site access junction and bridge signals

- 6.5 The LinSig program was used to model the junction, with the signals at each end of the railway bridge operating on a 40 second cycle time. Table 6.1 shows the model outputs for the 2025 scenario without and with the proposed development in place. **Appendix L** contains the full output.

| 2024 Baseline:                | 08:00 – 09:00 |                  | 17:00 – 18:00 |                  |
|-------------------------------|---------------|------------------|---------------|------------------|
|                               | Max DoS       | Max queue (PCUs) | Max DoS       | Max queue (PCUs) |
| New River & railway bridge:   |               |                  |               |                  |
| Rye Road eastbound            | 36.5%         | 2.5              | 41.0%         | 1.8              |
| Rye Road westbound            | 37.7%         | 1.7              | 42.1%         | 3.0              |
| Fishermans Way & site access: |               |                  |               |                  |
| Fishermans Way arm            | 12.1%         | 0.2              | 30.3%         | 0.5              |
| Site access arm (not in use)  | 0.0%          | 0.0              | 0.0%          | 0.0              |
| 2024 Baseline + development:  |               |                  |               |                  |
| New River & railway bridge:   |               |                  |               |                  |
| Rye Road eastbound            | 40.6%         | 2.7              | 43.4%         | 2.1              |
| Rye Road westbound            | 41.4%         | 2.1              | 45.5%         | 3.2              |
| Fishermans Way & site access: |               |                  |               |                  |
| Fishermans Way arm            | 12.3%         | 0.2              | 31.5%         | 0.6              |
| Site access arm               | 4.0%          | 0.0              | 1.1%          | 0.0              |

*Table 6.1: Site access junction with signals: summary LinSig results with the development*

- 6.6 It is clear that the junction and signals will function with ample capacity in reserve, even with the development. The maximum queue length with the development will be on the east (i.e. westbound) approach to the bridge, with 3.2 PCUs, but this is only 0.2 PCUs more than without the development. Up to three cars should be able to queue behind the stop-line and having a yellow hatched box junction will prevent any additional waiting traffic from blocking the junction.

## 7 Summary and conclusions

- 7.1 This Transport Assessment has been prepared in support of a planning application by Elvidge and Jones for the redevelopment of the old Turnford Surfacing site, Rye Road, Hoddesdon, Hertfordshire, EN11 0EG.
- 7.2 The development will require the demolition of the current hardstandings, and redevelopment for up to 104 residential dwellings, which is expected to include:
- 29 one bedroom apartments
  - 62 two bedroom apartments
  - 13 three bedroom townhouses
- 7.3 In addition to the residential dwellings a proposed community /commercial space with a GFA of 115sqm is proposed at the site frontage which may take the form of a café.
- 7.4 The site is located off Rye Road, opposite Fisherman's Way and Rye House railway station in the northeast of Hoddesdon. The site is linear in shape and narrow; it is bordered to the west by the railway line, to the north by greenfield, to the east by the River Lea Navigation and to the south by Rye Road.
- 7.5 Rye House railway station is within a one to two minute walk of the site providing access to mainline services including into London. Within a five minute walk are the bus stops on the Old Highway served by route 410, providing access to two buses per hour in each direction which provide access to local centres in the region.
- 7.6 Within a ten minute walk of the site are a number of local shops. Rye Park Primary School and the Pindar Road industrial area with its many employment opportunities also lie within this distance. Within a 15 minute walk of the site are a Co-op Store, Tesco Express, post office, optician, Forres Primary School, the John Warner Secondary School and Leisure Centre and Cranbourne Primary School. Within a 20 minute walk or an eight minute cycle of the site is a further row of local shops, petrol station, dental practice, doctors' surgery, Morrison's Superstore and the edge of Hoddesdon town centre. Thus there are ample local facilities available within a short walk of the site that will not require a journey by car.
- 7.7 Part of the National Cycle Routes 61 and 1 are along the towpath beside the River Lea between Broxbourne and Hertford. At both points it leaves the river, with route 61 continuing to St Albans and route 1 into East London.
- 7.8 Car ownership is slightly below the Borough average, with more one car households, slightly more car-less households and fewer with two or more cars. This could reflect the proximity to the railway station, making it more attractive to rail commuters.
- 7.9 Over a period of just under nine years there have been twelve accidents in the area local to the site. Only two occurred at the railway bridge, where a driver in the non-priority direction was waiting for another to pass, but both were very different in nature and one involved criminal behaviour. Five involved pedestrians but one was in the Fishermans Way estate, away from the through road, and another was on Old Highway, not on the main route into Hoddesdon.



- 7.10 Access to the development will be by a spine road, 5.5 metres wide (6m at the entrance), that will meet Rye Road at a priority junction east of the railway bridge and opposite the junction with Fishermans Way, forming a crossroads. The pedestrian environment will include a tactile crossing point at the site access across Rye Road and a second crossing point to the rear of the access bellmouth. There is then an open pedestrian area to the front of the community space/café, before a formal 2m footway which runs to the proposed town houses. Just before the town houses a raised table will bring the pedestrians up to a shared surface adjacent to the town houses, whilst also providing a speed restraint to the access road. The 6.0 metre wide shared surface access road then continues to the rear of the site to Block D.
- 7.11 The towpath along the west bank of the River Lee Navigation will remain as at present but will open up into a new area of public open space within the site, located between Block A and the new town houses. Pedestrian access to the site from the towpath will be via a new ramp located to the west of the town houses.
- 7.12 The 2011 Turnford Surfacing Development Brief and the 2013 update of the Supplementary Planning Guidance both set maximum parking standards of 1.5 spaces for one bedroom dwellings, two spaces for two bedroom dwellings and 2.5 spaces for three bedroom dwellings. As the site is within 400 metres of a railway station these standards are subject to a reduction to 75% to reflect its accessibility by public transport. The total required parking provision has been exceeded within the development, with an additional allowance for visitor parking. Proposed cycle parking exceeds the required standards.
- 7.13 There are two vehicular routes to the site from the west: via Stanstead Road or Old Highway and then Rye Road, crossing over the New River and railway bridges, or via Essex Road, Pindar Road, Normandy Way and Fishermans Way. It is expected that most drivers will prefer the Rye Road route, which will also give more direct access to places outside Hoddesdon. The road over the bridges is narrow but has a pedestrian path (partly kerbed, partly demarcated by a white line) on the south side. Priority over the railway bridge is given to eastbound traffic with westbound traffic waiting at a give way line about 20 metres east of the mid-point of the bridge.
- 7.14 Issues can currently occur when a large number of vehicle and pedestrian movements are taking place. The location of the give way line and the humped profile of the bridge make it hard for westbound drivers to judge in good time whether they will need to wait. This can lead to westbound vehicles having to brake sharply, with a risk of being hit by a following vehicle, or to two vehicles meeting at the apex of the bridge. The risk of an accident is aggravated if pedestrian movements, for example to and from the railway station, are heavy.
- 7.15 The proposed replacement of the bridge over the New River with a wider one will improve matters but will not eliminate the issues at the railway bridge. Without major reconstruction it is not possible to provide a full width footway or widen the highway to allow two vehicles to pass on the railway bridge. As such a proposed improvement scheme has been prepared in consultation with the highway authority, working within the current width constraints and with the following aims:
- Improving the current give way arrangements and preventing two vehicles meeting at the pinch point on the bridge.
  - Improving the safe passage of pedestrians and cyclists over the bridge.
  - Avoid queuing vehicles, on Rye Road, blocking Fishermans Way or the site entrance.



- 7.16 The proposed scheme replaces the give way arrangement with traffic signals. This is to be combined with a yellow box marking at the site access / Rye Road / Fishermans Way junction, this will help to prevent queueing traffic blocking back over the junction. The signal arrangement and site access crossroads arrangement with Fishermans Way have been modelled as part of the traffic impact assessment in the next section of this report. Rye Road bridge has a three tonne weight limit, preventing large light goods and all heavy goods vehicles from crossing it, and these are not accommodated in the proposed signal improvements scheme.
- 7.17 From the site access point a visibility splay of 2.4 by 43 metres can be achieved to the southwest to the railway bridge deck, which meets the Manual for Streets (MfS) requirements for a 30 mph design speed. To the northeast, to the narrow bridge over the River Lea Navigation, a visibility splay of 2.4 by 19 metres can be achieved to the centre of the highway which is to a position just short of the brow of the bridge and suitable based on the measured speeds.
- 7.18 Swept path analysis has been provided to demonstrate that the car parking is accessible and that a refuse vehicle can enter and exit the site in a forward gear.
- 7.19 The proposed access improvements were subjected to a safety audit (Stage 1) on 13th November 2015 by the TMS Consultancy. Three areas of concern were raised and addressed at that time and a further Safety Audit undertaken by TMS Consultancy in October 2019 raised no further areas of concern.
- 7.20 For users of Rye House rail station, the proposal includes 5 disabled car parking spaces and a cycle parking store with a capacity for 60 cycles, at the south end of the spine road. These will meet a need as at present the station has no car park. It is anticipated that there would be a legal agreement between the site owner and Network Rail regarding the management and maintenance of the disabled car parking spaces.
- 7.21 As part of pre-application comments from Hertfordshire County Council Highways the potential for the developer to fund the upgrading of the existing bus stops on Old Highway (the closest to the site) was raised; to include Kassel kerbing and real time information (where possible). It was commented that it would be difficult to install a shelter on the western side of Old Highway due to the narrowness of the footway and this might have some impact therefore on the likelihood that real time information could be provided on both sides of the road. The developer has confirmed that the funding could be made available towards these improvements and the works could be secured as part of future Section 278 works.
- 7.22 From Autumn 2016 until early 2019, the site was occupied by Wren Kitchens who used it as a storage and distribution depot for their packaged kitchens in London and the southeast. Earlier, the owner was Bardon Aggregates who bought it from Turnford Surfacing in 2008/9 and then sold it to the current owners. Because of the recession the owners did not make full use of the site until it was sold to Wren. Turnford Surfacing had used the site for a tarmac batching plant. Planning permission for this was granted in October 1988.
- 7.23 On 18th January 2018 Broxbourne Borough Council served an enforcement notice on Wren Kitchens and the landowner against the use of the land for haulage and distribution (i.e. a B8 land use), citing the resulting traffic impacts and the light pollution, noise and general disturbance as having a harmful impact on local residents and on the wider environment.



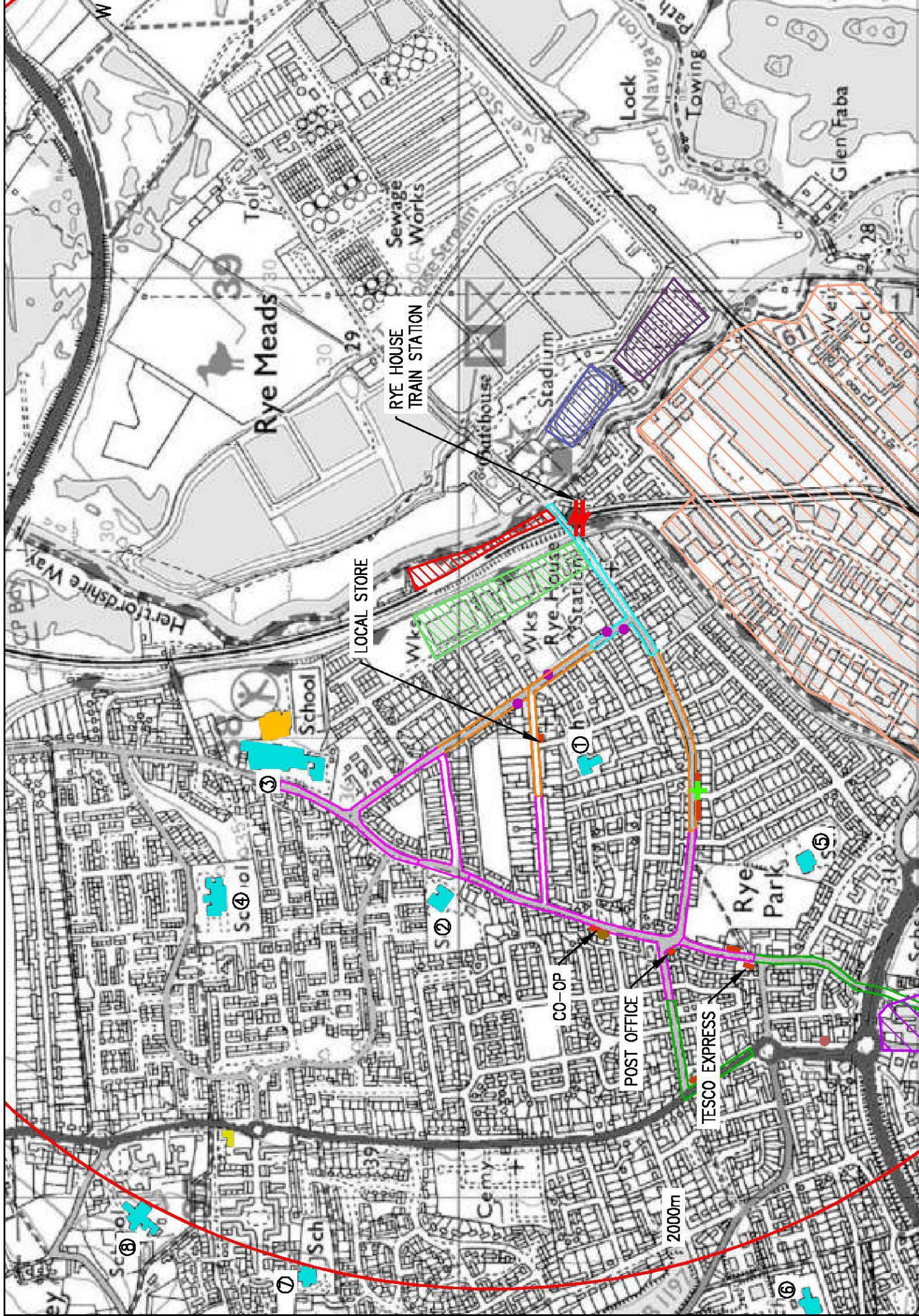
- 7.24 It is therefore likely that if planning permission were not granted for residential development the site would either revert to use as a batching plant or a similar industrial operation allowable under a B2 land use class on the site.
- 7.25 The tarmac batching plant generated a significant number of deliveries of aggregates and bitumen to the site and, after mixing, collection and delivery of the surfacing products to construction sites around England. As such there would have been a large volume of heavy goods vehicles and mobile asphalt plant to and from the development site, 24 hours per day and seven days a week.
- 7.26 A review of vehicle trip generation for the former and potential future site uses demonstrated that the proposed development could generate more vehicle trips than the batching plant might be expected to. During the peaks the increase ranges from 32 movements 08:00 – 09:00 to 33 movements 17:00 – 18:00 and 159 movements throughout the day. However, there will be a large reduction in the number of HGV movements: eight in the morning peak, two in the afternoon peak and 101 throughout the day. In contrast, the comparison with the industrial estate shows a net reduction of 7 vehicles in the AM peak and an increase of 10 in the PM peak, but throughout the day there would be a reduction of 96, 28 of which would be HGVs.
- 7.27 As HGVs would have to travel via Fishermans Way, residential development will result in a much improved environment along that road compared with an industrial / B2 development.
- 7.28 A LinSig traffic signal model of the proposed signal improvements was undertaken with and without development traffic and inclusive of background growth in traffic. The results indicate that the junction and signals will function with ample capacity in reserve, even with the development. The maximum queue length with the development will be on the east (i.e. westbound) approach to the bridge, with 3.2 PCUs, but this is only 0.2 PCUs more than without the development. Up to three cars should be able to queue behind the stop-line and having a yellow hatched box junction will prevent any additional waiting traffic from blocking the junction.
- 7.29 In conclusion the site has been shown to be policy compliant on transport and highway grounds due to:
- The proposed residential development being located in a highly sustainable location;
  - improvements being offered to the local environment including: the traffic signal improvements; public open space along the towpath; bus stop improvements; and rail station disabled parking and cycle parking;
  - the site providing policy compliant vehicle and cycle parking;
  - a likely reduction being identified in traffic when compared to the alternative industrial /B2 land use; and
  - the level of traffic generated by the development having been shown to be easily accommodated by the proposed signal junction.

## 8 Appendices

Appendix: A – Location plan  
Appendix: B – Site layout plan  
Appendix: C – Current road layout at the railway bridge  
Appendix: D – Accident maps  
Appendix: E – Swept path analysis  
Appendix: F – Proposed layout at railway bridge and swept path  
Appendix: G – ATC data  
Appendix H – Safety audit and responses  
Appendix: I – TRICS Industrial Sites Data  
Appendix: J – TRICS Residential Data  
Appendix: K – Traffic flow diagrams  
Appendix L – LinSig output

## Appendix: A – Location plan







## Appendix: B – Site layout plan





Proposed Tactile crossing point

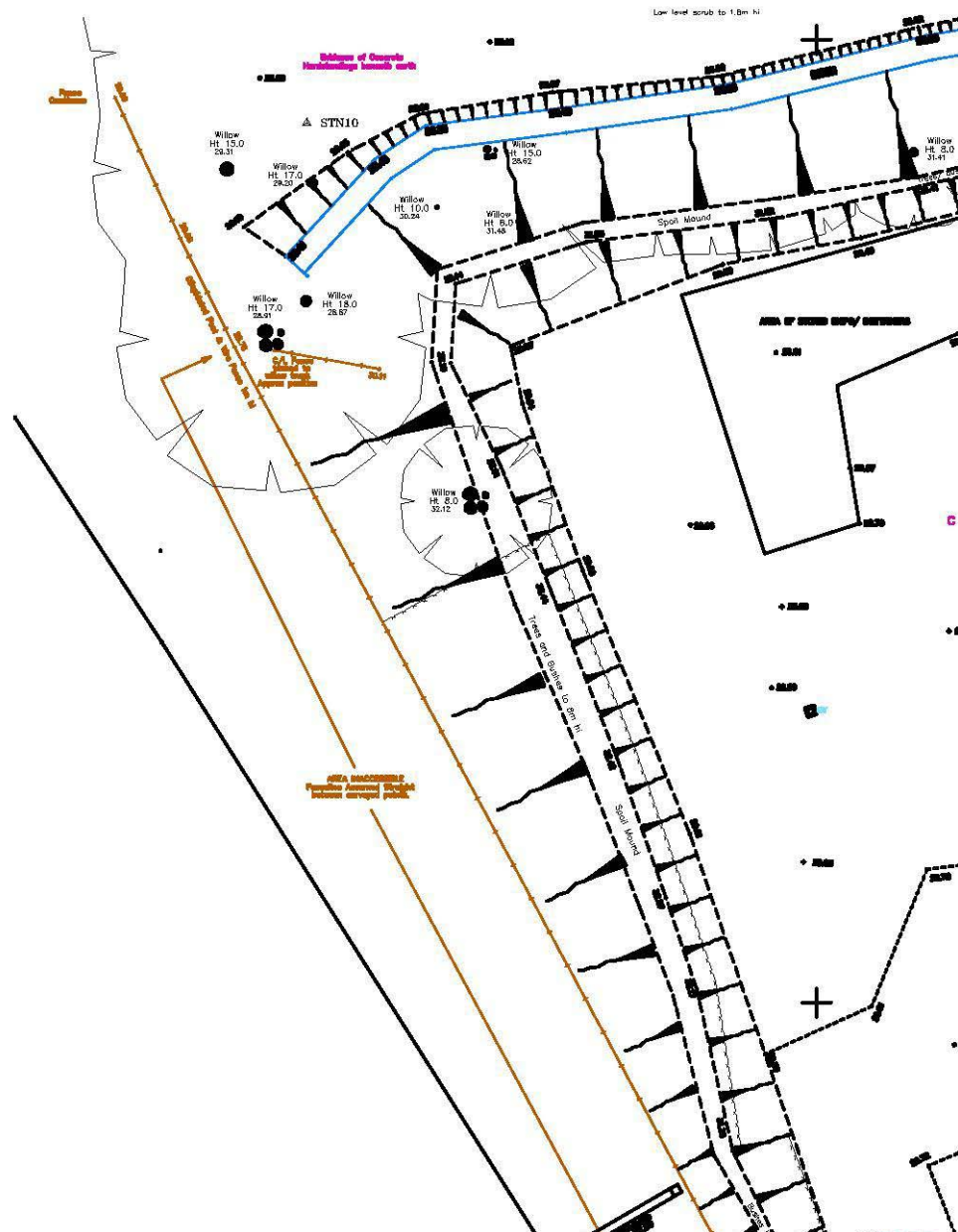
PLUMPTON ROAD

RYE ROAD

## Appendix: C – Current road layout at the railway bridge



Low level scrub to 1.8m hi



## Appendix: D – Accident maps





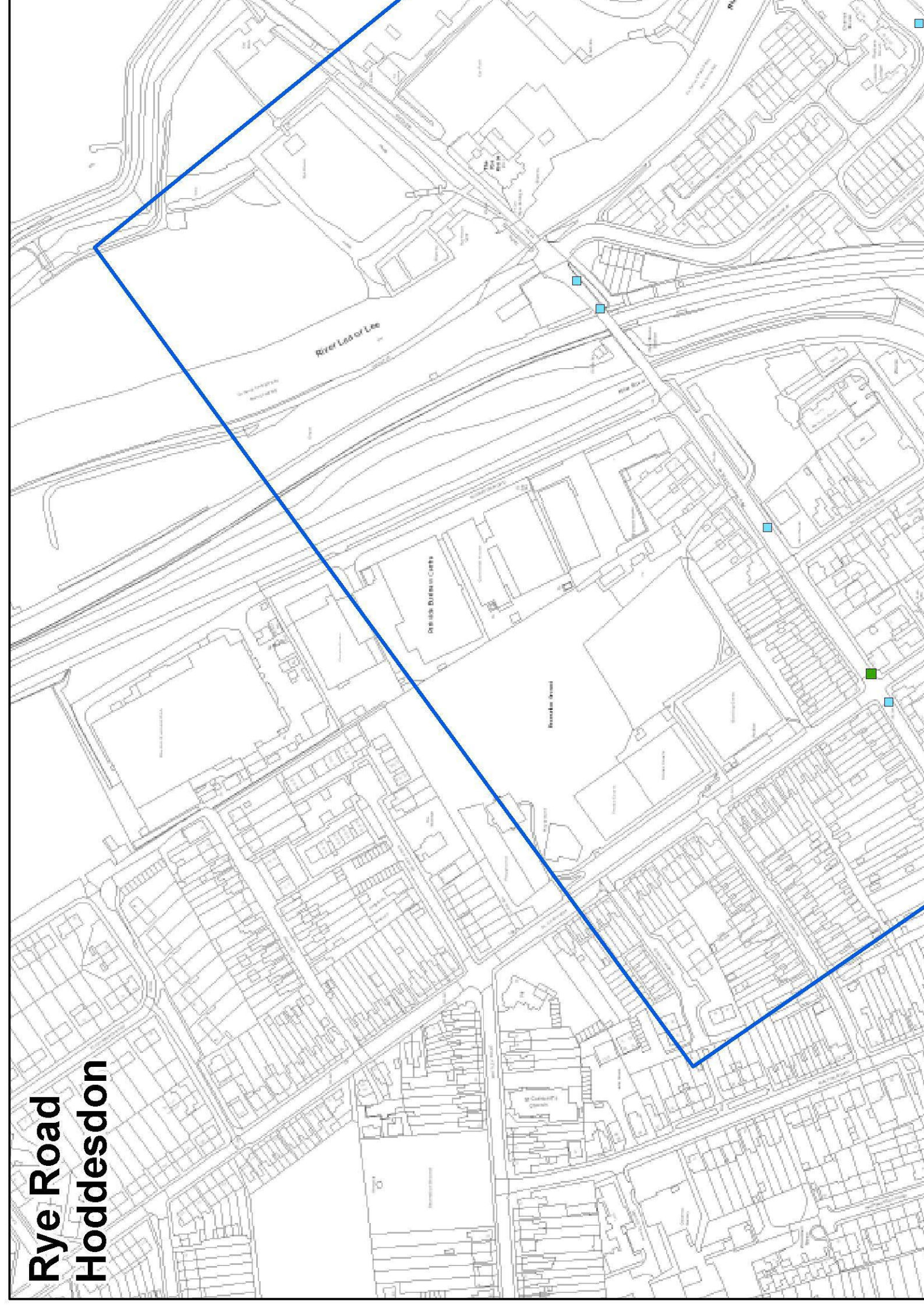
**Incident Details**  
**Date:** 15/06/2014  
**Severity:** Slight  
**Number of Vehicles Involved:** 2  
**Number of Casualties Involved:** 0  
[View Detailed Report](#)

| Incident Severity | Signal  | Signal Sound  |
|-------------------|---|---|
| Low               |  |  |
| Medium            |  |  |
| High              |  |  |

5 seconds framed



# Rye Road Hoddesdon





|                       |                                       |
|-----------------------|---------------------------------------|
| Location:             | Providence                            |
| Years:                | 5-10 years selected                   |
| Security:             |                                       |
| Prison                | <input checked="" type="checkbox"/>   |
| Secret                | <input checked="" type="checkbox"/>   |
| Flight                | <input checked="" type="checkbox"/>   |
| Causality Types:      |                                       |
| All Causality Types   | <input type="button" value="v"/>      |
| Validates footprints: |                                       |
| All Vehicle Types     | <input type="button" value="v"/>      |
| Search:               | <input type="button" value="Search"/> |

**Incident Details**  
**Date:** 15/03/2014  
**Severity:** Slight  
**Number of Vehicles Involved:** 2  
**Number of Casualties Involved:** 0  
[View Detailed Report](#)

| Incident Severity | Incident Count | Incident Type |
|-------------------|----------------|---------------|
| Slight            | 1              | Minor         |
| Serious           | 1              | Major         |
| Fatal             | 1              | Critical      |

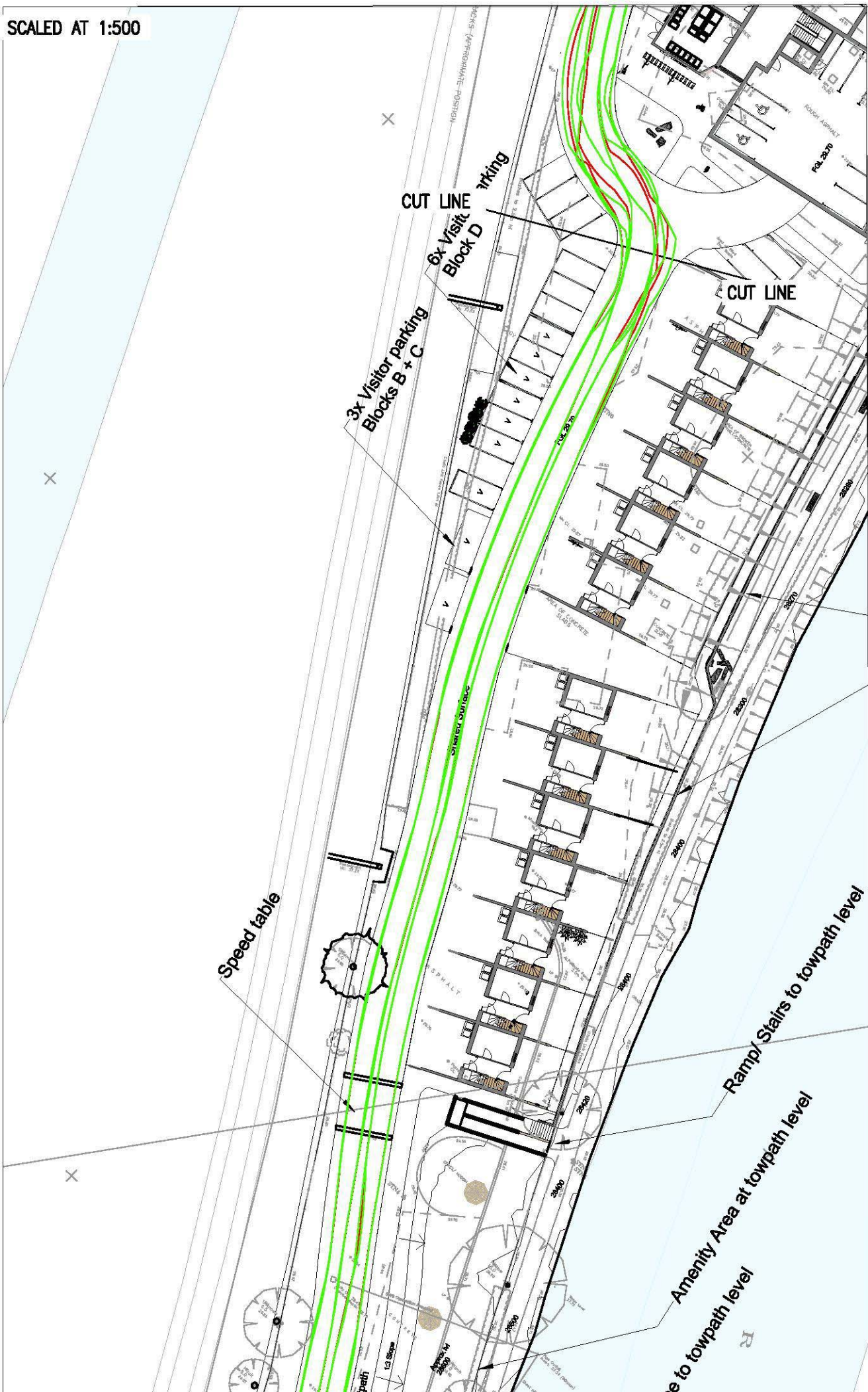
25 seconds forward

## Appendix: E ' Swept path analysis

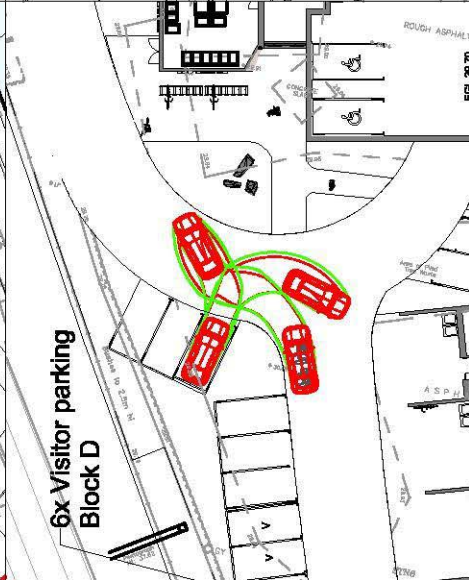
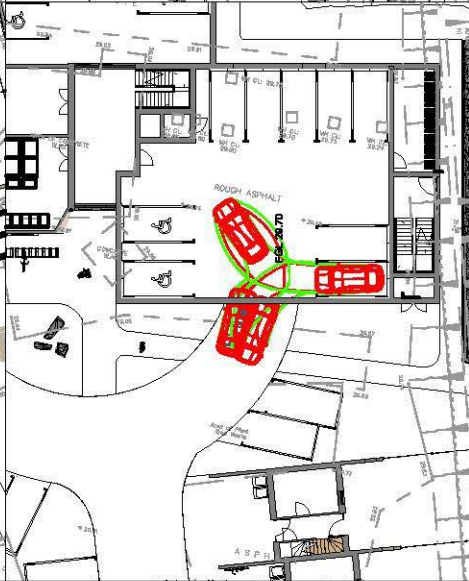
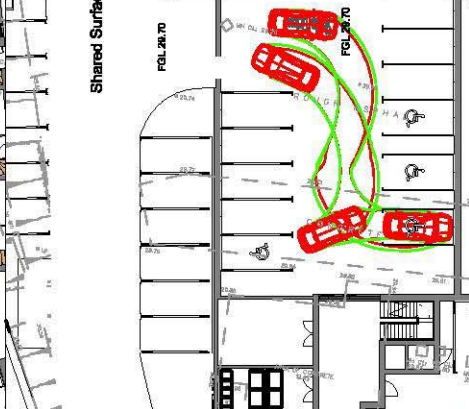
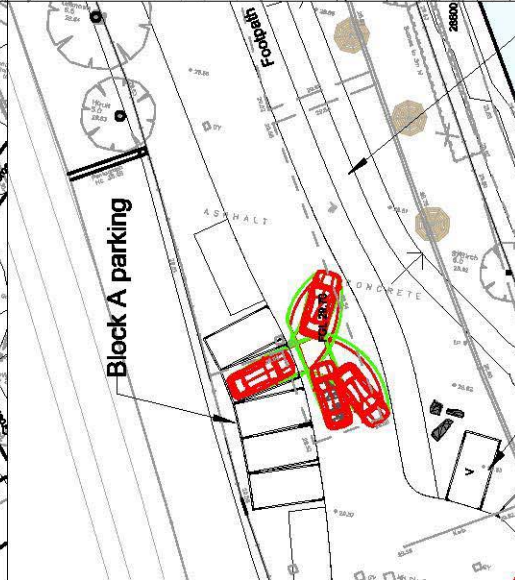
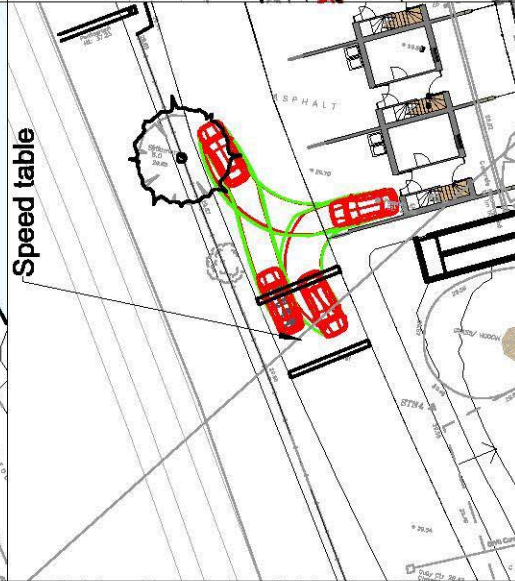
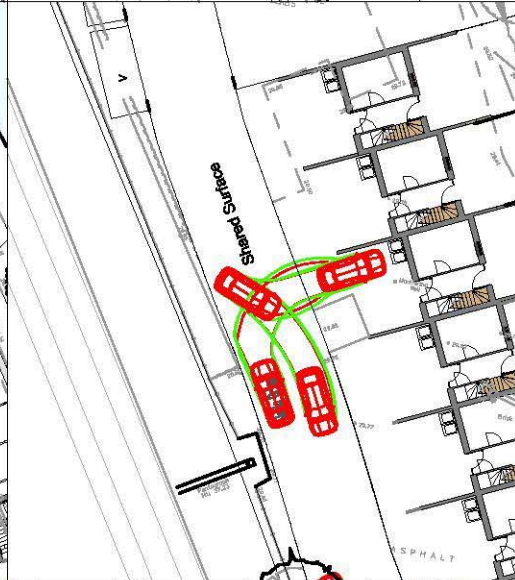
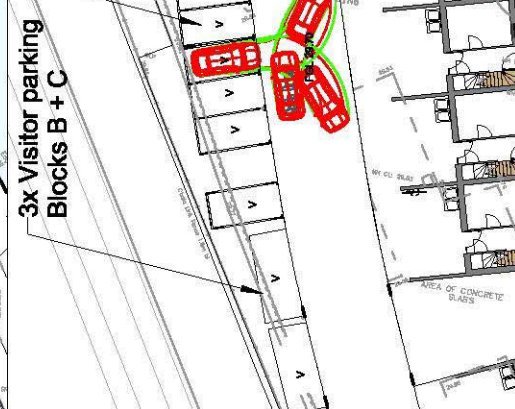
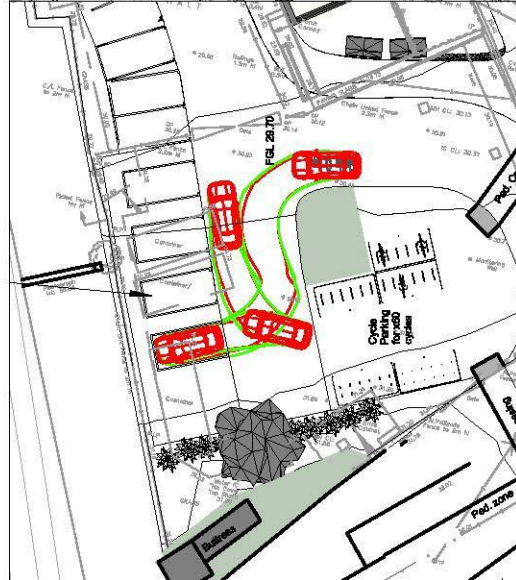
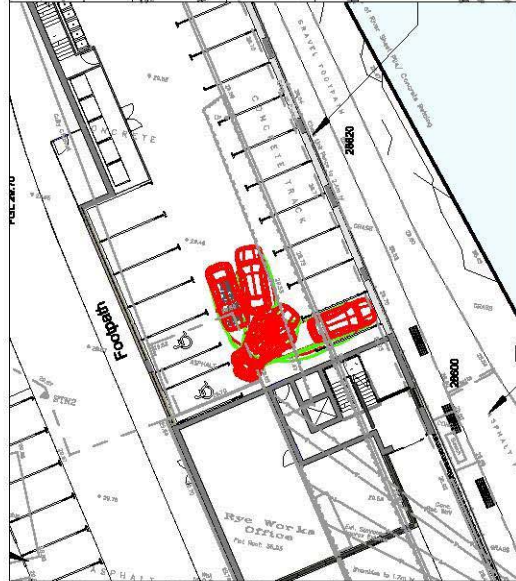
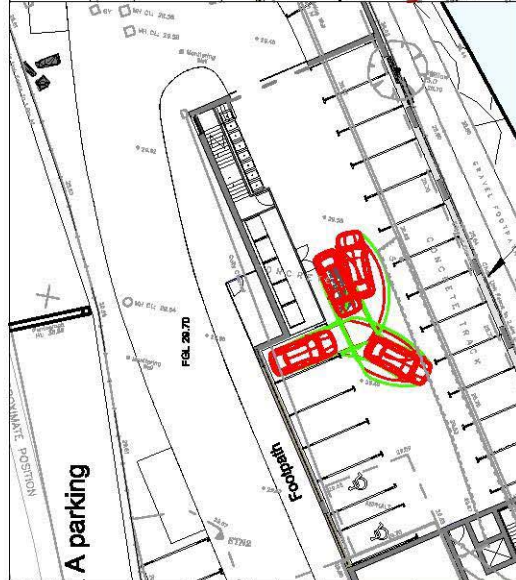
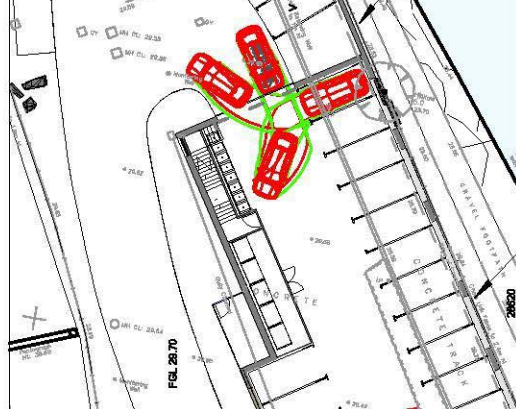


