

# Appendix U

RPS Land off Chelmsford Road TA

# LAND OFF CHELMSFORD ROAD SHENFIELD ESSEX

## Transport Assessment

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## Document Status

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# 1 INTRODUCTION

- 1.2 RPS has been instructed by Redrow to undertake a Transport Assessment (TA) of a proposed residential site referred to as 'Land off Chelmsford Road, Shenfield.' The site is within the district of Brentwood Borough Council (BBC) and Essex County Council (ECC) are the Highway Authority.
- 1.3 The development proposal is for a Full Planning Application for 180 dwellings (Class C3), public open space, landscaping, sustainable urban drainage, access and associated infrastructure.
- 1.4 The site is identified as part of a wider allocation in the Brentwood Local Plan 2019 in policy RO3 'Land North of Shenfield'.
- 1.5 The wider site comprises of four parcels of land, located both east and north of Chelmsford Road. The overall development includes around 825 homes and 2ha of employment space, which is a combination of developments from Countryside, Croudace, Stonebond and Redrow.
- 1.6 In order to provide a robust assessment, this Transport Assessment assumes that the development on the application site comprises 200 homes.
- 1.7 This TA describes the transport characteristics of the site, and the site's accessibility to facilities by sustainable modes of travel. It includes an assessment and analysis of the travel characteristics of the local Brentwood MSOA 005 obtained from the 2011 Census. This information has been used to predict the future travel demands of the proposed development site and the likely impact on the local highway network.
- 1.8 This TA has been prepared in accordance with the National Planning Policy Framework – Planning Guidance for Transport Assessments and Transport Statements, with reference to Manual for Streets and Essex County Council 'Design Guide'. The scope of the TA was agreed with ECC following pre-application discussions.

## Report Format

- **Section 2** describes the transport characteristics of the site and its location. It also includes the details of existing traffic flows, likely growth, and committed development traffic flows;
- **Section 3** describes the site's accessibility to facilities by sustainable modes of travel. This includes a description of walking and cycling facilities and access to public transport;
- **Section 4** provides a review of the relevant central government and local government land use and transport planning policies and guidance;
- **Section 5** provides details of the residential development including number of dwellings, access arrangements and parking;
- **Section 6** details the likely traffic generation associated with the proposed development and the distribution / assignment of that traffic onto the local highway network;
- **Section 7** considers the impact of the development on the road network; and
- **Section 8** provides a summary of the transport assessment and conclusions.

## 2 EXISTING TRANSPORT CHARACTERISTICS

### Introduction

- 2.1 This section of the report describes the transport characteristics of the site and its location, including existing levels of car ownership in Brentwood MSOA 005, residents' modes of travel to work, and a review of the local highway network including road traffic collisions. It also includes details of the existing traffic flows.

### Site Context

- 2.2 The site comprises 9.8ha of land located east of Chelmsford Road, Shenfield. The site is to the northeast of Shenfield town centre, within the Borough of Brentwood and the County of Essex. The site is to the south of the A12 junction with Chelmsford Road and in close proximity to Shenfield High School.
- 2.3 The site location is detailed in **Figure 1** and a site context plan provided at **Appendix 1**.

**Figure 1: Site Location**

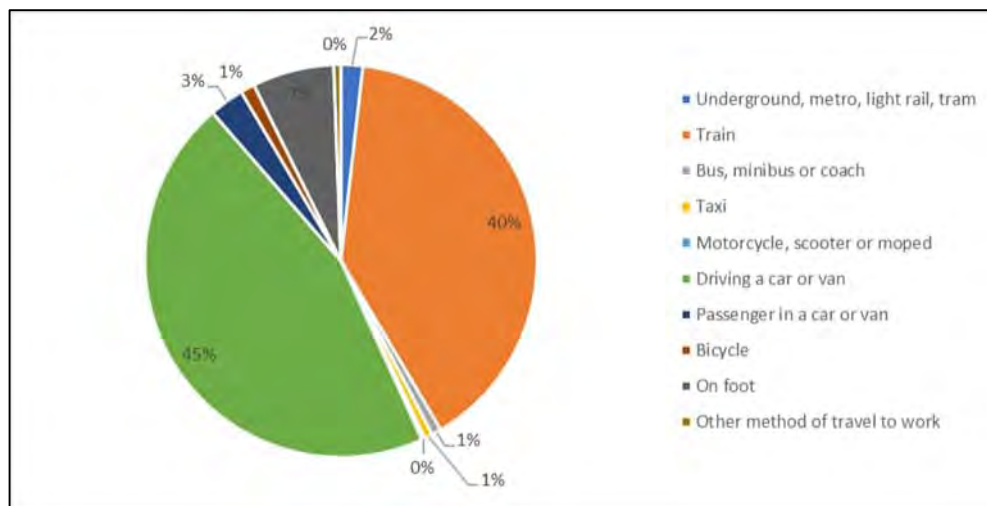


- 2.4 The site is bounded by existing residential development to the west, the A12 to the north, Arnold's Wood to the south and a trainline to the east.

### Travel to Work Characteristics

- 2.5 The 2011 Census 'Method of Travel to Work' (main mode) for the Brentwood MSOA 005 identifies that 8 percent of residents walk or cycle, 43 percent of residents use public transport and 48 percent travel by car. **Figure 2** below details the modal splits for journeys to work for the Brentwood MSOA 005 area.

**Figure 2: Modal Split – Method of Travel to Work**



2.6 The above identifies that car is the main mode of travel for journeys to work. However, 43 percent of journeys are undertaken by public transport with 42 percent by train and 1 percent by bus. It is acknowledged that the 2011 data is now quite old, but this is the most comprehensive dataset currently available. It is likely that the level of homeworking in the area would see a marked increase. The rail station will remain a major draw for travel from this area especially considering the recent opening of the Elizabeth Line.

2.7 Therefore, the sites accessibility to bus stops and Shenfield railway station will be key for future residents. The existing use of active travel modes - walk and cycling - for journeys to work is relatively low with 7 percent walking and 1 percent cycling. However, it is likely that these modes form part of longer journeys such as to the station for a rail trip.

## Car Ownership

2.8 **Table 2.1** shows the household car ownership in the local area, as obtained from the 2011 Census data. The 2021 census data is not yet available, so this represents the most current complete data set.

**Table 2.1: Household Car Ownership Levels in MSOA 005**

Car Ownership	Brentwood MSOA 005
None	9%
One	43%
Two	35%
Three	9%
Four or more	3%

- 2.9 From the 2011 Census data it is possible to ascertain the overall and average levels of car ownership of the MSOA based on the number of dwellings. For the Brentwood MSOA 005 the data is as follows:

**Table 2.2: Car Ownership Per Dwelling**

2011 Census Data	
No. Households	4,144
Total Number of Cars Owned	6,435
Average Car Ownership Per Household	1.55

- 2.10 The existing levels of car ownership are slightly higher compared to the overall car ownership for Brentwood District of 1.55 cars per household.

## Existing Highway Network

- 2.11 Vehicular access to the site is currently via a vehicular crossover on the south-east side of A1023 Chelmsford Road. The crossover provides access to the site via a strip of land located between property number 253 to the east and a garage to the west.
- 2.12 There is a Public Right of Way along this route that connects to the woodland to the east and eventually to Alexander Lane to the south of the overall allocation.
- 2.13 Chelmsford Road is the A1023 which runs from the A12 junction to the north, south through Shenfield and Brentwood to the M25 / A12 junction at Brook Street. In the vicinity of the site it is approximately 9m wide and a 40mph speed limit.

## Road Traffic Collision Analysis

- 2.14 A review has been undertaken of road traffic collision data involving personal injury that have occurred on the road network in the vicinity of the site over a five-year period. Collision data has been obtained from ECC for the period 01 July 2017 to 30 June 2022. A copy of this data is provided at **Appendix 2**.
- 2.15 The area covered includes the A12 / Chelmsford Road / Roman Road junction.
- 2.16 During this period a total of 13 injury collisions were recorded within the study area, none of which were fatal, 3 were serious and 10 rest were slight.
- 2.17 The collisions resulted in 0 fatalities, 4 serious casualties and 12 slight casualties.
- 2.18 **Table 2.3** below details the accidents within the vicinity of the site.



**Table 2.3: Collision Data**

Location	Date / Time	Severity	Conditions	Summary / Causation Factor
A12 / Chelmsford Road / Roman Road junction	29 Jun 2017 18:10	Serious	Wet carriageway / Daylight	Collision between 1 car and motorcycle on roundabout junction. Causation Factor – car pulled out across path of motorcycle, car failed to look properly and failed to judge other persons path or speed.
A12 / Chelmsford Road / Roman Road junction	29 Apr 2019 08:15	Serious	Dry carriageway / Daylight	Rear shunt collision between 2 cars. Causation Factor – car failed to look properly and collided with car in front at roundabout junction.
A12 / Chelmsford Road / Roman Road junction	23 Mar 2021 17:10	Serious	Dry carriageway / Daylight	Collision between car and pedal cycle on roundabout junction causing cyclist to fall onto car windscreen. Causation Factor – car failed to look properly and dazzling sun.
A12 / Chelmsford Road / Roman Road junction	26 Sep 2017 13:55	Slight	Dry carriageway / Daylight	Collision between car and pedal cyclist on roundabout junction. Causation Factor – car failed to look properly.
Chelmsford Road near junction with Fen Close	04 Jul 2018 17:20	Slight	Dry carriageway / Daylight	3 vehicles were travelling in same direction, car at the front was waiting to turn right onto driveway. Rear shunt which caused collision between two car and then resulted in the front car being shunted forward into a third vehicle (a van). Causation Factor – car at rear failed to look properly and failed to judge other persons path or speed and was driving carelessly / recklessly / in a hurry.
A12 / Chelmsford Road / Roman Road junction	20 Dec 2018 11:40	Slight	Dry carriageway / Daylight	Rear shunt between 2 cars on entrance to roundabout. Causation Factor – rear car driver was impaired by drugs.
A12 / Chelmsford Road / Roman Road junction	08 Feb 2020 19:01	Slight	Dry carriageway / Darkness	Collision between 2 cars when second car changed lanes and hit the side of the first car. Causation Factor – car failed to judge other persons path or speed.

Location	Date / Time	Severity	Conditions	Summary / Causation Factor
A12/ Chelmsford Road/ Roman Road junction	26 May 2020 08:20	Slight	Dry carriageway / Daylight	Collision between car and pedal cycle when car hit back near side of bicycle causing rider to fall of the bicycle. Causation Factor – driver failed to look properly.
A12/ Chelmsford Road/ Roman Road junction	25 Jun 2020 19:00	Slight	Dry carriageway / Daylight	Collision between car and pedal cycle, car was travelling at speed. Causation Factor – car failed to look properly.
A12/ Chelmsford Road/ Roman Road junction	10 Jan 2021 21:05	Slight	Wet carriageway / Darkness	Collision between two cars causing 1 car to lose control, collide with a tree and catch on fire. Causation Factor – the car was stolen, driver was travelling too fast for conditions and loss of control
A12/ Chelmsford Road/ Roman Road junction	25 Jul 2021 20:45	Slight	Wet carriageway (flood) / Darkness	Car hit a deep puddle on roundabout causing it to aquaplane. Driver put the brakes on which cause them to lose further control and hit the island separating the roads. The car has gone across the highway and mounted the kerb onto the grass and into the hedge. Causation Factor – slippery road (due to weather)
Roman Road near junction with Chelmsford Road roundabout	24 Dec 2021 22:45	Slight	Wet / damp carriageway / Darkness	Collision between car and recovery van causing front end damage. Causation Factor – car failed to look properly.
A12/ Chelmsford Road/ Roman Road junction	19 Apr 2022 00:35	Slight	Dry carriageway / Darkness	Collision between goods vehicle and motorcycle on roundabout due to goods vehicle stopping on roundabout. Causation Factor – poor turn or manoeuvre by goods vehicle.

- 2.19 The above table indicates that out of the 13 accidents, 8 were because of drivers not paying correct attention, one because of a driver failing to judge the other persons path / speed, one due to the driver being impaired by drugs, one due to the road surface weather conditions, one because of a poor turn / manoeuvre by the driver and one was a result of a driver travelling too fast in a stolen vehicle.
- 2.20 Over a five-year period, the majority of the above accidents would not be considered to demonstrate an existing safety problem that would require attention. However, the number of cycle collisions at the A12 is noted. It is understood that a condition requiring improved cycle facilities is related to a new development to the north of the junction.

## Existing Traffic Flows

- 2.21 As part of the TA scoping ECC agreed the following study area:
- A12 Junction 12 - roundabout junction (grade separated);
  - A1023 Chelmsford Road / Alexander Lane – priority junction;
  - A1023 Chelmsford Road / Oliver Road – priority junction;
  - A1023 Chelmsford Road / Hutton Road / A1023 Shenfield Road – signalised junction;
  - A129 Rayleigh Road / Alexander Lane – mini roundabout junction;
  - Alexander Lane / Long Ridings Avenue – priority junction; and
  - Oliver Road / Alexander Lane – priority junction.
- 2.22 Traffic surveys were undertaken 25 May 2022 at the above junctions in the local area. These surveys were undertaken jointly with the other developers that make up the R03 allocation to ensure a consistency of baseline information.
- 2.23 The proposed development will be made up of primarily employment and residential uses, which will be expected to generate demand for travel in the traditional commuter peak periods. As such, the assessment of impacts will consider the two main time periods:
- Weekday AM peak period (07:30 – 08:30); and
  - Weekday PM peak period (17:00 – 18:00).
- 2.24 The AM peak is being assessed as 07:30-08:30 as the traffic surveys show this period is around 10% higher than a typical 08:00-09:00 assessment period.
- 2.25 An Automated Traffic Count (ATC) including vehicle speeds has been undertaken on Chelmsford Road in the vicinity of the proposed access arrangement.
- 2.26 The average weekday and 7-day week morning and evening peak hours and daily traffic flows on Chelmsford Road are summarised in **Table 2.4** below.

**Table 2.4: Existing Traffic Movements**

Time	Eastbound		Westbound		Total	
	Weekday Average Flows	7-Day Week Flows	Weekday Average Flows	7-Day Week Flows	Weekday Average Flows	7-Day Week Flows
07:30-08:30 AM Peak	662	526	1182	904	1844	1429
17:00-18:00 PM Peak	815	698	684	622	1499	1320
Daily	8936	8309	9470	8810	18406	17119

- 2.27 A copy of the 2022 traffic count data is contained in **Appendix 3**.

## 3 ACCESSIBILITY

### Introduction

- 3.1 This section of the report considers the sustainability of the site in terms of opportunities for travel by walking, cycling and public transport.
- 3.2 This assessment is based on the existing situation and does not assume benefits from facilities through the wider allocation to the south that will be available in due course.