SCALED AT 1:500

SCALED AT 1:

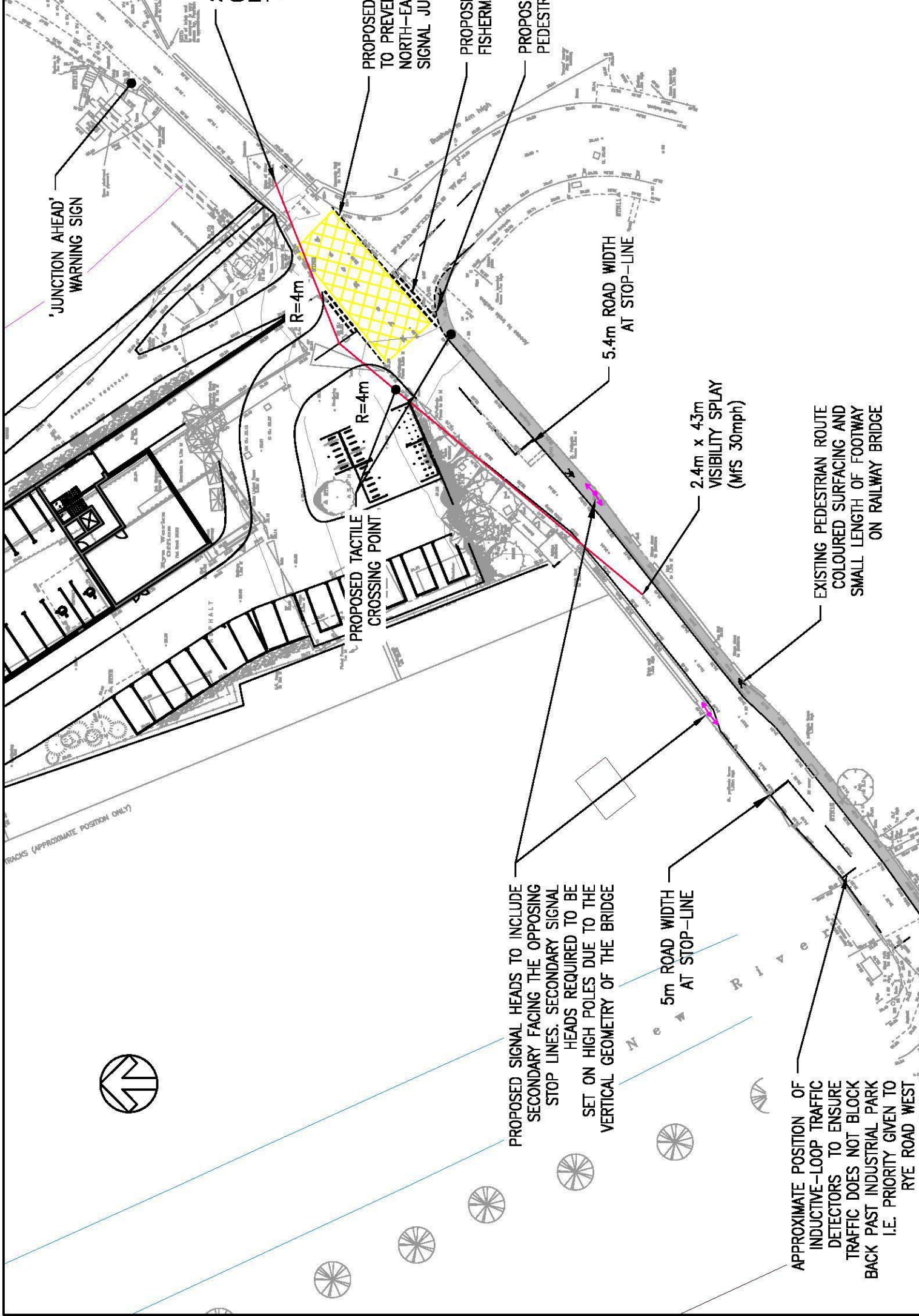




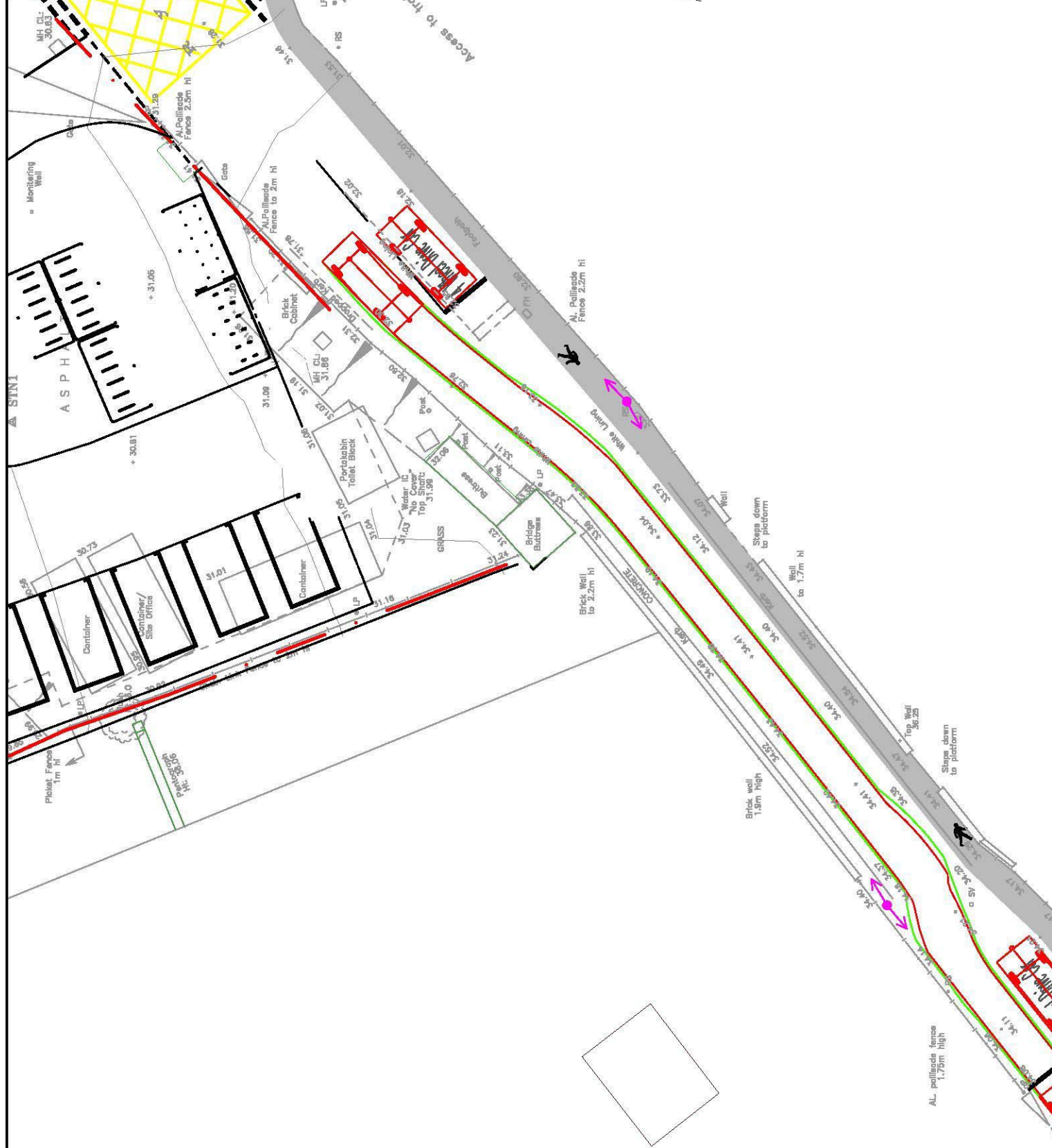




## Appendix: F ' Proposed layout at railway bridge and swept path







## Appendix: G ' ATC data

# K&M TRAFFIC SURVEYS

SITE: Rye House

LOCATION: Attached to lamppost

GRID REFERENCE: 51.769862, 0.006010

DIRECTION: NORTH-EASTBOUND

SPEED LIMIT: 20MPH

17 May 2019

| Time  | Total | Cls<br>1 | Cls<br>2 | Cls<br>3 | Cls<br>4 | Cls<br>5 | Cls<br>6 | Cls<br>7 | Cls<br>8 | Cls<br>9 | Cls<br>10 | Cls<br>11 | Cls<br>12 | Cls<br>14 | Cls<br>15 | Mean   | Vpp<br>85 |
|-------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|-----------|
| 0000  | 2     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 11.9 - |           |
| 0100  | 6     | 5        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 11.9 - |           |
| 0200  | 4     | 4        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.8 - |           |
| 0300  | 2     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 10.7 - |           |
| 0400  | 8     | 7        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 19.4 - |           |
| 0500  | 23    | 21       | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 18.4   | 25        |
| 0600  | 49    | 42       | 0        | 3        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 13.9   | 19.5      |
| 0700  | 66    | 56       | 0        | 6        | 2        | 1        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.3   | 20.6      |
| 0800  | 94    | 85       | 0        | 5        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 15     | 19.5      |
| 0900  | 76    | 68       | 0        | 6        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.9   | 19.7      |
| 1000  | 83    | 67       | 0        | 12       | 4        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.6   | 18.5      |
| 1100  | 68    | 56       | 0        | 8        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 13.6   | 18.8      |
| 1200  | 93    | 80       | 0        | 12       | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.7   | 17.7      |
| 1300  | 115   | 96       | 1        | 11       | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 4         | 12.9   | 17.4      |
| 1400  | 123   | 106      | 0        | 12       | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 12.7   | 15.8      |
| 1500  | 113   | 97       | 0        | 6        | 4        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 4         | 1         | 13.5   | 16.6      |
| 1600  | 139   | 120      | 0        | 9        | 6        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 12.9   | 16.7      |
| 1700  | 137   | 123      | 0        | 2        | 4        | 1        | 0        | 0        | 0        | 1        | 0         | 0         | 0         | 4         | 2         | 12.7   | 15.6      |
| 1800  | 108   | 95       | 0        | 4        | 4        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 2         | 13.3   | 16.8      |
| 1900  | 71    | 63       | 0        | 4        | 0        | 2        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 14.7   | 20.7      |
| 2000  | 45    | 40       | 0        | 3        | 1        | 0        | 0        | 0        | 0        | 1        | 0         | 0         | 0         | 0         | 0         | 14.4   | 16.5      |
| 2100  | 43    | 41       | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 15.7   | 20.5      |
| 2200  | 39    | 35       | 0        | 1        | 2        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.7   | 18.7      |
| 2300  | 12    | 12       | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.3   | 23.1      |
| 07-19 | 1215  | 1049     | 1        | 93       | 33       | 5        | 1        | 0        | 0        | 1        | 0         | 0         | 0         | 16        | 16        | 13.5   | 17.6      |
| 06-22 | 1423  | 1235     | 1        | 104      | 35       | 7        | 2        | 0        | 0        | 2        | 0         | 0         | 0         | 17        | 20        | 13.7   | 17.7      |
| 06-00 | 1474  | 1282     | 1        | 105      | 37       | 8        | 2        | 0        | 0        | 2        | 0         | 0         | 0         | 17        | 20        | 13.7   | 17.7      |
| 00-00 | 1519  | 1323     | 1        | 106      | 38       | 8        | 2        | 0        | 0        | 2        | 0         | 0         | 0         | 18        | 21        | 13.8   | 17.9      |



18 May 2019

| Time  | Total | Cls<br>1 | Cls<br>2 | Cls<br>3 | Cls<br>4 | Cls<br>5 | Cls<br>6 | Cls<br>7 | Cls<br>8 | Cls<br>9 | Cls<br>10 | Cls<br>11 | Cls<br>12 | Cls<br>14 | Cls<br>15 | Mean   | Vpp<br>85 |
|-------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|-----------|
| 0000  | 5     | 5        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.9 - |           |
| 0100  | 2     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 12.6 - |           |
| 0200  | 5     | 5        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 17.1 - |           |
| 0300  | 2     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 11.9 - |           |
| 0400  | 9     | 9        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 18.2 - |           |
| 0500  | 12    | 10       | 0        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 16.6   | 23.4      |
| 0600  | 32    | 25       | 0        | 3        | 0        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 13.8   | 20.8      |
| 0700  | 60    | 52       | 0        | 5        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 13.8   | 18.9      |
| 0800  | 58    | 51       | 0        | 4        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.2   | 19.2      |
| 0900  | 70    | 57       | 0        | 11       | 0        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 14.2   | 19.3      |
| 1000  | 98    | 83       | 0        | 9        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 1         | 12.4   | 15.8      |
| 1100  | 111   | 96       | 0        | 9        | 5        | 0        | 0        | 0        | 1        | 0        | 0         | 0         | 0         | 0         | 0         | 13.5   | 18.2      |
| 1200  | 127   | 111      | 0        | 3        | 5        | 2        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 4         | 13.5   | 17.4      |
| 1300  | 128   | 115      | 2        | 6        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 3         | 13.4   | 17.2      |
| 1400  | 157   | 143      | 0        | 5        | 5        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 1         | 12.4   | 15.3      |
| 1500  | 102   | 91       | 1        | 1        | 4        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 2         | 13.8   | 18.1      |
| 1600  | 76    | 66       | 0        | 8        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.3   | 16.2      |
| 1700  | 105   | 89       | 0        | 8        | 5        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 3         | 13.4   | 18        |
| 1800  | 70    | 61       | 0        | 7        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.2   | 15.8      |
| 1900  | 38    | 33       | 0        | 0        | 4        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 16.2   | 20.2      |
| 2000  | 58    | 52       | 0        | 3        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 13.9   | 18.3      |
| 2100  | 22    | 20       | 0        | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.8   | 18.7      |
| 2200  | 13    | 13       | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.7   | 21.7      |
| 2300  | 17    | 16       | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.5   | 18.2      |
| 07-19 | 1162  | 1015     | 3        | 76       | 34       | 5        | 0        | 0        | 1        | 0        | 0         | 0         | 0         | 11        | 17        | 13.2   | 17.2      |
| 06-22 | 1312  | 1145     | 3        | 84       | 40       | 6        | 0        | 0        | 1        | 0        | 0         | 0         | 0         | 12        | 21        | 13.4   | 17.4      |
| 06-00 | 1342  | 1174     | 3        | 84       | 41       | 6        | 0        | 0        | 1        | 0        | 0         | 0         | 0         | 12        | 21        | 13.4   | 17.4      |
| 00-00 | 1377  | 1207     | 3        | 84       | 41       | 7        | 0        | 0        | 1        | 0        | 0         | 0         | 0         | 12        | 22        | 13.5   | 17.7      |

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| Time  | Total | Cls<br>1 | Cls<br>2 | Cls<br>3 | Cls<br>4 | Cls<br>5 | Cls<br>6 | Cls<br>7 | Cls<br>8 | Cls<br>9 | Cls<br>10 | Cls<br>11 | Cls<br>12 | Cls<br>14 | Cls<br>15 | Mean   | Vpp<br>85 |
|-------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|-----------|
| 0000  | 9     | 9        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.5 - |           |
| 0100  | 2     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.5 - |           |
| 0200  | 8     | 8        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.7 - |           |
| 0300  | 1     | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 18.3 - |           |
| 0400  | 3     | 3        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.9 - |           |
| 0500  | 11    | 9        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 13.1   | 15.9      |
| 0600  | 28    | 28       | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13     | 16.4      |
| 0700  | 29    | 25       | 0        | 3        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 16.8   | 23        |
| 0800  | 38    | 27       | 1        | 3        | 3        | 0        | 0        | 0        | 0        | 1        | 0         | 0         | 0         | 1         | 2         | 15.1   | 20.4      |
| 0900  | 91    | 79       | 0        | 3        | 1        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 5         | 14.3   | 18.1      |
| 1000  | 87    | 77       | 0        | 4        | 1        | 3        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 14     | 18.3      |
| 1100  | 76    | 63       | 0        | 9        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 2         | 13     | 17.1      |
| 1200  | 92    | 85       | 0        | 5        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 13.4   | 18        |
| 1300  | 104   | 93       | 0        | 8        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 3         | 0         | 12     | 15.3      |
| 1400  | 101   | 96       | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 4         | 0         | 12.1   | 14.8      |
| 1500  | 82    | 77       | 0        | 3        | 0        | 0        | 0        | 1        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.6   | 16.6      |
| 1600  | 61    | 52       | 0        | 5        | 1        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 12.4   | 15.8      |
| 1700  | 56    | 51       | 0        | 3        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 13.6   | 17.3      |
| 1800  | 46    | 40       | 0        | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 3         | 15.1   | 19.8      |
| 1900  | 39    | 37       | 0        | 1        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.8   | 21.1      |
| 2000  | 36    | 29       | 0        | 6        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 13.8   | 18.1      |
| 2100  | 25    | 20       | 0        | 2        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 14.3   | 18.3      |
| 2200  | 20    | 16       | 0        | 1        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 0         | 12.4   | 15.6      |
| 2300  | 8     | 5        | 0        | 1        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 14.7 - |           |
| 07-19 | 863   | 765      | 1        | 49       | 6        | 5        | 0        | 1        | 0        | 1        | 0         | 0         | 0         | 17        | 18        | 13.3   | 17.7      |
| 06-22 | 991   | 879      | 1        | 58       | 8        | 5        | 0        | 1        | 0        | 1        | 0         | 0         | 0         | 19        | 19        | 13.4   | 17.7      |
| 06-00 | 1019  | 900      | 1        | 60       | 10       | 5        | 0        | 1        | 0        | 1        | 0         | 0         | 0         | 21        | 20        | 13.4   | 17.7      |
| 00-00 | 1053  | 932      | 1        | 60       | 11       | 5        | 0        | 1        | 0        | 1        | 0         | 0         | 0         | 21        | 21        | 13.4   | 17.7      |



20 May 2019

| Time  | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 14 | Cls 15 | Mean   | Vpp 85 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| 0000  | 5     | 5     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 17.8 - |        |
| 0100  | 1     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 30.2 - |        |
| 0200  | 4     | 3     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 11.1 - |        |
| 0300  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | -      |        |
| 0400  | 5     | 5     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 19 -   |        |
| 0500  | 18    | 17    | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 16.7   | 23.9   |
| 0600  | 40    | 32    | 0     | 5     | 2     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 15.7   | 23.4   |
| 0700  | 85    | 76    | 0     | 4     | 3     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 0      | 15.8   | 20.3   |
| 0800  | 87    | 74    | 0     | 6     | 3     | 1     | 0     | 0     | 0     | 1     | 0      | 0      | 0      | 0      | 2      | 15.2   | 20.1   |
| 0900  | 76    | 72    | 0     | 3     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 14.4   | 18.8   |
| 1000  | 68    | 54    | 0     | 10    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 3      | 13.6   | 19.1   |
| 1100  | 64    | 51    | 0     | 8     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 2      | 13.6   | 18.1   |
| 1200  | 53    | 46    | 0     | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 13.7   | 18.7   |
| 1300  | 76    | 58    | 0     | 11    | 1     | 0     | 0     | 1     | 0     | 0     | 0      | 0      | 0      | 1      | 4      | 13.4   | 17.4   |
| 1400  | 79    | 64    | 1     | 9     | 0     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 4      | 0      | 12.8   | 15.3   |
| 1500  | 91    | 74    | 0     | 15    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 13.3   | 17.2   |
| 1600  | 106   | 92    | 1     | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 3      | 4      | 13.8   | 18     |
| 1700  | 131   | 116   | 0     | 11    | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 3      | 13.2   | 16.6   |
| 1800  | 103   | 86    | 0     | 13    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 3      | 13.2   | 17.7   |
| 1900  | 64    | 54    | 0     | 5     | 0     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 3      | 14.4   | 18.7   |
| 2000  | 41    | 37    | 0     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 14.1   | 19.4   |
| 2100  | 29    | 22    | 0     | 5     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 12.8   | 17.6   |
| 2200  | 20    | 19    | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.5   | 18     |
| 2300  | 6     | 5     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 18.8 - |        |
| 07-19 | 1019  | 863   | 2     | 102   | 9     | 2     | 0     | 1     | 0     | 1     | 0      | 0      | 0      | 17     | 22     | 13.8   | 18.5   |
| 06-22 | 1193  | 1008  | 2     | 119   | 11    | 3     | 0     | 1     | 0     | 1     | 0      | 0      | 0      | 21     | 27     | 13.9   | 18.5   |
| 06-00 | 1219  | 1032  | 2     | 120   | 12    | 3     | 0     | 1     | 0     | 1     | 0      | 0      | 0      | 21     | 27     | 13.9   | 18.5   |
| 00-00 | 1252  | 1063  | 2     | 122   | 12    | 3     | 0     | 1     | 0     | 1     | 0      | 0      | 0      | 21     | 27     | 14     | 18.6   |

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| Time  | Total | Cls<br>1 | Cls<br>2 | Cls<br>3 | Cls<br>4 | Cls<br>5 | Cls<br>6 | Cls<br>7 | Cls<br>8 | Cls<br>9 | Cls<br>10 | Cls<br>11 | Cls<br>12 | Cls<br>14 | Cls<br>15 | Mean   | Vpp<br>85 |
|-------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|-----------|
| 0000  | 3     | 2        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 18.9 - |           |
| 0100  | 4     | 3        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 17.9 - |           |
| 0200  | 1     | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 12.8 - |           |
| 0300  | 5     | 5        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 18.2 - |           |
| 0400  | 3     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 14.9 - |           |
| 0500  | 24    | 23       | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.6   | 21.2      |
| 0600  | 50    | 45       | 0        | 1        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 13.1   | 18.4      |
| 0700  | 73    | 66       | 0        | 3        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 16.4   | 21.5      |
| 0800  | 97    | 85       | 0        | 8        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 3         | 15.3   | 20.5      |
| 0900  | 85    | 80       | 0        | 4        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 15.1   | 20.2      |
| 1000  | 78    | 69       | 0        | 8        | 0        | 0        | 0        | 0        | 1        | 0        | 0         | 0         | 0         | 0         | 0         | 13.3   | 16.9      |
| 1100  | 62    | 51       | 0        | 7        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 3         | 13.3   | 18.4      |
| 1200  | 89    | 73       | 0        | 15       | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.9   | 17.5      |
| 1300  | 88    | 69       | 0        | 13       | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 3         | 13.2   | 18.2      |
| 1400  | 81    | 72       | 0        | 8        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 12.7   | 16.3      |
| 1500  | 88    | 79       | 0        | 5        | 0        | 0        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 1         | 12.5   | 16.9      |
| 1600  | 116   | 101      | 0        | 6        | 0        | 0        | 0        | 1        | 0        | 0        | 0         | 0         | 0         | 4         | 4         | 13.7   | 18.4      |
| 1700  | 138   | 121      | 0        | 11       | 0        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 4         | 13.2   | 16.8      |
| 1800  | 89    | 82       | 0        | 5        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 14.4   | 17.8      |
| 1900  | 56    | 49       | 0        | 7        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.2   | 18.4      |
| 2000  | 51    | 43       | 0        | 7        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 13.6   | 19.1      |
| 2100  | 28    | 20       | 0        | 6        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 13.5   | 18.5      |
| 2200  | 27    | 25       | 0        | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.6   | 20.9      |
| 2300  | 12    | 9        | 0        | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 14.8   | 20.7      |
| 07-19 | 1084  | 948      | 0        | 93       | 4        | 1        | 1        | 1        | 1        | 0        | 0         | 0         | 0         | 14        | 21        | 13.8   | 18.5      |
| 06-22 | 1269  | 1105     | 0        | 114      | 6        | 1        | 1        | 1        | 1        | 0        | 0         | 0         | 0         | 17        | 23        | 13.8   | 18.5      |
| 06-00 | 1308  | 1139     | 0        | 118      | 6        | 1        | 1        | 1        | 1        | 0        | 0         | 0         | 0         | 17        | 24        | 13.8   | 18.5      |
| 00-00 | 1348  | 1175     | 0        | 120      | 6        | 1        | 1        | 1        | 1        | 0        | 0         | 0         | 0         | 17        | 26        | 13.9   | 18.6      |



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| Time  | Total | Cls<br>1 | Cls<br>2 | Cls<br>3 | Cls<br>4 | Cls<br>5 | Cls<br>6 | Cls<br>7 | Cls<br>8 | Cls<br>9 | Cls<br>10 | Cls<br>11 | Cls<br>12 | Cls<br>14 | Cls<br>15 | Mean | Vpp<br>85 |
|-------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|------|-----------|
| 0000  | 2     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 10.2 | -         |
| 0100  | 1     | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 13.2 | -         |
| 0200  | 0     | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | -    | -         |
| 0300  | 4     | 2        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 21.1 | -         |
| 0400  | 10    | 9        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 15.2 | -         |
| 0500  | 19    | 17       | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 15.4 | 20.9      |
| 0600  | 44    | 42       | 0        | 1        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.1 | 21        |
| 0700  | 68    | 60       | 0        | 6        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 16.4 | 20.5      |
| 0800  | 84    | 69       | 0        | 9        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 14.8 | 19.4      |
| 0900  | 88    | 72       | 1        | 10       | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 4         | 14.7 | 19.3      |
| 1000  | 77    | 65       | 0        | 10       | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 14   | 18.6      |
| 1100  | 62    | 49       | 0        | 11       | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 12.9 | 16.3      |
| 1200  | 73    | 62       | 0        | 10       | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.9 | 16.7      |
| 1300  | 95    | 81       | 0        | 9        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 3         | 2         | 12.3 | 15.8      |
| 1400  | 71    | 58       | 0        | 10       | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 13   | 16.8      |
| 1500  | 93    | 84       | 1        | 5        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 1         | 13.8 | 17.9      |
| 1600  | 106   | 96       | 0        | 8        | 0        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 14.3 | 18.2      |
| 1700  | 169   | 152      | 0        | 10       | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 5         | 12.8 | 16.3      |
| 1800  | 94    | 83       | 0        | 9        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 0         | 13.4 | 17.3      |
| 1900  | 60    | 46       | 0        | 7        | 0        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 4         | 15.2 | 20.5      |
| 2000  | 50    | 38       | 0        | 8        | 0        | 0        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 1         | 15.4 | 19.7      |
| 2100  | 33    | 25       | 0        | 6        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 14.5 | 20.1      |
| 2200  | 30    | 29       | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.9 | 20.8      |
| 2300  | 5     | 5        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.6 | -         |
| 07-19 | 1080  | 931      | 2        | 107      | 5        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 14        | 20        | 13.7 | 17.9      |
| 06-22 | 1267  | 1082     | 2        | 129      | 6        | 2        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 19        | 26        | 13.9 | 18.3      |
| 06-00 | 1302  | 1116     | 2        | 130      | 6        | 2        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 19        | 26        | 13.9 | 18.3      |
| 00-00 | 1338  | 1146     | 2        | 130      | 8        | 3        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 20        | 28        | 14   | 18.5      |

23 May 2019

| Time  | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 14 | Cls 15 | Mean   | Vpp 85 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|
| 0000  | 3     | 3     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.5 - |        |
| 0100  | 2     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 15.8 - |        |
| 0200  | 5     | 5     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 17.9 - |        |
| 0300  | 2     | 0     | 0     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 25.5 - |        |
| 0400  | 2     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 7.8 -  |        |
| 0500  | 15    | 15    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 15.7   | 20.4   |
| 0600  | 38    | 33    | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 2      | 16.7   | 22.4   |
| 0700  | 67    | 58    | 0     | 8     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 15.5   | 21     |
| 0800  | 77    | 67    | 0     | 7     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 3      | 15.5   | 20.4   |
| 0900  | 75    | 68    | 1     | 4     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 13.9   | 18.1   |
| 1000  | 89    | 75    | 1     | 8     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 4      | 1      | 13.8   | 18.3   |
| 1100  | 60    | 51    | 0     | 5     | 1     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 0      | 14.6   | 18.8   |
| 1200  | 72    | 57    | 0     | 10    | 0     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 3      | 13     | 17.4   |
| 1300  | 91    | 75    | 0     | 10    | 0     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 3      | 13.4   | 17.9   |
| 1400  | 91    | 73    | 0     | 12    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 4      | 2      | 13     | 16.5   |
| 1500  | 118   | 101   | 1     | 13    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 3      | 0      | 13.7   | 18.3   |
| 1600  | 106   | 87    | 0     | 15    | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 3      | 0      | 13.4   | 16.3   |
| 1700  | 121   | 106   | 0     | 11    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 3      | 13.3   | 16.8   |
| 1800  | 126   | 112   | 0     | 10    | 0     | 0     | 1     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 2      | 13     | 16.7   |
| 1900  | 70    | 59    | 0     | 10    | 0     | 0     | 0     | 1     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.9   | 20.2   |
| 2000  | 41    | 30    | 0     | 8     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 2      | 14     | 20     |
| 2100  | 52    | 45    | 0     | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 1      | 14.9   | 20     |
| 2200  | 22    | 19    | 0     | 3     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 15.6   | 21.3   |
| 2300  | 11    | 10    | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 14.4   | 18     |
| 07-19 | 1093  | 930   | 3     | 113   | 3     | 3     | 1     | 0     | 0     | 0     | 0      | 0      | 0      | 23     | 17     | 13.7   | 18     |
| 06-22 | 1294  | 1097  | 3     | 138   | 4     | 3     | 1     | 1     | 0     | 0     | 0      | 0      | 0      | 25     | 22     | 13.9   | 18.2   |
| 06-00 | 1327  | 1126  | 3     | 142   | 4     | 3     | 1     | 1     | 0     | 0     | 0      | 0      | 0      | 25     | 22     | 13.9   | 18.2   |
| 00-00 | 1356  | 1153  | 3     | 144   | 4     | 3     | 1     | 1     | 0     | 0     | 0      | 0      | 0      | 25     | 22     | 14     | 18.3   |

## K&M TRAFFIC SURVEYS

SITE: Rye House

LOCATION: Attached to lamppost

GRID REFERENCE: 51.769862, 0.006010

DIRECTION: NORTH-EASTBOUND

SPEED LIMIT: 20MPH

17 May 2019

[illegible]



18 May 2019

[illegible]

19 May 2019

[illegible]

**20 May 2019**

[illegible]