### Walking Accessibility

- 3.3 This section details the site's accessibility on foot and looks at facilities and connections in the local area. It goes on to consider the available footway and crossing facilities in the area and interventions that will be deliverable by the development.

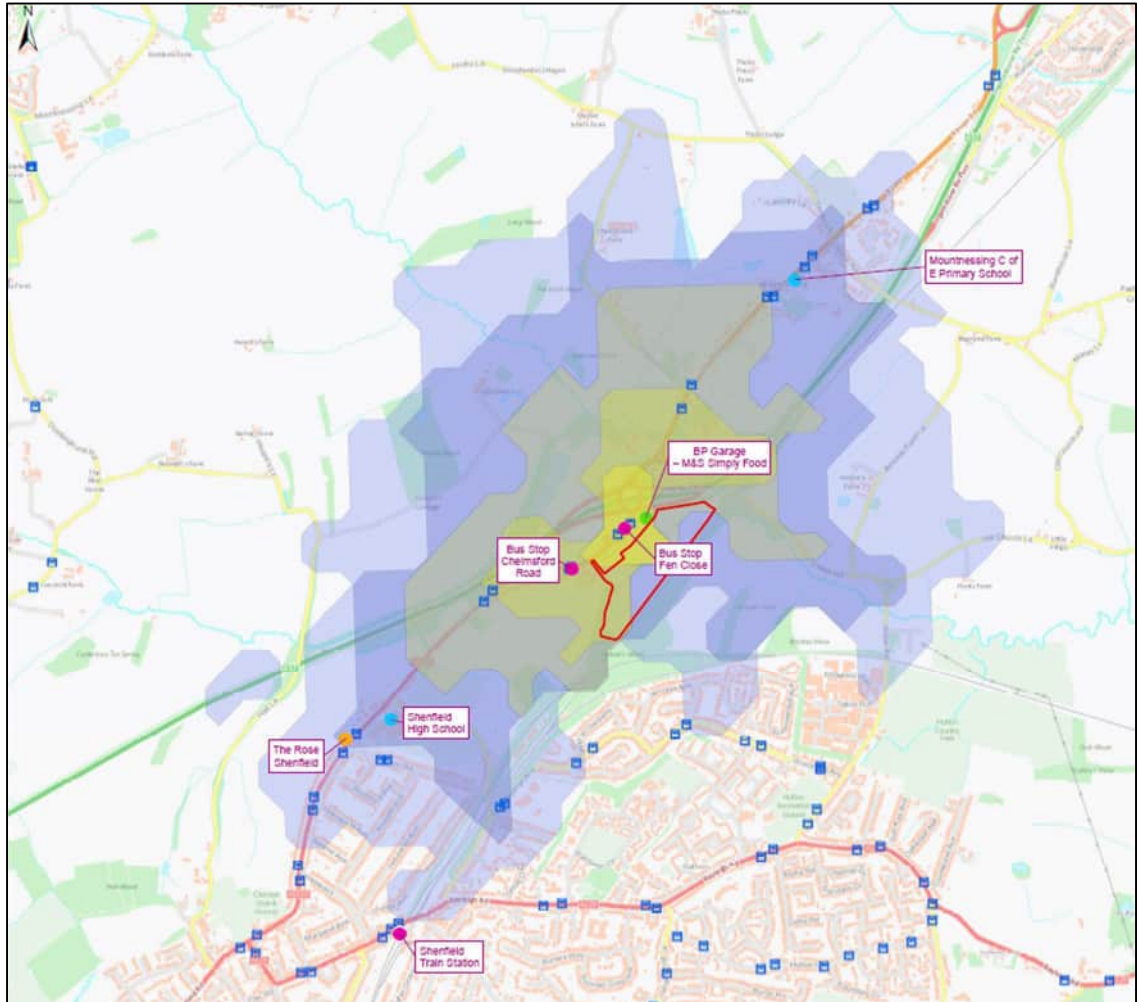
### Local Facilities Within Walking Distance

- 3.4 **Figure 3** demonstrates the walking time from the site within the local area, based on an assumed walking speed of 80m per minute (4.8kph), up to a maximum distance of 2km from the centre of the site. **Appendix 4** shows the full-size indicative walking isochrones from the site.
- 3.5 **Table 3.1** below identifies the walking distance and time to local facilities measured from the centre of the site. This is not an exhaustive list, but rather an example of distances and travel times to local facilities.

**Table 3.1: Walking Journey Distance to Local Facilities**

Facility	Approx. Distance (M)	Approx. Walking Time (Mins)
<b>Education</b>		
Shenfield High School	1400	18
Mountnessing C of E Primary School	1900	24
<b>Shopping / Retail</b>		
BP Garage – M&S Simply Food	600	8
<b>Leisure Facilities</b>		
The Rose Shenfield	1500	19
<b>Public Transport</b>		
Bus Stops Chelmsford Road	500	6
Bus Stop Fen Close	400	5
Shenfield Train Station	2600	33

**Figure 3: Pedestrian Isochrone and Local Facilities**



- 3.6 Walking trips are predominately short trips of up to 2km. The standard speed used for assessing walking accessibility is 80 metres per minute, giving a 25-minute walking time for 2km trip. This is an average speed for assessment purposes, while actual trips will vary depending on the person walking, the purpose of the trips, the gradient experienced and any obstacles that may be encountered (crossing points for roads / etc). Walking trips are important as they provide connectivity between other trip types, such as longer bus and train trips, or between parking areas and the destinations for car trips, as well as there being trips that are purely served by walking.
- 3.7 The topography of Shenfield (relatively flat) is ideal for walking and for mobility impaired accessibility.
- 3.8 The existing buses route along Chelmsford Road are the stops at Fen Close, which are within 400m of the centre of the site. No dwelling is further than 650m from a bus stop.
- 3.9 Shenfield Train Station is circa 2.6km distance from the site and within a 33-minute walk of the site, and can be reached by walking, or cycling as an alternative as set out below.

- 3.10 The BP Garage with M&S Simply Food is located circa 8 minutes' walk away from the site.
- 3.11 ECC School Travel Plans highlight the importance of promoting sustainable travel to school as a key principle of Sustainable Modes of Travel Strategy (SMoTS). The site is located within 18 minutes' walk of Shenfield High School, 24 minutes' walk of Mountnessing C of E Primary School.

## Cycle Accessibility

- 3.12 This section considers the site's accessibility by cycle and looks at facilities and connections in the local area. It then considers the available cycling facilities in the area along with potential interventions with investment from the development.
- 3.13 Recent growth of cycling across the UK, following programmes of investment, have illustrated that there is significant potential for change in travel behaviour and that more people cycle for everyday journeys where acceptable conditions are provided. Two out of every three personal trips are less than five miles in length – an achievable distance to cycle for most people, with many shorter journeys also suitable for walking. For schoolchildren the opportunities are even greater: three quarters of children live within a 15-minute cycle ride of a secondary school, while more than 90% live within a 15-minute walk of a primary school. The development site is within easy cycle distance of local secondary and primary schools. Therefore, cycling has significant potential to replace the car for short journeys to local facilities, education, and commuting.

## Local Facilities Within Cycle Distance

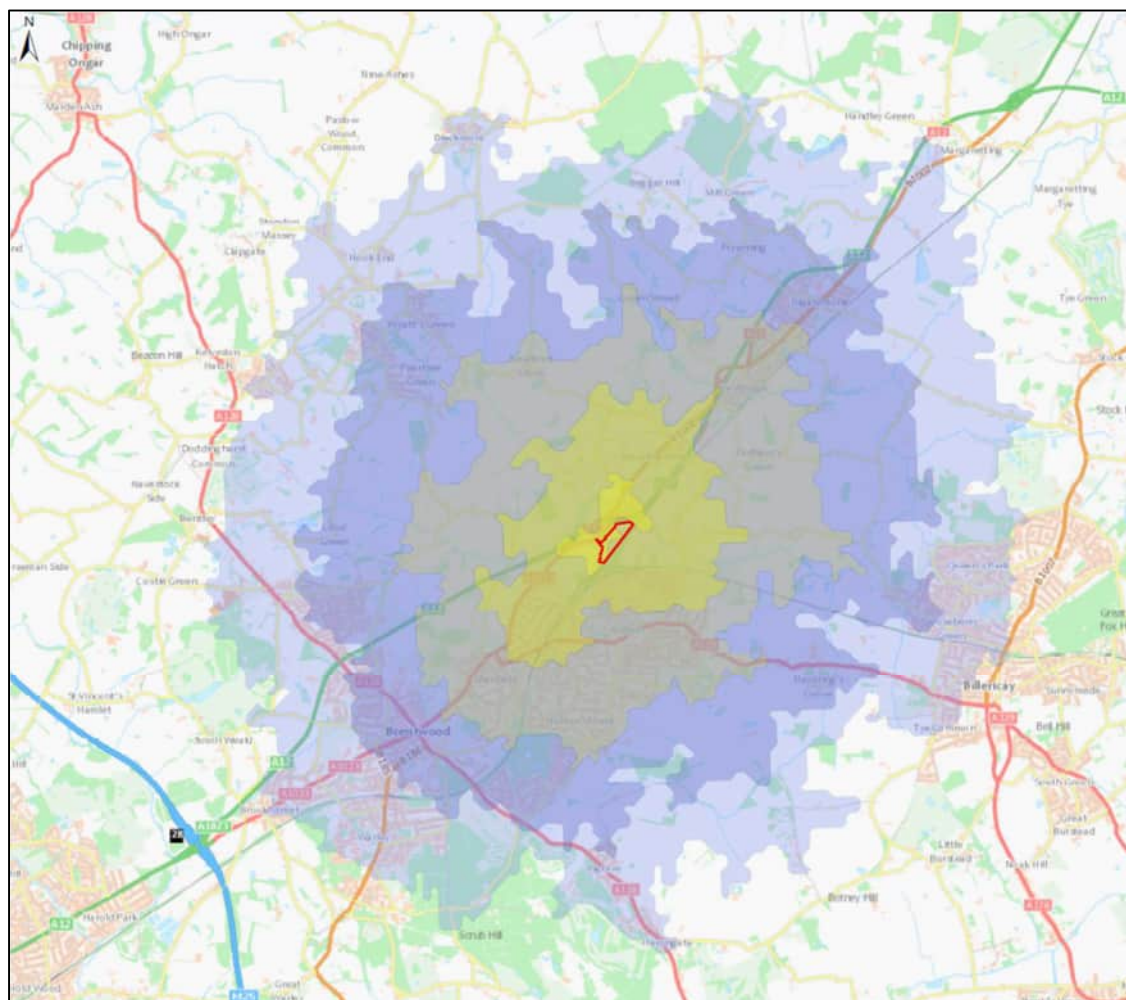
- 3.14 **Figure 4** demonstrates the cycling time from the site within the local area, based on an average cycling speed of 200 metres per minute (12kph), up to a maximum distance of 5km from the centre of the site. **Appendix 5** shows the full-size indicative cycle isochrones from the site.
- 3.15 **Table 3.2** below identifies the cycle distance and time to local facilities measured from the centre of the site. This is not an exhaustive list, but rather an example of distances and travel times to local facilities.

**Table 3.2: Cycling Journey Distance to Local Facilities**

Facility	Approx. Distance (M)	Approx. Cycling Time (Mins)
<b>Education</b>		
Shenfield High School	1400	7
Long Ridings Primary School	2400	12
<b>Health and Community</b>		
Mount Avenue Surgery	2700	14
Coram Green Dental Practice	4400	22
Hutton Community Centre	3000	15
Rockleigh Court Doctors Surgery	2750	14
Brentwood Community Hospital	3600	18
Shenfield Pharmacy	2600	13
Shenfield Parish Hall	2700	14
Brentwood Sports Ground	3500	18
Shenfield Library	2600	13
<b>Shopping / Retail</b>		
BP Garage – M&S Simply Food	600	3
Co-op Food	2600	13
M&S Simply Food	2700	14
Tesco Express Shenfield Railway Station	2700	14
Barclays Bank	2700	14
<b>Leisure Facilities</b>		
The Rose Shenfield	1500	8
The Dragon Shenfield	2500	13
The Hutton Junction	2850	14
The Lot Bar and Restaurant	2700	14
<b>Public Transport</b>		
Shenfield Train Station	2600	13



**Figure 4: Cycle Isochrones**



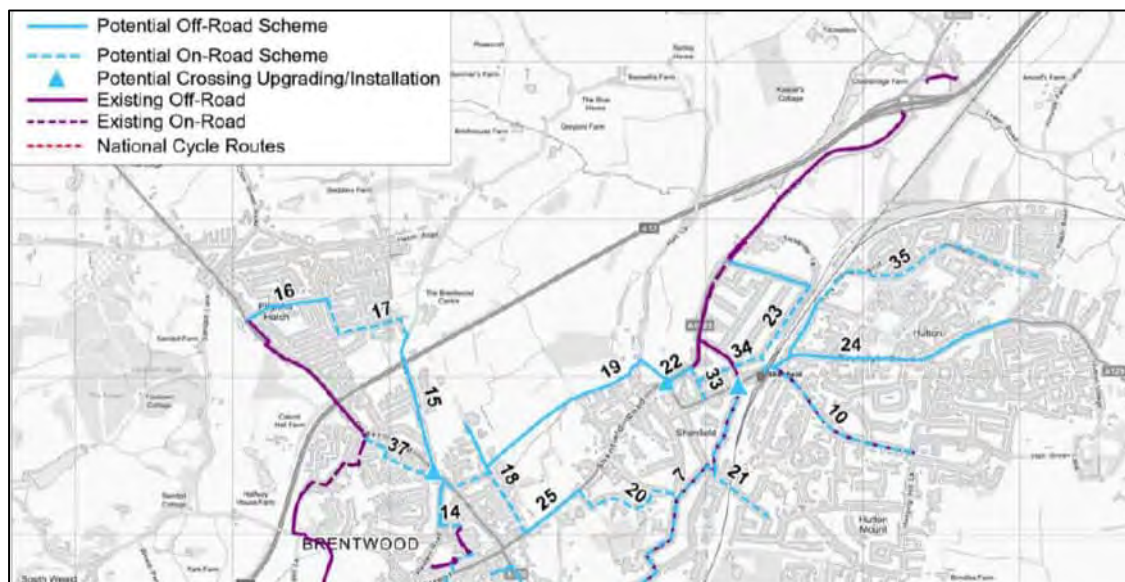
- 3.16 Due to its topography (relatively flat) Shenfield is ideal for cycling, with many nearby local residential roads towards Shenfield lightly trafficked and suitable to accommodate cycling on road.
- 3.17 The cycle isochrones from the development site identify that nearby areas of Shenfield, Brentwood and Billericay are accessible within a 30-minute cycle ride. Shenfield train station is also within a circa 13-minute cycle ride to the southwest of the development site.