21 May 2019

| Time  | Total | Vbin<br>6<br>12 | Vbin<br>12<br>19 | Vbin<br>19<br>25 | Vbin<br>25<br>31 | Vbin<br>31<br>37 | Vbin<br>37<br>43 | Vbin<br>43<br>50 | Vbin<br>50<br>56 | Vbin<br>56<br>62 | Vbin<br>62<br>68 | Vbin<br>68<br>75 | Vbin<br>75<br>81 | Vbin<br>81<br>87 | Vbin<br>87<br>93 | Vbin<br>93<br>99 | Mean   | Vpp<br>85 |
|-------|-------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|--------|-----------|
| 0000  | 3     | 1               | 0                | 2                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 18.9 - |           |
| 0100  | 4     | 0               | 1                | 3                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 17.9 - |           |
| 0200  | 1     | 0               | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 12.8 - |           |
| 0300  | 5     | 0               | 3                | 2                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 18.2 - |           |
| 0400  | 3     | 0               | 3                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 14.9 - |           |
| 0500  | 24    | 10              | 8                | 5                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 14.6   | 21.2      |
| 0600  | 50    | 29              | 15               | 5                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.1   | 18.4      |
| 0700  | 73    | 17              | 30               | 22               | 4                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 16.4   | 21.5      |
| 0800  | 97    | 28              | 46               | 23               | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 15.3   | 20.5      |
| 0900  | 85    | 28              | 36               | 20               | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 15.1   | 20.2      |
| 1000  | 78    | 38              | 34               | 6                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.3   | 16.9      |
| 1100  | 62    | 33              | 21               | 8                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.3   | 18.4      |
| 1200  | 89    | 52              | 31               | 4                | 2                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 12.9   | 17.5      |
| 1300  | 88    | 43              | 34               | 9                | 1                | 0                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.2   | 18.2      |
| 1400  | 81    | 43              | 32               | 6                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 12.7   | 16.3      |
| 1500  | 88    | 53              | 28               | 7                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 12.5   | 16.9      |
| 1600  | 116   | 53              | 49               | 13               | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.7   | 18.4      |
| 1700  | 138   | 69              | 59               | 8                | 1                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.2   | 16.8      |
| 1800  | 89    | 29              | 52               | 7                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 14.4   | 17.8      |
| 1900  | 56    | 21              | 28               | 6                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 14.2   | 18.4      |
| 2000  | 51    | 25              | 18               | 6                | 2                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.6   | 19.1      |
| 2100  | 28    | 15              | 9                | 3                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.5   | 18.5      |
| 2200  | 27    | 10              | 11               | 3                | 3                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 15.6   | 20.9      |
| 2300  | 12    | 5               | 4                | 3                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 14.8   | 20.7      |
| 07-19 | 1084  | 486             | 452              | 133              | 11               | 1                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.8   | 18.5      |
| 06-22 | 1269  | 576             | 522              | 153              | 16               | 1                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.8   | 18.5      |
| 06-00 | 1308  | 591             | 537              | 159              | 19               | 1                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.8   | 18.5      |
| 00-00 | 1348  | 602             | 553              | 171              | 20               | 1                | 1                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 13.9   | 18.6      |

**22 May 2019**

[illegible]

**23 May 2019**

[illegible]



Grand Total

| Time | Total | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Mean | Vpp  |
|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| --   | 9243  | 4084 | 3935 | 1093 | 119  | 10   | 2    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 13.8 | 18.2 |
|      |       | 12   | 19   | 25   | 31   | 37   | 43   | 50   | 56   | 62   | 68   | 75   | 81   | 87   | 93   | 99   | 93   | 99   |      | 85   |      |
|      |       | 6    | 12   | 19   | 25   | 31   | 37   | 43   | 50   | 56   | 62   | 68   | 75   | 81   | 87   | 93   | 99   | 93   |      |      |      |

K&M TRAFFIC SURVEYS

SITE: Rye House

LOCATION: Attached to lamppost

GRID REFERENCE: 51.769862, 0.006010

DIRECTION: NORTH-EASTBOUND

SPEED LIMIT: 20MPH

|           | Fri<br>17-May | Sat<br>18-May | Sun<br>19-May | Mon<br>20-May | Tue<br>21-May | Wed<br>22-May | Thu<br>23-May | Averages<br>1-5.      1-7. |        |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------------------|--------|
| Hour      |               |               |               |               |               |               |               |                            |        |
| 0000-0100 | 2             | 5             | 9             | 5             | 3             | 2             | 3             | 3                          | 4.1    |
| 0100-0200 | 6             | 2             | 2             | 1             | 4             | 1             | 2             | 2.8                        | 2.6    |
| 0200-0300 | 4             | 5             | 8             | 4             | 1             | 0             | 5             | 2.8                        | 3.9    |
| 0300-0400 | 2             | 2             | 1             | 0             | 5             | 4             | 2             | 2.6                        | 2.3    |
| 0400-0500 | 8             | 9             | 3             | 5             | 3             | 10            | 2             | 5.6                        | 5.7    |
| 0500-0600 | 23            | 12            | 11            | 18            | 24            | 19            | 15            | 19.8                       | 17.4   |
| 0600-0700 | 49            | 32            | 28            | 40            | 50            | 44            | 38            | 44.2                       | 40.1   |
| 0700-0800 | 66            | 60            | 29            | 85            | 73            | 68            | 67            | 71.8                       | 64     |
| 0800-0900 | 94            | 58            | 38            | 87            | 97            | 84            | 77            | 87.8                       | 76.4   |
| 0900-1000 | 76            | 70            | 91            | 76            | 85            | 88            | 75            | 80                         | 80.1   |
| 1000-1100 | 83            | 98            | 87            | 68            | 78            | 77            | 89            | 79                         | 82.9   |
| 1100-1200 | 68            | 111           | 76            | 64            | 62            | 62            | 60            | 63.2                       | 71.9   |
| 1200-1300 | 93            | 127           | 92            | 53            | 89            | 73            | 72            | 76                         | 85.6   |
| 1300-1400 | 115           | 128           | 104           | 76            | 88            | 95            | 91            | 93                         | 99.6   |
| 1400-1500 | 123           | 157           | 101           | 79            | 81            | 71            | 91            | 89                         | 100.4  |
| 1500-1600 | 113           | 102           | 82            | 91            | 88            | 93            | 118           | 100.6                      | 98.1   |
| 1600-1700 | 139           | 76            | 61            | 106           | 116           | 106           | 106           | 114.6                      | 101.4  |
| 1700-1800 | 137           | 105           | 56            | 131           | 138           | 169           | 121           | 139.2                      | 122.4  |
| 1800-1900 | 108           | 70            | 46            | 103           | 89            | 94            | 126           | 104                        | 90.9   |
| 1900-2000 | 71            | 38            | 39            | 64            | 56            | 60            | 70            | 64.2                       | 56.9   |
| 2000-2100 | 45            | 58            | 36            | 41            | 51            | 50            | 41            | 45.6                       | 46     |
| 2100-2200 | 43            | 22            | 25            | 29            | 28            | 33            | 52            | 37                         | 33.1   |
| 2200-2300 | 39            | 13            | 20            | 20            | 27            | 30            | 22            | 27.6                       | 24.4   |
| 2300-2400 | 12            | 17            | 8             | 6             | 12            | 5             | 11            | 9.2                        | 10.1   |
| Totals    |               |               |               |               |               |               |               |                            |        |
| 0700-1900 | 1215          | 1162          | 863           | 1019          | 1084          | 1080          | 1093          | 1098.2                     | 1073.7 |
| 0600-2200 | 1423          | 1312          | 991           | 1193          | 1269          | 1267          | 1294          | 1289.2                     | 1249.9 |
| 0600-0000 | 1474          | 1342          | 1019          | 1219          | 1308          | 1302          | 1327          | 1326                       | 1284.4 |
| 0000-0000 | 1519          | 1377          | 1053          | 1252          | 1348          | 1338          | 1356          | 1362.6                     | 1320.4 |
| AM Peak   | 800<br>94     | 1100<br>111   | 900<br>91     | 800<br>87     | 800<br>97     | 900<br>88     | 1000<br>89    |                            |        |
| PM Peak   | 1600<br>139   | 1400<br>157   | 1300<br>104   | 1700<br>131   | 1700<br>138   | 1700<br>169   | 1800<br>126   |                            |        |





# K&M TRAFFIC SURVEYS

SITE: Rye House

LOCATION: Attached to lamppost

GRID REFERENCE: 51.769862, 0.006010

DIRECTION: SOUTH-WESTBOUND

SPEED LIMIT: 20MPH

17 May 2019

| Time  | Total | Cls<br>1 | Cls<br>2 | Cls<br>3 | Cls<br>4 | Cls<br>5 | Cls<br>6 | Cls<br>7 | Cls<br>8 | Cls<br>9 | Cls<br>10 | Cls<br>11 | Cls<br>12 | Cls<br>14 | Cls<br>15 | Mean   | Vpp<br>85 |
|-------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|-----------|
| 0000  | 6     | 6        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.2 - |           |
| 0100  | 6     | 5        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 11.5 - |           |
| 0200  | 2     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 10.3 - |           |
| 0300  | 3     | 2        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.5 - |           |
| 0400  | 6     | 6        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 12.4 - |           |
| 0500  | 41    | 35       | 0        | 1        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 0         | 13.2   | 17.2      |
| 0600  | 48    | 37       | 0        | 3        | 6        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 13.1   | 16.1      |
| 0700  | 80    | 58       | 1        | 4        | 15       | 0        | 0        | 0        | 1        | 0        | 0         | 0         | 0         | 1         | 0         | 12.3   | 14.3      |
| 0800  | 103   | 88       | 0        | 5        | 8        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.5   | 15.9      |
| 0900  | 77    | 61       | 0        | 7        | 9        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 12.4   | 15.4      |
| 1000  | 64    | 48       | 0        | 3        | 10       | 0        | 0        | 0        | 0        | 2        | 0         | 0         | 0         | 0         | 1         | 12.8   | 17.4      |
| 1100  | 84    | 69       | 0        | 7        | 6        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 13.1   | 16.7      |
| 1200  | 71    | 57       | 0        | 5        | 8        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.8   | 16.1      |
| 1300  | 99    | 81       | 1        | 6        | 8        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 3         | 0         | 12.7   | 16.7      |
| 1400  | 107   | 91       | 1        | 7        | 7        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.9   | 16.7      |
| 1500  | 102   | 85       | 1        | 5        | 7        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 2         | 12.9   | 16.4      |
| 1600  | 126   | 113      | 1        | 3        | 8        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 13     | 16.3      |
| 1700  | 126   | 114      | 0        | 0        | 9        | 0        | 0        | 0        | 0        | 2        | 0         | 0         | 0         | 1         | 0         | 14.1   | 17.4      |
| 1800  | 85    | 77       | 0        | 5        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.4   | 15.2      |
| 1900  | 81    | 73       | 0        | 2        | 5        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 14.7   | 19.1      |
| 2000  | 64    | 55       | 0        | 2        | 5        | 1        | 0        | 0        | 0        | 1        | 0         | 0         | 0         | 0         | 0         | 14.9   | 20.3      |
| 2100  | 45    | 39       | 0        | 1        | 4        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 14.7   | 18.7      |
| 2200  | 30    | 28       | 0        | 0        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.9   | 21.4      |
| 2300  | 24    | 24       | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.9   | 16.6      |
| 07-19 | 1124  | 942      | 5        | 57       | 97       | 1        | 0        | 0        | 1        | 4        | 0         | 0         | 0         | 7         | 10        | 12.9   | 16.4      |
| 06-22 | 1362  | 1146     | 5        | 65       | 117      | 2        | 0        | 0        | 1        | 5        | 0         | 0         | 0         | 8         | 13        | 13.2   | 16.7      |
| 06-00 | 1416  | 1198     | 5        | 65       | 119      | 2        | 0        | 0        | 1        | 5        | 0         | 0         | 0         | 8         | 13        | 13.2   | 16.7      |
| 00-00 | 1480  | 1254     | 5        | 67       | 123      | 2        | 0        | 0        | 1        | 5        | 0         | 0         | 0         | 10        | 13        | 13.2   | 16.7      |

18 May 2019

| Time  | Total | Cls<br>1 | Cls<br>2 | Cls<br>3 | Cls<br>4 | Cls<br>5 | Cls<br>6 | Cls<br>7 | Cls<br>8 | Cls<br>9 | Cls<br>10 | Cls<br>11 | Cls<br>12 | Cls<br>14 | Cls<br>15 | Mean   | Vpp<br>85 |
|-------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|-----------|
| 0000  | 11    | 8        | 0        | 1        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.3   | 20.1      |
| 0100  | 4     | 4        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14 -   |           |
| 0200  | 6     | 5        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 19.1 - |           |
| 0300  | 5     | 4        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 11 -   |           |
| 0400  | 3     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 1        | 0        | 0         | 0         | 0         | 0         | 0         | 9 -    |           |
| 0500  | 19    | 18       | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 11     | 13.6      |
| 0600  | 20    | 15       | 0        | 2        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 14.9   | 20.2      |
| 0700  | 43    | 30       | 1        | 3        | 7        | 0        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 14.8   | 19.7      |
| 0800  | 47    | 40       | 0        | 0        | 4        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 13     | 17.4      |
| 0900  | 64    | 50       | 0        | 10       | 3        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 12.5   | 15.7      |
| 1000  | 79    | 72       | 0        | 3        | 4        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 12.3   | 16.2      |
| 1100  | 82    | 71       | 0        | 2        | 9        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 12     | 16.1      |
| 1200  | 87    | 80       | 0        | 2        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 12.3   | 16.1      |
| 1300  | 123   | 111      | 0        | 5        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 4         | 12.6   | 16.1      |
| 1400  | 111   | 105      | 0        | 1        | 1        | 2        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 11.9   | 15.2      |
| 1500  | 108   | 94       | 0        | 7        | 3        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 11.8   | 15.8      |
| 1600  | 140   | 130      | 0        | 3        | 6        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.3   | 16.2      |
| 1700  | 161   | 147      | 0        | 5        | 5        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 2         | 12.2   | 15.6      |
| 1800  | 88    | 79       | 0        | 3        | 6        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.3   | 16.9      |
| 1900  | 54    | 46       | 0        | 0        | 5        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 14.1   | 19.4      |
| 2000  | 46    | 37       | 1        | 2        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 13     | 16.5      |
| 2100  | 62    | 52       | 1        | 1        | 5        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 1         | 13.2   | 16.1      |
| 2200  | 34    | 32       | 0        | 0        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.2   | 19.3      |
| 2300  | 34    | 30       | 0        | 1        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.3   | 17.1      |
| 07-19 | 1133  | 1009     | 1        | 44       | 54       | 5        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 4         | 15        | 12.4   | 16.1      |
| 06-22 | 1315  | 1159     | 3        | 49       | 68       | 6        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 8         | 21        | 12.6   | 16.2      |
| 06-00 | 1383  | 1221     | 3        | 50       | 73       | 6        | 1        | 0        | 0        | 0        | 0         | 0         | 0         | 8         | 21        | 12.7   | 16.3      |
| 00-00 | 1431  | 1262     | 3        | 51       | 77       | 6        | 1        | 0        | 1        | 0        | 0         | 0         | 0         | 9         | 21        | 12.7   | 16.3      |

19 May 2019

| Time  | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 14 | Cls 15 | Mean | Vpp 85 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|------|--------|
| 0000  | 10    | 8     | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 12.4 | -      |
| 0100  | 7     | 6     | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.3 | -      |
| 0200  | 7     | 6     | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 16.1 | -      |
| 0300  | 2     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 16.5 | -      |
| 0400  | 2     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 16.5 | -      |
| 0500  | 17    | 14    | 0     | 0     | 2     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 12.9 | 19.7   |
| 0600  | 16    | 16    | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 12.7 | 16.3   |
| 0700  | 22    | 15    | 0     | 5     | 1     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 14.5 | 18.4   |
| 0800  | 22    | 15    | 0     | 2     | 3     | 0     | 0     | 0     | 1     | 0     | 0      | 0      | 0      | 1      | 0      | 13.8 | 16.3   |
| 0900  | 63    | 55    | 0     | 2     | 5     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 1      | 13   | 17.2   |
| 1000  | 60    | 47    | 0     | 6     | 5     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 13.3 | 17.7   |
| 1100  | 71    | 62    | 0     | 4     | 5     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 12.6 | 15.2   |
| 1200  | 72    | 63    | 0     | 5     | 2     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 2      | 11.9 | 15.9   |
| 1300  | 90    | 87    | 0     | 2     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 12.3 | 15.3   |
| 1400  | 101   | 93    | 0     | 4     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 2      | 12   | 16     |
| 1500  | 106   | 92    | 2     | 8     | 2     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 12.7 | 16.6   |
| 1600  | 97    | 89    | 0     | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 2      | 11.9 | 15.9   |
| 1700  | 98    | 90    | 0     | 2     | 3     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 1      | 12.3 | 16.1   |
| 1800  | 70    | 56    | 0     | 6     | 4     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 2      | 14.2 | 17.6   |
| 1900  | 43    | 39    | 0     | 0     | 1     | 0     | 0     | 0     | 1     | 0     | 0      | 0      | 0      | 0      | 2      | 13.4 | 17     |
| 2000  | 22    | 19    | 0     | 2     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 14.3 | 17.2   |
| 2100  | 32    | 27    | 0     | 0     | 2     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 2      | 14.6 | 19.2   |
| 2200  | 12    | 10    | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 15   | 17     |
| 2300  | 7     | 4     | 0     | 0     | 1     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 14.9 | -      |
| 07-19 | 872   | 764   | 2     | 52    | 32    | 1     | 0     | 0     | 1     | 0     | 0      | 0      | 0      | 8      | 12     | 12.6 | 16.3   |
| 06-22 | 985   | 865   | 2     | 54    | 36    | 1     | 0     | 0     | 2     | 0     | 0      | 0      | 0      | 9      | 16     | 12.7 | 16.4   |
| 06-00 | 1004  | 879   | 2     | 54    | 38    | 2     | 0     | 0     | 2     | 0     | 0      | 0      | 0      | 11     | 16     | 12.8 | 16.4   |
| 00-00 | 1049  | 917   | 2     | 54    | 43    | 2     | 0     | 0     | 2     | 0     | 0      | 0      | 0      | 13     | 16     | 12.8 | 16.5   |



20 May 2019

| Time  | Total | Cls<br>1 | Cls<br>2 | Cls<br>3 | Cls<br>4 | Cls<br>5 | Cls<br>6 | Cls<br>7 | Cls<br>8 | Cls<br>9 | Cls<br>10 | Cls<br>11 | Cls<br>12 | Cls<br>14 | Cls<br>15 | Mean   | Vpp<br>85 |
|-------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|--------|-----------|
| 0000  | 5     | 5        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 18.1 - |           |
| 0100  | 6     | 6        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14 -   |           |
| 0200  | 2     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 11.5 - |           |
| 0300  | 3     | 3        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 14.3 - |           |
| 0400  | 3     | 2        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 11 -   |           |
| 0500  | 38    | 23       | 0        | 4        | 9        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 2         | 0         | 14     | 19.4      |
| 0600  | 63    | 45       | 0        | 4        | 13       | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.9   | 18.1      |
| 0700  | 98    | 75       | 0        | 8        | 12       | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 13.7   | 17.2      |
| 0800  | 106   | 79       | 0        | 5        | 21       | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 12.7   | 16.2      |
| 0900  | 78    | 64       | 0        | 4        | 9        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 13.2   | 17        |
| 1000  | 57    | 45       | 0        | 7        | 5        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 12.9   | 18        |
| 1100  | 62    | 48       | 0        | 10       | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 12.7   | 16.2      |
| 1200  | 59    | 48       | 0        | 7        | 4        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 12.7   | 16.4      |
| 1300  | 62    | 51       | 0        | 6        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 13     | 17.6      |
| 1400  | 84    | 73       | 1        | 7        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 13.4   | 17.7      |
| 1500  | 84    | 69       | 0        | 10       | 4        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.1   | 15.9      |
| 1600  | 80    | 65       | 0        | 5        | 7        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 13.3   | 17.3      |
| 1700  | 110   | 99       | 1        | 6        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 3         | 13.4   | 17.3      |
| 1800  | 76    | 69       | 0        | 6        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.5   | 17.1      |
| 1900  | 72    | 58       | 0        | 6        | 4        | 2        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 13.3   | 16.5      |
| 2000  | 49    | 44       | 0        | 2        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 13.1   | 16.5      |
| 2100  | 35    | 28       | 0        | 0        | 4        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 3         | 0         | 14     | 17.3      |
| 2200  | 16    | 16       | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 15.2   | 18.2      |
| 2300  | 6     | 5        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 13.2 - |           |
| 07-19 | 956   | 785      | 2        | 81       | 71       | 2        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 4         | 11        | 13.2   | 17        |
| 06-22 | 1175  | 960      | 2        | 93       | 94       | 5        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 8         | 13        | 13.2   | 17        |
| 06-00 | 1197  | 981      | 2        | 93       | 95       | 5        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 8         | 13        | 13.3   | 17.1      |
| 00-00 | 1254  | 1022     | 2        | 97       | 105      | 5        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 10        | 13        | 13.3   | 17.1      |

21 May 2019

| Time  | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 14 | Cls 15 | Mean | Vpp  |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|------|------|
| 0000  | 6     | 6     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.7 | -    |
| 0100  | 5     | 5     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 12.1 | -    |
| 0200  | 3     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.1 | -    |
| 0300  | 7     | 6     | 0     | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 12.2 | -    |
| 0400  | 4     | 4     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 16.7 | -    |
| 0500  | 44    | 36    | 0     | 1     | 3     | 2     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 0      | 12.2 | 15.2 |
| 0600  | 53    | 45    | 0     | 3     | 3     | 1     | 1     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.2 | 16.6 |
| 0700  | 67    | 52    | 0     | 4     | 9     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 2      | 13.7 | 17.9 |
| 0800  | 86    | 60    | 0     | 2     | 20    | 1     | 0     | 0     | 0     | 1     | 0      | 0      | 0      | 1      | 1      | 12.9 | 15.4 |
| 0900  | 65    | 56    | 0     | 4     | 5     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.9 | 17.8 |
| 1000  | 64    | 49    | 0     | 10    | 3     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 2      | 12.2 | 16.1 |
| 1100  | 81    | 71    | 0     | 6     | 3     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 1      | 13.9 | 17.3 |
| 1200  | 71    | 57    | 0     | 7     | 5     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 13.1 | 16.8 |
| 1300  | 81    | 73    | 0     | 5     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 13   | 16.7 |
| 1400  | 86    | 66    | 1     | 12    | 4     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 2      | 13   | 17.2 |
| 1500  | 89    | 81    | 0     | 7     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 12.4 | 16.2 |
| 1600  | 79    | 66    | 0     | 9     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 1      | 12.9 | 16.6 |
| 1700  | 101   | 89    | 0     | 8     | 2     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 2      | 13.7 | 17.4 |
| 1800  | 61    | 54    | 0     | 4     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 2      | 14.2 | 18.1 |
| 1900  | 64    | 58    | 0     | 3     | 2     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 14.1 | 18.5 |
| 2000  | 62    | 54    | 0     | 5     | 3     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 15.3 | 20.3 |
| 2100  | 41    | 33    | 0     | 3     | 2     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 1      | 14.7 | 19.1 |
| 2200  | 35    | 32    | 0     | 2     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.9 | 19   |
| 2300  | 15    | 13    | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 1      | 12.9 | 17.7 |
| 07-19 | 931   | 774   | 1     | 78    | 55    | 1     | 0     | 0     | 0     | 1     | 0      | 0      | 0      | 6      | 15     | 13.2 | 16.9 |
| 06-22 | 1151  | 964   | 1     | 92    | 65    | 2     | 1     | 0     | 0     | 1     | 0      | 0      | 0      | 9      | 16     | 13.4 | 17.2 |
| 06-00 | 1201  | 1009  | 1     | 94    | 67    | 2     | 1     | 0     | 0     | 1     | 0      | 0      | 0      | 9      | 17     | 13.4 | 17.3 |
| 00-00 | 1270  | 1068  | 1     | 95    | 71    | 5     | 1     | 0     | 0     | 1     | 0      | 0      | 0      | 11     | 17     | 13.4 | 17.1 |

22 May 2019

| Time  | Total | Cls<br>1 | Cls<br>2 | Cls<br>3 | Cls<br>4 | Cls<br>5 | Cls<br>6 | Cls<br>7 | Cls<br>8 | Cls<br>9 | Cls<br>10 | Cls<br>11 | Cls<br>12 | Cls<br>14 | Cls<br>15 | Mean | Vpp<br>85 |
|-------|-------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|------|-----------|
| 0000  | 4     | 3        | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 0    | 12.8 -    |
| 0100  | 3     | 3        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 0    | 12.1 -    |
| 0200  | 1     | 1        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 0    | 12.8 -    |
| 0300  | 2     | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 0    | 21.3 -    |
| 0400  | 16    | 15       | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 0    | 12.8      |
| 0500  | 26    | 19       | 0        | 0        | 4        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 3         | 0         | 0    | 13.6      |
| 0600  | 54    | 43       | 0        | 4        | 5        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 2    | 14        |
| 0700  | 81    | 57       | 0        | 6        | 15       | 0        | 0        | 1        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 2    | 13.7      |
| 0800  | 109   | 90       | 0        | 5        | 13       | 0        | 0        | 0        | 0        | 1        | 0         | 0         | 0         | 0         | 0         | 0    | 13.3      |
| 0900  | 67    | 58       | 0        | 4        | 3        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 1         | 1    | 14.8      |
| 1000  | 59    | 42       | 0        | 14       | 1        | 0        | 0        | 1        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 0    | 13.2      |
| 1100  | 67    | 51       | 0        | 9        | 1        | 1        | 0        | 0        | 1        | 0        | 0         | 0         | 0         | 2         | 2         | 2    | 12.6      |
| 1200  | 68    | 55       | 0        | 9        | 4        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 0    | 12.3      |
| 1300  | 81    | 66       | 0        | 9        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 2         | 2    | 12.3      |
| 1400  | 82    | 71       | 1        | 7        | 3        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 0    | 12.8      |
| 1500  | 70    | 61       | 0        | 6        | 2        | 0        | 0        | 1        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 0    | 13.3      |
| 1600  | 94    | 81       | 0        | 11       | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 1         | 1    | 12.6      |
| 1700  | 116   | 97       | 0        | 17       | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 2         | 2    | 13.6      |
| 1800  | 72    | 62       | 0        | 7        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 3         | 3    | 14.1      |
| 1900  | 72    | 61       | 0        | 8        | 1        | 1        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 0    | 13.3      |
| 2000  | 50    | 39       | 0        | 8        | 2        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 0    | 13.5      |
| 2100  | 40    | 37       | 0        | 1        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 0    | 14.8      |
| 2200  | 28    | 26       | 0        | 0        | 1        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 1         | 0         | 0    | 15.2      |
| 2300  | 15    | 13       | 0        | 2        | 0        | 0        | 0        | 0        | 0        | 0        | 0         | 0         | 0         | 0         | 0         | 0    | 15.9      |
| 07-19 | 966   | 791      | 1        | 104      | 45       | 2        | 0        | 3        | 1        | 1        | 0         | 0         | 0         | 5         | 13        | 13   | 13.2      |
| 06-22 | 1182  | 971      | 1        | 125      | 54       | 3        | 0        | 3        | 1        | 1        | 0         | 0         | 0         | 8         | 15        | 15   | 13.3      |
| 06-00 | 1225  | 1010     | 1        | 127      | 55       | 3        | 0        | 3        | 1        | 1        | 0         | 0         | 0         | 9         | 15        | 15   | 13.4      |
| 00-00 | 1277  | 1053     | 1        | 127      | 61       | 3        | 0        | 3        | 1        | 1        | 0         | 0         | 0         | 12        | 15        | 15   | 13.4      |



23 May 2019

| Time  | Total | Cls 1 | Cls 2 | Cls 3 | Cls 4 | Cls 5 | Cls 6 | Cls 7 | Cls 8 | Cls 9 | Cls 10 | Cls 11 | Cls 12 | Cls 14 | Cls 15 | Mean | Vpp 85 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|------|--------|
| 0000  | 4     | 4     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 15.8 | -      |
| 0100  | 5     | 4     | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 17.6 | -      |
| 0200  | 1     | 1     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 14.5 | -      |
| 0300  | 2     | 1     | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 12.6 | -      |
| 0400  | 8     | 7     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 1     | 0      | 0      | 0      | 0      | 0      | 12.7 | -      |
| 0500  | 29    | 19    | 0     | 4     | 2     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 3      | 1      | 13.9 | 18.5   |
| 0600  | 37    | 28    | 0     | 2     | 4     | 2     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 1      | 13.7 | 18.1   |
| 0700  | 89    | 71    | 0     | 10    | 5     | 2     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 1      | 14.1 | 19     |
| 0800  | 86    | 72    | 0     | 9     | 5     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.4 | 16.5   |
| 0900  | 55    | 47    | 0     | 5     | 2     | 0     | 0     | 0     | 1     | 0     | 0      | 0      | 0      | 0      | 0      | 13.5 | 18.4   |
| 1000  | 61    | 48    | 0     | 11    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 13.4 | 16.1   |
| 1100  | 60    | 46    | 0     | 10    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 3      | 12.9 | 16.8   |
| 1200  | 74    | 66    | 0     | 6     | 1     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 13.4 | 18.9   |
| 1300  | 86    | 74    | 0     | 6     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 3      | 12.3 | 15.2   |
| 1400  | 70    | 58    | 0     | 10    | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 1      | 12.7 | 16.7   |
| 1500  | 101   | 91    | 1     | 7     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 0      | 13   | 16.3   |
| 1600  | 105   | 91    | 0     | 11    | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 0      | 14.4 | 18.9   |
| 1700  | 116   | 103   | 2     | 9     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 2      | 0      | 13.7 | 17.4   |
| 1800  | 99    | 92    | 0     | 4     | 0     | 0     | 1     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 2      | 13.9 | 18.3   |
| 1900  | 61    | 53    | 0     | 5     | 1     | 1     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 14.3 | 18     |
| 2000  | 40    | 37    | 0     | 2     | 0     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 1      | 0      | 14.2 | 18.1   |
| 2100  | 61    | 51    | 0     | 6     | 3     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 1      | 13.2 | 17     |
| 2200  | 26    | 24    | 0     | 1     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 14.4 | 19.7   |
| 2300  | 15    | 14    | 0     | 0     | 1     | 0     | 0     | 0     | 0     | 0     | 0      | 0      | 0      | 0      | 0      | 14.7 | 19.6   |
| 07-19 | 1002  | 859   | 3     | 98    | 15    | 3     | 1     | 0     | 1     | 0     | 0      | 0      | 0      | 11     | 11     | 13.5 | 17.4   |
| 06-22 | 1201  | 1028  | 3     | 113   | 23    | 6     | 1     | 0     | 1     | 0     | 0      | 0      | 0      | 13     | 13     | 13.5 | 17.4   |
| 06-00 | 1242  | 1066  | 3     | 114   | 25    | 6     | 1     | 0     | 1     | 0     | 0      | 0      | 0      | 13     | 13     | 13.6 | 17.5   |
| 00-00 | 1291  | 1102  | 3     | 118   | 29    | 6     | 1     | 0     | 1     | 1     | 0      | 0      | 0      | 16     | 14     | 13.6 | 17.5   |

## K&M TRAFFIC SURVEYS

SITE: Rye House

LOCATION: Attached to lamppost

GRID REFERENCE: 51.769862, 0.006010

DIRECTION: SOUTH-WESTBOUND

SPEED LIMIT: 20MPH

17 May 2019

[illegible]





19 May 2019

[illegible]

**20 May 2019**

[illegible]

21 May 2019

[illegible]



**22 May 2019**

[illegible]



Grand Total

| Time | Total | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Vbin | Mean | Vpp  |
|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| --   | 9052  | 4282 | 4053 | 651  | 59   | 5    | 2    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 13.2 | 16.9 |
|      |       | 6    | 12   | 19   | 25   | 31   | 37   | 43   | 43   | 50   | 50   | 56   | 56   | 62   | 68   | 68   | 75   | 81   | 87   | 87   | 93   |
|      |       | 12   | 19   | 25   | 31   | 37   | 43   | 43   | 50   | 50   | 56   | 56   | 62   | 62   | 68   | 75   | 81   | 87   | 93   | 99   | 85   |



K&M TRAFFIC SURVEYS

SITE: Rye House

LOCATION: Attached to lamppost

GRID REFERENCE: 51.769862, 0.006010

DIRECTION: SOUTH-WESTBOUND

SPEED LIMIT: 20MPH

|           | Fri<br>17-May | Sat<br>18-May | Sun<br>19-May | Mon<br>20-May | Tue<br>21-May | Wed<br>22-May | Thu<br>23-May | Averages<br>1-5.      1-7. |        |
|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------------------|--------|
| Hour      |               |               |               |               |               |               |               |                            |        |
| 0000-0100 | 6             | 11            | 10            | 5             | 6             | 4             | 4             | 5                          | 6.6    |
| 0100-0200 | 6             | 4             | 7             | 6             | 5             | 3             | 5             | 5                          | 5.1    |
| 0200-0300 | 2             | 6             | 7             | 2             | 3             | 1             | 1             | 1.8                        | 3.1    |
| 0300-0400 | 3             | 5             | 2             | 3             | 7             | 2             | 2             | 3.4                        | 3.4    |
| 0400-0500 | 6             | 3             | 2             | 3             | 4             | 16            | 8             | 7.4                        | 6      |
| 0500-0600 | 41            | 19            | 17            | 38            | 44            | 26            | 29            | 35.6                       | 30.6   |
| 0600-0700 | 48            | 20            | 16            | 63            | 53            | 54            | 37            | 51                         | 41.6   |
| 0700-0800 | 80            | 43            | 22            | 98            | 67            | 81            | 89            | 83                         | 68.6   |
| 0800-0900 | 103           | 47            | 22            | 106           | 86            | 109           | 86            | 98                         | 79.9   |
| 0900-1000 | 77            | 64            | 63            | 78            | 65            | 67            | 55            | 68.4                       | 67     |
| 1000-1100 | 64            | 79            | 60            | 57            | 64            | 59            | 61            | 61                         | 63.4   |
| 1100-1200 | 84            | 82            | 71            | 62            | 81            | 67            | 60            | 70.8                       | 72.4   |
| 1200-1300 | 71            | 87            | 72            | 59            | 71            | 68            | 74            | 68.6                       | 71.7   |
| 1300-1400 | 99            | 123           | 90            | 62            | 81            | 81            | 86            | 81.8                       | 88.9   |
| 1400-1500 | 107           | 111           | 101           | 84            | 86            | 82            | 70            | 85.8                       | 91.6   |
| 1500-1600 | 102           | 108           | 106           | 84            | 89            | 70            | 101           | 89.2                       | 94.3   |
| 1600-1700 | 126           | 140           | 97            | 80            | 79            | 94            | 105           | 96.8                       | 103    |
| 1700-1800 | 126           | 161           | 98            | 110           | 101           | 116           | 116           | 113.8                      | 118.3  |
| 1800-1900 | 85            | 88            | 70            | 76            | 61            | 72            | 99            | 78.6                       | 78.7   |
| 1900-2000 | 81            | 54            | 43            | 72            | 64            | 72            | 61            | 70                         | 63.9   |
| 2000-2100 | 64            | 46            | 22            | 49            | 62            | 50            | 40            | 53                         | 47.6   |
| 2100-2200 | 45            | 62            | 32            | 35            | 41            | 40            | 61            | 44.4                       | 45.1   |
| 2200-2300 | 30            | 34            | 12            | 16            | 35            | 28            | 26            | 27                         | 25.9   |
| 2300-2400 | 24            | 34            | 7             | 6             | 15            | 15            | 15            | 15                         | 16.6   |
| Totals    |               |               |               |               |               |               |               |                            |        |
| 0700-1900 | 1124          | 1133          | 872           | 956           | 931           | 966           | 1002          | 995.8                      | 997.7  |
| 0600-2200 | 1362          | 1315          | 985           | 1175          | 1151          | 1182          | 1201          | 1214.2                     | 1195.9 |
| 0600-0000 | 1416          | 1383          | 1004          | 1197          | 1201          | 1225          | 1242          | 1256.2                     | 1238.3 |
| 0000-0000 | 1480          | 1431          | 1049          | 1254          | 1270          | 1277          | 1291          | 1314.4                     | 1293.1 |
| AM Peak   | 800<br>103    | 1100<br>82    | 1100<br>71    | 800<br>106    | 800<br>86     | 800<br>109    | 700<br>89     |                            |        |
| PM Peak   | 1700<br>126   | 1700<br>161   | 1500<br>106   | 1700<br>110   | 1700<br>101   | 1700<br>116   | 1700<br>116   |                            |        |

## Appendix H – Safety audit and responses



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**Rye Road, Hoddesdon, Hertfordshire**

**Road Safety Audit Stage 1**

on behalf of EAS

**TMS reference no: 12483**



## Rye Road, Hoddesdon, Hertfordshire

### Road Safety Audit Stage 1

---

#### 1. Introduction

- 1.1 This report describes a Stage 1 Road Safety Audit carried out on proposed highway works on Rye Road, Hoddesdon in relation to a residential development and station car park, on behalf of EAS. The audit was carried out on 13<sup>th</sup> November 2015 in the offices of TMS Consultancy.
- 1.2 The audit team members were as follows:-
- Darren Newbold – MSc, BSc (Hons), MCIHT, MSoRSA  
HA Approved Certificate of Competency  
Senior Engineer, TMS Consultancy
- Andy Paul - BEng (Hons), MCIHT  
HA Approved Certificate of Competency  
Road Safety Consultant
- 1.3 The audit comprised an examination of the documents listed in **Appendix A**. The site was visited by the Audit Team on 12<sup>th</sup> November 2015 at 10.15am. The weather was fine and dry. Traffic flows were light. Pedestrian and cycle flows were very light.
- 1.4 The terms of reference of the audit are as described in HD 19/15. The 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 design to any other criteria.
- 1.5 All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise accident occurrence. The locations of specific problems are referenced on the plan in **Appendix B**.
- 1.6 The scheme consists of proposed highway works on Rye Road, Hoddesdon in relation to a residential development and station car park. A priority junction access will be provided to serve the residential development and station car park. Also included in the works is the signalisation of Rye Road to facilitate one way working through the narrow railway bridge.