## Existing / Proposed Cycle Facilities

- 3.18 It is considered that most cycle trips will utilise the existing off-road cycleway on the western side of the A1023 to connect into the residential roads to the south that provide access to Shenfield town centre and rail station and are considered suitable to accommodate cycle movements on road. The potential improvements to the Brentwood / Shenfield cycle network are detailed in Figure 6.3 of the Essex Highways 'Brentwood Borough Cycling Action Plan' 2018 and an extract is replicated below.



**Figure 5: Potential Cycle Improvements Brentwood / Shenfield**



- 3.19 The key improvement in relation to the site is route 23 that comprises a new signed and marked quiet way via Oliver Road / Hunter Avenue connecting to the cycle parking in Hunter Avenue car park.

## Public Transport

- 3.20 This section considers the existing availability of public transport in the vicinity of the site and reviews connections to local and wider destinations by rail and bus.

### Shenfield Railway Station

- 3.21 Shenfield Railway Station is located circa 2.6km southwest of the site and accessible via Chelmsford Road/ Crossways or Alexander Lane.
- 3.22 Shenfield Railway Station is on the Great Eastern Main Line. The station is 30 miles to the east of London Liverpool Street and located between Brentwood to the south, Ingatestone to the north and Billericay to the east. The station is managed by Greater Anglia.
- 3.23 The station is also the terminus of the north-eastern leg of the Elizabeth Line. The Elizabeth Line has, at the time of writing, part opened. The lines from Shenfield are expected to connect to the central tunnels by autumn 2022, meaning direct links through central London to Paddington. By May 2023 it will be a fully connected service allowing passengers to travel from Shenfield to Heathrow without changing.
- 3.24 The typical off-peak service frequency is:
- 2 trains per hour (tph) northbound towards:
    - Of which 1 goes to Braintree; and
    - 1 goes to Clacton-on-Sea;

- 14 tph southbound towards London Liverpool Street, of which 8 call at all stations and the remaining call at Stratford and Romford;
  - 3 tph eastbound towards Southend Victoria; and
  - 1 tph north-eastbound towards Ipswich.
- 3.25 The station is within a 10-minute cycle of the site and there is cycle storage for 112 cycles.

## Bus

- 3.26 The nearest bus stops are located to the east and west of the proposed site access on Chelmsford Road. The bus stops are located within an approximate 6-minute walk from the centre of the site and 7-minute walk from the furthest home within the site.
- 3.27 **Table 3.3** below summarises the bus routes and frequency of service. A bus route plan is provided at **Appendix 6**.

**Table 3.3: Bus Route and Frequency**

Bus Service	Average Frequency
351 Chelmsford Bus Station – Brentwood – Warley Eagle Way	Mon – Fri 06:44 <b>hourly</b> until 19:35 Sat 06:42 <b>hourly</b> until 18:34 Sun 08:07 <b>every 2 hours</b> until 18:07

- 3.28 In addition, the stops are served by school bus routes.

## Summary

- 3.29 The walking accessibility of the site is deemed to be good, with day-to-day facilities available within reasonable walking distance. The proximity of the site to the primary and secondary schools also means for education trips walking will be a realistic alternative to travel by private car. The nearby BP garage provides food retail opportunities within walking distance.
- 3.30 The development site is accessible within a 25-minute cycle ride of the nearby areas of Shenfield and Billericay. Shenfield train station is also within a circa 13-minute cycle ride to the southwest of the development site.
- 3.31 The existing bus services stop at bus stops that are within a reasonable walk distance of all the site. The bus frequency of hourly has potential to be improved because of the development of this site and the other elements of the R03 allocation.
- 3.32 In terms of sustainability, the location of the site is conducive to providing future residents with a realistic choice to the private car for many day-to-day journeys.

## 4 PLANNING POLICY

### Introduction

- 4.1 This section of the report evaluates the development proposal against the appropriate national and local land use and transport planning policies.

### National Planning Policy Framework (NPPF, 2021)

- 4.2 The current National Planning Policy Framework (NPPF), updated in July 2021, replaces the previous Framework published in March 2012 as revised in July 2018 and updated in February 2019.

- 4.3 The NPPF sets out several transport objectives designed to facilitate sustainable development and contribute to a wider sustainability by giving people a wider choice about how they travel, in particular Section 9 'Promoting Sustainable Transport'.

- 4.4 Paragraph 110 states:

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

- **appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;**
- **safe and suitable access to the site can be achieved for all users;**
- **the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and**
- **any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."**

- 4.5 Paragraph 111 continues that:

**"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."**

- 4.6 In terms of planning applications NPPF states at paragraph 112(a) that development should:

**"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."**

- 4.7 Paragraph 113 covers the need for Travel Plans and Transport Statements / Assessments for all developments which generate significant amounts of movement.

## Planning Practice Guidance (NPPG) ‘Travel Plans, Transport Assessment and Statements in Decision Making’ (March 2014)

- 4.8 This Guidance provides advice on when Travel Plans, Transport Assessments and Statements are required, and what they should contain. The Guidance is regularly updated, with the last update being 28 July 2017.
- 4.9 Transport Assessments and Statements are ways of assessing the potential transport impacts of developments, and they may propose mitigation measures to promote sustainable developments. Transport Assessments are thorough assessments of the transport implications of development, and Transport Statements are a ‘lighter-touch’ evaluation to be used where this would be more proportionate to the potential impact of the development.
- 4.10 Transport Assessments and Statements can be used to establish whether the residual transport impacts of a proposed development are likely to be “severe”, which may be a reason for refusal, in accordance with NPPF.
- 4.11 Travel Plans are long-term management strategies for integrating proposals for sustainable travel into the planning process. They are based on evidence of the anticipated transport impacts of development and set measures to promote and encourage sustainable travel.

## Essex Local Transport Plan (2011)

- 4.12 Essex Local Transport Plan (2011) covers a 15-year period to improve travel and achieve a sustainable and efficient transport network.
- 4.13 The strategy of the plan is to:
  - “Help deliver the Council’s long term vision, contained within ‘EssexWorks’, of delivering the best quality of life for Essex residents;
  - Support the delivery of the priorities for Essex identified within the Integrated County Strategy;
  - Identify priorities for transport investment (both capital and revenue), placing transport improvements in their wider context;
  - Support funding bids to a variety of sources (for example to the Local Sustainable Transport Fund), including bids to as yet unidentified funding streams that may be available in the future.”
- 4.14 The Essex Transport Strategy has 5 broad outcomes:
  - “Provide connectivity for Essex communities and international gateways to support sustainable economic growth and regeneration;
  - Reduce carbon dioxide emissions and improve air quality through lifestyle changes, innovation and technology;
  - Improve safety on the transport network and enhance and promote a safe travelling environment;

- **Secure and maintain all transport assets to an appropriate standard and ensure that the network is available for use;**
- **Provide sustainable access and travel choice for Essex residents to help create sustainable communities.”**

## **Brentwood Borough District Council Local Plan (2016-2033)**

- 4.15 The Brentwood Local Plan (2016-2033) highlights the Council’s strategic priorities and how these are going to be achieved to meet local housing needs in addition to supporting infrastructure.
- 4.16 It is highlighted this is not a static document and will be reviewed at least every five years to ensure it is relevant and achieving strategic priorities.
- 4.17 The three overarching aims are to:
- **“Harness the connectivity opportunities offered by the borough’s accessible transit corridors;**
  - **Orientate proposals to consider and embed a ‘design and build with nature’ landscape-led approach; and**
  - **Ensure that proposals demonstrate how outcomes will deliver healthy communities on multiple levels.”**
- 4.18 In addition to these aims, there are four strategic objectives to support the policies and combine the policies:
- **“SO1: Manage Growth Sustainably – to ensure the characteristics of Brentwood are protected;**
  - **SO2: Deliver a Healthy and Resilient Built Environment – to ensure a landscape-led design approach to protect and enhance areas of environmental and heritage value;**
  - **SO3: Deliver Sustainable Communities with Diverse Economic & Social-cultural Opportunities for All – making citizens feel economically empowered to enjoy and benefit from the necessary community/social infrastructure that sustains inclusive, informed, vibrant, active and cohesive communities;**
  - **SO4: Deliver Beautiful, Biodiverse, Clean and a Functional Natural Environment - where resources are carefully managed to avoid adverse impact on, and to provide net gains for, the borough’s natural environment and biodiversity; and where our natural heritage is protected, and ecosystem services are restored.”**
- 4.19 The Brentwood Local Plan also has a specific section on the allocation of the wider site as a whole which states:
- “POLICY R03: LAND NORTH OF SHENFIELD**  
**Land north of Shenfield, known as Officer’s Meadow and surrounding land is allocated for residential-led mixed-use development.**

## **1. Amount and Type of Development**

Development should provide:

- a. around 825 new homes;
- b. around 2.1 hectares of land for a co-located primary school and early years and childcare nursery;
- c. around 60 bed residential care home or an appropriate mix of specialist accommodation to meet identified needs, in accordance with policy HP04;
- d. 5% self-build and custom build across the entire allocation area; and
- e. around 2ha of land for employment purposes which may include light industrial, offices, research and development (within class E) or other sui generis employment uses which are compatible with the residential development.

## **2. Development Principles**

Development should:

- a. be accompanied by a comprehensive masterplan and phasing strategy to inform detailed proposals as they come forward;
- b. be of a design quality and layout that reflects its key gateway location, particularly on land near to Junction 12, A12;
- c. provide vehicular access via Chelmsford Road (A1023) and Alexander Lane;
- d. allow if possible for the diversion of Alexander Lane to create a quiet lane for pedestrians and cyclists, with the provision for new and improved route through the development site linking to Chelmsford Road;
- e. enhance walking, cycling and public transport services with Shenfield station and local services and facilities in the wider area, including Brentwood Town Centre;
- f. provide well-connected internal road layouts which allow for good accessibility;
- g. provide new multi-functional green infrastructure including public open space in accordance with Policies NE02 and NE05;
- h. maintain and enhance Public Rights of Way within the site and to the wider area;
- i. protect and where appropriate enhance the Local Wildlife Site (Arnold's Wood);
- j. provide for appropriate landscaping and buffers along sensitive boundaries adjoining the A12 and railway line;
- k. maintain the same amount of existing playing field provision on site or, where this cannot be achieved, provide replacement playing fields (including supporting ancillary facilities) of equivalent or better provision in terms of quantity and quality in a suitable location prior to commencement of development on the playing field. Any replacement playing field provision should not prejudice Shenfield High School or the community from meeting their playing pitch needs; and



- I. be designed to ensure a coherent functional relationship with the existing development, which should be well integrated into the layout of the overall masterplan.

### 3. Infrastructure Requirements

Proposals should:

- a. provide pedestrian and cycle crossing points across Chelmsford Road (A1023) where appropriate;
- b. provide an improved bus service;
- c. as the site is located within a Critical Drainage Area, development should minimise and mitigate surface water runoff in line with Policy BE05 Sustainable Drainage.

### 4. Infrastructure Contributions

Applicants will also be required to make necessary financial contributions via planning obligations towards:

- a. off-site highway infrastructure improvements as may be reasonably required by National Highways and Essex County Council in accordance with policies MG05 and BE08 (the planning obligation will determine the level and timing of payments for these purposes);
- b. 'quiet way' cycle routes connecting transfer hubs to schools in Brentwood Town Centre."

4.20 Further relevant transport policies in the local plan are set out below:

#### **"POLICY BE08: STRATEGIC TRANSPORT INFRASTRUCTURE**

In order to support and address the cumulative impacts of planned and other incremental growth, allocated development within the Local Plan and any other development proposals shall (where appropriate) provide reasonable and proportionate contributions to required mitigation measures to strategic transport infrastructure, including:

- a. circulation arrangements, public realm and multimodal integration around Brentwood, Shenfield and Ingatestone stations;
- b. circulation arrangement and public realm around West Horndon station, and the creation of associated multimodal interchange through phases to support new residents and employees;
- c. improvements to the highway network as deemed necessary by transport evidence or as agreed by National Highways and Essex County Council as appropriate, other statutory bodies, stakeholders and passenger transport providers; and
- d. additional and/or improved pedestrian, cycling infrastructure and bus services connecting development to key destinations such as railway stations, education facilities, employment, retail and leisure.

#### **POLICY BE09: SUSTAINABLE MEANS OF TRAVEL AND WALKABLE STREETS**

1. Sustainable modes of transport should be prioritised in new developments to promote accessibility and integration with the wider community and existing networks. Priority should be given to cycle and pedestrian movements and access to public transport.
2. Development proposals should provide the following sustainable measures as appropriate:
  - a. the provision of pedestrian, cycle, public transport and where appropriate, bridleway connections within development sites and to the wider area, including key destinations;
  - b. the creation of safe, secure, well connected and attractive layouts which minimise the conflicts between traffic, cyclists and pedestrians, and allow good accessibility for passenger transport within sites and between sites and adjacent areas, and where appropriate improve areas where passenger transport, pedestrian or cycle movement is difficult or dangerous;
  - c. the provision of community transport measures promoting car pools, car sharing, voluntary community buses, cycle schemes;
  - d. safeguarding existing and proposed routes for walking, cycling, and public transport, from development that would prejudice their continued use and/or development; and
  - e. any development requiring a new road or road access, walking and cycling facilities and public transport, will be required to have regard to the adopted Essex County Council's Development Management Policies or successor documents, in order to assess the impact of development in terms of highway safety and capacity for both access to the proposed development and the wider highway network.

#### **POLICY BE11: ELECTRIC AND LOW EMISSION VEHICLES**

All development proposals should wherever possible maximise the opportunity of occupiers and visitors to use electric and low emission vehicles, and maximise the provision of electric vehicle charging / plug-in points and/or the space and infrastructure required to provide them in the future.

#### **POLICY BE12: MITIGATING THE TRANSPORT IMPACTS OF DEVELOPMENT**

1. Developments must not have an unacceptable impact on the transport network in terms of highway safety, capacity and congestion.
2. New development proposals will be required to be supported by:
  - a. Travel Plans, Transport Assessments and/or Statements in accordance with the thresholds and detailed requirements for each land use category as set out in the Essex County Council's Development Management Policies or its successors; and engage in an appropriate and proportionate assessment process with National Highways where development has a



- likelihood to have a material impact on the Strategic Road Network which is not otherwise catered for by programmed works or improvements;
- b. where necessary, reasonable and proportionate financial contributions and/or take reasonable measures to:
    - i. mitigate the cumulative transport impact of the development to an acceptable degree, including relevant highways measures identified in the IDP Part B; and
    - ii. accommodate the use of sustainable modes of transport including borough-wide sustainable transport measures identified in the IDP Part B, investment in infrastructure, services, Low Emission Zone or measures to promote behavioural change (including enforcement).

#### **POLICY BE13: PARKING STANDARDS**

1. Development proposals must take account of the Essex Parking Standards – Design and Good Practice (2009), or as subsequently amended. The decision-maker will have regard to these standards when determining planning applications.
2. Proposals which make provision below these standards should be supported by evidence detailing the local circumstances that justify deviation from the standard.”

## **Summary**

- 4.21 The key transportation policy is to ensure that new developments are in locations which are or can be made sustainable. Access should be safe and suitable for all modes of travel.
- 4.22 In this respect new developments should be in accessible location, which are conducive by travel by walking, cycling or using public transport, for every day trips associated with employment, education and leisure purposes.

## 5 DEVELOPMENT PROPOSAL

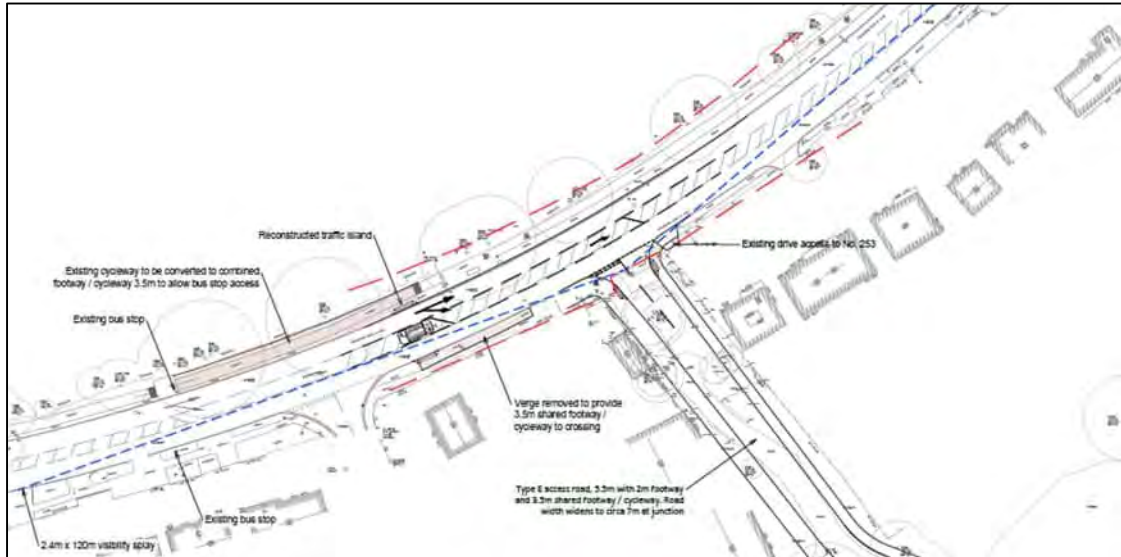
### Development Proposal

- 5.1 The development proposal is a Full Planning Application for 180 dwellings (Class C3), public open space, landscaping, sustainable urban drainage, access and associated infrastructure.
- 5.2 A full description of the proposed residential development is contained in the planning application's supporting Planning Statement and accompanying plans.
- 5.3 To ensure a robust assessment, the assessment modelling work contained within this Transport Assessment has been carried out on the basis of 200 homes.
- 5.4 The site layout for the development proposal is detailed on the plan provided at **Appendix 9**.

### Access Arrangement

- 5.5 Vehicular access to the site is currently via a vehicular crossover on the southern side of the A1023 Chelmsford Road. The crossover provides access to the site via a strip of land located between property number 253 to the east and a garage to the west.
- 5.6 It is proposed that the residential development is served via the existing strip of land that connects to the A1023 Chelmsford Road. The existing crossover will be upgraded to a ghost island priority junction to serve the residential site. This would be consistent with the other forms of access along this stretch of road.
- 5.7 The design of the access road into the site accords with the requirements of the Essex Design Guide for a Type E 'Access Road'. The Essex Design Guide identifies the following requirements for an access road:
  - Access road can provide / accommodate 400 units on a loop or 200 units for a cul-de-sac;
  - 5.5m carriageway width with 2m footways on both sides;
  - Design speed of 20mph;
  - Max gradient of 8%; and
  - Kerb radii of 6m.
- 5.8 It is understood from discussions with ECC that 3.25m running lanes and a 3m ghost island right turn lane are required.
- 5.9 This is incorporated on the priority junction design detailed in **Figure 6** below with the full design provided at **Appendix 7**.
- 5.10 Given the R03 allocation is for development on both sides of Chelmsford Road in this area, it is expected that the 30mph limit will be extended from its current position to the exit from the A12 junction as set out in the 'Essex Speed Management Policy 2010'.

**Figure 6: Proposed Priority Junction including Ghost Island Right Turn Lane**



- 5.11 The access has been tracked with the largest vehicle expected to frequently use the access, a refuse vehicle. This tracking is provided on the plan at **Appendix 8**. The refuse vehicle will need to make the turn in and out of the access slowly as for some manoeuvres the swept path uses more than the single lane it is travelling in. This is not unusual for a refuse vehicle and the guidance in Manual for Streets supports this approach. Drivers are aware of larger vehicles needing more space and time to turn, as set out in Highway Code rule 221.
- 5.12 The design of the access should accommodate service vehicles without allowing their requirements to dominate the layout, on the basis that the refuse vehicle will only need to access circa once a week. The alternative of making the access and radii larger is not preferred as it is detrimental to pedestrian movements and results in cars (predominant vehicle type) being able to travel at higher speeds. This would be contrary to the recommendations of MfS (6.3.12-14), MfS2 (9.4.10-13) and LTN 1/20 (7.6.10).

## Pedestrian and Cycle Access

- 5.13 The pedestrian access to and from the site will be via the main access route with provision both sides of the road. This then links into the existing provision on Chelmsford Road providing access to the bus stops and beyond.
- 5.14 The existing Public Right of Way (footpath 272\_86) runs along the route of the access which then enters the wood to the south and heads in the direction of Alexander Lane. This public right of way will be retained and upgraded to a Highway along the line of the main access spine route to allow all users on this section of the route. It is also proposed to enhance the route through Arnold's Wood to connect to the adjoining element of R03 to the south. It is proposed that this section is upgraded to bridleway to allow cyclists to use this link though to the adjoining development where in the future it will join to the provision for pedestrians and cyclists within Officer's Meadow. This approach and point of connection has been agreed with the adjacent

- developer. This will allow a joined-up pedestrian network between the proposed site and the two other allocation areas to the south and on the opposite side of Chelmsford Road.
- 5.15 For cyclists there is a main strategic dedicated cycle path on the far side of Chelmsford Road. The design therefore provides appropriate facilities to enable cyclists to get to this route via the access road. Within the site the 20mph design speed and less than 2,000 vehicles per day mean that cycling on road mixed with traffic is entirely appropriate as set out in Figure 4.1 of LTN1/20. However, to access the route on Chelmsford Road it is proposed that a section of shared use footway / cycleway is used to link the site access to a crossing island to access the cycleway.
- 5.16 This short section of shared use to access the wider strategic network is considered to align with the requirements of LTN 1/20. At section 6.5.7 it suggests a minimum of 3.0m for shared use where up to 300 pedestrians and 300 cyclists an hour are using the facility. This level of use is not expected to be breached in this location.
- 5.17 Therefore, at the entrance to the site, a 3.5m shared cycleway / footway will be provided on the southern edge of the access and then along Chelmsford Road to the south to a new island crossing point to the opposite side of the road. This will allow cyclists to access the existing cycleway along Chelmsford Road as well as providing pedestrian access to the bus stops in both directions. The crossing position is in accordance with the R03 masterplan in providing a crossing point between the two allocation areas either side of Chelmsford Road in this area. as well as providing the proposed development access to the bus stops, it will also allow future development to the north to access the wider allocation pedestrian and cycle network.

**Figure 7: Upgraded Crossing**



## Public Transport

- 5.18 As part of the development of the site and allocation masterplans, the ability to bring services into or through the site have been investigated. The presence of the ancient woodland at Arnold's Wood means that a bus link through this area is not viable. Consequently, enhancement of the existing services and encouragement of new residents to use public transport through the travel planning process is the identified alternative. This is set out further in Section 8.

## Internal layout

- 5.19 The internal layout has a main spine route through the site which provides footways on both sides with a generous 3.5m shared use route on one side. The level of vehicle flow is at a level that on-road cycling is likely to be popular.
- 5.20 Traffic calming in the form of raised table junctions are used along the spine route to keep speeds to a target maximum of 20mph.
- 5.21 A circular walking route is provided throughout the site to ensure good permeability for pedestrians and cyclists. A formal route is provided from Chelmsford Road along the spine route, with connections throughout other internal roads and to the LEAP. A leisure route is provided from the LEAP along the south eastern boundary, around the SuDS pond, and up to the north east corner. Connections to the internal road network are provided throughout.
- 5.22 The existing PRoW is proposed to be formalised through Arnold's Wood to connect to the PRoW within the adjoining land. Additional formal links will also be provided as part of the adjoining development. This link through the woodland has been coordinated with Croudace, the developer of the adjoining land, to ensure good connectivity between the various parcels of the R03 allocation and to Shenfield train station.
- 5.23 Refuse vehicle tracking has been undertaken to show that the dwellings can be adequately served. Tracking plans are provided at **Appendix 8**.

## Parking Provision

- 5.24 Parking provision has been provided in line with the Essex Parking Standards as required by the local plan policy BE13. A breakdown is set out below, this includes the appropriate Electric Vehicle Charging Point provision from policy BE11. A Parking Strategy Plan is provided at **Appendix 9**.
  - Allocated Parking Spaces – 346 total;
  - Visitor Parking – 45 (25%); and
  - EV charging – 1 per dwelling.

## Stage 1 Road Safety Audit

- 5.25 A Stage 1 Road Safety Audit (RSA1) has been undertaken for the proposed access. The RSA1 is undertaken by an independent safety engineer to review the principles of the scheme and provide any comments relating to road safety. The RSA1 report is provided at **Appendix 10**. Only one issue is raised, and it recommends a slight adjustment to the junction alignment to ensure that the junction approach is at 90 degrees to the main Chelmsford Road at its join. This recommendation is accepted and will be addressed at the next level of detailed design prior to technical submission for construction.

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## Residential Framework Travel Plan

- 5.26 As can be seen from the accessibility review in Section 3, the site is within an easy walk and cycle distance of many local facilities and public transport. Therefore, the location of the development will provide residents with the opportunity to travel by alternative modes to the private car for many journeys.
- 5.27 To further encourage the use of alternative modes of transport to the private car a Framework Residential Travel Plan has been produced as a separate document.
- 5.28 The Framework Travel Plan aims to:
- Encourage the use of sustainable modes of transport, such as walking, cycling and using public transport;
  - Reduce unnecessary travel; and
  - Encourage the use of sustainable travel by improving facilities and providing information.
- 5.29 The information within the Residential Travel Plan will help introduce residents to alternative modes and enable them to consider the trips to be made and the modes of transport they can use. It is intended that the Residential Travel Plan will encourage a change in perceptions and attitudes and therefore the desired change in travel behaviour, i.e., less unnecessary car use.

## 6 TRIP GENERATION AND DISTRIBUTION

### Introduction

- 6.1 This section considers the likely traffic generation of the development of 200 residential dwellings. In determining the predicted trip generation for the site, the TRICS database has been used, and to ascertain the trip distribution / assignment for the residential development, travel to work data from the 2011 Census has been used.

### Residential Trip Generation

- 6.2 The residential trip generation for both the proposed 200 dwellings and wider allocation has been based on the TRICS database for other similar developments, in terms of size and location. The following approach to trip generation was discussed and agreed with ECC in pre-application scoping discussions. To ensure that the sites selected are comparable to the proposed residential development the following selection parameters are proposed:
- Land use: Residential;
  - Category: Houses Privately Owned;
  - Number of Dwellings Range 200 -1,000;
  - Location: Edge of town and suburban;
  - Multi-modal trip rates;
  - Sites in England only, excluding Greater London;
  - Location type: Edge of Town and Suburban Area;
  - Data Range: TRICS default 8 years cut-off; and
  - Parameter: Number of dwellings.
- 6.3 The selection based upon private housing sites will represent the worst-case scenario in terms of traffic generation for the site, as affordable / rented accommodation generally has a lower trip rate than private housing. A copy of the TRICS output is provided at **Appendix 11** of this report. The details of the surveys from the residential trip rates were derived are detailed in **Table 6.1** below.



**Table 6.1: Residential Survey Selection**

Reference	Location	Location Type	Number of Dwellings
ES-03-A-03	Polegate, East Sussex	Edge of town	212
KC-03-A-06	Herne Bay	Suburban	363
KC-03-A-07	Herne Bay	Edge of town	288
SC-03-A-05	Horley	Edge of town	207
ST-03-A-07	Stafford	Edge of town	248
WS-03-A-11	Horsham	Edge of town	799

- 6.4 The total person hour trip rates per dwelling generated from the above surveys are detailed in **Table 6.2**.

**Table 6.2: Total Person Trip Rates**

	Arrivals	Departures	Total
<b>AM 08:00-09:00</b>	0.217	0.898	1.115
<b>PM 17:00-18:00</b>	0.716	0.285	1.001
<b>Daily</b>	4.125	4.086	8.211

- 6.5 The expected person trip generation for 200 homes is set out in **Table 6.3** below.

**Table 6.3: Residential Total Person Trips**

	Arrivals	Departures	Total
<b>AM 08:00-09:00</b>	43	180	223
<b>PM 17:00-18:00</b>	143	57	200
<b>Daily</b>	825	817	1642

- 6.6 The proposed residential development of 200 residential units has the potential to result in 223 total person trips in the morning peak hour and 200 total person trips in the evening peak hour.
- 6.7 The TRICS outputs also allow a vehicle trip rate per dwelling to be established. These are set out in **Table 6.4** below and are used to inform the traffic assessment.



**Table 6.4: Total Vehicle Trip Rates**

	Arrivals	Departures	Total
<b>AM 08:00-09:00</b>	0.142	0.417	0.559
<b>PM 17:00-18:00</b>	0.401	0.164	0.565
<b>Daily</b>	2.357	2.334	4.691

6.8 The expected vehicle trip generation for 200 homes is set out in **Table 6.5** below.

**Table 6.5: Total Vehicle Trips**

	Arrivals	Departures	Total
<b>AM 08:00-09:00</b>	28	83	112
<b>PM 17:00-18:00</b>	80	33	113
<b>Daily</b>	471	467	938

6.9 The proposed residential development of 200 residential units has the potential to result in 112 total vehicle trips in the morning peak hour and 113 total vehicle trips in the evening peak hour. This equates to around 2 vehicles per minute using the access at the busiest times.