## **2. Items resulting from this Stage 1 Audit**

### **2.1 PROBLEM**

Location – Rye Road

Summary: Potential hazard to pedestrians

A formal footway with assumed full height kerbs is shown to be provided on the west side of the proposed access road, emerging onto Rye Road where it terminates. There is an existing on carriageway pedestrian route on the south east side of Rye Road, highlighted by a coloured surfacing. It is not clear how pedestrians will connect between the two, i.e. cross between a flush surface and a footway with full height kerb. Visually impaired pedestrians in particular may have difficulty crossing between the development and the existing pedestrian route.

#### **RECOMMENDATION**

At detailed design stage a pedestrian crossing should be provided between the two footways. A dropped kerb with tactile paving should be provided on the northwest side of Rye Road where the new footway terminates with some form of tactile paved crossing indicator provided on the existing pedestrian route.

### **2.2 OTHER ISSUES**

- 1) It is acknowledged that an MfS visibility splay is shown to be provided to the left from the proposed site access and it is accepted that vehicle speeds over the canal bridge are slow and likely to be under 25mph as observed on site (and confirmed from speed survey results within the audit brief) due to the narrow bridge deck and vertical alignment. However, the site access will introduce a greater number of turning movements compared to the existing usage. It may be prudent to provide a 'junction ahead' warning sign for south-westbound drivers approaching the bridge, to warn that a junction is ahead.
- 2) The traffic signal head on the south-westbound approach to the railway bridge is shown to be very close to the stop line. Drivers at the stop line may struggle to view the traffic signal head. There should be greater separation between the stop line and signal head. At detailed design stage careful consideration should be given to the positioning of the traffic signal head to ensure that the maximum width of the pedestrian route is available to pedestrians.

### 3. Audit Team Statement

We certify that the terms of reference of the audit are as described in HD 19/15.

#### **Audit Team Leader**

Darren Newbold – MSc, BSc (Hons), MCIHT, MSoRSA  
HA Approved Certificate of Competency  
Senior Engineer, TMS Consultancy

Signed

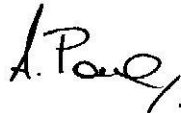


Date 16<sup>th</sup> November 2015

#### **Audit Team Member**

Andy Paul - BEng (Hons), MCIHT  
HA Approved Certificate of Competency  
Road Safety Consultant

Signed



Date 16<sup>th</sup> November 2015

#### **TMS Consultancy**

Unit 1b, Sovereign Court 2,  
University of Warwick Science Park  
Sir William Lyons Road  
Coventry, CV4 7EZ



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info@tmsconsultancy.co.uk  
www.tmsconsultancy.co.uk



## Appendix A

### Documents Examined:

- Drawing No. SK02 Rev A
- Drawing No. SK01

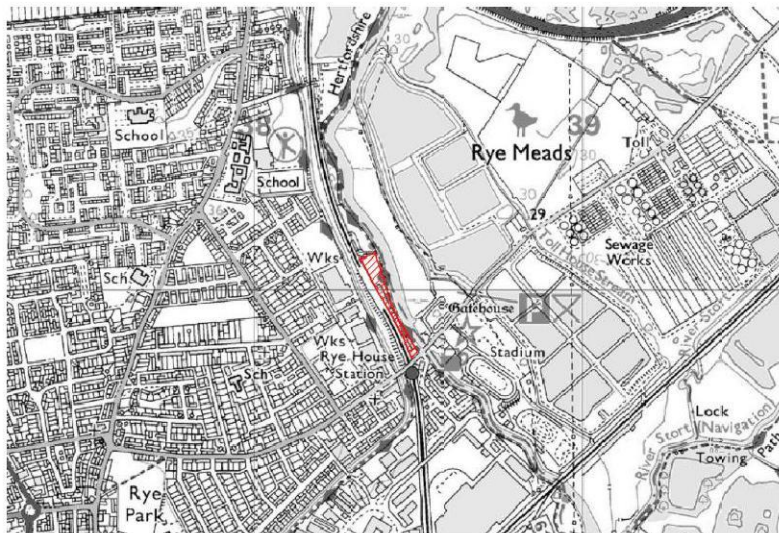
### Other Information Provided:

- Traffic Count Data
- Site Location Plan (Figure 01)
- Accident Data
- Audit Brief (email from Stephen Adams 30/10/2015)

## Appendix B

Please refer to the following page for a plan illustrating the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

The location of the scheme is shown below:







## Development Management – Road Safety Review

|                     |  |       |                               |
|---------------------|--|-------|-------------------------------|
| Scheme              | Rye Road, Hoddesdon – Proposed traffic signal operation.                                     |       |                               |
| App Ref:            | Rye Road, Hoddesdon. – TMS Stage 1 Road Safety Audit – dated 16 <sup>th</sup> November 2015. |       |                               |
| Review prepared by: | Graham Beviss  | Date: | 7 <sup>th</sup> December 2015 |

The following observations and comments are recorded in relation to the following “Problems” identified in the Stage 1 Road Safety Audit prepared by TMS and dated 16/11/15. The Safety Assessment section below gives an indication of the anticipated impact on road safety of the proposed alterations to the highway. The observations and comments following this Safety Assessment sheet are recorded in relation to the problems and recommendations recorded in the Road Safety Audit. Any other concerns that are considered relevant are reported at the end of this document.

| <b>Safety Assessment ( to be completed by HCC Officer)</b> |  |
|--|--|
| Consideration:   | In consideration of the comments recorded in the following sections of this review and assuming the additional HCC comments and recommendations are incorporated within the junction designs, the risk of a reduction in the level of road safety associated with the development proposals is assessed as:- |
| HCC (delete as appropriate):-                              | <p>Safety Positive-?</p> <p><b>Safety Neutral.</b></p> <p>Low Risk of reduction in service level?</p> <p>*Medium Risk of reduction in service level?</p> <p>**High Risk of reduction in service level.</p>   |

\* Assessments judged as “Medium Risk Reduction” will be discussed via a Safety Review meeting to confirm the Assessment and agree if the proposal should be the subject of a formal Road Safety Audit at the current design stage.

\*\* Assessments judged at “High Risk Reduction” will be followed up with a letter advising that the proposals will be the subject of a formal Road Safety Audit process at the current design stage. The primary concerns identified can be notified to the Applicant in the letter.

| <b>Road Safety Audit Problem Ref 2.1 – Rye Road – pedestrian route.</b> |   |
|---|---|
| Consideration:  | Possible confusion regarding pedestrian crossing route on Rye Road.   |
| Road Safety Audit recommendation.                                       | <b>Recommendation:-</b><br>“At detailed design stage a pedestrian crossing should be provided between the two footways. A dropped kerb with tactile paving should be provided on the northwest side of Rye Road where the new footway terminates with some form of tactile paved crossing indicator provided on the existing pedestrian route.”   |
| Design response.  | N/A at this time.   |
| HCC Safety Review recommendation.                                       | <b>The recommendation identified above is supported in principle. There is also a significant concern regarding the positioning of the pedestrian route at its north-eastern end. The position of the Give Way marking shown on Fishermans Way will direct southbound traffic on Rye Road across the proposed pedestrian route. It is suggested that the kerbing on the southwest corner of the junction is built out to provide a footway area separated from the carriageway. This would deliver a suitable area to provide the proposed tactile paving. The Give Way markings on Fishermans Way would be repositioned to align with the extended kerbline and direct traffic away from the pedestrian route.</b> |

| <b>Road Safety Audit Issue Ref 2.2 (1) – Traffic signs on approach to site access junction.</b> |   |
|---|---|
| Consideration:  | Possible vehicular conflicts due to increased number of vehicles turning to and from the site access.   |
| Road Safety Audit comment.  | “...however, the site access will introduce a greater number of turning movements compared to the existing usage. It may be prudent to provide a ‘junction ahead’ warning sign for south-westbound drivers approaching the bridge, to warn that a junction is ahead.” |
| Design response.  | N/A at this time.   |
| HCC Safety Review recommendation.   | <b>The recommendation identified above is supported.</b>  |



| Road Safety Audit Issue Ref 2.2 (2) – Driver visibility to traffic signal heads. |  |
|--|--|
| Consideration:   | Possible vehicular conflicts due to increased number of vehicles turning to and from the site access.  |
| Road Safety Audit comment.   | "Drivers at the stop line may struggle to view the traffic signal head. There should be greater separation between the stop line and the signal head. At detailed design stage careful consideration should be given to the positioning of the traffic signal head to ensure that the maximum width of the pedestrian route is available to pedestrians."                            |
| Design response.   | N/A at this time.  |
| HCC Safety Review recommendation.  | <b>The need to ensure adequate visibility to the signal heads is acknowledged. However it is suggested that this would be best achieved by the provision of secondary signal heads mounted on the back of the two proposed signal poles. The vertical geometry of Rye Road will require that the use of high signal poles to deliver appropriate driver visibility towards them.</b> |

The comments recorded above are made with reference to my 20+ years experience in Road Safety Engineering including Road Safety Audit and the design of casualty reduction proposals. They are provided to promote safety related and general improvements to the proposed junction layouts but do not represent any approval of the scheme proposals.

Signed: G Bevis .....

Graham Bevis  
(For HCC)

Date: 07/12/15 .....





safer roads for everyone

**Rye Road, Hoddesdon, Hertfordshire**

**Road Safety Audit Stage 1**

on behalf of EAS (Elvidge & Jones)

**TMS reference no: 15241**

**Date: 2<sup>nd</sup> October 2019**

## Rye Road, Hoddesdon, Hertfordshire

### Road Safety Audit Stage 1

---

#### 1. Introduction

- 1.1 This report describes a Stage 1 Road Safety Audit carried out on proposed highway works on Rye Road, Hoddesdon in relation to a residential development and station car park, on behalf of EAS (Elvidge & Jones). The audit was carried out on 1<sup>st</sup> October 2019 in the offices of TMS Consultancy. This RSA1 report supersedes TMS 12483, previously carried out in November 2015.

- 1.2 The audit team members were as follows:

#### **Audit Team Leader**

Darren Newbold – MSc, BSc (Hons), MCIHT, MSoRSA  
Highways England Approved RSA Certificate of Competency  
Senior Engineer, TMS Consultancy

#### **Audit Team Member**

Richard Cook - BA (Hons)  
Graduate Engineer, TMS Consultancy

- 1.3 The audit comprised an examination of the documents listed in **Appendix A**.
- 1.4 The site was visited by the Audit Team on 1<sup>st</sup> October 2019 at 11.30am. The weather was overcast and damp. Traffic flows were light. Pedestrian and cycle flows were also light.
- 1.5 The terms of reference of the Road Safety Audit are as described in GG 119 (GG 119 superseded HD 19/15 in November 2018). The 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 design to any other criteria.
- 1.6 All of the problems described in this report are considered by the audit team to require action in order to improve the safety of the scheme and minimise collision occurrence.
- 1.7 A scheme drawing is included in **Appendix B**. A location plan of the scheme is also included in this Appendix

- 1.8 The scheme consists of proposed highway works on Rye Road, Hoddesdon in relation to a residential development and station car park. A priority junction access will be provided to serve the residential development and station car park. Also included in the works is the signalisation of Rye Road to facilitate one way working through the narrow railway bridge.

## 1.9 Road Safety Audit Response Report

Following the completion of the road safety audit, the design team should prepare a road safety audit response report in collaboration with the Overseeing Organisation.

The response report should incorporate the following:

- **Decision Log** spreadsheet, where each Problem and Recommendation in the Safety Audit report is reiterated
- In the Decision Log, a response should be provided by the Design Team and Overseeing Organisation for each problem raised in the RSA report, together with an agreed action

Further information is provided in **GG 119 Sections 4.11 to 4.19** and **Appendix F** (where a road safety audit response report template is available).

The response report should be produced and finalised within *one month* of the issue of the RSA report. A copy of the response report should be issued to the Safety Audit Team for information.



## **2. Items resulting from this Stage 1 Audit**

No road safety issues were identified with this scheme.

### 3. Audit Team Statement

We certify that the terms of reference of the road safety audit are as described in GG 119 (formerly HD 19/15).

#### **Audit Team Leader**

Darren Newbold – MSc, BSc (Hons), MCIHT, MSoRSA  
Highways England Approved RSA Certificate of Competency  
Senior Engineer, TMS Consultancy

Signed



Date 2<sup>nd</sup> October 2019

#### **Audit Team Member**

Richard Cook - BA (Hons)  
Graduate Engineer, TMS Consultancy

Signed



Date 2<sup>nd</sup> October 2019

#### **TMS Consultancy**

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## Appendix A

### Documents Examined:

- Drawing No. SK02
- Drawing No. SK13

### Other Information Provided:

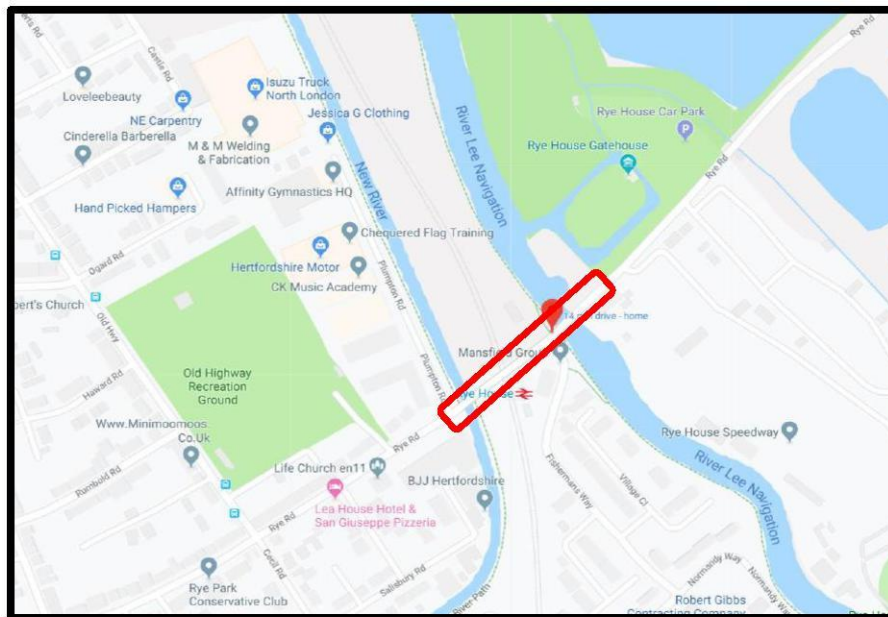
- Checklist of Information
- Collision Data
- Location Plan
- Traffic Flow Data



## Appendix B

Please refer to the following page for a plan illustrating the locations of the problems identified as part of this audit (location numbers refer to paragraph numbers in the report).

The location of the scheme is shown below:





## Appendix: I ' TRICS Industrial Sites Data



**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 02 - EMPLOYMENT  
 Category : D - INDUSTRIAL ESTATE

**VEHICLES**Selected regions and areas:

|           |                       |        |
|-----------|-----------------------|--------|
| <b>01</b> | <b>GREATER LONDON</b> |        |
|           | EG EALING             | 1 days |
|           | HD HILLINGDON         | 1 days |
|           | HO HOUNSLOW           | 1 days |
|           | HV HAVERING           | 1 days |
| <b>02</b> | <b>SOUTH EAST</b>     |        |
|           | ES EAST SUSSEX        | 2 days |
|           | KC KENT               | 1 days |
|           | WG WOKINGHAM          | 1 days |

**Secondary Filtering selection:**

Parameter: Site area  
 Actual Range: 0.63 to 8.70 (units: hect)  
 Range Selected by User: 0.47 to 51.90 (units: hect)  
 Parking Spaces Range: Selected: 0 to 1800 Actual: 0 to 1800

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 08/07/16

Selected survey days:

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

Selected survey types:

|                       |        |
|-----------------------|--------|
| Manual count          | 8 days |
| Directional ATC Count | 0 days |

Selected Locations:

|                                    |   |
|------------------------------------|---|
| Suburban Area (PPS6 Out of Centre) | 4 |
| Edge of Town                       | 4 |

Selected Location Sub Categories:

|                  |   |
|------------------|---|
| Industrial Zone  | 5 |
| Residential Zone | 3 |

**Secondary Filtering selection:**Use Class:

|    |        |
|----|--------|
| B1 | 1 days |
| B2 | 5 days |
| B8 | 2 days |

Population within 1 mile:

|                   |        |
|-------------------|--------|
| 10,001 to 15,000  | 2 days |
| 20,001 to 25,000  | 2 days |
| 25,001 to 50,000  | 2 days |
| 50,001 to 100,000 | 2 days |

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 25,001 to 50,000   | 1 days |
| 50,001 to 75,000   | 1 days |
| 125,001 to 250,000 | 2 days |
| 250,001 to 500,000 | 3 days |
| 500,001 or More    | 1 days |

Car ownership within 5 miles:

|            |        |
|------------|--------|
| 0.6 to 1.0 | 3 days |
| 1.1 to 1.5 | 4 days |
| 1.6 to 2.0 | 1 days |

**Secondary Filtering selection (Cont.):**

Travel Plan:

|     |        |
|-----|--------|
| Yes | 1 days |
| No  | 7 days |

PTAL Rating:

|                 |        |
|-----------------|--------|
| No PTAL Present | 4 days |
| 1b Very poor    | 1 days |
| 2 Poor          | 3 days |

LIST OF SITES relevant to selection parameters

|   |   |                          |                     |
|---|---|--------------------------|---------------------|
| 1 | <b>EG-02-D-02</b><br>BELVUE ROAD<br>NORTHOLT                              | <b>INDUSTRIAL ESTATE</b> | <b>EALING</b>       |
|   | Suburban Area (PPS6 Out of Centre)<br>Industrial Zone<br>Total Site area: | 0.63 hect                |                     |
|   | Survey date: WEDNESDAY  | 05/12/12                 | Survey Type: MANUAL |
| 2 | <b>ES-02-D-06</b><br>COURTLANDS ROAD<br>EASTBOURNE                        | <b>INDUSTRIAL ESTATE</b> | <b>EAST SUSSEX</b>  |
|   | Edge of Town<br>Residential Zone<br>Total Site area:                      | 2.30 hect                |                     |
|   | Survey date: MONDAY   | 21/10/13                 | Survey Type: MANUAL |
| 3 | <b>ES-02-D-07</b><br>HUGHES ROAD<br>BRIGHTON                              | <b>INDUSTRIAL ESTATE</b> | <b>EAST SUSSEX</b>  |
|   | Suburban Area (PPS6 Out of Centre)<br>Industrial Zone<br>Total Site area: | 1.10 hect                |                     |
|   | Survey date: THURSDAY   | 16/10/14                 | Survey Type: MANUAL |
| 4 | <b>HD-02-D-02</b><br>BRADFIELD ROAD<br>RUISLIP<br>SOUTH RUISLIP           | <b>INDUSTRIAL ESTATE</b> | <b>HILLINGDON</b>   |
|   | Edge of Town<br>Industrial Zone<br>Total Site area:                       | 2.76 hect                |                     |
|   | Survey date: THURSDAY   | 25/06/15                 | Survey Type: MANUAL |
| 5 | <b>HO-02-D-01</b><br>HAMPTON ROAD WEST<br>FELTHAM<br>HANWORTH             | <b>INDUSTRIAL ESTATE</b> | <b>HOUNSLOW</b>     |
|   | Suburban Area (PPS6 Out of Centre)<br>Industrial Zone<br>Total Site area: | 1.92 hect                |                     |
|   | Survey date: THURSDAY   | 25/06/15                 | Survey Type: MANUAL |
| 6 | <b>HV-02-D-01</b><br>CHURCH ROAD<br>ROMFORD<br>HAROLD WOOD                | <b>INDUSTRIAL ESTATE</b> | <b>HAVERING</b>     |
|   | Edge of Town<br>Residential Zone<br>Total Site area:                      | 8.70 hect                |                     |
|   | Survey date: TUESDAY  | 07/10/14                 | Survey Type: MANUAL |
| 7 | <b>KC-02-D-02</b><br>SOUTHWELL ROAD<br>DEAL                               | <b>INDUSTRIAL ESTATE</b> | <b>KENT</b>         |
|   | Edge of Town<br>Residential Zone<br>Total Site area:                      | 3.54 hect                |                     |
|   | Survey date: WEDNESDAY  | 28/11/12                 | Survey Type: MANUAL |
| 8 | <b>WG-02-D-01</b><br>FISHPONDS ROAD<br>WOKINGHAM                          | <b>INDUSTRIAL ESTATE</b> | <b>WOKINGHAM</b>    |
|   | Suburban Area (PPS6 Out of Centre)<br>Industrial Zone<br>Total Site area: | 0.79 hect                |                     |
|   | Survey date: TUESDAY  | 20/11/12                 | Survey Type: MANUAL |



EAS Transport Planning Unit 10 The Maltings Stanstead Abbotts

Licence No: 743101

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

**VEHICLES****Calculation factor: 1 hect****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |               | DEPARTURES |             |               | TOTALS   |             |               |
|---------------|----------|-------------|---------------|------------|-------------|---------------|----------|-------------|---------------|
|               | No. Days | Ave. AREA   | Trip Rate     | No. Days   | Ave. AREA   | Trip Rate     | No. Days | Ave. AREA   | Trip Rate     |
| 00:00 - 00:30 |          |             |               |            |             |               |          |             |               |
| 00:30 - 01:00 |          |             |               |            |             |               |          |             |               |
| 01:00 - 01:30 |          |             |               |            |             |               |          |             |               |
| 01:30 - 02:00 |          |             |               |            |             |               |          |             |               |
| 02:00 - 02:30 |          |             |               |            |             |               |          |             |               |
| 02:30 - 03:00 |          |             |               |            |             |               |          |             |               |
| 03:00 - 03:30 |          |             |               |            |             |               |          |             |               |
| 03:30 - 04:00 |          |             |               |            |             |               |          |             |               |
| 04:00 - 04:30 |          |             |               |            |             |               |          |             |               |
| 04:30 - 05:00 |          |             |               |            |             |               |          |             |               |
| 05:00 - 05:30 | 1        | 1.92        | 0.000         | 1          | 1.92        | 0.000         | 1        | 1.92        | 0.000         |
| 05:30 - 06:00 | 1        | 1.92        | 1.563         | 1          | 1.92        | 0.000         | 1        | 1.92        | 1.562         |
| 06:00 - 06:30 | 1        | 1.92        | 9.896         | 1          | 1.92        | 1.042         | 1        | 1.92        | 10.938        |
| 06:30 - 07:00 | 1        | 1.92        | 11.458        | 1          | 1.92        | 7.292         | 1        | 1.92        | 18.750        |
| 07:00 - 07:30 | 8        | 2.72        | 6.670         | 8          | 2.72        | 3.726         | 8        | 2.72        | 10.396        |
| 07:30 - 08:00 | 8        | 2.72        | 11.500        | 8          | 2.72        | 5.244         | 8        | 2.72        | 16.744        |
| 08:00 - 08:30 | <b>8</b> | <b>2.72</b> | <b>15.501</b> | 8          | 2.72        | 5.520         | 8        | 2.72        | 21.021        |
| 08:30 - 09:00 | 8        | 2.72        | 14.443        | 8          | 2.72        | 6.670         | <b>8</b> | <b>2.72</b> | <b>21.113</b> |
| 09:00 - 09:30 | 8        | 2.72        | 11.132        | 8          | 2.72        | 6.716         | 8        | 2.72        | 17.848        |
| 09:30 - 10:00 | 8        | 2.72        | 9.752         | 8          | 2.72        | 8.556         | 8        | 2.72        | 18.308        |
| 10:00 - 10:30 | 8        | 2.72        | 10.258        | 8          | 2.72        | 9.798         | 8        | 2.72        | 20.056        |
| 10:30 - 11:00 | 8        | 2.72        | 9.706         | 8          | 2.72        | 8.648         | 8        | 2.72        | 18.354        |
| 11:00 - 11:30 | 8        | 2.72        | 9.752         | 8          | 2.72        | 10.580        | 8        | 2.72        | 20.332        |
| 11:30 - 12:00 | 8        | 2.72        | 8.096         | 8          | 2.72        | 9.200         | 8        | 2.72        | 17.296        |
| 12:00 - 12:30 | 8        | 2.72        | 9.062         | 8          | 2.72        | 9.108         | 8        | 2.72        | 18.170        |
| 12:30 - 13:00 | 8        | 2.72        | 7.820         | 8          | 2.72        | 8.970         | 8        | 2.72        | 16.790        |
| 13:00 - 13:30 | 8        | 2.72        | 9.200         | 8          | 2.72        | 9.108         | 8        | 2.72        | 18.308        |
| 13:30 - 14:00 | 8        | 2.72        | 7.728         | 8          | 2.72        | 7.820         | 8        | 2.72        | 15.548        |
| 14:00 - 14:30 | 8        | 2.72        | 7.958         | 8          | 2.72        | 8.326         | 8        | 2.72        | 16.284        |
| 14:30 - 15:00 | 8        | 2.72        | 8.234         | 8          | 2.72        | 8.602         | 8        | 2.72        | 16.836        |
| 15:00 - 15:30 | 8        | 2.72        | 7.314         | 8          | 2.72        | 9.338         | 8        | 2.72        | 16.652        |
| 15:30 - 16:00 | 8        | 2.72        | 7.406         | 8          | 2.72        | 8.878         | 8        | 2.72        | 16.284        |
| 16:00 - 16:30 | 8        | 2.72        | 6.394         | 8          | 2.72        | 8.372         | 8        | 2.72        | 14.766        |
| 16:30 - 17:00 | 8        | 2.72        | 5.658         | 8          | 2.72        | 10.258        | 8        | 2.72        | 15.916        |
| 17:00 - 17:30 | 8        | 2.72        | 3.818         | <b>8</b>   | <b>2.72</b> | <b>12.603</b> | 8        | 2.72        | 16.421        |
| 17:30 - 18:00 | 8        | 2.72        | 2.576         | 8          | 2.72        | 9.338         | 8        | 2.72        | 11.914        |
| 18:00 - 18:30 | 8        | 2.72        | 2.622         | 8          | 2.72        | 7.176         | 8        | 2.72        | 9.798         |
| 18:30 - 19:00 | 8        | 2.72        | 2.162         | 8          | 2.72        | 3.128         | 8        | 2.72        | 5.290         |
| 19:00 - 19:30 | 1        | 1.92        | 4.688         | 1          | 1.92        | 3.125         | 1        | 1.92        | 7.813         |
| 19:30 - 20:00 | 1        | 1.92        | 2.083         | 1          | 1.92        | 5.208         | 1        | 1.92        | 7.291         |
| 20:00 - 20:30 |          |             |               |            |             |               |          |             |               |
| 20:30 - 21:00 |          |             |               |            |             |               |          |             |               |
| 21:00 - 21:30 |          |             |               |            |             |               |          |             |               |
| 21:30 - 22:00 |          |             |               |            |             |               |          |             |               |
| 22:00 - 22:30 |          |             |               |            |             |               |          |             |               |
| 22:30 - 23:00 |          |             |               |            |             |               |          |             |               |
| 23:00 - 23:30 |          |             |               |            |             |               |          |             |               |
| 23:30 - 24:00 |          |             |               |            |             |               |          |             |               |
| Total Rates:  |          |             | 224.449       |            |             | 212.350       |          |             | 436.799       |

**Parameter summary**

|   |                            |
|---|----------------------------|
| Trip rate parameter range selected:           | 0.63 to 8.70 (units: hect) |
| Survey date date range:                       | 01/01/10 - 08/07/16        |
| Number of weekdays (Monday-Friday):           | 8                          |
| Number of Saturdays:                          | 0                          |
| Number of Sundays:                            | 0                          |
| Surveys automatically removed from selection: | 0                          |
| Surveys manually removed from selection:      | 0                          |

TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

**OGVS****Calculation factor: 1 hect****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|               | No. Days | Ave. AREA   | Trip Rate    | No. Days   | Ave. AREA   | Trip Rate    | No. Days | Ave. AREA   | Trip Rate    |
| 00:00 - 00:30 |          |             |              |            |             |              |          |             |              |
| 00:30 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 01:30 |          |             |              |            |             |              |          |             |              |
| 01:30 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 02:30 |          |             |              |            |             |              |          |             |              |
| 02:30 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 03:30 |          |             |              |            |             |              |          |             |              |
| 03:30 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 04:30 |          |             |              |            |             |              |          |             |              |
| 04:30 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 05:30 | 1        | 1.92        | 0.000        | 1          | 1.92        | 0.000        | 1        | 1.92        | 0.000        |
| 05:30 - 06:00 | 1        | 1.92        | 0.000        | 1          | 1.92        | 0.000        | 1        | 1.92        | 0.000        |
| 06:00 - 06:30 | 1        | 1.92        | 0.521        | 1          | 1.92        | 0.000        | 1        | 1.92        | 0.521        |
| 06:30 - 07:00 | 1        | <b>1.92</b> | <b>1.042</b> | 1          | <b>1.92</b> | <b>1.042</b> | 1        | <b>1.92</b> | <b>2.084</b> |
| 07:00 - 07:30 | 8        | 2.72        | 0.230        | 8          | 2.72        | 0.552        | 8        | 2.72        | 0.782        |
| 07:30 - 08:00 | 8        | 2.72        | 0.230        | 8          | 2.72        | 0.322        | 8        | 2.72        | 0.552        |
| 08:00 - 08:30 | 8        | 2.72        | 0.552        | 8          | 2.72        | 0.414        | 8        | 2.72        | 0.966        |
| 08:30 - 09:00 | 8        | 2.72        | 0.690        | 8          | 2.72        | 0.552        | 8        | 2.72        | 1.242        |
| 09:00 - 09:30 | 8        | 2.72        | 0.460        | 8          | 2.72        | 0.598        | 8        | 2.72        | 1.058        |
| 09:30 - 10:00 | 8        | 2.72        | 0.644        | 8          | 2.72        | 0.690        | 8        | 2.72        | 1.334        |
| 10:00 - 10:30 | 8        | 2.72        | 0.966        | 8          | 2.72        | 0.644        | 8        | 2.72        | 1.610        |
| 10:30 - 11:00 | 8        | 2.72        | 0.414        | 8          | 2.72        | 0.644        | 8        | 2.72        | 1.058        |
| 11:00 - 11:30 | 8        | 2.72        | 0.644        | 8          | 2.72        | 0.552        | 8        | 2.72        | 1.196        |
| 11:30 - 12:00 | 8        | 2.72        | 0.598        | 8          | 2.72        | 0.782        | 8        | 2.72        | 1.380        |
| 12:00 - 12:30 | 8        | 2.72        | 0.506        | 8          | 2.72        | 0.552        | 8        | 2.72        | 1.058        |
| 12:30 - 13:00 | 8        | 2.72        | 0.552        | 8          | 2.72        | 0.552        | 8        | 2.72        | 1.104        |
| 13:00 - 13:30 | 8        | 2.72        | 0.828        | 8          | 2.72        | 0.460        | 8        | 2.72        | 1.288        |
| 13:30 - 14:00 | 8        | 2.72        | 0.690        | 8          | 2.72        | 0.966        | 8        | 2.72        | 1.656        |
| 14:00 - 14:30 | 8        | 2.72        | 0.460        | 8          | 2.72        | 0.690        | 8        | 2.72        | 1.150        |
| 14:30 - 15:00 | 8        | 2.72        | 0.644        | 8          | 2.72        | 0.138        | 8        | 2.72        | 0.782        |
| 15:00 - 15:30 | 8        | 2.72        | 0.690        | 8          | 2.72        | 0.644        | 8        | 2.72        | 1.334        |
| 15:30 - 16:00 | 8        | 2.72        | 0.552        | 8          | 2.72        | 0.552        | 8        | 2.72        | 1.104        |
| 16:00 - 16:30 | 8        | 2.72        | 0.460        | 8          | 2.72        | 0.368        | 8        | 2.72        | 0.828        |
| 16:30 - 17:00 | 8        | 2.72        | 0.322        | 8          | 2.72        | 0.460        | 8        | 2.72        | 0.782        |
| 17:00 - 17:30 | 8        | 2.72        | 0.138        | 8          | 2.72        | 0.184        | 8        | 2.72        | 0.322        |
| 17:30 - 18:00 | 8        | 2.72        | 0.138        | 8          | 2.72        | 0.000        | 8        | 2.72        | 0.138        |
| 18:00 - 18:30 | 8        | 2.72        | 0.000        | 8          | 2.72        | 0.092        | 8        | 2.72        | 0.092        |
| 18:30 - 19:00 | 8        | 2.72        | 0.046        | 8          | 2.72        | 0.000        | 8        | 2.72        | 0.046        |
| 19:00 - 19:30 | 1        | 1.92        | 0.000        | 1          | 1.92        | 0.000        | 1        | 1.92        | 0.000        |
| 19:30 - 20:00 | 1        | 1.92        | 0.000        | 1          | 1.92        | 0.000        | 1        | 1.92        | 0.000        |
| 20:00 - 20:30 |          |             |              |            |             |              |          |             |              |
| 20:30 - 21:00 |          |             |              |            |             |              |          |             |              |
| 21:00 - 21:30 |          |             |              |            |             |              |          |             |              |
| 21:30 - 22:00 |          |             |              |            |             |              |          |             |              |
| 22:00 - 22:30 |          |             |              |            |             |              |          |             |              |
| 22:30 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 23:30 |          |             |              |            |             |              |          |             |              |
| 23:30 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 13.017       |            |             | 12.450       |          |             | 25.467       |