## Traffic Distribution

### Residential Traffic Distribution

6.10 The distribution of the residential trips has been reviewed based on the 2011 Census database, which provides details of where residents within Brentwood MSOA area 005 are likely to work. The Census 2011 data is still the most comprehensive dataset available for this purpose, although it is acknowledged that recent changes in working practices may change travel habits, it is considered that the general attractiveness of nearby areas is unlikely to have significantly changed.

6.11 The residential traffic based on the Census journey to work data results in the following distribution:

#### Eastbound:

- 71% eastbound Chelmsford Road of which:
  - 40% routes via A12 west;
  - 14% routes via A12 east; and
  - 17% routes via Roman Road north;

**Westbound:**

- 29% westbound Chelmsford Road of which:
  - 21% continues towards Shenfield;
  - 4% routes via Oliver Road; and
  - 4% routes via Hutton Road.

6.12 The base and proposed traffic flow diagrams are provided at **Appendix 12**.

## Committed Development – Trip Generation and Distribution

6.13 Within the traffic impact assessment Section 7 which follows, the impact of committed development in the form of the rest of the allocation R03 is assessed. Previous masterplan estimates have suggested 510 homes on the Croudace / Stonebond allocated area and a further 100 homes plus 2ha employment on the Countryside allocated land. Detailed traffic generation and distribution is not yet available for the other elements of R03, consequently the same trip rates and distribution have been assumed for the residential elements. The employment element trip generation and distribution has been undertaken using the following assumptions:

- An estimate of 235 employees in relation to the 2ha allocation (taken from the Local Plan Transport Assessment, Stantec, 2020);
- Trip generation from TRICS using Office use on a per-employee basis to establish total person trips;
- Vehicle trips established using census 2011 mode split of 70% for journeys to work into Brentwood MSOA area 005; and
- Trip distribution using the above residential distribution assumption.

6.14 In total, a further 610 homes and 2ha of employment is added as committed development.

## Traffic Flow Diagrams

6.15 The existing observed traffic, along with the future assessment scenarios are presented on traffic flow diagrams at **Appendix 12**.

## 7 TRAFFIC IMPACT

### Introduction

- 7.1 This section of the TA considers the transport impact on the proposed development at key junctions on the local road network within the vicinity of the site.

### Assessment Parameters

#### Study Area

- 7.2 In line with scoping discussions, the impact of the proposed residential development will be tested at the following junctions:
1. Site Access – priority junction;
  2. A1023 Chelmsford Road / Alexander Lane – priority junction;
  3. A1023 Chelmsford Road / Oliver Road – priority junction;
  4. A1023 Chelmsford Road / Hutton Road / A1023 Shenfield Road – signalised junction;
  5. A129 Rayleigh Road/ Alexander Lane – mini-roundabout;
  6. Alexander Lane / Long Ridings Avenue – priority junction;
  7. Oliver Road / Alexander Lane – priority junction; and
  8. A12 Junction 12 – roundabout.

### Future Year Assessment and Traffic Growth

- 7.3 It has been agreed as part of the scoping discussions that the impact on the local highway will be five years after the planning application, i.e. 2027. Therefore, the DfT traffic growth methodology has been applied to the 2022 observed flow using forecasts from TEMPRO Version 7.2 and the NTM for Brentwood MSOA area 005.
- 7.4 It is noted that TEMPRO includes growth in housing and employment as part of its assumptions. Therefore, the inclusion of the proposed and committed development flows and traffic growth will lead to double counting. In line with WebTag unit M4 (para 7.3.5), adjusted planning assumptions have been applied to remove the allocated sites from the growth assumptions. Following this process, the following growth factors are output:
- 2022 – 2027 Morning Peak = 1.000; and
  - 2022 – 2027 Evening Peak = 1.000.
- 7.5 This means that without the allocated development in the area, traffic growth is not anticipated. The 2022 base flows and the 2027 base flows are therefore the same.

7.6 For the purposes of considering the A12 junction, National Highways require a 10-year assessment horizon. Using the same approach, the following growth factors are output:

- 2022 – 2032 Morning Peak = 1.004; and
- 2022 – 2032 Evening Peak = 1.005.

## Assessment Periods

7.7 In reviewing the traffic flow data collected on the local road network it is apparent that the AM Peak flows occur 07:30-08:30 for most junctions in the study area. The difference between 07:30-08:30 and 08:00-09:00 is circa 10% and consequently it is considered appropriate to assess this period as the AM peak. In order to ensure a consistent approach, the AM peak development flows (and equivalent for committed development) have been taken from TRICS for 07:30-08:30. Where only hourly flows are available the average of 07:00-08:00 and 08:00-09:00 has been used.

7.8 The peak period analysis for the AM Peak is set out in **Table 7.1** below.

**Table 7.1: AM Peak Flow Analysis**

Junction	7:30-8:30	8:00-9:00	Difference	% Difference
A12 Junction 12	3425	3127	298	9.5%
A1023 Chelmsford Road / Alexander Lane	2063	1960	103	5.3%
A1023 Chelmsford Road / Oliver Road	1796	1676	120	7.2%
A1023 Chelmsford Road / Hutton Road / A1023 Shenfield Road	1993	1748	245	14.0%
A129 Rayleigh Road / Alexander Lane	1465	1434	31	2.2%
Alexander Lane / Long Ridings Avenue	869	856	13	1.5%
Oliver Road / Alexander Lane	745	717	28	3.9%

7.9 The PM peak is 17:00-18:00 on the observed flows and this is assessed as the PM peak within the junction modelling.

## Assessment Scenarios

7.10 The above local junctions have therefore been tested for the following scenarios during the AM and PM peak hours:

- 2022 Base;
- 2027 Base;
- 2027 Base + Proposed Development;
- 2027 Base + Committed Development; and
- 2027 Base + Committed + Proposed.

7.11 In addition, the A12 junction is tested for the following scenarios during the morning and evening peak hours:

- 2022 Base;
- 2022 Base + Development;
- 2032 Base + Committed; and
- 2032 Base + Committed + Development.

## Site Access

7.12 The site access is designed as a priority junction with a ghost island right turn lane. The layout is shown on the plan provided at **Appendix 7**. As this junction only exists when the development is built out, only 2027 Base + Proposed Development and 2027 Base + Committed + Proposed scenarios are assessed.

7.13 The junction has been modelled using Junctions10 software with the outputs provided at **Appendix 13**. A summary of the results for the assessment scenarios is provided in Table 7.2 below.

7.14 Junctions provides output in the form of average queue lengths and Ratio of Flow to Capacity (RFC). An RFC of less than 0.85 is within practical capacity. An RFC of between 0.85 and 1 is reaching theoretical capacity and is likely to see increased queuing and delay.

**Table 7.2: Site Access Modelling Results**

Scenario / Arm	AM Peak		PM Peak	
	Queue	RFC	Queue	RFC
<b>2027 Base + Dev</b>				
Stream B-C	0.1	0.09	0.0	0.03
Stream B-A	0.8	0.45	0.1	0.12
Stream C-B	0.0	0.02	0.0	0.05
<b>2027 Base + Com +Dev</b>				
Stream B-C	0.2	0.17	0.0	0.03
Stream B-A	2.0	0.69	0.2	0.17
Stream C-B	0.0	0.02	0.1	0.05

A – Chelmsford Road North, B – Site Access, C – Chelmsford Road South

7.15 The results for the site access indicate that in the future years with the development the junction continues to operate within capacity. The average queue to exit the site (turning right particularly) is lengthened by the additional flow from the committed developments. This is considered an acceptable junction performance.

## A1023 Chelmsford Road / Alexander Lane

- 7.16 The A1023 Chelmsford Road / Alexander Lane is a priority junction with a ghost island right turn lane. Flows at this junction are expected to be amended by the proposed development to the south of R03 because of a new junction to be provided. Consequently, for the purposes of this TA only the 2027 Base and 2027 Base + development scenarios are considered relevant.
- 7.17 The junction has been modelled using Junctions10 software with the outputs provided at **Appendix 13**. A summary of the results for the assessment scenarios is provided in **Table 7.3** below.
- 7.18 Junctions10 provides output in the form of average queue lengths and Ratio of Flow to Capacity (RFC). An RFC of less than 0.85 is within practical capacity. An RFC of between 0.85 and 1 is reaching theoretical capacity and is likely to see increased queuing and delay.

**Table 7.3: A1023 Chelmsford Road / Alexander Lane Modelling Results**

Scenario / Arm	AM Peak		PM Peak	
	Queue	RFC	Queue	RFC
<b>2027 Base</b>				
Stream B-C	0.1	0.06	0.0	0.02
Stream B-A	1.9	0.67	1.0	0.51
Stream C-B	0.1	0.11	0.0	0.03
<b>2027 Base +Dev</b>				
Stream B-C	0.1	0.06	0.0	0.02
Stream B-A	2.2	0.70	1.1	0.52
Stream C-B	0.1	0.11	0.0	0.03

A – Chelmsford Road North, B – Alexander Lane, C – Chelmsford Road South

- 7.19 The results for this junction indicate that the junction is operating within capacity and the addition of the development flows makes little difference. As noted above, the flow through this junction is expected to be changed by the new development junction to the Croudace site and therefore any further modelling will need to be detailed by that application.

## A1023 Chelmsford Road / Oliver Road

- 7.20 The A1023 Chelmsford Road / Oliver Road is a priority junction with a ghost island right turn lane. Flows at this junction are expected to be amended by the proposed development to the south of R03 because of a new junction to be provided. However, the future assessment scenarios are presented here based on no redistribution of movements.

- 7.21 The junction has been modelled using Junctions10 software with the outputs provided at **Appendix 13**. A summary of the results for the assessment scenarios is provided in Table 7.4 below.
- 7.22 Junctions10 provides output in the form of average queue lengths and Ratio of Flow to Capacity (RFC). An RFC of less than 0.85 is within practical capacity. An RFC of between 0.85 and 1 is reaching theoretical capacity and is likely to see increased queuing and delay.

**Table 7.4: A1023 Chelmsford Road / Oliver Road Modelling Results**

Scenario / Arm	AM Peak		PM Peak	
	Queue	RFC	Queue	RFC
<b>2027 Base</b>				
Stream B-C	0.3	0.20	0.1	0.13
Stream B-A	1.0	0.51	0.3	0.26
Stream C-B	0.5	0.32	0.1	0.13
<b>2027 Base +Dev</b>				
Stream B-C	0.3	0.20	0.2	0.13
Stream B-A	1.1	0.53	0.4	0.27
Stream C-B	0.5	0.32	0.1	0.13
<b>2027 Base + Com</b>				
Stream B-C	0.3	0.24	0.2	0.14
Stream B-A	1.4	0.59	0.4	0.31
Stream C-B	0.5	0.33	0.1	0.13
<b>2027 Base +Com +Dev</b>				
Stream B-C	0.3	0.25	0.2	0.14
Stream B-A	1.5	0.61	0.5	0.33
Stream C-B	0.5	0.33	0.1	0.13

A – Chelmsford Road North, B – Oliver Road, C – Chelmsford Road South

- 7.23 The results for this junction indicate that the junction is operating within capacity and the addition of the development flows makes little difference. As noted above, the flow through this junction may be changed by the new development junction to the Croudace site and therefore any further modelling will need to be detailed by that application.

## A1023 Chelmsford Road / Hutton Road / Shenfield Road

- 7.24 The A1023 Chelmsford Road / Hutton Road / Shenfield Road junction is a signalised junction and has been assessed using the software package LinSig, the outputs are provided at **Appendix 14**. A summary of the results for the assessment scenarios is provided in Table 7.5 below. The model has been developed using signal controller information from ECC as well as observed movement, queuing and phasing data.
- 7.25 As a signal junction the output is in the form of Practical Reserve Capacity (PRC) which is a percentage of remaining practical capacity. Values over zero indicate a junction that is operating within capacity. An overall delay for all the vehicles over the modelled hour is also presented.

**Table 7.5: Chelmsford Road / Hutton Road / Shenfield Road Modelling Results**

Scenario / Arm	AM Peak		PM Peak	
	PRC	Delay (PCU Hr)	PRC	Delay (PCU Hr)
2027 Base	16.5	24.13	31.7	21.13
2027 Base +Dev	13.8	24.88	31.7	21.59
2027 Base + Com	8.6	26.81	29.0	22.95
2027 Base +Com +Dev	6.2	27.83	27.5	23.49

- 7.26 The results indicate that the impact of the development, both with and without other committed development, does not take the junction over capacity during the peak hours with 6.2% practical capacity remaining. This modelling does not assume any changes to the existing cycle time.

## A129 Rayleigh Road / Alexander Lane

- 7.27 The A129 Rayleigh Road / Alexander Lane junction is a mini-roundabout.
- 7.28 The junction has been modelled using Junctions10 software with the outputs provided at **Appendix 13**. A summary of the results for the assessment scenarios is provided in **Table 7.6** below.
- 7.29 Junctions10 provides output in the form of average queue lengths and Ratio of Flow to Capacity (RFC). An RFC of less than 0.85 is within practical capacity. An RFC of between 0.85 and 1 is reaching theoretical capacity and is likely to see increased queuing and delay.



**Table 7.6: A129 Rayleigh Road / Alexander Lane Modelling Results**

Scenario / Arm	AM Peak		PM Peak	
	Queue	RFC	Queue	RFC
<b>2027 Base</b>				
C - Rayleigh Road (E)	6.7	0.88	1.6	0.62
A - Rayleigh Road (W)	1.4	0.58	1.7	0.64
B - Alexander Lane	1.4	0.58	0.7	0.42
<b>2027 Base +Dev</b>				
C - Rayleigh Road (E)	6.7	0.88	1.7	0.63
A - Rayleigh Road (W)	1.4	0.58	1.8	0.64
B - Alexander Lane	1.4	0.58	0.7	0.42
<b>2027 Base + Com</b>				
C - Rayleigh Road (E)	7.1	0.88	1.8	0.64
A - Rayleigh Road (W)	1.4	0.59	1.8	0.65
B - Alexander Lane	1.4	0.59	0.7	0.42
<b>2027 Base +Com +Dev</b>				
C - Rayleigh Road (E)	7.2	0.89	1.8	0.65
A - Rayleigh Road (W)	1.4	0.59	1.8	0.65
B - Alexander Lane	1.5	0.59	0.7	0.42

- 7.30 The results for this junction indicate that the junction is operating close to capacity on the approach from Rayleigh Road east in the AM Peak and peak hour queuing is evident. However, the direction of development flows means that little impact is seen on this junction as a result of the development. It is not considered necessary to provide any mitigation measures for this minimal level of change.

## Alexander Lane / Long Ridings Avenue

- 7.31 The Alexander Lane / Long Ridings Avenue junction is a simple priority junction.
- 7.32 The junction has been modelled using Junctions10 software with the outputs provided at **Appendix 13**. A summary of the results for the assessment scenarios is provided in **Table 7.7** below.

- 7.33 Junctions10 provides output in the form of average queue lengths and Ratio of Flow to Capacity (RFC). An RFC of less than 0.85 is within practical capacity. An RFC of between 0.85 and 1 is reaching theoretical capacity and is likely to see increased queuing and delay.

**Table 7.7: Alexander Lane / Long Ridings Avenue Modelling Results**

Scenario / Arm	AM Peak		PM Peak	
	Queue	RFC	Queue	RFC
<b>2027 Base</b>				
Stream B-C	0.2	0.18	0.1	0.12
Stream B-A	0.5	0.31	0.2	0.18
Stream C-B	0.1	0.10	0.1	0.09
<b>2027 Base +Dev</b>				
Stream B-C	0.2	0.19	0.1	0.13
Stream B-A	0.5	0.32	0.2	0.18
Stream C-B	0.1	0.10	0.1	0.09
<b>2027 Base + Com</b>				
Stream B-C	0.2	0.19	0.1	0.13
Stream B-A	0.5	0.32	0.2	0.19
Stream C-B	0.1	0.10	0.1	0.09
<b>2027 Base +Com +Dev</b>				
Stream B-C	0.2	0.19	0.1	0.13
Stream B-A	0.5	0.32	0.2	0.19
Stream C-B	0.1	0.10	0.1	0.09

A – Alexander Lane north, B – Long Ridings, C – Alexander Lane south

- 7.34 The results for this junction indicate that the junction is operating within capacity.

## A12 Junction 12

- 7.35 This junction is a grade separated roundabout for the A12, which is managed by National Highways. It provides access from the A12 to Chelmsford Road and Roman Road. To understand the existing operation the junction has been modelled in Junctions10 with the outputs provided at **Appendix 13**. A summary of the results for the assessment scenarios is provided in **Table 7.8** below.

**Table 7.8: A12 Junction 12 Modelling Results**

Scenario / Arm	AM Peak		PM Peak	
	Queue	RFC	Queue	RFC
<b>2022 Base</b>				
A12 (E)	14.1	0.95	0.08	0.46
Chelmsford Road	2.4	0.70	2.0	0.67
A12 (W)	1.7	0.63	3.0	0.75
Roman Road	1.3	0.57	0.6	0.37
<b>2022 Base +Dev</b>				
A12 (E)	18.6	0.96	0.9	0.48
Chelmsford Road	2.9	0.74	2.1	0.68
A12 (W)	1.9	0.66	3.8	0.79
Roman Road	1.3	0.57	0.6	0.39
<b>2032 Base + Com</b>				
A12 (E)	65.5	1.04	1.2	0.55
Chelmsford Road	4.7	0.87	2.8	0.74
A12 (W)	2.7	0.76	9.4	0.91
Roman Road	1.5	0.61	0.7	0.42
<b>2032 Base +Com +Dev</b>				
A12 (E)	85.7	1.06	1.4	0.59
Chelmsford Road	6.4	0.87	3.1	0.76
A12 (W)	3.1	0.76	18.0	0.96
Roman Road	1.5	0.61	0.8	0.44

- 7.36 The results of the modelling of the junction in its existing form indicate that the AM peak is currently seeing queuing and delay on the westbound off-slip with an RFC of 0.95 and average queue lengths of 14 vehicles. This aligns with the observed queue lengths from the collected survey data. No current PM issues are evident.
- 7.37 When additional traffic from the proposed development is added to the current situation, there is a slight deterioration in capacity to 0.97 RFC and an increase in average queue lengths by 4 vehicles on the westbound off-slip. Given the existing length of the slip road (c.450m to diverge),

- this increase in queue length to around 120m is not expected to have any knock-on impacts involving queuing to the mainline which would be considered a safety risk.
- 7.38 The addition of the remainder of the allocation has a more significant effect on the capacities at the junction with the 2032 + committed + development scenario seeing RFC of 1.04 and 80+ vehicle queues (c.500m) on this slip road in the AM peak. This would exceed the length of the slip road. In addition, the PM peak is also adversely affected with the eastbound off-slip RFC reaching 0.96 with queues starting to form.
- 7.39 This modelling suggested that if the proposed development comes forward in advance of the other developments within the R03 allocation, the impact on the A12 junction will be minimal. However, as part of the whole committed allocation, the development contributes to the A12 junction exceeding capacity in the future.
- 7.40 It is therefore suggested that a proportionate contribution to improvement measures is provided through a s106 agreement that can be pooled with the rest of the allocation to deliver a joint scheme. Initial studies have indicated that signalisation of the off-slips at this junction has the potential to deliver improved capacity and safety by controlling queue lengths on the slip roads. This design can be developed as part of a joint mitigation to be delivered as the allocation is built out.

## Summary

- 7.41 The traffic impact analysis undertaken as part this TA calculates the proposed development trip generation and resultant vehicular movements in the future year against the base scenario. It should be noted that the analysis assumes up to 200 homes which is 10% more than the proposed layout is shown to accommodate.
- 7.42 The modelling suggests that most junctions in the study area continue to operate satisfactorily with the addition of the proposed development traffic as well as the other elements of the R03 allocation.
- 7.43 The modelling of the A12 junction does indicate that improvement measures are likely to be required here when all of the R03 allocation is completed. The modelling suggests that the proposed development could be built out in advance of an improvement being completed without significantly affecting capacity and delay. Consequently, it is proposed that a contribution to a scheme is provided through the s106 agreement in accordance with local plan policy BE08.

## 8 MITIGATION MEASURES

- 8.1 The following mitigation measures are proposed to ensure that this development meets the relevant policy and guidance requirements.

### Travel Plan

- 8.2 A Travel Plan has been developed that accompanies this Transport Assessment as a separate document. A travel plan is a living document that will be developed prior to occupation of the development. It contains information to help new residents make appropriate travel choices and highlights sustainable alternatives. It also contains targets and a monitoring strategy. It is expected that implementation of the Travel Plan will either be a condition of any planning consent or form part of the s106 legal agreement.

### Pedestrian and Cycle Access Measures

- 8.3 As set out in Section 5 above and the plan at **Appendix 9**, a number of measures are proposed to ensure pedestrians and cyclists can access / egress the site and join with the surrounding local facilities such as the cycleway on Chelmsford Road.
- 8.4 Connections are also provided to the development area to the south to allow residents to access routes and facilities in that direction. The crossing provided will also allow pedestrian movements to and from the proposed development to the north-west of Chelmsford Road.

### Public Transport Contribution

- 8.5 The bus service on Chelmsford Road is at a lower frequency than would be desirable with the addition of the proposed R03 allocation. As set out in Section 5, it is not possible to divert a service into or through this site. It is proposed that a proportional contribution is made to support increased frequency of services to encourage patronage to increase with new residents. This will be supported by the Travel Plan.

### Junction Capacity Enhancement

- 8.6 As set out in Section 7 above, a proportionate contribution to improvement measures should be provided through a s106 agreement that can be pooled with the rest of the allocation to deliver a joint scheme. Initial studies have indicated that signalisation of the off-slips at this junction has the potential to deliver improved capacity and safety by controlling queue lengths on the slip roads. This design can be developed as part of a joint mitigation to be delivered as the allocation is built out.

## 9 SUMMARY AND CONCLUSION

- 9.1 RPS has been instructed by Redrow Homes to undertake a Transport Assessment (TA) of a proposed residential site located on land east of Chelmsford Road, Shenfield, Essex. The site is within the district of Brentwood Borough Council and Essex County Council (ECC) are the Highway Authority.
- 9.2 This TA has been prepared in accordance with national and local guidance, and pre-application scoping discussions with ECC the local highway authority.
- 9.3 Vehicular access to the site is currently via a vehicular crossover on the southern side of the A1023 Chelmsford Road. It is proposed that the residential development is served via the existing strip of land that connects to the A1023 Chelmsford Road. The existing crossover will be upgraded to a ghost island priority junction to serve the residential site. Enhancements to the pedestrian and cycle facilities are also proposed.
- 9.4 In terms of the development site, its location benefits from good accessibility to existing bus services and access to rail services. Local facilities including shops and schools are all accessible by walking and cycling. The site will therefore provide residents with realistic sustainable travel choices to the private car for some journeys.
- 9.5 The impact of the new housing on the local road network has been assessed and shows that the proposed development will not cause any safety issues or have any significant impact on highway capacity. It should be noted that the analysis assumes up to 200 homes which is 10% more than the proposed layout is shown to accommodate.
- 9.6 The allocation of the site within the Brentwood Local Plan as part of R03 includes the following policies relating to transport:
- “Development should:**
- c. provide vehicular access via Chelmsford Road (A1023) and Alexander Lane.”**
- 9.7 The development access is via Chelmsford Road.
- e. “enhance walking, cycling and public transport services with Shenfield station and local services and facilities in the wider area, including Brentwood Town Centre.”**
- 9.8 New crossing and shared use routes are provided from the site to the footways and cycleway on Chelmsford Road. A connection is made to the future development to the north and south in accordance with the R03 masterplan.
- f. “provide well-connected internal road layouts which allow for good accessibility.”**
- 9.9 The internal layout is a well-connected layout with good circulatory routes for pedestrians and cyclists.
- h. “maintain and enhance Public Rights of Way within the site and to the wider area.”**
- 9.10 The existing Public Right of Way is maintained and enhanced.

### 3. “Infrastructure Requirements

Proposals should:

**a. provide pedestrian and cycle crossing points across Chelmsford Road (A1023) where appropriate.”**

- 9.11 The new pedestrian and cycle crossing point is provided in a logical location that allows connections across the R03 allocation.

**b. “provide an improved bus service.”**

- 9.12 A contribution to increased frequency is proposed.

### 4. “Infrastructure Contributions

Applicants will also be required to make necessary financial contributions via planning obligations towards:

**a. off-site highway infrastructure improvements as may be reasonably required by National Highways and Essex County Council in accordance with policies MG05 and BE08 (the planning obligation will determine the level and timing of payments for these purposes);**

**b. ‘quiet way’ cycle routes connecting transfer hubs to schools in Brentwood Town Centre.”**

- 9.13 It is accepted that a financial contribution towards transport improvements will be necessary including to the A12 junction as part of the overall R03 allocation.

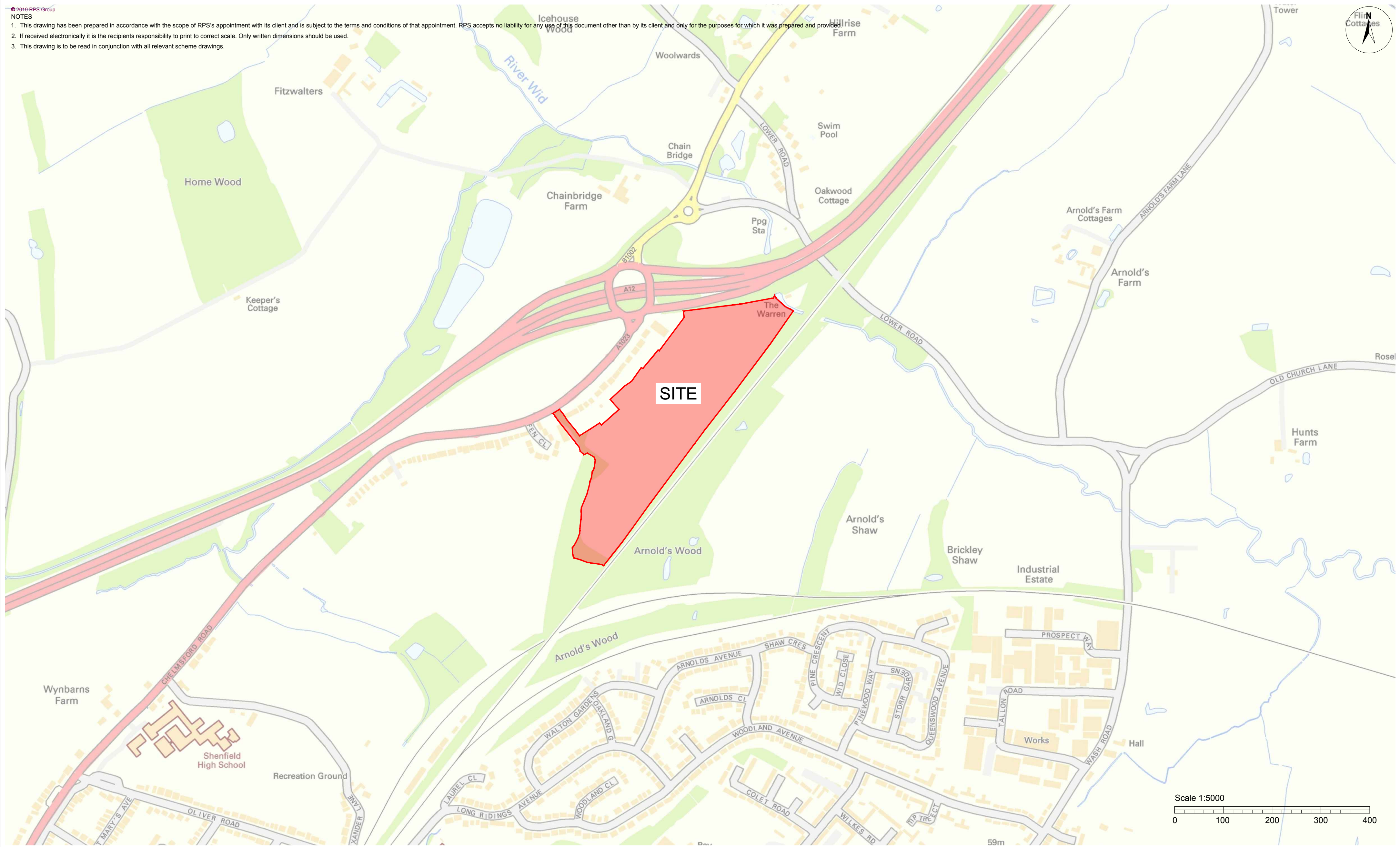
- 9.14 In conclusion, with the proposed mitigation measures, the development meets the specific polices set out in the Brentwood Local Plan for this site as well as the overarching policies of the NPPF.

## Appendices



## Appendix 1 – Site Location Plan





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Client Redrow Homes

Project Shenfield

Title Site location Plan

Rev	Description	By	CB	Date

Status	Drawn By	PM/Checked by
INFORMATION	AJ	MSB
Project Number	Scale @ A2	Date Created
JY10935	1:5000	22/04/21
RPS Drawing/Figure Number		Rev
JNY10935-02		-

rpsgroup.com



## **Appendix 2 – Road Traffic Collision Data**

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

17205435 29/07/2017 Time 1810 Vehicles 2 Casualties 1 Serious  
E: 562288 N: 196782 First Road: A 12 Road Type 1  
Speed limit: 50 Junction Detail: Roundabout Give way or controlled B 1002  
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp  
Daylight Raining without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

V2 IS GOING ROUND THE ROUNDABOUT INTENDING TO TRAVEL EAST ONTO A12 (TOWARDS CHELMSFORD). V1 HAS PULLED OUT OF ROMAN ROAD IN A SOUTHERLY DIRECTION, AND PULLED ACROSS THE PATH OF V2, CAUSING V2 TO TAKE EVASIVE ACTION. V2 COLLIDED WITH KERB. V1 WAS NOT C

OLLIDED WITH AND DID NOT STOP.