## Appendix: J ' TRICS Residential Data

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 03 - RESIDENTIAL  
 Category : C - FLATS PRIVATELY OWNED

**MULTI-MODAL VEHICLES**Selected regions and areas:

|           |                    |        |
|-----------|--------------------|--------|
| <b>02</b> | <b>SOUTH EAST</b>  |        |
|           | HC HAMPSHIRE       | 1 days |
|           | OX OXFORDSHIRE     | 1 days |
| <b>03</b> | <b>SOUTH WEST</b>  |        |
|           | DC DORSET          | 1 days |
| <b>04</b> | <b>EAST ANGLIA</b> |        |
|           | CA CAMBRIDGESHIRE  | 2 days |
|           | SF SUFFOLK         | 1 days |

**Secondary Filtering selection:**

Parameter: Number of dwellings  
 Actual Range: 14 to 82 (units: )  
 Range Selected by User: 6 to 140 (units: )

Parking Spaces Range: Selected: 10 to 140 Actual: 10 to 140

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 05/06/18

Selected survey days:

|           |        |
|-----------|--------|
| Monday    | 1 days |
| Tuesday   | 1 days |
| Wednesday | 2 days |
| Thursday  | 1 days |
| Friday    | 1 days |

Selected survey types:

|                       |        |
|-----------------------|--------|
| Manual count          | 6 days |
| Directional ATC Count | 0 days |

Selected Locations:

|                                    |   |
|------------------------------------|---|
| Suburban Area (PPS6 Out of Centre) | 6 |
|------------------------------------|---|

Selected Location Sub Categories:

|                  |   |
|------------------|---|
| Residential Zone | 4 |
| No Sub Category  | 2 |

**Secondary Filtering selection:**Use Class:

|    |        |
|----|--------|
| C3 | 6 days |
|----|--------|

Population within 1 mile:

|                  |        |
|------------------|--------|
| 1,001 to 5,000   | 2 days |
| 10,001 to 15,000 | 2 days |
| 20,001 to 25,000 | 1 days |
| 25,001 to 50,000 | 1 days |

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 50,001 to 75,000   | 2 days |
| 100,001 to 125,000 | 1 days |
| 125,001 to 250,000 | 3 days |

Car ownership within 5 miles:

|            |        |
|------------|--------|
| 0.6 to 1.0 | 2 days |
| 1.1 to 1.5 | 4 days |

Travel Plan:

|    |        |
|----|--------|
| No | 6 days |
|----|--------|

PTAL Rating:

|                 |        |
|-----------------|--------|
| No PTAL Present | 6 days |
|-----------------|--------|

LIST OF SITES relevant to selection parameters

|   |                                    |                        |  |                       |
|---|------------------------------------|------------------------|--|-----------------------|
| 1 | <b>CA-03-C-02</b>                  | <b>BLOCK OF FLATS</b>  |  | <b>CAMBRIDGESHIRE</b> |
|   | WESTFIELD ROAD                     |                        |  |                       |
|   | PETERBOROUGH                       |                        |  |                       |
|   | NETHERTON                          |                        |  |                       |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                       |
|   | No Sub Category                    |                        |  |                       |
|   | Total Number of dwellings:         | 44                     |  |                       |
|   | Survey date: TUESDAY               | 18/10/11               |  | Survey Type: MANUAL   |
| 2 | <b>CA-03-C-03</b>                  | <b>BLOCKS OF FLATS</b> |  | <b>CAMBRIDGESHIRE</b> |
|   | CROMWELL ROAD                      |                        |  |                       |
|   | CAMBRIDGE                          |                        |  |                       |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                       |
|   | No Sub Category                    |                        |  |                       |
|   | Total Number of dwellings:         | 82                     |  |                       |
|   | Survey date: MONDAY                | 18/09/17               |  | Survey Type: MANUAL   |
| 3 | <b>DC-03-C-02</b>                  | <b>FLATS IN BLOCKS</b> |  | <b>DORSET</b>         |
|   | PALM COURT                         |                        |  |                       |
|   | WEYMOUTH                           |                        |  |                       |
|   | SPA ROAD                           |                        |  |                       |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                       |
|   | Residential Zone                   |                        |  |                       |
|   | Total Number of dwellings:         | 14                     |  |                       |
|   | Survey date: FRIDAY                | 28/03/14               |  | Survey Type: MANUAL   |
| 4 | <b>HC-03-C-02</b>                  | <b>FLATS</b>           |  | <b>HAMPSHIRE</b>      |
|   | WORTING ROAD                       |                        |  |                       |
|   | BASINGSTOKE                        |                        |  |                       |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                       |
|   | Residential Zone                   |                        |  |                       |
|   | Total Number of dwellings:         | 16                     |  |                       |
|   | Survey date: THURSDAY              | 21/10/10               |  | Survey Type: MANUAL   |
| 5 | <b>OX-03-C-01</b>                  | <b>BLOCK OF FLATS</b>  |  | <b>OXFORDSHIRE</b>    |
|   | OXFORD ROAD                        |                        |  |                       |
|   | OXFORD                             |                        |  |                       |
|   | COWLEY                             |                        |  |                       |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                       |
|   | Residential Zone                   |                        |  |                       |
|   | Total Number of dwellings:         | 14                     |  |                       |
|   | Survey date: WEDNESDAY             | 20/10/10               |  | Survey Type: MANUAL   |
| 6 | <b>SF-03-C-03</b>                  | <b>BLOCKS OF FLATS</b> |  | <b>SUFFOLK</b>        |
|   | TOLLGATE LANE                      |                        |  |                       |
|   | BURY ST EDMUNDS                    |                        |  |                       |
|   | Suburban Area (PPS6 Out of Centre) |                        |  |                       |
|   | Residential Zone                   |                        |  |                       |
|   | Total Number of dwellings:         | 30                     |  |                       |
|   | Survey date: WEDNESDAY             | 03/12/14               |  | Survey Type: MANUAL   |



TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED  
**MULTI-MODAL VEHICLES**  
**Calculation factor: 1 DWELLS**  
**BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|               | No. Days | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 06:00 |          |             |              |            |             |              |          |             |              |
| 06:00 - 07:00 |          |             |              |            |             |              |          |             |              |
| 07:00 - 08:00 | 6        | 33          | 0.035        | 6          | 33          | 0.155        | 6        | 33          | 0.190        |
| 08:00 - 09:00 | 6        | 33          | 0.070        | <b>6</b>   | <b>33</b>   | <b>0.335</b> | 6        | 33          | 0.405        |
| 09:00 - 10:00 | 6        | 33          | 0.115        | 6          | 33          | 0.195        | 6        | 33          | 0.310        |
| 10:00 - 11:00 | 6        | 33          | 0.110        | 6          | 33          | 0.115        | 6        | 33          | 0.225        |
| 11:00 - 12:00 | 6        | 33          | 0.085        | 6          | 33          | 0.085        | 6        | 33          | 0.170        |
| 12:00 - 13:00 | 6        | 33          | 0.090        | 6          | 33          | 0.065        | 6        | 33          | 0.155        |
| 13:00 - 14:00 | 6        | 33          | 0.060        | 6          | 33          | 0.095        | 6        | 33          | 0.155        |
| 14:00 - 15:00 | 6        | 33          | 0.130        | 6          | 33          | 0.135        | 6        | 33          | 0.265        |
| 15:00 - 16:00 | 6        | 33          | 0.190        | 6          | 33          | 0.115        | 6        | 33          | 0.305        |
| 16:00 - 17:00 | 6        | 33          | 0.140        | 6          | 33          | 0.125        | 6        | 33          | 0.265        |
| 17:00 - 18:00 | 6        | 33          | 0.330        | 6          | 33          | 0.085        | 6        | 33          | 0.415        |
| 18:00 - 19:00 | 6        | 33          | 0.170        | 6          | 33          | 0.080        | 6        | 33          | 0.250        |
| 19:00 - 20:00 | <b>2</b> | <b>15</b>   | <b>0.333</b> | <b>2</b>   | <b>15</b>   | 0.200        | <b>2</b> | <b>15</b>   | <b>0.533</b> |
| 20:00 - 21:00 | 2        | 15          | 0.100        | 2          | 15          | 0.033        | 2        | 15          | 0.133        |
| 21:00 - 22:00 | 2        | 15          | 0.133        | 2          | 15          | 0.100        | 2        | 15          | 0.233        |
| 22:00 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 2.091        |            |             | 1.918        |          |             | 4.009        |

**Parameter summary**

|   |                     |
|---|---------------------|
| Trip rate parameter range selected:           | 14 - 82 (units: )   |
| Survey date date range:                       | 01/01/10 - 05/06/18 |
| Number of weekdays (Monday-Friday):           | 6                   |
| Number of Saturdays:                          | 0                   |
| Number of Sundays:                            | 0                   |
| Surveys automatically removed from selection: | 0                   |
| Surveys manually removed from selection:      | 0                   |

EAS Transport Planning Unit 10 The Maltings Stanstead Abbots

Licence No: 743101

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

**MULTI-MODAL OGVS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|               | No. Days | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 06:00 |          |             |              |            |             |              |          |             |              |
| 06:00 - 07:00 |          |             |              |            |             |              |          |             |              |
| 07:00 - 08:00 | 6        | 33          | 0.000        | <b>6</b>   | <b>33</b>   | <b>0.005</b> | 6        | 33          | 0.005        |
| 08:00 - 09:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 09:00 - 10:00 | <b>6</b> | <b>33</b>   | <b>0.005</b> | 6          | 33          | 0.005        | <b>6</b> | <b>33</b>   | <b>0.010</b> |
| 10:00 - 11:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 11:00 - 12:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 12:00 - 13:00 | 6        | 33          | 0.005        | 6          | 33          | 0.005        | 6        | 33          | 0.010        |
| 13:00 - 14:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 14:00 - 15:00 | 6        | 33          | 0.005        | 6          | 33          | 0.005        | 6        | 33          | 0.010        |
| 15:00 - 16:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 16:00 - 17:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 17:00 - 18:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 18:00 - 19:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 19:00 - 20:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 20:00 - 21:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 21:00 - 22:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 22:00 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 0.015        |            |             | 0.020        |          |             | 0.035        |

EAS Transport Planning Unit 10 The Maltings Stanstead Abbots

Licence No: 743101

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

**MULTI-MODAL CYCLISTS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|               | No. Days | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 06:00 |          |             |              |            |             |              |          |             |              |
| 06:00 - 07:00 |          |             |              |            |             |              |          |             |              |
| 07:00 - 08:00 | 6        | 33          | 0.005        | 6          | 33          | 0.010        | 6        | 33          | 0.015        |
| 08:00 - 09:00 | 6        | 33          | 0.000        | <b>6</b>   | <b>33</b>   | <b>0.030</b> | <b>6</b> | <b>33</b>   | <b>0.030</b> |
| 09:00 - 10:00 | 6        | 33          | 0.000        | 6          | 33          | 0.005        | 6        | 33          | 0.005        |
| 10:00 - 11:00 | 6        | 33          | 0.000        | 6          | 33          | 0.005        | 6        | 33          | 0.005        |
| 11:00 - 12:00 | 6        | 33          | 0.010        | 6          | 33          | 0.000        | 6        | 33          | 0.010        |
| 12:00 - 13:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 13:00 - 14:00 | 6        | 33          | 0.000        | 6          | 33          | 0.005        | 6        | 33          | 0.005        |
| 14:00 - 15:00 | 6        | 33          | 0.005        | 6          | 33          | 0.005        | 6        | 33          | 0.010        |
| 15:00 - 16:00 | 6        | 33          | 0.010        | 6          | 33          | 0.000        | 6        | 33          | 0.010        |
| 16:00 - 17:00 | <b>6</b> | <b>33</b>   | <b>0.020</b> | 6          | 33          | 0.005        | 6        | 33          | 0.025        |
| 17:00 - 18:00 | 6        | 33          | 0.010        | 6          | 33          | 0.010        | 6        | 33          | 0.020        |
| 18:00 - 19:00 | 6        | 33          | 0.010        | 6          | 33          | 0.000        | 6        | 33          | 0.010        |
| 19:00 - 20:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 20:00 - 21:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 21:00 - 22:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 22:00 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 0.070        |            |             | 0.075        |          |             | 0.145        |



EAS Transport Planning Unit 10 The Maltings Stanstead Abbotts

Licence No: 743101

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

**MULTI-MODAL VEHICLE OCCUPANTS**

**Calculation factor: 1 DWELLS**

**BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|               | No. Days | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 06:00 |          |             |              |            |             |              |          |             |              |
| 06:00 - 07:00 |          |             |              |            |             |              |          |             |              |
| 07:00 - 08:00 | 6        | 33          | 0.065        | 6          | 33          | 0.185        | 6        | 33          | 0.250        |
| 08:00 - 09:00 | 6        | 33          | 0.135        | 6          | 33          | 0.405        | 6        | 33          | 0.540        |
| 09:00 - 10:00 | 6        | 33          | 0.140        | 6          | 33          | 0.265        | 6        | 33          | 0.405        |
| 10:00 - 11:00 | 6        | 33          | 0.145        | 6          | 33          | 0.170        | 6        | 33          | 0.315        |
| 11:00 - 12:00 | 6        | 33          | 0.115        | 6          | 33          | 0.130        | 6        | 33          | 0.245        |
| 12:00 - 13:00 | 6        | 33          | 0.140        | 6          | 33          | 0.085        | 6        | 33          | 0.225        |
| 13:00 - 14:00 | 6        | 33          | 0.065        | 6          | 33          | 0.120        | 6        | 33          | 0.185        |
| 14:00 - 15:00 | 6        | 33          | 0.170        | 6          | 33          | 0.190        | 6        | 33          | 0.360        |
| 15:00 - 16:00 | 6        | 33          | 0.270        | 6          | 33          | 0.160        | 6        | 33          | 0.430        |
| 16:00 - 17:00 | 6        | 33          | 0.165        | 6          | 33          | 0.200        | 6        | 33          | 0.365        |
| 17:00 - 18:00 | <b>6</b> | <b>33</b>   | <b>0.430</b> | 6          | 33          | 0.150        | 6        | 33          | 0.580        |
| 18:00 - 19:00 | 6        | 33          | 0.220        | 6          | 33          | 0.125        | 6        | 33          | 0.345        |
| 19:00 - 20:00 | 2        | 15          | 0.267        | <b>2</b>   | <b>15</b>   | <b>0.467</b> | <b>2</b> | <b>15</b>   | <b>0.734</b> |
| 20:00 - 21:00 | 2        | 15          | 0.067        | 2          | 15          | 0.100        | 2        | 15          | 0.167        |
| 21:00 - 22:00 | 2        | 15          | 0.267        | 2          | 15          | 0.100        | 2        | 15          | 0.367        |
| 22:00 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 2.661        |            |             | 2.852        |          |             | 5.513        |

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED  
**MULTI-MODAL PEDESTRIANS**  
 Calculation factor: 1 DWELLS  
**BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|               | No. Days | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 06:00 |          |             |              |            |             |              |          |             |              |
| 06:00 - 07:00 |          |             |              |            |             |              |          |             |              |
| 07:00 - 08:00 | 6        | 33          | 0.025        | 6          | 33          | 0.105        | 6        | 33          | 0.130        |
| 08:00 - 09:00 | 6        | 33          | 0.060        | <b>6</b>   | <b>33</b>   | <b>0.160</b> | 6        | 33          | 0.220        |
| 09:00 - 10:00 | 6        | 33          | 0.060        | 6          | 33          | 0.120        | 6        | 33          | 0.180        |
| 10:00 - 11:00 | 6        | 33          | 0.065        | 6          | 33          | 0.080        | 6        | 33          | 0.145        |
| 11:00 - 12:00 | 6        | 33          | 0.070        | 6          | 33          | 0.060        | 6        | 33          | 0.130        |
| 12:00 - 13:00 | 6        | 33          | 0.080        | 6          | 33          | 0.095        | 6        | 33          | 0.175        |
| 13:00 - 14:00 | 6        | 33          | 0.085        | 6          | 33          | 0.070        | 6        | 33          | 0.155        |
| 14:00 - 15:00 | 6        | 33          | 0.055        | 6          | 33          | 0.120        | 6        | 33          | 0.175        |
| 15:00 - 16:00 | 6        | 33          | 0.155        | 6          | 33          | 0.065        | 6        | 33          | 0.220        |
| 16:00 - 17:00 | 6        | 33          | 0.130        | 6          | 33          | 0.085        | 6        | 33          | 0.215        |
| 17:00 - 18:00 | <b>6</b> | <b>33</b>   | <b>0.170</b> | 6          | 33          | 0.090        | <b>6</b> | <b>33</b>   | <b>0.260</b> |
| 18:00 - 19:00 | 6        | 33          | 0.090        | 6          | 33          | 0.035        | 6        | 33          | 0.125        |
| 19:00 - 20:00 | 2        | 15          | 0.033        | 2          | 15          | 0.067        | 2        | 15          | 0.100        |
| 20:00 - 21:00 | 2        | 15          | 0.067        | 2          | 15          | 0.100        | 2        | 15          | 0.167        |
| 21:00 - 22:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 22:00 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 1.145        |            |             | 1.252        |          |             | 2.397        |

EAS Transport Planning Unit 10 The Maltings Stanstead Abbotts

Licence No: 743101

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

**MULTI-MODAL BUS/ TRAM PASSENGERS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|               | No. Days | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 06:00 |          |             |              |            |             |              |          |             |              |
| 06:00 - 07:00 |          |             |              |            |             |              |          |             |              |
| 07:00 - 08:00 | 6        | 33          | 0.005        | 6          | 33          | 0.020        | 6        | 33          | 0.025        |
| 08:00 - 09:00 | 6        | 33          | 0.010        | <b>6</b>   | <b>33</b>   | <b>0.090</b> | <b>6</b> | <b>33</b>   | <b>0.100</b> |
| 09:00 - 10:00 | 6        | 33          | 0.010        | 6          | 33          | 0.015        | 6        | 33          | 0.025        |
| 10:00 - 11:00 | 6        | 33          | 0.005        | 6          | 33          | 0.030        | 6        | 33          | 0.035        |
| 11:00 - 12:00 | 6        | 33          | 0.010        | 6          | 33          | 0.020        | 6        | 33          | 0.030        |
| 12:00 - 13:00 | 6        | 33          | 0.015        | 6          | 33          | 0.015        | 6        | 33          | 0.030        |
| 13:00 - 14:00 | 6        | 33          | 0.005        | 6          | 33          | 0.005        | 6        | 33          | 0.010        |
| 14:00 - 15:00 | 6        | 33          | 0.010        | 6          | 33          | 0.025        | 6        | 33          | 0.035        |
| 15:00 - 16:00 | 6        | 33          | 0.040        | 6          | 33          | 0.020        | 6        | 33          | 0.060        |
| 16:00 - 17:00 | 6        | 33          | 0.010        | 6          | 33          | 0.005        | 6        | 33          | 0.015        |
| 17:00 - 18:00 | <b>6</b> | <b>33</b>   | <b>0.055</b> | 6          | 33          | 0.010        | 6        | 33          | 0.065        |
| 18:00 - 19:00 | 6        | 33          | 0.025        | 6          | 33          | 0.010        | 6        | 33          | 0.035        |
| 19:00 - 20:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 20:00 - 21:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 21:00 - 22:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 22:00 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 0.200        |            |             | 0.265        |          |             | 0.465        |

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

**MULTI-MODAL TOTAL RAIL PASSENGERS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|               | No. Days | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 06:00 |          |             |              |            |             |              |          |             |              |
| 06:00 - 07:00 |          |             |              |            |             |              |          |             |              |
| 07:00 - 08:00 | 6        | 33          | 0.000        | 6          | 33          | 0.055        | 6        | 33          | 0.055        |
| 08:00 - 09:00 | 6        | 33          | 0.000        | <b>6</b>   | <b>33</b>   | <b>0.065</b> | 6        | 33          | 0.065        |
| 09:00 - 10:00 | 6        | 33          | 0.005        | 6          | 33          | 0.025        | 6        | 33          | 0.030        |
| 10:00 - 11:00 | 6        | 33          | 0.000        | 6          | 33          | 0.005        | 6        | 33          | 0.005        |
| 11:00 - 12:00 | 6        | 33          | 0.000        | 6          | 33          | 0.015        | 6        | 33          | 0.015        |
| 12:00 - 13:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 13:00 - 14:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 14:00 - 15:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 15:00 - 16:00 | 6        | 33          | 0.010        | 6          | 33          | 0.000        | 6        | 33          | 0.010        |
| 16:00 - 17:00 | 6        | 33          | 0.000        | 6          | 33          | 0.000        | 6        | 33          | 0.000        |
| 17:00 - 18:00 | 6        | 33          | 0.030        | 6          | 33          | 0.000        | 6        | 33          | 0.030        |
| 18:00 - 19:00 | <b>6</b> | <b>33</b>   | <b>0.090</b> | 6          | 33          | 0.000        | <b>6</b> | <b>33</b>   | <b>0.090</b> |
| 19:00 - 20:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 20:00 - 21:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 21:00 - 22:00 | 2        | 15          | 0.000        | 2          | 15          | 0.000        | 2        | 15          | 0.000        |
| 22:00 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 0.135        |            |             | 0.165        |          |             | 0.300        |



TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

**MULTI-MODAL TOTAL PEOPLE****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS |             |              | DEPARTURES |             |              | TOTALS   |             |              |
|---------------|----------|-------------|--------------|------------|-------------|--------------|----------|-------------|--------------|
|               | No. Days | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |          |             |              |            |             |              |          |             |              |
| 01:00 - 02:00 |          |             |              |            |             |              |          |             |              |
| 02:00 - 03:00 |          |             |              |            |             |              |          |             |              |
| 03:00 - 04:00 |          |             |              |            |             |              |          |             |              |
| 04:00 - 05:00 |          |             |              |            |             |              |          |             |              |
| 05:00 - 06:00 |          |             |              |            |             |              |          |             |              |
| 06:00 - 07:00 |          |             |              |            |             |              |          |             |              |
| 07:00 - 08:00 | 6        | 33          | 0.100        | 6          | 33          | 0.375        | 6        | 33          | 0.475        |
| 08:00 - 09:00 | 6        | 33          | 0.205        | <b>6</b>   | <b>33</b>   | <b>0.750</b> | <b>6</b> | <b>33</b>   | <b>0.955</b> |
| 09:00 - 10:00 | 6        | 33          | 0.215        | 6          | 33          | 0.430        | 6        | 33          | 0.645        |
| 10:00 - 11:00 | 6        | 33          | 0.215        | 6          | 33          | 0.290        | 6        | 33          | 0.505        |
| 11:00 - 12:00 | 6        | 33          | 0.205        | 6          | 33          | 0.225        | 6        | 33          | 0.430        |
| 12:00 - 13:00 | 6        | 33          | 0.235        | 6          | 33          | 0.195        | 6        | 33          | 0.430        |
| 13:00 - 14:00 | 6        | 33          | 0.155        | 6          | 33          | 0.200        | 6        | 33          | 0.355        |
| 14:00 - 15:00 | 6        | 33          | 0.240        | 6          | 33          | 0.340        | 6        | 33          | 0.580        |
| 15:00 - 16:00 | 6        | 33          | 0.485        | 6          | 33          | 0.245        | 6        | 33          | 0.730        |
| 16:00 - 17:00 | 6        | 33          | 0.325        | 6          | 33          | 0.295        | 6        | 33          | 0.620        |
| 17:00 - 18:00 | <b>6</b> | <b>33</b>   | <b>0.695</b> | 6          | 33          | 0.260        | 6        | 33          | 0.955        |
| 18:00 - 19:00 | 6        | 33          | 0.435        | 6          | 33          | 0.170        | 6        | 33          | 0.605        |
| 19:00 - 20:00 | 2        | 15          | 0.300        | 2          | 15          | 0.533        | 2        | 15          | 0.833        |
| 20:00 - 21:00 | 2        | 15          | 0.133        | 2          | 15          | 0.200        | 2        | 15          | 0.333        |
| 21:00 - 22:00 | 2        | 15          | 0.267        | 2          | 15          | 0.100        | 2        | 15          | 0.367        |
| 22:00 - 23:00 |          |             |              |            |             |              |          |             |              |
| 23:00 - 24:00 |          |             |              |            |             |              |          |             |              |
| Total Rates:  |          |             | 4.210        |            |             | 4.608        |          |             | 8.818        |

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

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

**MULTI-MODAL VEHICLES**Selected regions and areas:

|           |                    |        |
|-----------|--------------------|--------|
| <b>02</b> | <b>SOUTH EAST</b>  |        |
|           | ES EAST SUSSEX     | 1 days |
|           | KC KENT            | 3 days |
|           | SC SURREY          | 1 days |
|           | WS WEST SUSSEX     | 4 days |
| <b>03</b> | <b>SOUTH WEST</b>  |        |
|           | DC DORSET          | 1 days |
|           | DV DEVON           | 3 days |
|           | SM SOMERSET        | 1 days |
|           | WL WILTSHIRE       | 1 days |
| <b>04</b> | <b>EAST ANGLIA</b> |        |
|           | CA CAMBRIDGESHIRE  | 2 days |
|           | NF NORFOLK         | 2 days |
|           | SF SUFFOLK         | 3 days |

**Secondary Filtering selection:**

Parameter: Number of dwellings  
 Actual Range: 7 to 805 (units: )  
 Range Selected by User: 7 to 805 (units: )

Parking Spaces Range: Selected: 16 to 1726 Actual: 16 to 1726

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 20/11/18

Selected survey days:

|           |        |
|-----------|--------|
| Monday    | 3 days |
| Tuesday   | 3 days |
| Wednesday | 4 days |
| Thursday  | 7 days |
| Friday    | 5 days |

Selected survey types:

|                       |         |
|-----------------------|---------|
| Manual count          | 22 days |
| Directional ATC Count | 0 days  |

Selected Locations:

|  |    |
|--|----|
| Suburban Area (PPS6 Out of Centre)       | 8  |
| Edge of Town                             | 11 |
| Neighbourhood Centre (PPS6 Local Centre) | 3  |

Selected Location Sub Categories:

|                  |    |
|------------------|----|
| Residential Zone | 19 |
| Village          | 3  |

**Secondary Filtering selection:**Use Class:

|    |         |
|----|---------|
| C1 | 1 days  |
| C3 | 20 days |

Population within 1 mile:

|                  |        |
|------------------|--------|
| 1,000 or Less    | 1 days |
| 1,001 to 5,000   | 4 days |
| 5,001 to 10,000  | 4 days |
| 10,001 to 15,000 | 6 days |
| 15,001 to 20,000 | 1 days |
| 20,001 to 25,000 | 3 days |
| 25,001 to 50,000 | 3 days |

**Secondary Filtering selection (Cont.):**Population within 5 miles:

|                    |        |
|--------------------|--------|
| 5,001 to 25,000    | 2 days |
| 25,001 to 50,000   | 3 days |
| 50,001 to 75,000   | 4 days |
| 75,001 to 100,000  | 4 days |
| 100,001 to 125,000 | 1 days |
| 125,001 to 250,000 | 7 days |
| 250,001 to 500,000 | 1 days |

Car ownership within 5 miles:

|            |         |
|------------|---------|
| 0.6 to 1.0 | 5 days  |
| 1.1 to 1.5 | 15 days |
| 1.6 to 2.0 | 2 days  |

Travel Plan:

|     |         |
|-----|---------|
| Yes | 4 days  |
| No  | 18 days |

PTAL Rating:

|                 |         |
|-----------------|---------|
| No PTAL Present | 22 days |
|-----------------|---------|

LIST OF SITES relevant to selection parameters

|          |  |                                     |  |                       |
|----------|--|-------------------------------------|--|-----------------------|
| <b>1</b> | <b>CA-03-A-04</b>                        | <b>DETACHED</b>                     |  | <b>CAMBRIDGESHIRE</b> |
|          | PETERBOROUGH                             |                                     |  |                       |
|          | THORPE PARK ROAD                         |                                     |  |                       |
|          | Suburban Area (PPS6 Out of Centre)       |                                     |  |                       |
|          | Residential Zone                         |                                     |  |                       |
|          | Total Number of dwellings:               | 9                                   |  |                       |
|          | Survey date: TUESDAY                     | 18/10/11                            |  | Survey Type: MANUAL   |
| <b>2</b> | <b>CA-03-A-05</b>                        | <b>DETACHED HOUSES</b>              |  | <b>CAMBRIDGESHIRE</b> |
|          | EASTFIELD ROAD                           |                                     |  |                       |
|          | PETERBOROUGH                             |                                     |  |                       |
|          | Suburban Area (PPS6 Out of Centre)       |                                     |  |                       |
|          | Residential Zone                         |                                     |  |                       |
|          | Total Number of dwellings:               | 28                                  |  |                       |
|          | Survey date: MONDAY                      | 17/10/16                            |  | Survey Type: MANUAL   |
| <b>3</b> | <b>DC-03-A-08</b>                        | <b>BUNGALOWS</b>                    |  | <b>DORSET</b>         |
|          | HURSTDENE ROAD                           |                                     |  |                       |
|          | BOURNEMOUTH                              |                                     |  |                       |
|          | CASTLE LANE WEST                         |                                     |  |                       |
|          | Edge of Town                             |                                     |  |                       |
|          | Residential Zone                         |                                     |  |                       |
|          | Total Number of dwellings:               | 28                                  |  |                       |
|          | Survey date: MONDAY                      | 24/03/14                            |  | Survey Type: MANUAL   |
| <b>4</b> | <b>DV-03-A-01</b>                        | <b>TERRACED HOUSES</b>              |  | <b>DEVON</b>          |
|          | BRONSHILL ROAD                           |                                     |  |                       |
|          | TORQUAY                                  |                                     |  |                       |
|          | Suburban Area (PPS6 Out of Centre)       |                                     |  |                       |
|          | Residential Zone                         |                                     |  |                       |
|          | Total Number of dwellings:               | 37                                  |  |                       |
|          | Survey date: WEDNESDAY                   | 30/09/15                            |  | Survey Type: MANUAL   |
| <b>5</b> | <b>DV-03-A-02</b>                        | <b>HOUSES &amp; BUNGALOWS</b>       |  | <b>DEVON</b>          |
|          | MILLHEAD ROAD                            |                                     |  |                       |
|          | HONITON                                  |                                     |  |                       |
|          | Suburban Area (PPS6 Out of Centre)       |                                     |  |                       |
|          | Residential Zone                         |                                     |  |                       |
|          | Total Number of dwellings:               | 116                                 |  |                       |
|          | Survey date: FRIDAY                      | 25/09/15                            |  | Survey Type: MANUAL   |
| <b>6</b> | <b>DV-03-A-03</b>                        | <b>TERRACED &amp; SEMI DETACHED</b> |  | <b>DEVON</b>          |
|          | LOWER BRAND LANE                         |                                     |  |                       |
|          | HONITON                                  |                                     |  |                       |
|          | Suburban Area (PPS6 Out of Centre)       |                                     |  |                       |
|          | Residential Zone                         |                                     |  |                       |
|          | Total Number of dwellings:               | 70                                  |  |                       |
|          | Survey date: MONDAY                      | 28/09/15                            |  | Survey Type: MANUAL   |
| <b>7</b> | <b>ES-03-A-02</b>                        | <b>PRIVATE HOUSING</b>              |  | <b>EAST SUSSEX</b>    |
|          | SOUTH COAST ROAD                         |                                     |  |                       |
|          | PEACEHAVEN                               |                                     |  |                       |
|          | Edge of Town                             |                                     |  |                       |
|          | Residential Zone                         |                                     |  |                       |
|          | Total Number of dwellings:               | 37                                  |  |                       |
|          | Survey date: FRIDAY                      | 18/11/11                            |  | Survey Type: MANUAL   |
| <b>8</b> | <b>KC-03-A-04</b>                        | <b>SEMI-DETACHED &amp; TERRACED</b> |  | <b>KENT</b>           |
|          | KILN BARN ROAD                           |                                     |  |                       |
|          | AYLESFORD                                |                                     |  |                       |
|          | DITTON                                   |                                     |  |                       |
|          | Edge of Town                             |                                     |  |                       |
|          | Residential Zone                         |                                     |  |                       |
|          | Total Number of dwellings:               | 110                                 |  |                       |
|          | Survey date: FRIDAY                      | 22/09/17                            |  | Survey Type: MANUAL   |
| <b>9</b> | <b>KC-03-A-05</b>                        | <b>DETACHED &amp; SEMI-DETACHED</b> |  | <b>KENT</b>           |
|          | ROCHESTER ROAD                           |                                     |  |                       |
|          | NEAR CHATHAM                             |                                     |  |                       |
|          | BURHAM                                   |                                     |  |                       |
|          | Neighbourhood Centre (PPS6 Local Centre) |                                     |  |                       |
|          | Village                                  |                                     |  |                       |
|          | Total Number of dwellings:               | 8                                   |  |                       |
|          | Survey date: FRIDAY                      | 22/09/17                            |  | Survey Type: MANUAL   |



LIST OF SITES relevant to selection parameters (Cont.)