Occurred on A12 A12 AT JN WITH MOUNTNESSING ROUNDABOUT B1002

Vehicle Reference 1 Car Going ahead other  
Vehicle movement from NW to SW No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Entering roundabout First impact Did not impact Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver Not traced  
Non-stop, not hit Breath test Not requested  
Driver Postcode: VRM:

Vehicle Reference 2 Motor Cycle over 50 cc and up to 125cc Going ahead other  
Vehicle movement from SW to E No tow / articulation  
On main carriageway Skidded  
Location at impact Mid Junction - on roundabout or 1 First impact Front Hit vehicle:  
Hit object in road Kerb Off road: None  
Did not leave carr Age of Driver 23 Male  
Not hit and run Breath test Not requested  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 2 Age: 23 Male Driver/rider Severity: Serious  
Postcode Seatbelt

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

17245948 25/09/2017 Time 1355 Vehicles 2 Casualties 1 Slight  
E: 562313 N: 196712 First Road: A 1023 Road Type 1  
Speed limit: 60 Junction Detail: Roundabout Give way or controlled A 12  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

I WAS RIDING MY RACING BIKE(PUSH BIKE) AROUND THE ROUNDABOUT OF THE MOUNTNESSING TURN OFF ABOVE THE A12 AS I APPROACHED THE EXIT OF THE SLIP ROUND COMING FROM THE NORTHBOUND A12 A BLACK CAR SLOWED DOWN BUT THEN ACCELERATED AND HIT MYSELF AND MY BIKE

I HAD CHECKED THE ROAD AND SIGNED LEFT TURN I WAS KNOCKED FROM MY BIKE LANDING MAINLY ON MY LEFT SIDE AND ROLLED INTO THE INSIDE LANE OF THE ROUNDABOUT I WAS MOVED BY A WITNESS AND EVENTUALLY THE DRIVER TO THE SIDE OF THE ROUNDABOUT AND THE BADLY DAMAGED BIKE MY INJURIES ARE STATED PREVIOUSLY A POLICE CAR APPROACHED US PUT ON HIS LIGHTS AND CAME OVER TO TAKE DETAILS OF MYSELF, THE DRIVER. AND A WITNESS THAT OBSERVED THE WHOLE ACCIDENT MR.TAM THE DRIVER INFORMED MYSELF AND THE POLICE OFFIC

Occurred on A1023 A1023 AT JN WITH A12 A12

Vehicle Reference 1 Car Starting  
Vehicle movement from N to W No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Mid Junction - on roundabout or 1 First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 28 Male  
Not hit and run Breath test Driver not contacted  
Driver Postcode: VRM:

Vehicle Reference 2 Pedal Cycle Turning left  
Vehicle movement from N to S No tow / articulation  
On main carriageway Skidded  
Location at impact Mid Junction - on roundabout or 1 First impact Nearside Hit vehicle:  
Hit object in road None Off road: None  
O/S Age of Driver 54 Male  
Not hit and run Breath test Not applicable  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 2 Age: 54 Male Driver/rider Severity: Slight  
Postcode Seatbelt

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

18307640 04/07/2018 Time 1720 Vehicles 3 Casualties 1 Slight  
E: 562134 N: 196511 First Road: A 1023 Road Type Single carriageway  
Speed limit: 40 Junction Detail: Not within 20m of junction  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

VEHICLE THREE WAS ON CHELMSFORD ROAD HEADING EAST GENERALLY TOWARDS CHELMSFORD. VEHICLE TWO WAS TRAVELLING BEHIND VEHICLE THREE AND VEHICLE ONE WAS TRAVELLING BEHIND VEHICLE TWO, ALL HEADING IN THE SAME DIRECTION. VEHICLE THREE STOPPED ON THE CARR

IAGEWAY AND WAS WAITING TO TURN RIGHT ONTO A DRIVEWAY BUT WAS HELD UP BY ONCOMING TRAFFIC. VEHICLE TWO STOPPED BEHIND VEHICLE THREE. VEHICLE ONE CRASHED INTO THE REAR OF VEHICLE TWO, WITH VEHICLE TWO BEING SHUNTED FORWARD INTO VEHICLE THREE. TH DRIVER OF VEHICLE ONE WAS THE ONLY PERSON TO SUSTAIN A SLIGHT INJURY.

Occurred on 255 CHELMSFORD A1023 NEAR JN WITH FEN CLOSE

Vehicle Reference 1 Car Stopping  
Vehicle movement from W to E No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 33 Female  
Not hit and run Breath test Not requested  
Driver Postcode: VRM:  
Casualty Reference: 1 Vehicle: 1 Age: 33 Female Driver/rider Severity: Slight  
Postcode Seatbelt

Vehicle Reference 2 Car Going ahead but held up  
Vehicle movement from W to E No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 23 Male  
Not hit and run Breath test Negative  
Driver Postcode: VRM:

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection:

Notes:

Selected using Manual Selection

Vehicle Reference 3 Van or Goods 3.5 tonnes mgw and under Going ahead but held up  
Vehicle movement from W to E No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 41 Female  
Not hit and run Breath test Negative  
Driver Postcode: VRM:

18352285 20/12/2018 Time 1140 Vehicles 2 Casualties 1 Slight  
E: 562337 N: 196699 First Road: A 12 Road Type Dual carriageway  
Speed limit: 70 Junction Detail: Roundabout Give way or controlled A 1023  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Impaired by drugs (illicit or medicinal)	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

VEHICLE TWO WAS STATIONERY AT THE TOP OF THE A12 JUNCTION 12, B TRACK OFF SLIP, WAITING TO ENTER THE ROUNDABOUT. VEHICLE ONE HAS FAILED TO STOP IN TIME AND HAS COLLIDED WITH THE REAR OF VEHICLE TWO.

Occurred on A12 JUNCTION A1023

Vehicle Reference 1 Car Going ahead other  
Vehicle movement from E to W No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Jct Approach First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 38 Female  
Not hit and run Breath test Negative  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 1 Age: 38 Female Driver/rider Severity: Slight  
Postcode Seatbelt

Vehicle Reference 2 Car Going ahead but held up  
Vehicle movement from E to W No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Jct Approach First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 48 Male  
Not hit and run Breath test Not requested  
Driver Postcode: VRM:

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

19847178 29/04/2019 Time 0815 Vehicles 2 Casualties 3 Serious  
E: 562220 N: 196769 First Road: A 12 Road Type Slip road  
Speed limit: 70 Junction Detail: Roundabout Give way or controlled A 1023  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

I HAD DRIVEN UP THE SLIP ROAD TO TAKE THE EXIT TOWARDS MOUNTNESSING (1ST EXIT) AT THE LARGE ROUNDABOUT ON THE B1002. I WAS STATIONARY WAITING FOR A GAP TO ENTER THE ROUNDABOUT SAFELY WHEN I WAS HIT FROM BEHIND BY THE SECOND DRIVER. I WAS JOLTED FOR WARDS AND USED MY ARMS TO STOP ME FROM HITTING THE STEERING WHEEL. I IMMEDIATELY CHECKED ON THE CHILDREN BEFORE EXITING THE CAR TO ASSESS THE DAMAGE TO MY REAR BUMPER. THE SECOND DRIVER WAS APOLOGETIC AND SAID THAT HE WOULD PREFER NOT TO GO THROU H INSURANCE CHANNELS. I WAS GIVEN HIS NAME AND NUMBER AND I HAVE A PICTURE OF HIS CAR REGISTRATION.

Occurred on A12 SLIP - JUNCTION WITH CHELMSFORD ROAD ROUNDABOUT (A1023)

Vehicle Reference 1 Car Going ahead other  
Vehicle movement from W to E No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Entering roundabout First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 20 Male  
Not hit and run Breath test Driver not contacted  
Driver Postcode: VRM:



Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection:

Notes:

Selected using Manual Selection

Vehicle Reference 2 Car Going ahead but held up  
Vehicle movement from W to N No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Jct Approach First impact Back Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 28 Female  
Not hit and run Breath test Driver not contacted  
Driver Postcode: VRM:

Casualty Reference:	1	Vehicle:	2	Age:	28	Female	Driver/rider	Severity:	Slight
				Postcode			Seatbelt		
Casualty Reference:	2	Vehicle:	2	Age:	4	Male	Passenger	Severity:	Serious
				Postcode			Seatbelt		
Back seat									
Casualty Reference:	3	Vehicle:	2	Age:	8	Male	Passenger	Severity:	Serious
				Postcode			Seatbelt		
Front seat									

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

20928536 08/02/2020 Time 1901 Vehicles 2 Casualties 1 Slight  
E: 562313 N: 196714 First Road: A 1023 Road Type 1  
Speed limit: 40 Junction Detail: Roundabout Give way or controlled Unclassified  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Darkness: street lights present and lit Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

I WAS DRIVING ON THE OUTSIDE LINE WITH MY INDICATOR FLASHING LEFT TO GO IN TO THE PETROL GARAGE WHEN THE OTHER CAR INVOLVED CAME IN TO MY LANE AND HIT THE SIDE OF MY CAR. WE THEN PULLED OVER TO EXCHANGE DETAILS TO WHICH THE DRIVER DIDNT SPEAK ENGLISH TO I HAD TO SPEAK TO THERE BOSS ON THE PHONE THE DRIVER WOULDN'T GIVE ME HIS PEROSNAL DETAILS OR INSURANCE. THE BOSS SPOKE TO ME ON THE PHONE WITH BROKEN ENGLISH TO GIVE ME THERE INSURANCE DETAILS BUT I COULDN'T UNDERSTAND.

Occurred on CHELMSFORD ROAD ROUNDABOUT (A1023) - 21 METRES FROM JUNCTION WITH A12

Vehicle Reference 1 Car Changing lane to left  
Vehicle movement from N to S No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Mid Junction - on roundabout or 1 First impact Offside Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 50 Not traced  
Hit and run Breath test Driver not contacted  
Driver Postcode: VRM:

Vehicle Reference 2 Car Changing lane to left  
Vehicle movement from N to S No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Mid Junction - on roundabout or 1 First impact Nearside Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 28 Male  
Not hit and run Breath test Driver not contacted  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 2 Age: 28 Male Driver/rider Severity: Slight  
Postcode Seatbelt

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

20953701 26/05/2020 Time 0820 Vehicles 2 Casualties 1 Slight  
E: 562231 N: 196772 First Road: A 12 Road Type Slip road  
Speed limit: 30 Junction Detail: Roundabout Give way or controlled A 1023  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

I WAS CYCLING FROM SHENFIELD TO INGATESTONE ALONG THE A1023 I WAS JUST GOING OVER THE ROUNDABOUT AND GOING PAST THE A12 SLIP ROAD (JUNCTION 12 EXIT FOR MOUNTNESSING/SHENFIELD) EXIT WHEN A SILVER NISSAN CAR HIT THE BACK NEAR SIDE OF MY BIKE CAUSING ME

TO FALL OFF MY BIKE. THE CAR DRIVER STOPPED IMMEDIATELY TO CHECK IF I WAS OK AND ASKED IF I NEEDED AN AMBULANCE - I TOLD HER I WAS OK AND AN AMBULANCE WAS NOT NEEDED. IN THE MEANTIME A 2ND DRIVER PULLED OVER AND ASKED IF I WAS OK, I SAID YES. DUE TO THE DAMAGE ON THE BACK WHEEL I WAS UNABLE TO RIDE MY BIKE HOME. THE LADY WHO HAD KNOCKED ME OFF MY BIKE OFFERED TO DRIVE ME HOME THE 2ND DRIVER HELPED ME LOAD MY BIKE INTO HER CAR. THE LADY DROVE ME HOME AND WE EXCHANGED DETAILS

Occurred on A12 NEAR JUNCTION WITH CHELMSFORD ROAD ROUNDABOUT (A1023)

Vehicle Reference 1 Car Stopping  
Vehicle movement from SW to NE No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Entering roundabout First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 44 Female  
Not hit and run Breath test Driver not contacted  
Driver Postcode: VRM:

Vehicle Reference 2 Pedal Cycle Going ahead other  
Vehicle movement from SW to NE No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Jct Approach First impact Nearside Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 47 Male  
Not hit and run Breath test Not applicable  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 2 Age: 47 Male Driver/rider Severity: Slight  
Postcode Seatbelt

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

20960885 25/06/2020 Time 1900 Vehicles 2 Casualties 1 Slight  
E: 562230 N: 196764 First Road: A 1023 Road Type 1  
Speed limit: 30 Junction Detail: Roundabout Give way or controlled A 12  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

I WAS RIDING MY BIKE AND WAS HEADING HOME FROM THE COUNTRY ROADS AROUND MOUNTNESSING. I APPROACHED THE ROUNDABOUT WITH CAUTION AS CARS COME FROM THE A12 AT SPEED. I WAS ABOUT TO LEAVE THE ROUNDABOUT HEADING TOWARDS BRENTWOOD WHEN WHAT I THINK WAS A GREY COLOURED CAR POSSIBLY A VW GOLF CAME OUT AT SPEED WITHOUT STOPPING AND HIT ME ON MY BIKE. I THINK I WENT OVER THE BONNET AND LANDED ON THE GROUND IN SIGNIFICANT PAIN. THE CAR LEFT THE SCENE WITHOUT STOPPING.

Occurred on CHELMSFORD ROAD ROUNDABOUT (A1023) NEAR JUNCTION WITH A12

Vehicle Reference 1 Car Going ahead left bend  
Vehicle movement from SW to E No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Entering roundabout First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver Not traced  
Hit and run Breath test Driver not contacted  
Driver Postcode: VRM:

Vehicle Reference 2 Pedal Cycle Going ahead other  
Vehicle movement from S to N No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Leaving roundabout First impact Nearside Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 36 Male  
Not hit and run Breath test Not applicable  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 2 Age: 36 Male Driver/rider Severity: Slight  
Postcode Seatbelt

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

211013335 10/01/2021 Time 2105 Vehicles 2 Casualties 1 Slight  
E: 562287 N: 196804 First Road: B 1002 Road Type 1 A 1023  
Speed limit: 60 Junction Detail: Roundabout Give way or controlled  
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp  
Darkness: street lights present and lit Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

	Factor:	Causation	Participant:	Confidence:
1st:	Travelling too fast for conditions		Vehicle 1	Very Likely
2nd:	Stolen vehicle		Vehicle 1	Very Likely
3rd:	Loss of control		Vehicle 1	
4th:				
5th:				
6th:				

VEHICLE ONE HAS FAILED TO STOP FOR VEHICLE TWO, ON EXITING THE A12 AT JUNCTION 12, VEHICLE ONE HAS LOST CONTROL AND COLLIDED WITH A TREE CAUSING IT TO CATCH ON FIRE. DRIVER ONE ONLY OCCUPANT OF VEHICLE AND SUFFERED SLIGHT INJURY.