|    |  |                                     |                     |
|----|--|-------------------------------------|---------------------|
| 10 | <b>KC-03-A-07</b>  | <b>MIXED HOUSES</b>                 | <b>KENT</b>         |
|    | RECULVER ROAD<br>HERNE BAY   |                                     |                     |
|    | Edge of Town<br>Residential Zone<br>Total Number of dwellings: 288<br>Survey date: WEDNESDAY 27/09/17                    |                                     | Survey Type: MANUAL |
| 11 | <b>NF-03-A-01</b>  | <b>SEMI DET. &amp; BUNGALOWS</b>    | <b>NORFOLK</b>      |
|    | YARMOUTH ROAD<br>CAISTER-ON-SEA  |                                     |                     |
|    | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total Number of dwellings: 27<br>Survey date: TUESDAY 16/10/12 |                                     | Survey Type: MANUAL |
| 12 | <b>NF-03-A-03</b>  | <b>DETACHED HOUSES</b>              | <b>NORFOLK</b>      |
|    | HALING WAY<br>THETFORD   |                                     |                     |
|    | Edge of Town<br>Residential Zone<br>Total Number of dwellings: 10<br>Survey date: WEDNESDAY 16/09/15                     |                                     | Survey Type: MANUAL |
| 13 | <b>SC-03-A-04</b>  | <b>DETACHED &amp; TERRACED</b>      | <b>SURREY</b>       |
|    | HIGH ROAD<br>BYFLEET   |                                     |                     |
|    | Edge of Town<br>Residential Zone<br>Total Number of dwellings: 71<br>Survey date: THURSDAY 23/01/14                      |                                     | Survey Type: MANUAL |
| 14 | <b>SF-03-A-04</b>  | <b>DETACHED &amp; BUNGALOWS</b>     | <b>SUFFOLK</b>      |
|    | NORMANSTON DRIVE<br>LOWESTOFT  |                                     |                     |
|    | Suburban Area (PPS6 Out of Centre)<br>Residential Zone<br>Total Number of dwellings: 7<br>Survey date: TUESDAY 23/10/12  |                                     | Survey Type: MANUAL |
| 15 | <b>SF-03-A-05</b>  | <b>DETACHED HOUSES</b>              | <b>SUFFOLK</b>      |
|    | VALE LANE<br>BURY ST EDMUNDS   |                                     |                     |
|    | Edge of Town<br>Residential Zone<br>Total Number of dwellings: 18<br>Survey date: WEDNESDAY 09/09/15                     |                                     | Survey Type: MANUAL |
| 16 | <b>SF-03-A-06</b>  | <b>DETACHED &amp; SEMI-DETACHED</b> | <b>SUFFOLK</b>      |
|    | BURY ROAD<br>KENTFORD  |                                     |                     |
|    | Neighbourhood Centre (PPS6 Local Centre)<br>Village<br>Total Number of dwellings: 38<br>Survey date: FRIDAY 22/09/17     |                                     | Survey Type: MANUAL |
| 17 | <b>SM-03-A-01</b>  | <b>DETACHED &amp; SEMI</b>          | <b>SOMERSET</b>     |
|    | WEMBDON ROAD<br>BRIDGWATER<br>NORTHFIELD   |                                     |                     |
|    | Edge of Town<br>Residential Zone<br>Total Number of dwellings: 33<br>Survey date: THURSDAY 24/09/15                      |                                     | Survey Type: MANUAL |

LIST OF SITES relevant to selection parameters (Cont.)

|    |  |                      |                     |
|----|--|----------------------|---------------------|
| 18 | <b>WL-03-A-02</b>                        | <b>SEMI DETACHED</b> | <b>WILTSHIRE</b>    |
|    | HEADLANDS GROVE                          |                      |                     |
|    | SWINDON                                  |                      |                     |
|    | Suburban Area (PPS6 Out of Centre)       |                      |                     |
|    | Residential Zone                         |                      |                     |
|    | Total Number of dwellings:               | 27                   |                     |
|    | Survey date: THURSDAY                    | 22/09/16             | Survey Type: MANUAL |
| 19 | <b>WS-03-A-04</b>                        | <b>MIXED HOUSES</b>  | <b>WEST SUSSEX</b>  |
|    | HILLS FARM LANE                          |                      |                     |
|    | HORSHAM                                  |                      |                     |
|    | BROADBRIDGE HEATH                        |                      |                     |
|    | Edge of Town                             |                      |                     |
|    | Residential Zone                         |                      |                     |
|    | Total Number of dwellings:               | 151                  |                     |
|    | Survey date: THURSDAY                    | 11/12/14             | Survey Type: MANUAL |
| 20 | <b>WS-03-A-06</b>                        | <b>MIXED HOUSES</b>  | <b>WEST SUSSEX</b>  |
|    | ELLIS ROAD                               |                      |                     |
|    | WEST HORSHAM                             |                      |                     |
|    | S BROADBRIDGE HEATH                      |                      |                     |
|    | Edge of Town                             |                      |                     |
|    | Residential Zone                         |                      |                     |
|    | Total Number of dwellings:               | 805                  |                     |
|    | Survey date: THURSDAY                    | 02/03/17             | Survey Type: MANUAL |
| 21 | <b>WS-03-A-07</b>                        | <b>BUNGALOWS</b>     | <b>WEST SUSSEX</b>  |
|    | EMMS LANE                                |                      |                     |
|    | NEAR HORSHAM                             |                      |                     |
|    | BROOKS GREEN                             |                      |                     |
|    | Neighbourhood Centre (PPS6 Local Centre) |                      |                     |
|    | Village                                  |                      |                     |
|    | Total Number of dwellings:               | 57                   |                     |
|    | Survey date: THURSDAY                    | 19/10/17             | Survey Type: MANUAL |
| 22 | <b>WS-03-A-08</b>                        | <b>MIXED HOUSES</b>  | <b>WEST SUSSEX</b>  |
|    | ROUNDSTONE LANE                          |                      |                     |
|    | ANGMERING                                |                      |                     |
|    | Edge of Town                             |                      |                     |
|    | Residential Zone                         |                      |                     |
|    | Total Number of dwellings:               | 180                  |                     |
|    | Survey date: THURSDAY                    | 19/04/18             | Survey Type: MANUAL |

MANUALLY DESELECTED SITES

| Site Ref   | Reason for Deselection |
|------------|------------------------|
| ES-03-A-03 | Includes flats         |
| ES-03-A-04 | Includes flats         |
| HC-03-A-20 | Includes flats         |
| KC-03-A-03 | Includes flats         |
| KC-03-A-06 | Includes flats         |
| NF-03-A-02 | Includes flats         |
| WS-03-A-09 | Includes flats         |

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

**MULTI-MODAL VEHICLES****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS  |             |              | DEPARTURES |             |              | TOTALS    |             |              |
|---------------|-----------|-------------|--------------|------------|-------------|--------------|-----------|-------------|--------------|
|               | No. Days  | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days  | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |           |             |              |            |             |              |           |             |              |
| 01:00 - 02:00 |           |             |              |            |             |              |           |             |              |
| 02:00 - 03:00 |           |             |              |            |             |              |           |             |              |
| 03:00 - 04:00 |           |             |              |            |             |              |           |             |              |
| 04:00 - 05:00 |           |             |              |            |             |              |           |             |              |
| 05:00 - 06:00 |           |             |              |            |             |              |           |             |              |
| 06:00 - 07:00 |           |             |              |            |             |              |           |             |              |
| 07:00 - 08:00 | 22        | 98          | 0.082        | 22         | 98          | 0.311        | 22        | 98          | 0.393        |
| 08:00 - 09:00 | 22        | 98          | 0.156        | <b>22</b>  | <b>98</b>   | <b>0.391</b> | <b>22</b> | <b>98</b>   | <b>0.547</b> |
| 09:00 - 10:00 | 22        | 98          | 0.166        | 22         | 98          | 0.185        | 22        | 98          | 0.351        |
| 10:00 - 11:00 | 22        | 98          | 0.143        | 22         | 98          | 0.170        | 22        | 98          | 0.313        |
| 11:00 - 12:00 | 22        | 98          | 0.149        | 22         | 98          | 0.170        | 22        | 98          | 0.319        |
| 12:00 - 13:00 | 22        | 98          | 0.167        | 22         | 98          | 0.164        | 22        | 98          | 0.331        |
| 13:00 - 14:00 | 22        | 98          | 0.176        | 22         | 98          | 0.168        | 22        | 98          | 0.344        |
| 14:00 - 15:00 | 22        | 98          | 0.170        | 22         | 98          | 0.187        | 22        | 98          | 0.357        |
| 15:00 - 16:00 | 22        | 98          | 0.278        | 22         | 98          | 0.179        | 22        | 98          | 0.457        |
| 16:00 - 17:00 | 22        | 98          | 0.272        | 22         | 98          | 0.171        | 22        | 98          | 0.443        |
| 17:00 - 18:00 | <b>22</b> | <b>98</b>   | <b>0.345</b> | 22         | 98          | 0.155        | 22        | 98          | 0.500        |
| 18:00 - 19:00 | 22        | 98          | 0.294        | 22         | 98          | 0.178        | 22        | 98          | 0.472        |
| 19:00 - 20:00 |           |             |              |            |             |              |           |             |              |
| 20:00 - 21:00 |           |             |              |            |             |              |           |             |              |
| 21:00 - 22:00 |           |             |              |            |             |              |           |             |              |
| 22:00 - 23:00 |           |             |              |            |             |              |           |             |              |
| 23:00 - 24:00 |           |             |              |            |             |              |           |             |              |
| Total Rates:  |           |             | 2.398        |            |             | 2.429        |           |             | 4.827        |

**Parameter summary**

|   |                     |
|---|---------------------|
| Trip rate parameter range selected:           | 7 - 805 (units: )   |
| Survey date date range:                       | 01/01/10 - 20/11/18 |
| Number of weekdays (Monday-Friday):           | 22                  |
| Number of Saturdays:                          | 0                   |
| Number of Sundays:                            | 0                   |
| Surveys automatically removed from selection: | 4                   |
| Surveys manually removed from selection:      | 7                   |



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

**MULTI-MODAL OGVS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS  |             |              | DEPARTURES |             |              | TOTALS    |             |              |
|---------------|-----------|-------------|--------------|------------|-------------|--------------|-----------|-------------|--------------|
|               | No. Days  | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days  | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |           |             |              |            |             |              |           |             |              |
| 01:00 - 02:00 |           |             |              |            |             |              |           |             |              |
| 02:00 - 03:00 |           |             |              |            |             |              |           |             |              |
| 03:00 - 04:00 |           |             |              |            |             |              |           |             |              |
| 04:00 - 05:00 |           |             |              |            |             |              |           |             |              |
| 05:00 - 06:00 |           |             |              |            |             |              |           |             |              |
| 06:00 - 07:00 |           |             |              |            |             |              |           |             |              |
| 07:00 - 08:00 | 22        | 98          | 0.000        | 22         | 98          | 0.000        | 22        | 98          | 0.000        |
| 08:00 - 09:00 | 22        | 98          | 0.001        | 22         | 98          | 0.001        | 22        | 98          | 0.002        |
| 09:00 - 10:00 | <b>22</b> | <b>98</b>   | <b>0.004</b> | 22         | 98          | 0.002        | <b>22</b> | <b>98</b>   | <b>0.006</b> |
| 10:00 - 11:00 | 22        | 98          | 0.003        | 22         | 98          | 0.002        | 22        | 98          | 0.005        |
| 11:00 - 12:00 | 22        | 98          | 0.002        | <b>22</b>  | <b>98</b>   | <b>0.003</b> | 22        | 98          | 0.005        |
| 12:00 - 13:00 | 22        | 98          | 0.000        | 22         | 98          | 0.001        | 22        | 98          | 0.001        |
| 13:00 - 14:00 | 22        | 98          | 0.002        | 22         | 98          | 0.001        | 22        | 98          | 0.003        |
| 14:00 - 15:00 | 22        | 98          | 0.001        | 22         | 98          | 0.002        | 22        | 98          | 0.003        |
| 15:00 - 16:00 | 22        | 98          | 0.000        | 22         | 98          | 0.000        | 22        | 98          | 0.000        |
| 16:00 - 17:00 | 22        | 98          | 0.001        | 22         | 98          | 0.001        | 22        | 98          | 0.002        |
| 17:00 - 18:00 | 22        | 98          | 0.001        | 22         | 98          | 0.000        | 22        | 98          | 0.001        |
| 18:00 - 19:00 | 22        | 98          | 0.000        | 22         | 98          | 0.000        | 22        | 98          | 0.000        |
| 19:00 - 20:00 |           |             |              |            |             |              |           |             |              |
| 20:00 - 21:00 |           |             |              |            |             |              |           |             |              |
| 21:00 - 22:00 |           |             |              |            |             |              |           |             |              |
| 22:00 - 23:00 |           |             |              |            |             |              |           |             |              |
| 23:00 - 24:00 |           |             |              |            |             |              |           |             |              |
| Total Rates:  |           |             | 0.015        |            |             | 0.013        |           |             | 0.028        |

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

**MULTI-MODAL CYCLISTS**

Calculation factor: 1 DWELLS

**BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS  |             |              | DEPARTURES |             |              | TOTALS    |             |              |
|---------------|-----------|-------------|--------------|------------|-------------|--------------|-----------|-------------|--------------|
|               | No. Days  | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days  | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |           |             |              |            |             |              |           |             |              |
| 01:00 - 02:00 |           |             |              |            |             |              |           |             |              |
| 02:00 - 03:00 |           |             |              |            |             |              |           |             |              |
| 03:00 - 04:00 |           |             |              |            |             |              |           |             |              |
| 04:00 - 05:00 |           |             |              |            |             |              |           |             |              |
| 05:00 - 06:00 |           |             |              |            |             |              |           |             |              |
| 06:00 - 07:00 |           |             |              |            |             |              |           |             |              |
| 07:00 - 08:00 | 22        | 98          | 0.008        | <b>22</b>  | <b>98</b>   | <b>0.013</b> | 22        | 98          | 0.021        |
| 08:00 - 09:00 | 22        | 98          | 0.005        | 22         | 98          | 0.011        | 22        | 98          | 0.016        |
| 09:00 - 10:00 | 22        | 98          | 0.001        | 22         | 98          | 0.003        | 22        | 98          | 0.004        |
| 10:00 - 11:00 | 22        | 98          | 0.003        | 22         | 98          | 0.003        | 22        | 98          | 0.006        |
| 11:00 - 12:00 | 22        | 98          | 0.002        | 22         | 98          | 0.006        | 22        | 98          | 0.008        |
| 12:00 - 13:00 | 22        | 98          | 0.004        | 22         | 98          | 0.005        | 22        | 98          | 0.009        |
| 13:00 - 14:00 | 22        | 98          | 0.003        | 22         | 98          | 0.004        | 22        | 98          | 0.007        |
| 14:00 - 15:00 | 22        | 98          | 0.003        | 22         | 98          | 0.003        | 22        | 98          | 0.006        |
| 15:00 - 16:00 | 22        | 98          | 0.008        | 22         | 98          | 0.006        | 22        | 98          | 0.014        |
| 16:00 - 17:00 | 22        | 98          | 0.011        | 22         | 98          | 0.011        | 22        | 98          | 0.022        |
| 17:00 - 18:00 | <b>22</b> | <b>98</b>   | <b>0.016</b> | 22         | 98          | 0.011        | <b>22</b> | <b>98</b>   | <b>0.027</b> |
| 18:00 - 19:00 | 22        | 98          | 0.009        | 22         | 98          | 0.006        | 22        | 98          | 0.015        |
| 19:00 - 20:00 |           |             |              |            |             |              |           |             |              |
| 20:00 - 21:00 |           |             |              |            |             |              |           |             |              |
| 21:00 - 22:00 |           |             |              |            |             |              |           |             |              |
| 22:00 - 23:00 |           |             |              |            |             |              |           |             |              |
| 23:00 - 24:00 |           |             |              |            |             |              |           |             |              |
| Total Rates:  |           |             | 0.073        |            |             | 0.082        |           |             | 0.155        |

EAS Transport Planning Unit 10 The Maltings Stanstead Abbots

Licence No: 743101

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

**MULTI-MODAL VEHICLE OCCUPANTS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS  |             |              | DEPARTURES |             |              | TOTALS    |             |              |
|---------------|-----------|-------------|--------------|------------|-------------|--------------|-----------|-------------|--------------|
|               | No. Days  | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days  | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |           |             |              |            |             |              |           |             |              |
| 01:00 - 02:00 |           |             |              |            |             |              |           |             |              |
| 02:00 - 03:00 |           |             |              |            |             |              |           |             |              |
| 03:00 - 04:00 |           |             |              |            |             |              |           |             |              |
| 04:00 - 05:00 |           |             |              |            |             |              |           |             |              |
| 05:00 - 06:00 |           |             |              |            |             |              |           |             |              |
| 06:00 - 07:00 |           |             |              |            |             |              |           |             |              |
| 07:00 - 08:00 | 22        | 98          | 0.107        | 22         | 98          | 0.430        | 22        | 98          | 0.537        |
| 08:00 - 09:00 | 22        | 98          | 0.195        | <b>22</b>  | <b>98</b>   | <b>0.671</b> | <b>22</b> | <b>98</b>   | <b>0.866</b> |
| 09:00 - 10:00 | 22        | 98          | 0.202        | 22         | 98          | 0.251        | 22        | 98          | 0.453        |
| 10:00 - 11:00 | 22        | 98          | 0.175        | 22         | 98          | 0.223        | 22        | 98          | 0.398        |
| 11:00 - 12:00 | 22        | 98          | 0.183        | 22         | 98          | 0.227        | 22        | 98          | 0.410        |
| 12:00 - 13:00 | 22        | 98          | 0.214        | 22         | 98          | 0.216        | 22        | 98          | 0.430        |
| 13:00 - 14:00 | 22        | 98          | 0.245        | 22         | 98          | 0.220        | 22        | 98          | 0.465        |
| 14:00 - 15:00 | 22        | 98          | 0.228        | 22         | 98          | 0.246        | 22        | 98          | 0.474        |
| 15:00 - 16:00 | 22        | 98          | 0.479        | 22         | 98          | 0.243        | 22        | 98          | 0.722        |
| 16:00 - 17:00 | 22        | 98          | 0.426        | 22         | 98          | 0.245        | 22        | 98          | 0.671        |
| 17:00 - 18:00 | <b>22</b> | <b>98</b>   | <b>0.504</b> | 22         | 98          | 0.222        | 22        | 98          | 0.726        |
| 18:00 - 19:00 | 22        | 98          | 0.405        | 22         | 98          | 0.266        | 22        | 98          | 0.671        |
| 19:00 - 20:00 |           |             |              |            |             |              |           |             |              |
| 20:00 - 21:00 |           |             |              |            |             |              |           |             |              |
| 21:00 - 22:00 |           |             |              |            |             |              |           |             |              |
| 22:00 - 23:00 |           |             |              |            |             |              |           |             |              |
| 23:00 - 24:00 |           |             |              |            |             |              |           |             |              |
| Total Rates:  |           |             | 3.363        |            |             | 3.460        |           |             | 6.823        |

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

| Time Range    | ARRIVALS  |             |              | DEPARTURES |             |              | TOTALS    |             |              |
|---------------|-----------|-------------|--------------|------------|-------------|--------------|-----------|-------------|--------------|
|               | No. Days  | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days  | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |           |             |              |            |             |              |           |             |              |
| 01:00 - 02:00 |           |             |              |            |             |              |           |             |              |
| 02:00 - 03:00 |           |             |              |            |             |              |           |             |              |
| 03:00 - 04:00 |           |             |              |            |             |              |           |             |              |
| 04:00 - 05:00 |           |             |              |            |             |              |           |             |              |
| 05:00 - 06:00 |           |             |              |            |             |              |           |             |              |
| 06:00 - 07:00 |           |             |              |            |             |              |           |             |              |
| 07:00 - 08:00 | 22        | 98          | 0.017        | 22         | 98          | 0.037        | 22        | 98          | 0.054        |
| 08:00 - 09:00 | 22        | 98          | 0.038        | <b>22</b>  | <b>98</b>   | <b>0.138</b> | 22        | 98          | 0.176        |
| 09:00 - 10:00 | 22        | 98          | 0.053        | 22         | 98          | 0.052        | 22        | 98          | 0.105        |
| 10:00 - 11:00 | 22        | 98          | 0.041        | 22         | 98          | 0.045        | 22        | 98          | 0.086        |
| 11:00 - 12:00 | 22        | 98          | 0.030        | 22         | 98          | 0.027        | 22        | 98          | 0.057        |
| 12:00 - 13:00 | 22        | 98          | 0.031        | 22         | 98          | 0.030        | 22        | 98          | 0.061        |
| 13:00 - 14:00 | 22        | 98          | 0.026        | 22         | 98          | 0.030        | 22        | 98          | 0.056        |
| 14:00 - 15:00 | 22        | 98          | 0.034        | 22         | 98          | 0.041        | 22        | 98          | 0.075        |
| 15:00 - 16:00 | <b>22</b> | <b>98</b>   | <b>0.132</b> | 22         | 98          | 0.052        | <b>22</b> | <b>98</b>   | <b>0.184</b> |
| 16:00 - 17:00 | 22        | 98          | 0.078        | 22         | 98          | 0.042        | 22        | 98          | 0.120        |
| 17:00 - 18:00 | 22        | 98          | 0.065        | 22         | 98          | 0.037        | 22        | 98          | 0.102        |
| 18:00 - 19:00 | 22        | 98          | 0.045        | 22         | 98          | 0.050        | 22        | 98          | 0.095        |
| 19:00 - 20:00 |           |             |              |            |             |              |           |             |              |
| 20:00 - 21:00 |           |             |              |            |             |              |           |             |              |
| 21:00 - 22:00 |           |             |              |            |             |              |           |             |              |
| 22:00 - 23:00 |           |             |              |            |             |              |           |             |              |
| 23:00 - 24:00 |           |             |              |            |             |              |           |             |              |
| Total Rates:  |           |             | 0.590        |            |             | 0.581        |           |             | 1.171        |



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

**MULTI-MODAL BUS/ TRAM PASSENGERS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS    |                |              | DEPARTURES  |                |              | TOTALS      |                |              |
|---------------|-------------|----------------|--------------|-------------|----------------|--------------|-------------|----------------|--------------|
|               | No.<br>Days | Ave.<br>DWELLS | Trip<br>Rate | No.<br>Days | Ave.<br>DWELLS | Trip<br>Rate | No.<br>Days | Ave.<br>DWELLS | Trip<br>Rate |
| 00:00 - 01:00 |             |                |              |             |                |              |             |                |              |
| 01:00 - 02:00 |             |                |              |             |                |              |             |                |              |
| 02:00 - 03:00 |             |                |              |             |                |              |             |                |              |
| 03:00 - 04:00 |             |                |              |             |                |              |             |                |              |
| 04:00 - 05:00 |             |                |              |             |                |              |             |                |              |
| 05:00 - 06:00 |             |                |              |             |                |              |             |                |              |
| 06:00 - 07:00 |             |                |              |             |                |              |             |                |              |
| 07:00 - 08:00 | 22          | 98             | 0.001        | 22          | 98             | 0.011        | 22          | 98             | 0.012        |
| 08:00 - 09:00 | 22          | 98             | 0.001        | <b>22</b>   | <b>98</b>      | <b>0.021</b> | 22          | 98             | 0.022        |
| 09:00 - 10:00 | 22          | 98             | 0.000        | 22          | 98             | 0.008        | 22          | 98             | 0.008        |
| 10:00 - 11:00 | 22          | 98             | 0.005        | 22          | 98             | 0.003        | 22          | 98             | 0.008        |
| 11:00 - 12:00 | 22          | 98             | 0.001        | 22          | 98             | 0.004        | 22          | 98             | 0.005        |
| 12:00 - 13:00 | 22          | 98             | 0.004        | 22          | 98             | 0.003        | 22          | 98             | 0.007        |
| 13:00 - 14:00 | 22          | 98             | 0.005        | 22          | 98             | 0.002        | 22          | 98             | 0.007        |
| 14:00 - 15:00 | 22          | 98             | 0.004        | 22          | 98             | 0.003        | 22          | 98             | 0.007        |
| 15:00 - 16:00 | 22          | 98             | 0.014        | 22          | 98             | 0.006        | 22          | 98             | 0.020        |
| 16:00 - 17:00 | 22          | 98             | 0.008        | 22          | 98             | 0.007        | 22          | 98             | 0.015        |
| 17:00 - 18:00 | 22          | 98             | 0.011        | 22          | 98             | 0.002        | 22          | 98             | 0.013        |
| 18:00 - 19:00 | <b>22</b>   | <b>98</b>      | <b>0.018</b> | 22          | 98             | 0.005        | <b>22</b>   | <b>98</b>      | <b>0.023</b> |
| 19:00 - 20:00 |             |                |              |             |                |              |             |                |              |
| 20:00 - 21:00 |             |                |              |             |                |              |             |                |              |
| 21:00 - 22:00 |             |                |              |             |                |              |             |                |              |
| 22:00 - 23:00 |             |                |              |             |                |              |             |                |              |
| 23:00 - 24:00 |             |                |              |             |                |              |             |                |              |
| Total Rates:  |             |                | 0.072        |             |                | 0.075        |             |                | 0.147        |

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

**MULTI-MODAL TOTAL RAIL PASSENGERS****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS    |                |              | DEPARTURES  |                |              | TOTALS      |                |              |
|---------------|-------------|----------------|--------------|-------------|----------------|--------------|-------------|----------------|--------------|
|               | No.<br>Days | Ave.<br>DWELLS | Trip<br>Rate | No.<br>Days | Ave.<br>DWELLS | Trip<br>Rate | No.<br>Days | Ave.<br>DWELLS | Trip<br>Rate |
| 00:00 - 01:00 |             |                |              |             |                |              |             |                |              |
| 01:00 - 02:00 |             |                |              |             |                |              |             |                |              |
| 02:00 - 03:00 |             |                |              |             |                |              |             |                |              |
| 03:00 - 04:00 |             |                |              |             |                |              |             |                |              |
| 04:00 - 05:00 |             |                |              |             |                |              |             |                |              |
| 05:00 - 06:00 |             |                |              |             |                |              |             |                |              |
| 06:00 - 07:00 |             |                |              |             |                |              |             |                |              |
| 07:00 - 08:00 | 22          | 98             | 0.001        | 22          | 98             | 0.005        | <b>22</b>   | <b>98</b>      | <b>0.006</b> |
| 08:00 - 09:00 | 22          | 98             | 0.000        | <b>22</b>   | <b>98</b>      | <b>0.006</b> | 22          | 98             | 0.006        |
| 09:00 - 10:00 | 22          | 98             | 0.000        | 22          | 98             | 0.001        | 22          | 98             | 0.001        |
| 10:00 - 11:00 | 22          | 98             | 0.000        | 22          | 98             | 0.001        | 22          | 98             | 0.001        |
| 11:00 - 12:00 | 22          | 98             | 0.000        | 22          | 98             | 0.000        | 22          | 98             | 0.000        |
| 12:00 - 13:00 | 22          | 98             | 0.000        | 22          | 98             | 0.003        | 22          | 98             | 0.003        |
| 13:00 - 14:00 | 22          | 98             | 0.000        | 22          | 98             | 0.001        | 22          | 98             | 0.001        |
| 14:00 - 15:00 | 22          | 98             | 0.001        | 22          | 98             | 0.000        | 22          | 98             | 0.001        |
| 15:00 - 16:00 | 22          | 98             | 0.001        | 22          | 98             | 0.001        | 22          | 98             | 0.002        |
| 16:00 - 17:00 | 22          | 98             | 0.002        | 22          | 98             | 0.001        | 22          | 98             | 0.003        |
| 17:00 - 18:00 | 22          | 98             | 0.004        | 22          | 98             | 0.000        | 22          | 98             | 0.004        |
| 18:00 - 19:00 | <b>22</b>   | <b>98</b>      | <b>0.005</b> | 22          | 98             | 0.001        | 22          | 98             | 0.006        |
| 19:00 - 20:00 |             |                |              |             |                |              |             |                |              |
| 20:00 - 21:00 |             |                |              |             |                |              |             |                |              |
| 21:00 - 22:00 |             |                |              |             |                |              |             |                |              |
| 22:00 - 23:00 |             |                |              |             |                |              |             |                |              |
| 23:00 - 24:00 |             |                |              |             |                |              |             |                |              |
| Total Rates:  |             |                | 0.014        |             |                | 0.020        |             |                | 0.034        |

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

**MULTI-MODAL TOTAL PEOPLE****Calculation factor: 1 DWELLS****BOLD print indicates peak (busiest) period**

| Time Range    | ARRIVALS  |             |              | DEPARTURES |             |              | TOTALS    |             |              |
|---------------|-----------|-------------|--------------|------------|-------------|--------------|-----------|-------------|--------------|
|               | No. Days  | Ave. DWELLS | Trip Rate    | No. Days   | Ave. DWELLS | Trip Rate    | No. Days  | Ave. DWELLS | Trip Rate    |
| 00:00 - 01:00 |           |             |              |            |             |              |           |             |              |
| 01:00 - 02:00 |           |             |              |            |             |              |           |             |              |
| 02:00 - 03:00 |           |             |              |            |             |              |           |             |              |
| 03:00 - 04:00 |           |             |              |            |             |              |           |             |              |
| 04:00 - 05:00 |           |             |              |            |             |              |           |             |              |
| 05:00 - 06:00 |           |             |              |            |             |              |           |             |              |
| 06:00 - 07:00 |           |             |              |            |             |              |           |             |              |
| 07:00 - 08:00 | 22        | 98          | 0.134        | 22         | 98          | 0.497        | 22        | 98          | 0.631        |
| 08:00 - 09:00 | 22        | 98          | 0.239        | <b>22</b>  | <b>98</b>   | <b>0.849</b> | <b>22</b> | <b>98</b>   | <b>1.088</b> |
| 09:00 - 10:00 | 22        | 98          | 0.257        | 22         | 98          | 0.316        | 22        | 98          | 0.573        |
| 10:00 - 11:00 | 22        | 98          | 0.224        | 22         | 98          | 0.275        | 22        | 98          | 0.499        |
| 11:00 - 12:00 | 22        | 98          | 0.217        | 22         | 98          | 0.264        | 22        | 98          | 0.481        |
| 12:00 - 13:00 | 22        | 98          | 0.252        | 22         | 98          | 0.257        | 22        | 98          | 0.509        |
| 13:00 - 14:00 | 22        | 98          | 0.279        | 22         | 98          | 0.257        | 22        | 98          | 0.536        |
| 14:00 - 15:00 | 22        | 98          | 0.271        | 22         | 98          | 0.294        | 22        | 98          | 0.565        |
| 15:00 - 16:00 | <b>22</b> | <b>98</b>   | <b>0.635</b> | 22         | 98          | 0.308        | 22        | 98          | 0.943        |
| 16:00 - 17:00 | 22        | 98          | 0.527        | 22         | 98          | 0.306        | 22        | 98          | 0.833        |
| 17:00 - 18:00 | 22        | 98          | 0.600        | 22         | 98          | 0.271        | 22        | 98          | 0.871        |
| 18:00 - 19:00 | 22        | 98          | 0.482        | 22         | 98          | 0.327        | 22        | 98          | 0.809        |
| 19:00 - 20:00 |           |             |              |            |             |              |           |             |              |
| 20:00 - 21:00 |           |             |              |            |             |              |           |             |              |
| 21:00 - 22:00 |           |             |              |            |             |              |           |             |              |
| 22:00 - 23:00 |           |             |              |            |             |              |           |             |              |
| 23:00 - 24:00 |           |             |              |            |             |              |           |             |              |
| Total Rates:  |           |             | 4.117        |            |             | 4.221        |           |             | 8.338        |

## Appendix: K ' Traffic flow diagrams



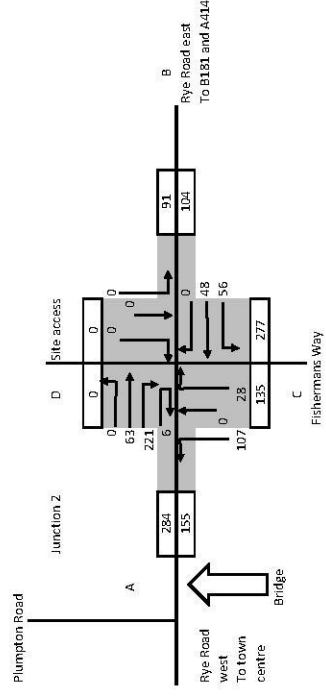
Turnford Site, Rye House, Broxbourne

Figure 1

2019 Counted flows (PCUs)

07:45 - 08:45

16:45 - 17:45



Site access Junction, AM

| A   | B   | C | D |
|-----|-----|---|---|
| 63  | 221 | 0 | 0 |
| 48  | 56  | 0 | 0 |
| 107 | 28  | 0 | 0 |
| 0   | 0   | 0 | 0 |

Site access Junction, PM

| A   | B  | C  | D |
|-----|----|----|---|
| 82  | 60 | 87 | 0 |
| 257 | 93 | 0  | 0 |
| 0   | 0  | 0  | 0 |
| 0   | 0  | 0  | 0 |

07:45 - 08:45

Figure 2

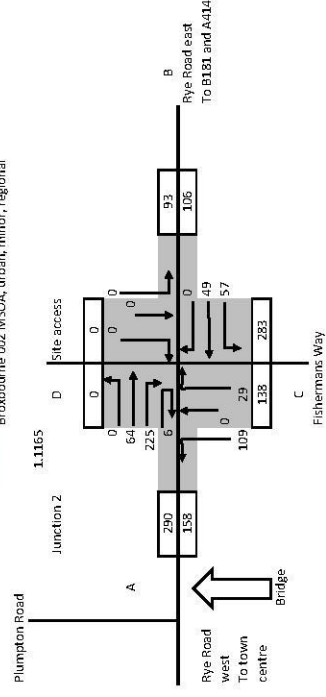
2025 Baseline traffic (PCUs)

1.0202

TEMPRO growth factor 2019 - 2025 AM peak  
Broxbourne 002 M50A, urban, minor, regional

1.0414

TEMPRO growth factor 2019 - 2025 PM peak  
Broxbourne 002 M50A, urban, minor, regional



Site access Junction, AM

| A   | B  | C   | D |
|-----|----|-----|---|
| 49  | 64 | 225 | 0 |
| 109 | 57 | 0   | 0 |
| 0   | 0  | 0   | 0 |
| 0   | 0  | 0   | 0 |

Site access Junction, PM

| A   | B  | C  | D |
|-----|----|----|---|
| 85  | 62 | 91 | 0 |
| 268 | 97 | 0  | 0 |
| 0   | 0  | 0  | 0 |
| 0   | 0  | 0  | 0 |

Uturning traffic is ignored.

Turnford Site, Rye House, Broxbourne

Figure 3

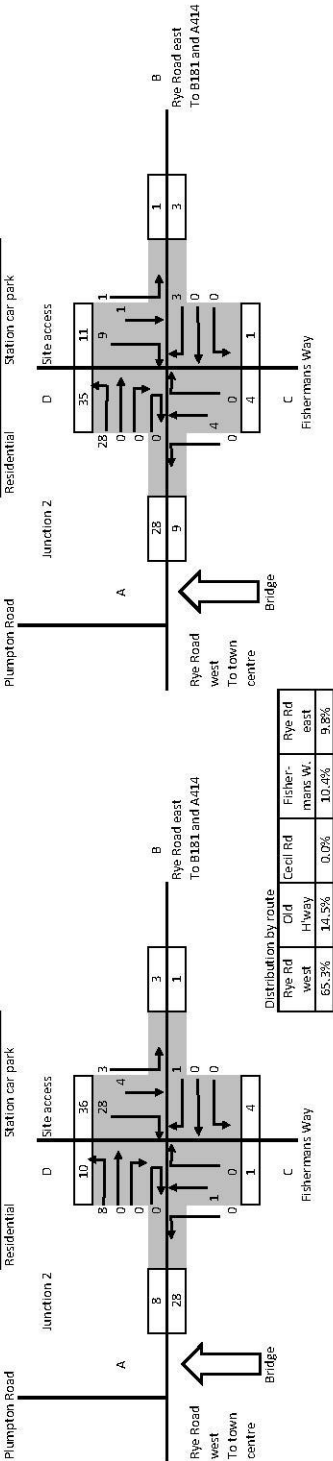
Development traffic (PCUs)

07:45 - 08:45

| In | Out | In | Out |
|----|-----|----|-----|
| 8  | 36  | 1  | 0   |

16:45 - 17:45

| In | Out | In | Out |
|----|-----|----|-----|
| 35 | 10  | 0  | 1   |



07:45 - 08:45

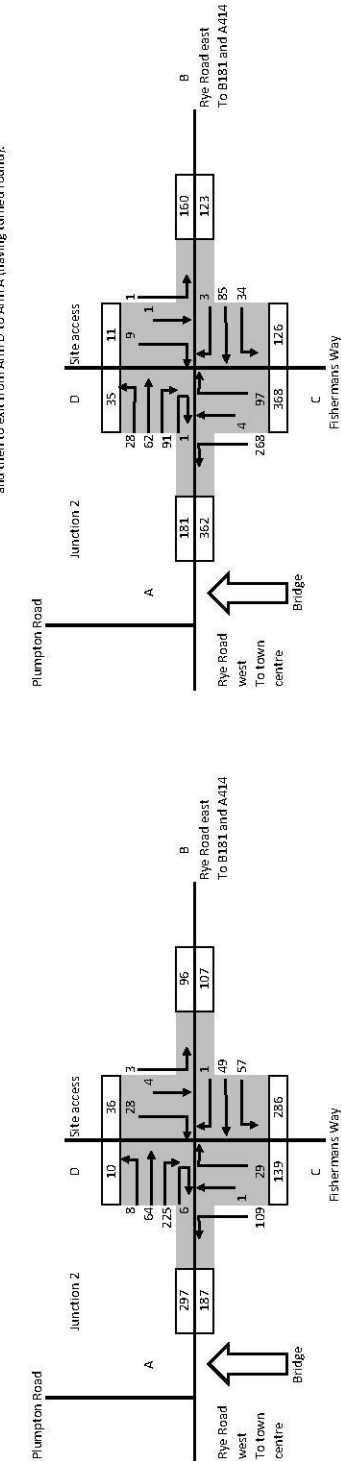
Figure 4

2025 Baseline + development (PCUs)

U-turning traffic is assumed to turn left from Arm A into Arm D and then to exit from Arm D to Arm A (having turned round).

16:45 - 17:45

| A   | B   | C  | D |
|-----|-----|----|---|
| 64  | 225 | 14 |   |
| 49  | 57  | 1  |   |
| 109 | 29  | 1  |   |
| 35  | 3   | 4  |   |



## Appendix L – LinSig output

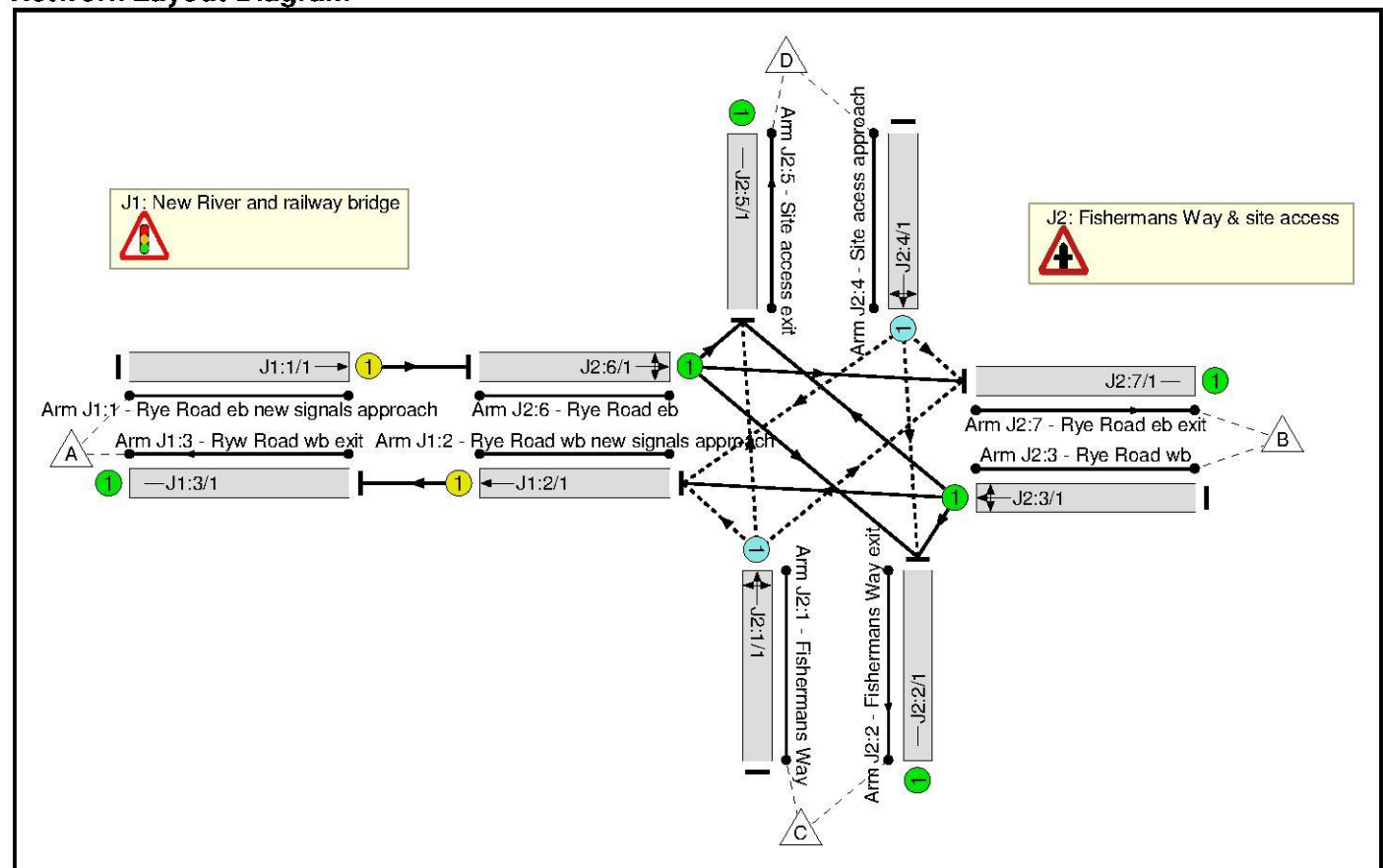
# Full Input Data And Results

## Full Input Data And Results

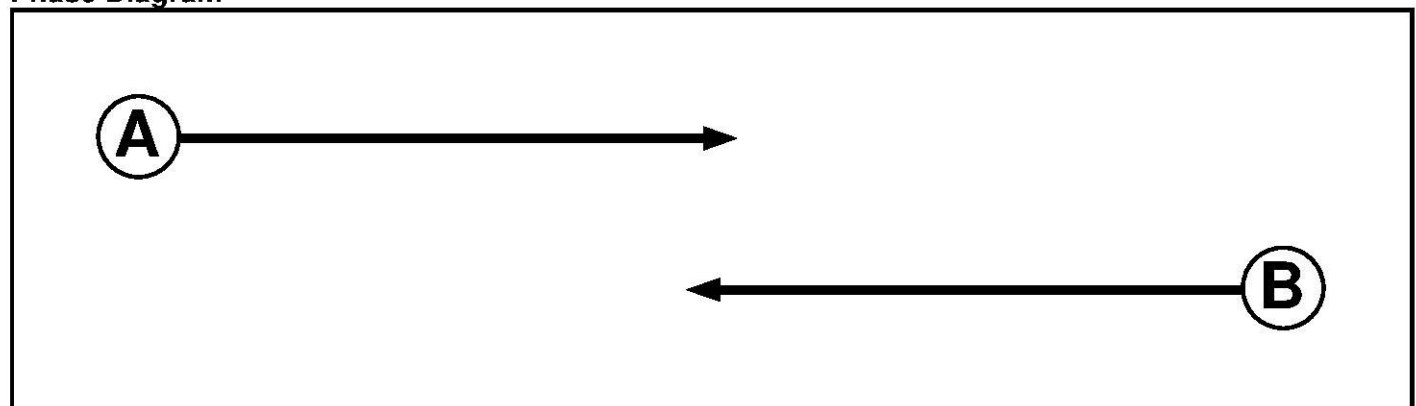
### User and Project Details

|            |  |
|------------|--|
| Project:   | Rye Road Broxbourne                                  |
| Title:     |  |
| Location:  |  |
| File name: | Site access jn and bridge 2020 data.lsg3x            |
| Author:    | Andrew Spencer                                       |
| Company:   | EAS Transport Planning                               |
| Address:   | 14B Fieldgate Lane, Kenilworth, Warwickshire CV8 1BT |
| Notes:     |  |

### Network Layout Diagram



### Phase Diagram





## Full Input Data And Results

### Phase Input Data

| Phase Name | Phase Type | Assoc. Phase | Street Min | Cont Min |
|------------|------------|--------------|------------|----------|
| A          | Traffic    |              | 7          | 7        |
| B          | Traffic    |              | 7          | 7        |

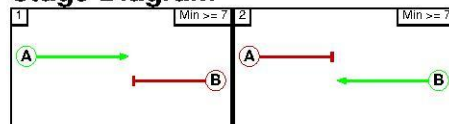
### Phase Intergreens Matrix

|                   | Starting Phase |   |   |
|-------------------|----------------|---|---|
| Terminating Phase |                | A | B |
|                   | A              |   | 8 |
|                   | B              | 8 |   |

### Phases in Stage

| Stage No. | Phases in Stage |
|-----------|-----------------|
| 1         | A               |
| 2         | B               |

### Stage Diagram



### Phase Delays

| Term. Stage                       | Start Stage | Phase | Type | Value | Cont value |
|-----------------------------------|-------------|-------|------|-------|------------|
| There are no Phase Delays defined |             |       |      |       |            |

### Prohibited Stage Change

|            | To Stage |   |
|------------|----------|---|
| From Stage | 1        | 2 |
|            | 1        | 8 |
|            | 2        | 8 |

Give-Way Lane Input Data

|   |
|---|
| Junction: J1: New River and railway bridge  |
| There are no Opposed Lanes in this Junction |

| Junction: J2: Fishermans Way && site access |                |                                   |                                   |               |                  |              |                          |                            |     |                        |                               |
|---|----------------|-----------------------------------|-----------------------------------|---------------|------------------|--------------|--------------------------|----------------------------|-----|------------------------|-------------------------------|
| 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) |
| J2:1/1<br>(Fishermans Way)                  | J1:2/1 (Left)  | 1439                              | 0                                 | J2:3/1        | 1.09             | All          |                          |                            |     |                        |                               |
|   | J2:5/1 (Ahead) | 1439                              | 0                                 | J2:6/1        | 1.09             | All          |                          |                            |     |                        |                               |
|   |                |                                   |                                   | J2:3/1        | 1.09             | All          | -                        |                            | -   |                        | -                             |
|   |                |                                   |                                   | J2:6/1        | 1.09             | All          |                          |                            |     |                        |                               |
|   |                |                                   |                                   | J2:3/1        | 1.09             | All          |                          |                            |     |                        |                               |
| J2:4/1<br>(Site access approach)            | J1:2/1 (Right) | 1439                              | 0                                 | J2:6/1        | 1.09             | All          |                          |                            |     |                        |                               |
|   | J2:2/1 (Ahead) | 1439                              | 0                                 | J2:3/1        | 1.09             | All          |                          |                            |     |                        |                               |
|   |                |                                   |                                   | J2:6/1        | 1.09             | All          | -                        |                            | -   |                        | -                             |
|   |                |                                   |                                   | J2:3/1        | 1.09             | All          |                          |                            |     |                        |                               |
|   |                |                                   |                                   | J2:6/1        | 1.09             | All          |                          |                            |     |                        |                               |

## Full Input Data And Results

## Lane Input Data

| Junction: J1: New River and railway bridge   |           |        |             |           |                       |               |                                   |                |          |               |                |                    |
|--|-----------|--------|-------------|-----------|-----------------------|---------------|-----------------------------------|----------------|----------|---------------|----------------|--------------------|
| 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) |
| J1:1/1<br>(Rye Road eb new signals approach) | U         | A      | 2           | 3         | 60.0                  | Geom          | -                                 | 2.50           | 0.00     | Y             | Arm J2:6 Ahead | Inf                |
| J1:2/1<br>(Rye Road wb new signals approach) | U         | B      | 2           | 3         | 4.3                   | Geom          | -                                 | 2.50           | 0.00     | Y             | Arm J1:3 Ahead | Inf                |
| J1:3/1<br>(Ryw Road wb exit)                 | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -              | -                  |

| Junction: J2: Fishermans Way && site access |           |        |             |           |                       |               |                                   |                |          |               |       |                    |
|---|-----------|--------|-------------|-----------|-----------------------|---------------|-----------------------------------|----------------|----------|---------------|-------|--------------------|
| 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) |
| J2:1/1<br>(Fishermans Way)                  | O         |        | 2           | 3         | 60.0                  | User          | 1439                              | -              | -        | -             | -     | -                  |
| J2:2/1<br>(Fishermans Way exit)             | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -     | -                  |
| J2:3/1<br>(Rye Road wb)                     | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -     | -                  |
| J2:4/1<br>(Site access approach)            | O         |        | 2           | 3         | 60.0                  | User          | 1439                              | -              | -        | -             | -     | -                  |
| J2:5/1<br>(Site access exit)                | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -     | -                  |
| J2:6/1<br>(Rye Road eb)                     | U         |        | 2           | 3         | 9.6                   | Inf           | -                                 | -              | -        | -             | -     | -                  |
| J2:7/1<br>(Rye Road eb exit)                | U         |        | 2           | 3         | 60.0                  | Inf           | -                                 | -              | -        | -             | -     | -                  |

## Traffic Flow Groups

| Flow Group                        | Start Time | End Time | Duration | Formula |
|-----------------------------------|------------|----------|----------|---------|
| 1: '2025 Baseline AM peak'        | 07:45      | 08:45    | 01:00    |         |
| 2: '2025 Baseline PM peak'        | 16:45      | 17:45    | 01:00    |         |
| 3: '2025 Baseline + devt AM peak' | 07:45      | 08:45    | 01:00    |         |
| 4: '2025 Baseline + devt PM peak' | 16:45      | 17:45    | 01:00    |         |

**Desired Flow :**

### Traffic Lane Flows

|  |                    |
|--|--------------------|
|  | <b>Scenario 1:</b> |
|--|--------------------|

### Lane Saturation Flows

## Junction: I1: New River and railway bridge

---



## Full Input Data And Results

| Junction: J2: Fishermans Way && site access |   |          |               |               |                    |               |                   |                          |
|---|---|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|
| Lane  | Lane Width (m)                                    | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| J2:1/1<br>(Fishermans Way Lane 1)           | This lane uses a directly entered Saturation Flow |          |               |               |                    |               | 1439              | 1439                     |
| J2:2/1<br>(Fishermans Way exit Lane 1)      | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:3/1<br>(Rye Road wb Lane 1)              | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:4/1<br>(Site access approach Lane 1)     | This lane uses a directly entered Saturation Flow |          |               |               |                    |               | 1439              | 1439                     |
| J2:5/1<br>(Site access exit Lane 1)         | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:6/1<br>(Rye Road eb Lane 1)              | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:7/1<br>(Rye Road eb exit Lane 1)         | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |

## Scenario 2: 'Scenario 2' (FG2: '2025 Baseline PM peak', Plan 1: 'Network Control Plan 1')

### Traffic Flows, Desired

#### Desired Flow :

| Origin | Destination |     |     |     |   |      |
|--------|-------------|-----|-----|-----|---|------|
|        |             | A   | B   | C   | D | Tot. |
|        | A           | 0   | 62  | 91  | 0 | 153  |
|        | B           | 85  | 0   | 34  | 0 | 119  |
|        | C           | 268 | 97  | 0   | 0 | 365  |
|        | D           | 0   | 0   | 0   | 0 | 0    |
|        | Tot.        | 353 | 159 | 125 | 0 | 637  |

### Traffic Lane Flows

| Lane  | Scenario 2:<br>Scenario 2 |
|---|---------------------------|
| Junction: J1: New River and railway bridge  |                           |
| J1:1/1                                      | 153                       |
| J1:2/1                                      | 353                       |
| J1:3/1                                      | 353                       |
| Junction: J2: Fishermans Way && site access |                           |
| J2:1/1                                      | 365                       |
| J2:2/1                                      | 125                       |
| J2:3/1                                      | 119                       |
| J2:4/1                                      | 0                         |
| J2:5/1                                      | 0                         |
| J2:6/1                                      | 153                       |
| J2:7/1                                      | 159                       |

**Lane Saturation Flows**

| Junction: J1: New River and railway bridge   |                          |          |               |                |                    |               |                   |                          |
|--|--------------------------|----------|---------------|----------------|--------------------|---------------|-------------------|--------------------------|
| Lane   | Lane Width (m)           | Gradient | Nearside Lane | Allowed Turns  | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| J1:1/1<br>(Rye Road eb new signals approach) | 2.50                     | 0.00     | Y             | Arm J2:6 Ahead | Inf                | 100.0 %       | 1865              | 1865                     |
| J1:2/1<br>(Rye Road wb new signals approach) | 2.50                     | 0.00     | Y             | Arm J1:3 Ahead | Inf                | 100.0 %       | 1865              | 1865                     |
| J1:3/1<br>(Ryw Road wb exit Lane 1)          | Infinite Saturation Flow |          |               |                |                    |               | Inf               | Inf                      |

| Junction: J2: Fishermans Way && site access |   |          |               |               |                    |               |                   |                          |
|---|---|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|
| Lane  | Lane Width (m)                                    | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| J2:1/1<br>(Fishermans Way Lane 1)           | This lane uses a directly entered Saturation Flow |          |               |               |                    |               | 1439              | 1439                     |
| J2:2/1<br>(Fishermans Way exit Lane 1)      | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:3/1<br>(Rye Road wb Lane 1)              | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:4/1<br>(Site access approach Lane 1)     | This lane uses a directly entered Saturation Flow |          |               |               |                    |               | 1439              | 1439                     |
| J2:5/1<br>(Site access exit Lane 1)         | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:6/1<br>(Rye Road eb Lane 1)              | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:7/1<br>(Rye Road eb exit Lane 1)         | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |

**Scenario 3: 'Scenario 3'** (FG3: '2025 Baseline + devt AM peak', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

|        | Destination |     |    |     |      |     |
|--------|-------------|-----|----|-----|------|-----|
|        | A           | B   | C  | D   | Tot. |     |
| Origin | A           | 0   | 64 | 225 | 14   | 303 |
|        | B           | 49  | 0  | 57  | 1    | 107 |
|        | C           | 109 | 29 | 0   | 1    | 139 |
|        | D           | 35  | 3  | 4   | 0    | 42  |
|        | Tot.        | 193 | 96 | 286 | 16   | 591 |

## Full Input Data And Results

### Traffic Lane Flows

| Lane   | Scenario 3:<br>Scenario 3 |
|--|---------------------------|
| <b>Junction: J1: New River and railway bridge</b>          |                           |
| J1:1/1   | 303                       |
| J1:2/1   | 193                       |
| J1:3/1   | 193                       |
| <b>Junction: J2: Fishermans Way &amp;&amp; site access</b> |                           |
| J2:1/1   | 139                       |
| J2:2/1   | 286                       |
| J2:3/1   | 107                       |
| J2:4/1   | 42                        |
| J2:5/1   | 16                        |
| J2:6/1   | 303                       |
| J2:7/1   | 96                        |

### Lane Saturation Flows

| Junction: J1: New River and railway bridge   |                          |          |               |                |                    |               |                   |                          |
|--|--------------------------|----------|---------------|----------------|--------------------|---------------|-------------------|--------------------------|
| Lane   | Lane Width (m)           | Gradient | Nearside Lane | Allowed Turns  | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| J1:1/1<br>(Rye Road eb new signals approach) | 2.50                     | 0.00     | Y             | Arm J2:6 Ahead | Inf                | 100.0 %       | 1865              | 1865                     |
| J1:2/1<br>(Rye Road wb new signals approach) | 2.50                     | 0.00     | Y             | Arm J1:3 Ahead | Inf                | 100.0 %       | 1865              | 1865                     |
| J1:3/1<br>(Ryw Road wb exit Lane 1)          | Infinite Saturation Flow |          |               |                |                    |               | Inf               | Inf                      |

| Junction: J2: Fishermans Way && site access |   |          |               |               |                    |               |                   |                          |
|---|---|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|
| Lane  | Lane Width (m)                                    | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| J2:1/1<br>(Fishermans Way Lane 1)           | This lane uses a directly entered Saturation Flow |          |               |               |                    |               | 1439              | 1439                     |
| J2:2/1<br>(Fishermans Way exit Lane 1)      | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:3/1<br>(Rye Road wb Lane 1)              | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:4/1<br>(Site access approach Lane 1)     | This lane uses a directly entered Saturation Flow |          |               |               |                    |               | 1439              | 1439                     |
| J2:5/1<br>(Site access exit Lane 1)         | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:6/1<br>(Rye Road eb Lane 1)              | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:7/1<br>(Rye Road eb exit Lane 1)         | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |

### Full Input Data And Results

**Scenario 4: 'Scenario 4'** (FG4: '2025 Baseline + devt PM peak', Plan 1: 'Network Control Plan 1')

### Traffic Flows, Desired

**Desired Flow :**

|        | Destination |     |     |     |    |      |
|--------|-------------|-----|-----|-----|----|------|
|        |             | A   | B   | C   | D  | Tot. |
| Origin | A           | 0   | 62  | 91  | 29 | 182  |
|        | B           | 85  | 0   | 34  | 3  | 122  |
|        | C           | 268 | 97  | 0   | 4  | 369  |
|        | D           | 10  | 1   | 1   | 0  | 12   |
|        | Tot.        | 363 | 160 | 126 | 36 | 685  |

### Traffic Lane Flows

| Lane   | Scenario 4:<br>Scenario 4 |
|--|---------------------------|
| <b>Junction: J1: New River and railway bridge</b>          |                           |
| J1:1/1   | 182                       |
| J1:2/1   | 363                       |
| J1:3/1   | 363                       |
| <b>Junction: J2: Fishermans Way &amp;&amp; site access</b> |                           |
| J2:1/1   | 369                       |
| J2:2/1   | 126                       |
| J2:3/1   | 122                       |
| J2:4/1   | 12                        |
| J2:5/1   | 36                        |
| J2:6/1   | 182                       |
| J2:7/1   | 160                       |

### Lane Saturation Flows

| Junction: J1: New River and railway bridge   |                          |          |               |                |                    |               |                   |                          |
|--|--------------------------|----------|---------------|----------------|--------------------|---------------|-------------------|--------------------------|
| Lane   | Lane Width (m)           | Gradient | Nearside Lane | Allowed Turns  | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| J1:1/1<br>(Rye Road eb new signals approach) | 2.50                     | 0.00     | Y             | Arm J2:6 Ahead | Inf                | 100.0 %       | 1865              | 1865                     |
| J1:2/1<br>(Rye Road wb new signals approach) | 2.50                     | 0.00     | Y             | Arm J1:3 Ahead | Inf                | 100.0 %       | 1865              | 1865                     |
| J1:3/1<br>(Ryw Road wb exit Lane 1)          | Infinite Saturation Flow |          |               |                |                    |               | Inf               | Inf                      |

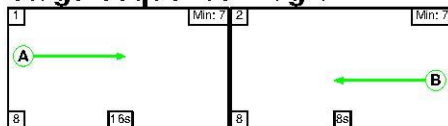


## Full Input Data And Results

| Junction: J2: Fishermans Way & site access |   |          |               |               |                    |               |                   |                          |
|--|---|----------|---------------|---------------|--------------------|---------------|-------------------|--------------------------|
| Lane                                       | Lane Width (m)                                    | Gradient | Nearside Lane | Allowed Turns | Turning Radius (m) | Turning Prop. | Sat Flow (PCU/Hr) | Flared Sat Flow (PCU/Hr) |
| J2:1/1<br>(Fishermans Way Lane 1)          | This lane uses a directly entered Saturation Flow |          |               |               |                    |               | 1439              | 1439                     |
| J2:2/1<br>(Fishermans Way exit Lane 1)     | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:3/1<br>(Rye Road wb Lane 1)             | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:4/1<br>(Site access approach Lane 1)    | This lane uses a directly entered Saturation Flow |          |               |               |                    |               | 1439              | 1439                     |
| J2:5/1<br>(Site access exit Lane 1)        | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:6/1<br>(Rye Road eb Lane 1)             | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |
| J2:7/1<br>(Rye Road eb exit Lane 1)        | Infinite Saturation Flow                          |          |               |               |                    |               | Inf               | Inf                      |

Scenario 1: 'Scenario 1' (FG1: '2025 Baseline AM peak', Plan 1: 'Network Control Plan 1')

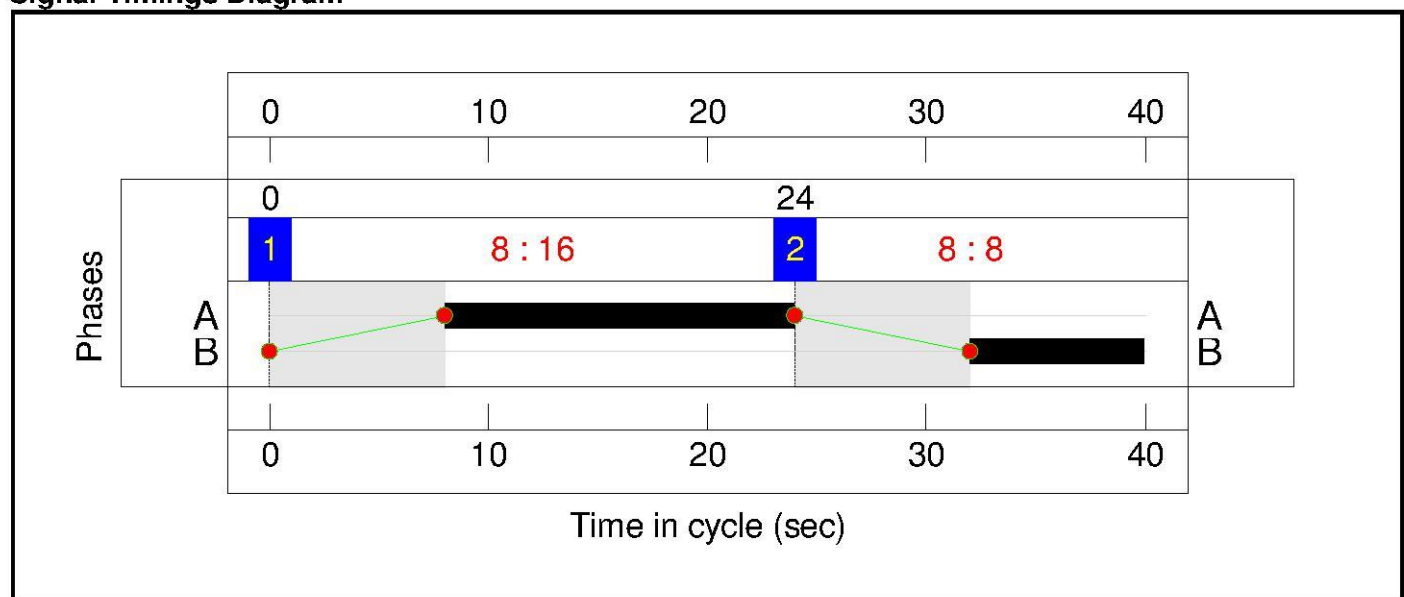
### Stage Sequence Diagram



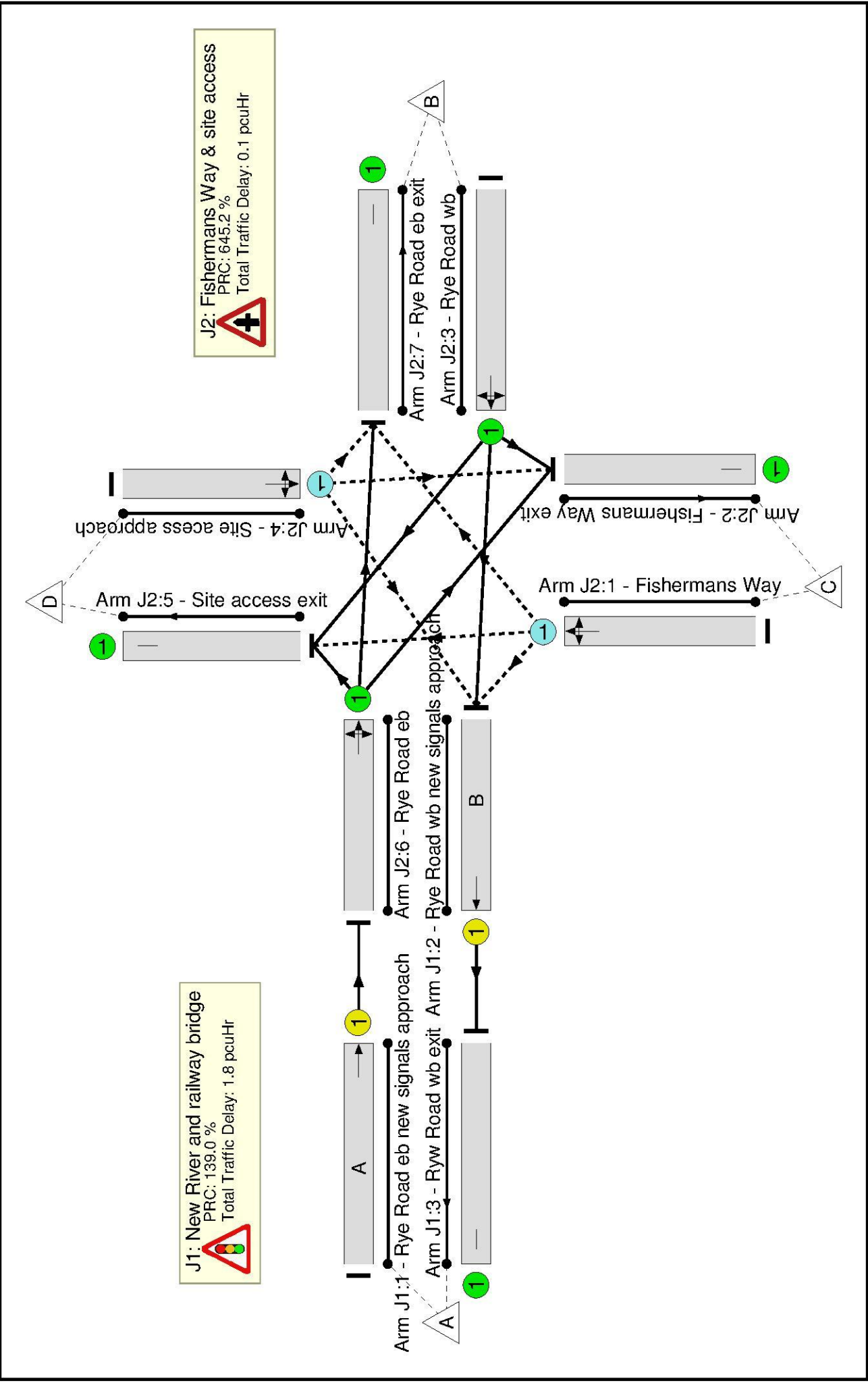
### Stage Timings

| Stage        | 1  | 2  |
|--------------|----|----|
| Duration     | 16 | 8  |
| Change Point | 0  | 24 |

### Signal Timings Diagram



**Network Layout Diagram**



Full Input Data And Results

Network Results

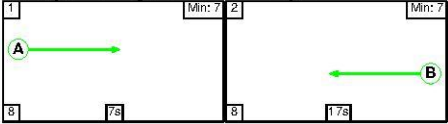
| Item                             | Lane Description                       | Lane Type | Controller Stream | Position In Filtered Route | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) |
|----------------------------------|--|-----------|-------------------|----------------------------|------------|-------------|------------|-----------------|-----------------|-------------------|-------------------|----------------|-------------|
| Network                          | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 37.7%       |
| J1: New River and railway bridge | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 37.7%       |
| 1/1                              | Rye Road eb new signals approach Ahead | U         | N/A               | N/A                        | A          |             | 1          | 16              | -               | 289               | 1865              | 793            | 36.5%       |
| 2/1                              | Rye Road wb new signals approach Ahead | U         | N/A               | N/A                        | B          |             | 1          | 8               | -               | 158               | 1865              | 420            | 37.7%       |
| 3/1                              | Ryw Road wb exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 158               | Inf               | Inf            | 0.0%        |
| J2: Fishermans Way & site access | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 12.1%       |
| 1/1                              | Fishermans Way Left Ahead Right        | O         | N/A               | N/A                        | -          |             | -          | -               | -               | 138               | 1439              | 1143           | 12.1%       |
| 2/1                              | Fishermans Way exit                    | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 282               | Inf               | Inf            | 0.0%        |
| 3/1                              | Rye Road wb Ahead Left Right           | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 106               | Inf               | Inf            | 0.0%        |
| 4/1                              | Site access approach Right Ahead Left  | O         | N/A               | N/A                        | -          |             | -          | -               | -               | 0                 | 1439              | 1110           | 0.0%        |
| 5/1                              | Site access exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 0                 | Inf               | Inf            | 0.0%        |
| 6/1                              | Rye Road eb Right Left Ahead           | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 289               | Inf               | Inf            | 0.0%        |
| 7/1                              | Rye Road eb exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 93                | 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                           | -              | -             | 138                           | 0                            | 0                           | 1.2                                       | 0.7                          | 0.0                                | 1.9                 | -                         | -                                | -                          | -                    |
| J1: New River and railway bridge  | -              | -             | 0                             | 0                            | 0                           | 1.2                                       | 0.6                          | 0.0                                | 1.8                 | -                         | -                                | -                          | -                    |
| 1/1                               | 289            | 289           | -                             | -                            | -                           | 0.6                                       | 0.3                          | -                                  | 0.9                 | 11.4                      | 2.2                              | 0.3                        | 2.5                  |
| 2/1                               | 158            | 158           | -                             | -                            | -                           | 0.6                                       | 0.3                          | -                                  | 0.9                 | 19.8                      | 1.4                              | 0.3                        | 1.7                  |
| 3/1                               | 158            | 158           | -                             | -                            | -                           | 0.0                                       | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| J2: Fishermans Way && site access | -              | -             | 138                           | 0                            | 0                           | 0.0                                       | 0.1                          | 0.0                                | 0.1                 | -                         | -                                | -                          | -                    |
| 1/1                               | 138            | 138           | 138                           | 0                            | 0                           | 0.0                                       | 0.1                          | -                                  | 0.1                 | 2.0                       | 0.2                              | 0.1                        | 0.2                  |
| 2/1                               | 282            | 282           | -                             | -                            | -                           | 0.0                                       | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 3/1                               | 106            | 106           | -                             | -                            | -                           | 0.0                                       | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 4/1                               | 0              | 0             | 0                             | 0                            | 0                           | 0.0                                       | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 5/1                               | 0              | 0             | -                             | -                            | -                           | 0.0                                       | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 6/1                               | 289            | 289           | -                             | -                            | -                           | 0.0                                       | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 7/1                               | 93             | 93            | -                             | -                            | -                           | 0.0                                       | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| C1                                |                |               |                               |                              |                             |   |                              |                                    |                     |                           |                                  |                            |                      |
|                                   |                |               | PRC for Signalised Lanes (%): |                              | 139.0                       | Total Delay for Signalised Lanes (pcuHr): |                              | 1.79                               | Cycle Time (s):     |                           | 40                               |                            |                      |
|                                   |                |               | PRC Over All Lanes (%):       |                              | 139.0                       | Total Delay Over All Lanes (pcuHr):       |                              | 1.86                               |                     |                           |                                  |                            |                      |



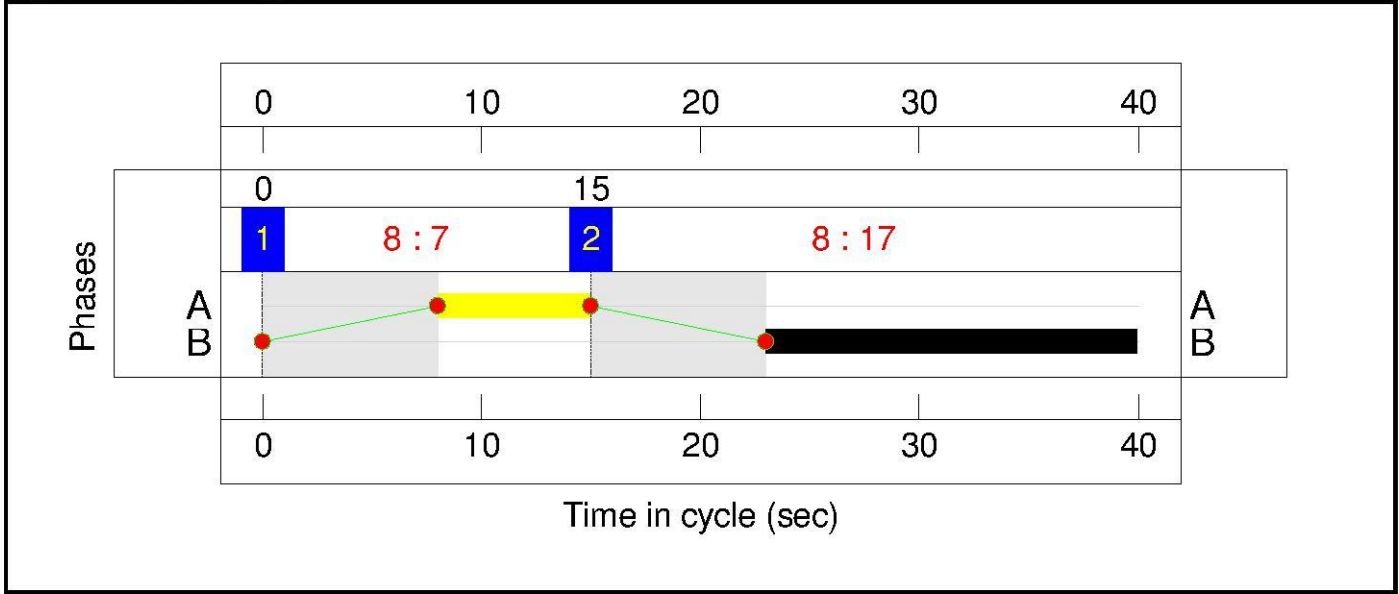
**Stage Sequence Diagram**



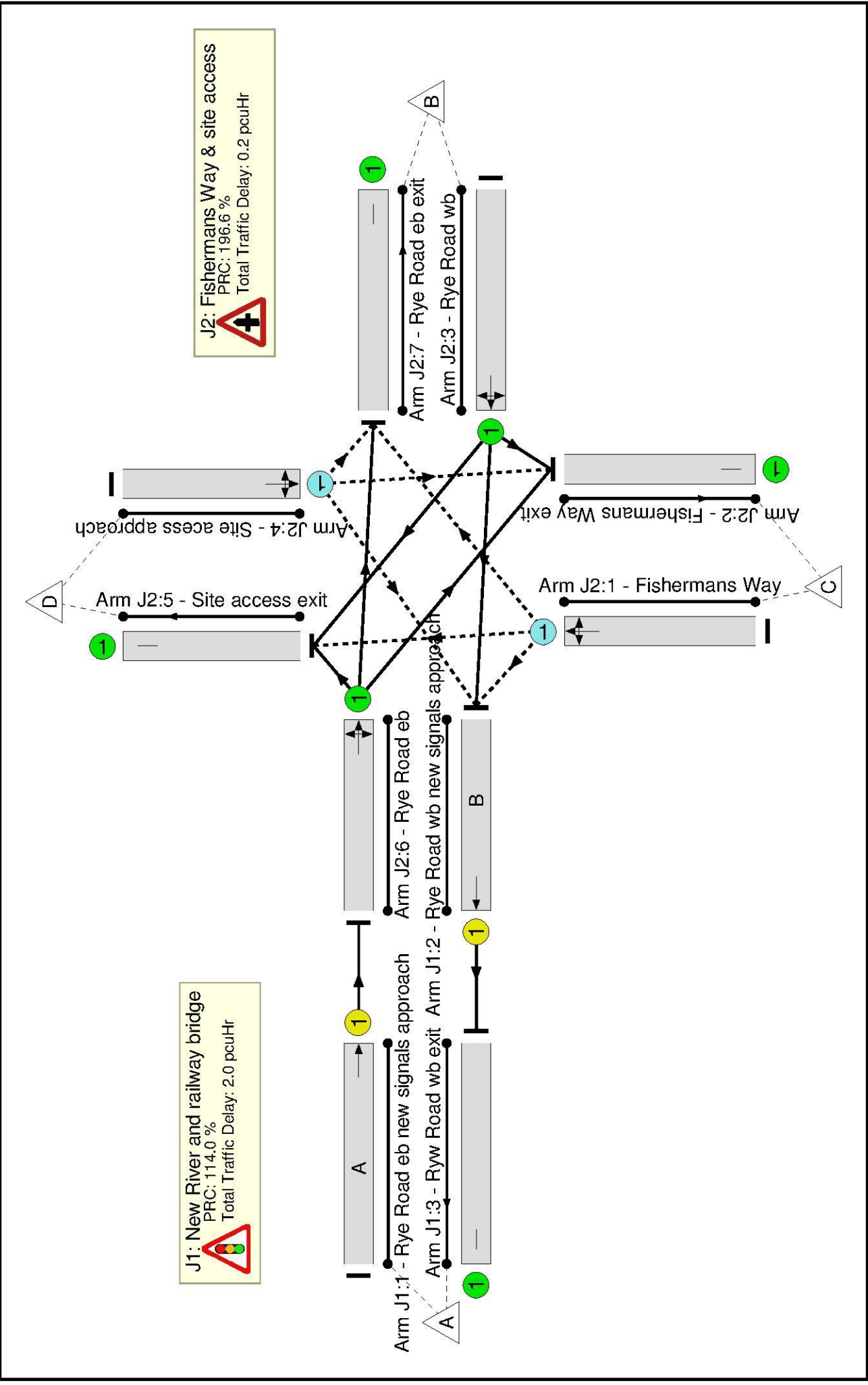
**Stage Timings**

| Stage        | 1 | 2  |
|--------------|---|----|
| Duration     | 7 | 17 |
| Change Point | 0 | 15 |

**Signal Timings Diagram**



**Network Layout Diagram**



Full Input Data And Results

Network Results

| Item                             | Lane Description                       | Lane Type | Controller Stream | Position In Filtered Route | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) |
|----------------------------------|--|-----------|-------------------|----------------------------|------------|-------------|------------|-----------------|-----------------|-------------------|-------------------|----------------|-------------|
| Network                          | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 42.1%       |
| J1: New River and railway bridge | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 42.1%       |
| 1/1                              | Rye Road eb new signals approach Ahead | U         | N/A               | N/A                        | A          |             | 1          | 7               | -               | 153               | 1865              | 373            | 41.0%       |
| 2/1                              | Rye Road wb new signals approach Ahead | U         | N/A               | N/A                        | B          |             | 1          | 17              | -               | 353               | 1865              | 839            | 42.1%       |
| 3/1                              | Ryw Road wb exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 353               | Inf               | Inf            | 0.0%        |
| J2: Fishermans Way & site access | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 30.3%       |
| 1/1                              | Fishermans Way Left Ahead Right        | O         | N/A               | N/A                        | -          |             | -          | -               | -               | 365               | 1439              | 1203           | 30.3%       |
| 2/1                              | Fishermans Way exit                    | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 125               | Inf               | Inf            | 0.0%        |
| 3/1                              | Rye Road wb Ahead Left Right           | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 119               | Inf               | Inf            | 0.0%        |
| 4/1                              | Site access approach Right Ahead Left  | O         | N/A               | N/A                        | -          |             | -          | -               | -               | 0                 | 1439              | 1193           | 0.0%        |
| 5/1                              | Site access exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 0                 | Inf               | Inf            | 0.0%        |
| 6/1                              | Rye Road eb Right Left Ahead           | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 153               | Inf               | Inf            | 0.0%        |
| 7/1                              | Rye Road eb exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 159               | Inf               | Inf            | 0.0%        |

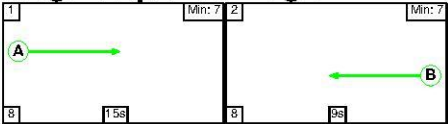
Full Input Data And Results

| 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                          | -              | -             | 365                   | 0                            | 0                           | 1.3                   | 0.9                          | 0.0                                | 2.3                 | -                                   | -                                | -  | -                    |                    |  |
| J1: New River and railway bridge | -              | -             | 0                     | 0                            | 0                           | 1.3                   | 0.7                          | 0.0                                | 2.0                 | -                                   | -                                | -  | -                    |                    |  |
| 1/1                              | 153            | 153           | -                     | -                            | -                           | 0.6                   | 0.3                          | -                                  | 0.9                 | 22.1                                | 1.4                              | 0.3  | 1.8                  |                    |  |
| 2/1                              | 353            | 353           | -                     | -                            | -                           | 0.7                   | 0.4                          | -                                  | 1.1                 | 11.1                                | 2.6                              | 0.4  | 3.0                  |                    |  |
| 3/1                              | 353            | 353           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                                 | 0.0                              | 0.0  | 0.0                  |                    |  |
| J2: Fishermans Way & site access | -              | -             | 365                   | 0                            | 0                           | 0.0                   | 0.2                          | 0.0                                | 0.2                 | -                                   | -                                | -  | -                    |                    |  |
| 1/1                              | 365            | 365           | 365                   | 0                            | 0                           | 0.0                   | 0.2                          | -                                  | 0.2                 | 2.2                                 | 0.3                              | 0.2  | 0.5                  |                    |  |
| 2/1                              | 125            | 125           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                                 | 0.0                              | 0.0  | 0.0                  |                    |  |
| 3/1                              | 119            | 119           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                                 | 0.0                              | 0.0  | 0.0                  |                    |  |
| 4/1                              | 0              | 0             | 0                     | 0                            | 0                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                                 | 0.0                              | 0.0  | 0.0                  |                    |  |
| 5/1                              | 0              | 0             | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                                 | 0.0                              | 0.0  | 0.0                  |                    |  |
| 6/1                              | 153            | 153           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                                 | 0.0                              | 0.0  | 0.0                  |                    |  |
| 7/1                              | 159            | 159           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                                 | 0.0                              | 0.0  | 0.0                  |                    |  |
| C1                               |                |               |                       |                              |                             |                       |                              |                                    |                     | PRC for Signalised Lanes (%): 114.0 |                                  | Total Delay for Signalised Lanes (pcuHr): 2.03 |                      | Cycle Time (s): 40 |  |
|                                  |                |               |                       |                              |                             |                       |                              |                                    |                     | PRC Over All Lanes (%): 114.0       |                                  | Total Delay Over All Lanes (pcuHr): 2.26       |                      |                    |  |



Full Input Data And Results  
**Scenario 3: 'Scenario 3'** (FG3: '2025 Baseline + devt AM peak', Plan 1: 'Network Control Plan 1')

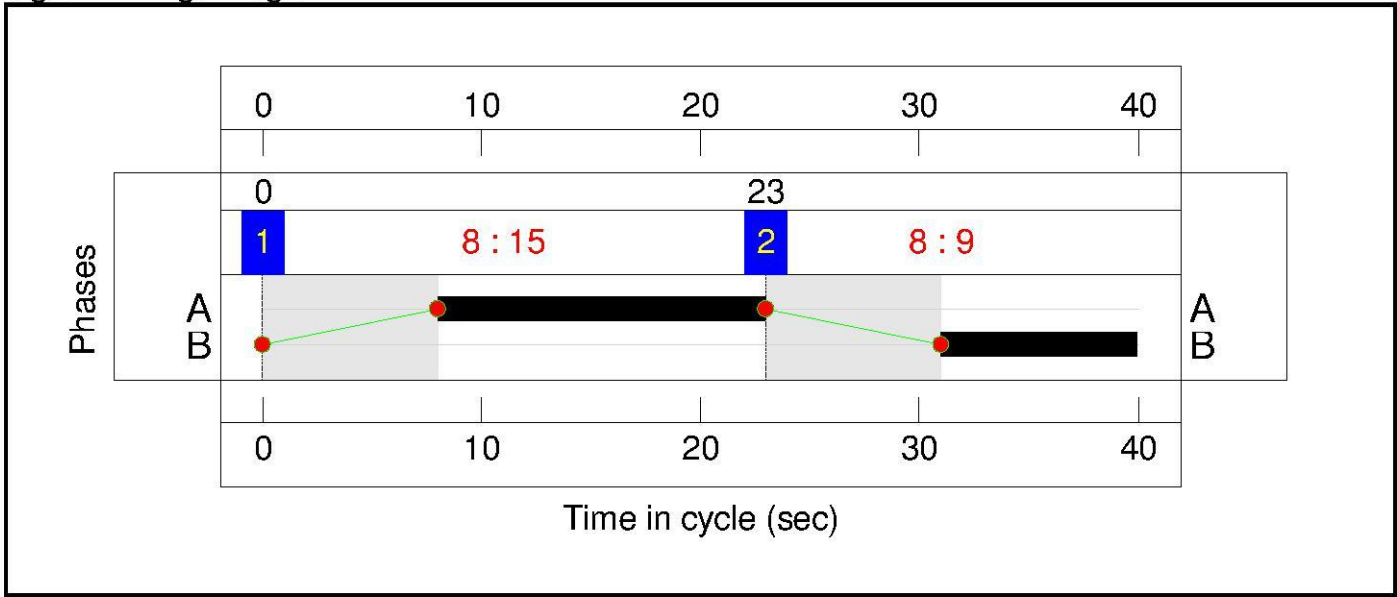
**Stage Sequence Diagram**



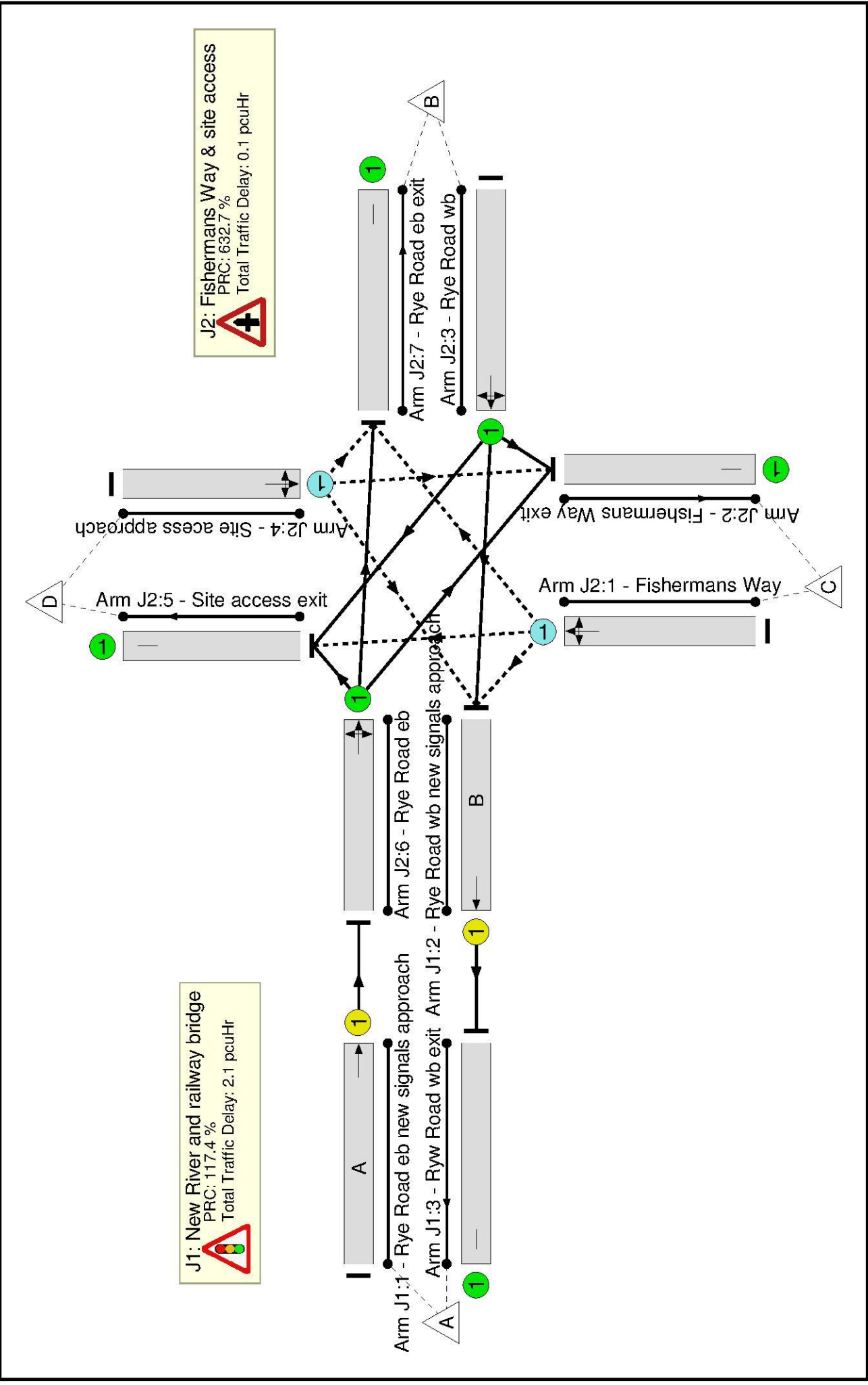
**Stage Timings**

| Stage        | 1  | 2  |
|--------------|----|----|
| Duration     | 15 | 9  |
| Change Point | 0  | 23 |

**Signal Timings Diagram**



**Network Layout Diagram**



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                          | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 41.4%       |
| J1: New River and railway bridge | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 41.4%       |
| 1/1                              | Rye Road eb new signals approach Ahead | U         | N/A               | N/A                        | A          |             | 1          | 15              | -               | 303               | 1865              | 746            | 40.6%       |
| 2/1                              | Rye Road wb new signals approach Ahead | U         | N/A               | N/A                        | B          |             | 1          | 9               | -               | 193               | 1865              | 466            | 41.4%       |
| 3/1                              | Ryw Road wb exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 193               | Inf               | Inf            | 0.0%        |
| J2: Fishermans Way & site access | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 12.3%       |
| 1/1                              | Fishermans Way Left Ahead Right        | O         | N/A               | N/A                        | -          |             | -          | -               | -               | 139               | 1439              | 1132           | 12.3%       |
| 2/1                              | Fishermans Way exit                    | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 286               | Inf               | Inf            | 0.0%        |
| 3/1                              | Rye Road wb Ahead Left Right           | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 107               | Inf               | Inf            | 0.0%        |
| 4/1                              | Site access approach Right Ahead Left  | O         | N/A               | N/A                        | -          |             | -          | -               | -               | 42                | 1439              | 1037           | 4.0%        |
| 5/1                              | Site access exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 16                | Inf               | Inf            | 0.0%        |
| 6/1                              | Rye Road eb Right Left Ahead           | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 303               | Inf               | Inf            | 0.0%        |
| 7/1                              | Rye Road eb exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 96                | Inf               | Inf            | 0.0%        |

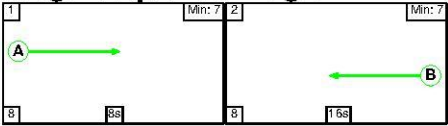
Full Input Data And Results

| 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                          | -              | -             | 181                           | 0                            | 0   | 1.4                   | 0.8                          | 0.0                                | 2.2                 | -                         | -                                | -                          | -                    |
| J1: New River and railway bridge | -              | -             | 0                             | 0                            | 0   | 1.4                   | 0.7                          | 0.0                                | 2.1                 | -                         | -                                | -                          | -                    |
| 1/1                              | 303            | 303           | -                             | -                            | -   | 0.7                   | 0.3                          | -                                  | 1.1                 | 12.7                      | 2.4                              | 0.3                        | 2.7                  |
| 2/1                              | 193            | 193           | -                             | -                            | -   | 0.7                   | 0.4                          | -                                  | 1.0                 | 19.0                      | 1.8                              | 0.4                        | 2.1                  |
| 3/1                              | 193            | 193           | -                             | -                            | -   | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| J2: Fishermans Way & site access | -              | -             | 181                           | 0                            | 0   | 0.0                   | 0.1                          | 0.0                                | 0.1                 | -                         | -                                | -                          | -                    |
| 1/1                              | 139            | 139           | 139                           | 0                            | 0   | 0.0                   | 0.1                          | -                                  | 0.1                 | 2.1                       | 0.2                              | 0.1                        | 0.2                  |
| 2/1                              | 286            | 286           | -                             | -                            | -   | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 3/1                              | 107            | 107           | -                             | -                            | -   | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 4/1                              | 42             | 42            | 42                            | 0                            | 0   | 0.0                   | 0.0                          | -                                  | 0.0                 | 2.1                       | 0.0                              | 0.0                        | 0.1                  |
| 5/1                              | 16             | 16            | -                             | -                            | -   | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 6/1                              | 303            | 303           | -                             | -                            | -   | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 7/1                              | 96             | 96            | -                             | -                            | -   | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| C1                               |                |               |                               |                              |   |                       |                              |                                    |                     |                           |                                  |                            |                      |
|                                  |                |               | PRC for Signalised Lanes (%): | 117.4                        | Total Delay for Signalised Lanes (pcuHr): |                       |                              | 2.08                               | Cycle Time (s):     |                           |                                  | 40                         |                      |
|                                  |                |               | PRC Over All Lanes (%):       | 117.4                        | Total Delay Over All Lanes (pcuHr):       |                       |                              | 2.19                               |                     |                           |                                  |                            |                      |



Full Input Data And Results  
**Scenario 4: 'Scenario 4'** (FG4: '2025 Baseline + devt PM peak', Plan 1: 'Network Control Plan 1')

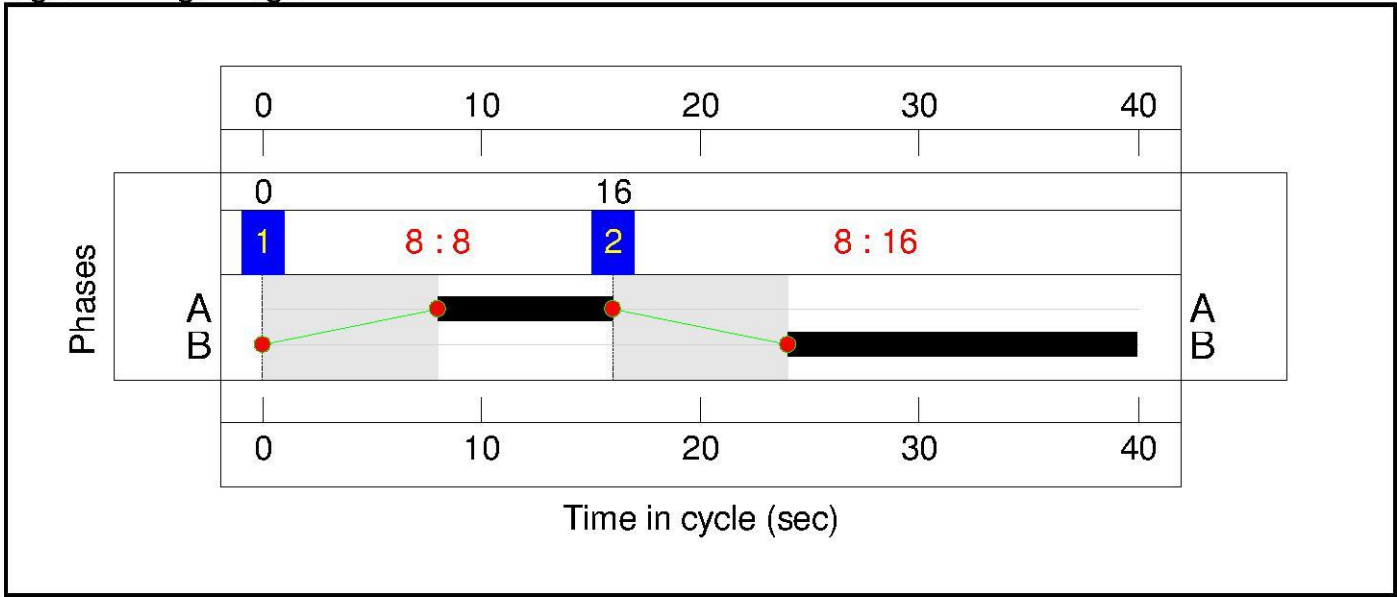
**Stage Sequence Diagram**



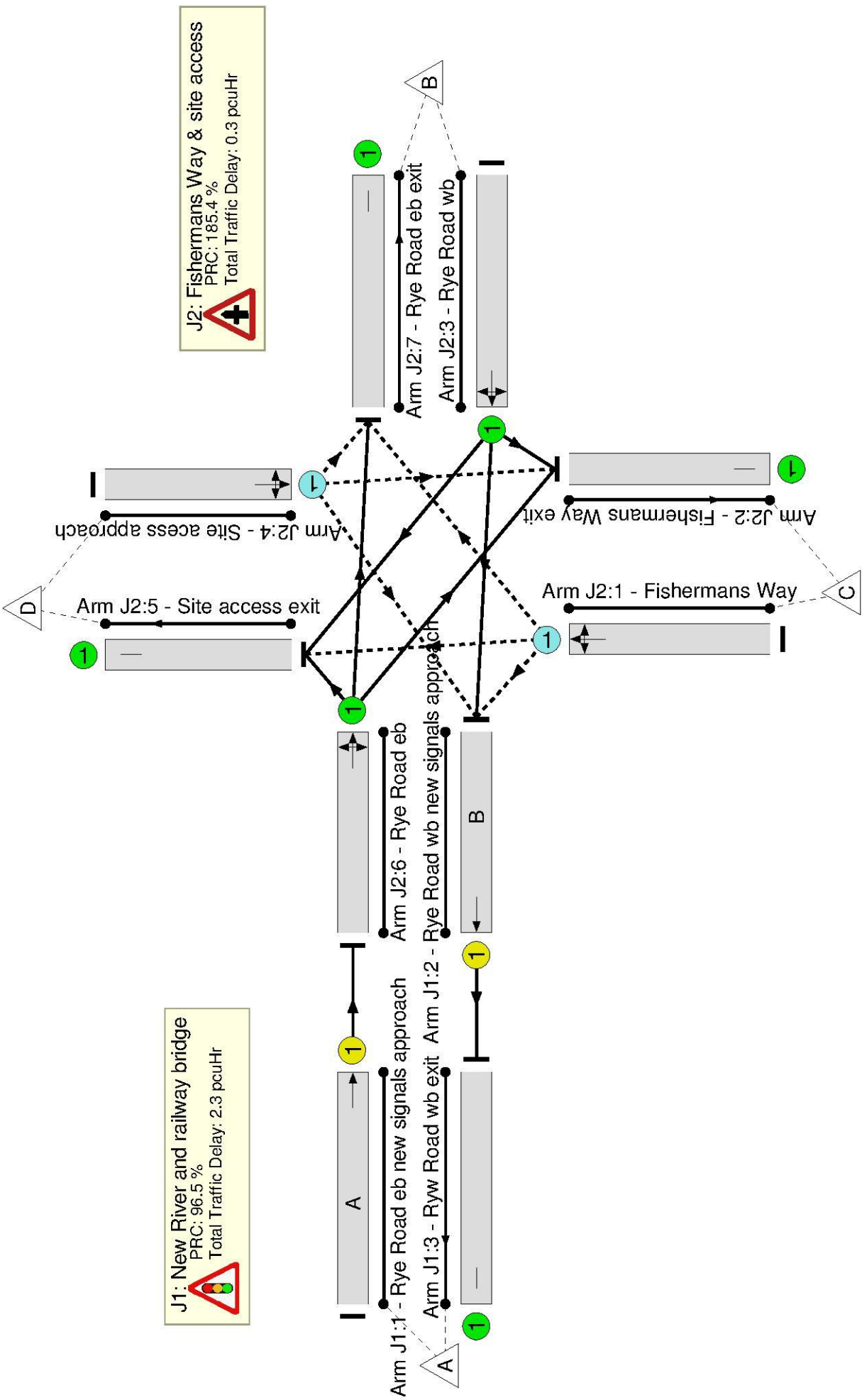
**Stage Timings**

| Stage        | 1 | 2  |
|--------------|---|----|
| Duration     | 8 | 16 |
| Change Point | 0 | 16 |

**Signal Timings Diagram**



**Network Layout Diagram**



Full Input Data And Results

Network Results

| Item                             | Lane Description                       | Lane Type | Controller Stream | Position In Filtered Route | Full Phase | Arrow Phase | Num Greens | Total Green (s) | Arrow Green (s) | Demand Flow (pcu) | Sat Flow (pcu/Hr) | Capacity (pcu) | Deg Sat (%) |
|----------------------------------|--|-----------|-------------------|----------------------------|------------|-------------|------------|-----------------|-----------------|-------------------|-------------------|----------------|-------------|
| Network                          | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 45.8%       |
| J1: New River and railway bridge | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 45.8%       |
| 1/1                              | Rye Road eb new signals approach Ahead | U         | N/A               | N/A                        | A          |             | 1          | 8               | -               | 182               | 1865              | 420            | 43.4%       |
| 2/1                              | Rye Road wb new signals approach Ahead | U         | N/A               | N/A                        | B          |             | 1          | 16              | -               | 363               | 1865              | 793            | 45.8%       |
| 3/1                              | Ryw Road wb exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 363               | Inf               | Inf            | 0.0%        |
| J2: Fishermans Way & site access | -                                      | -         | N/A               | -                          | -          |             | -          | -               | -               | -                 | -                 | -              | 31.5%       |
| 1/1                              | Fishermans Way Left Ahead Right        | O         | N/A               | N/A                        | -          |             | -          | -               | -               | 369               | 1439              | 1170           | 31.5%       |
| 2/1                              | Fishermans Way exit                    | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 126               | Inf               | Inf            | 0.0%        |
| 3/1                              | Rye Road wb Ahead Left Right           | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 122               | Inf               | Inf            | 0.0%        |
| 4/1                              | Site access approach Right Ahead Left  | O         | N/A               | N/A                        | -          |             | -          | -               | -               | 12                | 1439              | 1133           | 1.1%        |
| 5/1                              | Site access exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 36                | Inf               | Inf            | 0.0%        |
| 6/1                              | Rye Road eb Right Left Ahead           | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 182               | Inf               | Inf            | 0.0%        |
| 7/1                              | Rye Road eb exit                       | U         | N/A               | N/A                        | -          |             | -          | -               | -               | 160               | 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                           | -              | -             | 381                   | 0                            | 0                           | 1.5                   | 1.0                          | 0.0                                | 2.5                 | -                         | -                                | -                          | -                    |
| J1: New River and railway bridge  | -              | -             | 0                     | 0                            | 0                           | 1.5                   | 0.8                          | 0.0                                | 2.3                 | -                         | -                                | -                          | -                    |
| 1/1                               | 182            | 182           | -                     | -                            | -                           | 0.7                   | 0.4                          | -                                  | 1.1                 | 20.9                      | 1.7                              | 0.4                        | 2.1                  |
| 2/1                               | 363            | 363           | -                     | -                            | -                           | 0.8                   | 0.4                          | -                                  | 1.2                 | 12.3                      | 2.8                              | 0.4                        | 3.2                  |
| 3/1                               | 363            | 363           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| J2: Fishermans Way & site access  | -              | -             | 381                   | 0                            | 0                           | 0.0                   | 0.2                          | 0.0                                | 0.3                 | -                         | -                                | -                          | -                    |
| 1/1                               | 369            | 369           | 369                   | 0                            | 0                           | 0.0                   | 0.2                          | -                                  | 0.2                 | 2.4                       | 0.4                              | 0.2                        | 0.6                  |
| 2/1                               | 126            | 126           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 3/1                               | 122            | 122           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 4/1                               | 12             | 12            | 12                    | 0                            | 0                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 1.8                       | 0.0                              | 0.0                        | 0.0                  |
| 5/1                               | 36             | 36            | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 6/1                               | 182            | 182           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| 7/1                               | 160            | 160           | -                     | -                            | -                           | 0.0                   | 0.0                          | -                                  | 0.0                 | 0.0                       | 0.0                              | 0.0                        | 0.0                  |
| C1                                |                |               |                       |                              |                             |                       |                              |                                    |                     | Cycle Time (s): 40        |                                  |                            |                      |
| PRC for Signalled Lanes (%): 96.5 |                |               |                       |                              |                             |                       |                              |                                    |                     | 2.29                      |                                  |                            |                      |
| PRC Over All Lanes (%): 96.5      |                |               |                       |                              |                             |                       |                              |                                    |                     | 2.55                      |                                  |                            |                      |