Occurred on ROMAN ROAD (B1002) NEAR JUNCTION WITH CHELMSFORD ROAD ROUNDABOUT (A1023)

Vehicle Reference 1 Car Going ahead right bend  
Vehicle movement from SW to SW No tow / articulation  
On main carriageway Overturned  
Location at impact Leaving roundabout First impact Front Hit vehicle:  
Hit object in road Kerb Off road: Tree  
Straight ahead at Jun Age of Driver 25 Male  
Non-stop, not hit Breath test Not applicable  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 1 Age: 25 Male Driver/rider Severity: Slight  
Postcode Seatbelt

Vehicle Reference 2 Car Going ahead right bend  
Vehicle movement from W to E No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Entering roundabout First impact Did not impact Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 34 Male  
Not hit and run Breath test Negative  
Driver Postcode: VRM:

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

211030379 23/03/2021 Time 1710 Vehicles 2 Casualties 1 Serious  
E: 562247 N: 196688 First Road: A 12 Road Type Slip road  
Speed limit: 70 Junction Detail: Roundabout Give way or controlled A 1023  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Daylight Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

Causation

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

V1 WAS TRAVELLING WEST FROM BP FILLING STATION TO JOIN THE A12 LONDON BOUND. V2 WAS TRAVELLING NORTH FROM CHELMSFORD. WHEN C1 ENTERED THE ROUNDABOUT V1 COLLIDED WITH HER CAUSING HER TO FALL ONTO THE WINDSCREEN.

Occurred on A12 AT JUNCTION WITH CHELMSFORD ROAD ROUNDABOUT (A1023)

Vehicle Reference 1 Car Going ahead other  
Vehicle movement from E to W No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Leaving roundabout First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 52 Female  
Not hit and run Breath test Negative  
Driver Postcode: VRM:

Vehicle Reference 2 Pedal Cycle Going ahead other  
Vehicle movement from SE to NW No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Entering roundabout First impact Offside Hit vehicle:  
Hit object in road None Off road: None  
Straight ahead at Jun Age of Driver 39 Female  
Not hit and run Breath test Not applicable  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 2 Age: 39 Female Driver/rider Severity: Serious  
Postcode Seatbelt

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

211069876 25/07/2021 Time 2045 Vehicles 1 Casualties 2 Slight  
E: 562255 N: 196677 First Road: A 1023 Road Type 1  
Speed limit: 60 Junction Detail: Roundabout Give way or controlled A 1023  
Crossing: Control None Facilities: Central reservation Road surface Flood  
Darkness: street lights present and lit Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: At scene DfT Special Projects:

Causation

	Factor:	Participant:	Confidence:
1st:	Slippery road (due to weather)	Uninjured Pedestrian	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

DRIVER HAS BEEN GOING AROUND THE ROUNDABOUT WHEN HE HAS HIT A DEEP PUDDLE. THIS HAS CAUSED THE CAR TO AQUAPLANE AND THE DRIVER HAS PANICKED AND PUT THE BRAKES ON. THIS HAS CAUSED HIM TO LOSE CONTROL FURTHER AND HIT THE ISLAND SEPARATING THE ROADS. THE CAR HAS THEN GONE ACROSS THE HIGHWAY AND MOUNTED THE KERB ONTO THE GRASS AND INTO THE HEDGE.

Occurred on CHELMSFORD ROAD (A1023) NEAR JUNCTION WITH CHELMSFORD ROAD ROUNDABOUT (A1

Vehicle Reference 1 Car Going ahead right bend  
Vehicle movement from E to W No tow / articulation  
On main carriageway Skidded  
Location at impact Leaving roundabout First impact Nearside Hit vehicle:  
Hit object in road Kerb Off road: None  
Nearside Age of Driver 19 Male  
Not hit and run Breath test Negative  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 1 Age: 19 Male Driver/rider Severity: Slight  
Postcode Seatbelt

Casualty Reference: 2 Vehicle: 1 Age: 19 Female Passenger Severity: Slight  
Postcode Seatbelt

Front seat

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

211126231 24/12/2021 Time 2245 Vehicles 2 Casualties 1 Slight  
E: 562289 N: 196837 First Road: B 1002 Road Type Slip road  
Speed limit: 70 Junction Detail: Not within 20m of junction  
Crossing: Control None Facilities: None within 50m Road surface Wet/Damp  
Darkness: street lights present and lit Raining without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: Elsewhere DfT Special Projects:

Causation

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

VEHICLE 01 HAS BEEN TRAVELLING FROM THE A12 AND HAS EXITED THE ROUNDABOUT TOWARDS MOUNTRESSING. IT HAS CRASHED INTO VEHICLE 02 WHICH IS AN AA RECOVERY VAN CAUSING FRONT END DAMAGE.

Occurred on ROMAN ROAD (B1002) - 50 METRES FROM JUNCTION WITH CHELMSFORD ROAD ROUNDABOU

Vehicle Reference 1 Car Going ahead other  
Vehicle movement from NW to N No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 23 Male  
Not hit and run Breath test Not requested  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 1 Age: 23 Male Driver/rider Severity: Slight  
Postcode Seatbelt

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Starting  
Vehicle movement from NE to N No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Not at, or within 20M of Jct First impact Nearside Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 60 Male  
Not hit and run Breath test Not requested  
Driver Postcode: VRM:



Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection: Notes:

Selected using Manual Selection

221168384 19/04/2022 Time 0035 Vehicles 2 Casualties 1 Slight  
E: 562290 N: 196682 First Road: A 1023 Road Type 1  
Speed limit: 40 Junction Detail: Roundabout Give way or controlled A 1023  
Crossing: Control None Facilities: None within 50m Road surface Dry  
Darkness: street lights present and lit Fine without high winds  
Special Conditions at Site None Carriageway Hazards: None  
Place accident reported: DfT Special Projects:

	Factor:	Causation	Participant:	Confidence:
1st:	Poor turn or manoeuvre		Vehicle 1	Very Likely
2nd:				
3rd:				
4th:				
5th:				
6th:				

V1 PULLED OUT OF THE BP SERVICE STATION ON THE ROUNDABOUT JUNCTION OF CHELMSFORD ROAD / A12 SHENFIELD. V1 STOPPED ON THE ROUNDABOUT AND V2 COLLIDED WITH V1. WHEN ASKED WHY V1 HAD STOPPED THE DRIVER STATED THAT HE DID NOT KNOW WHERE HE WAS GOING.

Occurred on CHELMSFORD ROAD (A1023) NEAR JUNCTION WITH CHELMSFORD ROAD ROUNDABOUT (A1

Vehicle Reference 1 Goods vehicle - unknown weight Stopping  
Vehicle movement from SE to W No tow / articulation  
On main carriageway No skidding, jack-knifing or overturning  
Location at impact Entering roundabout First impact Offside Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 32 Male  
Not hit and run Breath test Driver not contacted  
Driver Postcode: VRM:

Vehicle Reference 2 Motorcycle over 500cc Going ahead right bend  
Vehicle movement from N to W No tow / articulation  
On main carriageway Skidded  
Location at impact Leaving roundabout First impact Front Hit vehicle:  
Hit object in road None Off road: None  
Did not leave carr Age of Driver 41 Male  
Not hit and run Breath test Driver not contacted  
Driver Postcode: VRM:

Casualty Reference: 1 Vehicle: 2 Age: 41 Male Driver/rider Severity: Slight  
Postcode Seatbelt

Accidents between dates 01/07/2017 and 30/06/2022 (60) months

Selection:

Notes:

Selected using Manual Selection

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	1	6	7
2-wheeled motor vehicles	0	1	1	2
Pedal cycles	0	1	3	4
Horses & other	0	0	0	0
Total	0	3	10	13

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	0	7	7
Passenger	0	2	1	3
Motorcycle rider	0	1	1	2
Cyclist	0	1	3	4
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	4	12	16

## Appendix 3 – 2022 Traffic Count Data

Job Type:

Junction Count

Co-ordinates:

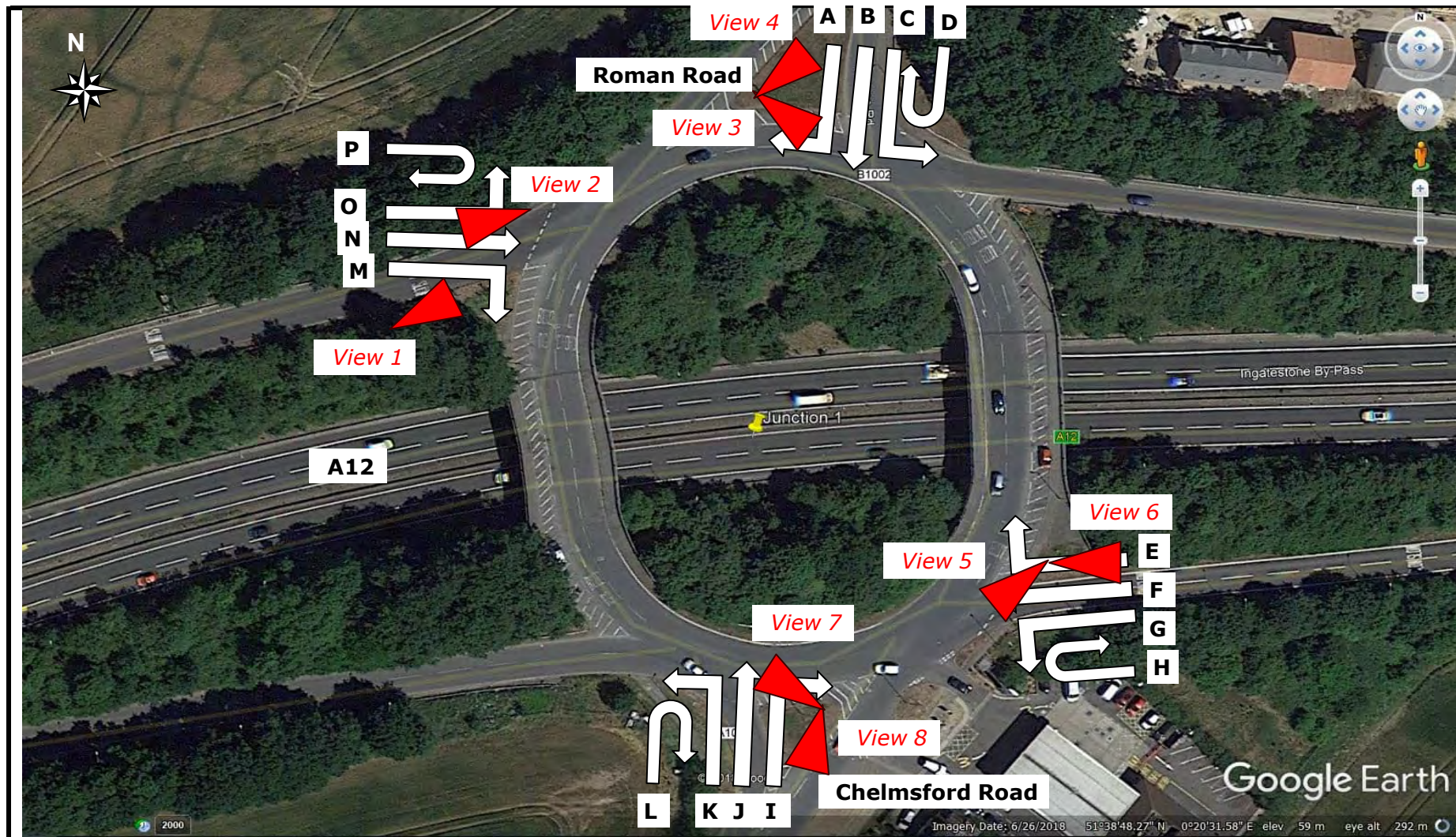
51° 38' 45.51"N, 0° 20' 38.09"E

Postcode:

CM15 8SD

Times:

0700-1000  
1600-1900



####

Classified Counts

	Movement A							Movement B							Movement C							Movement D							Movement E							Movement F							Movement G							Movement H								
Times	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV							
07:00 - 07:15	102	34	1	1	0	0	0	88	4	0	0	1	1	0	16	1	0	0	0	0	0	7	1	0	0	0	0	0	4	1	0	0	0	0	0	99	39	7	5	0	0	0	102	19	1	0	1	1	0	1	0	0	0	0	0	50	13	
07:15 - 07:30	94	30	4	2	0	2	0	145	11	1	0	1	0	1	17	4	0	0	0	0	0	6	1	0	0	0	0	0	6	1	0	0	0	0	0	68	26	2	3	0	0	0	111	15	0	0	0	1	0	1	0	0	0	0	70	4		
07:30 - 07:45	83	18	2	0	0	1	0	161	8	0	0	1	0	0	23	7	0	0	0	0	0	6	0	0	0	0	0	0	4	2	0	0	0	0	0	75	23	3	2	0	0	0	113	27	2	1	0	1	0	0	1	0	0	0	0	88	6	
07:45 - 08:00	77	18	0	1	0	0	0	150	14	1	0	0	1	0	20	6	1	0	0	0	0	8	0	0	0	0	0	0	10	5	0	0	0	0	0	47	8	3	0	0	0	0	108	23	2	2	0	0	0	2	0	0	0	0	0	88	8	
08:00 - 08:15	71	13	2	0	0	1	0	111	8	3	0	1	1	2	34	6	2	0	1	0	0	8	0	0	0	0	0	0	11	7	0	0	0	0	0	47	4	3	1	0	0	0	106	33	1	2	0	0	0	1	0	0	0	0	0	84	8	
08:15 - 08:30	58	3	5	0	0	2	0	119	7	4	0	2	1	1	29	4	1	2	0	0	0	6	0	0	0	0	0	0	12	4	0	0	0	0	0	15	2	1	0	0	0	0	118	12	5	1	0	0	0	0	0	0	0	0	63	3		
08:30 - 08:45	41	11	2	0	0	0	0	68	6	0	0	1	1	1	0	20	5	0	0	0	1	0	6	0	0	0	0	0	13	7	0	0	0	0	0	8	2	0	1	0	0	0	124	9	4	1	0	0	0	0	0	0	0	0	87	8		
08:45 - 09:00	34	11	1	1	0	0	0	50	12	1	0	0	0	0	23	8	0	0	0	0	0	7	0	0	0	0	0	0	22	5	1	1	0	0	0	25	8	2	0	1	0	0	107	11	2	2	0	0	0	1	0	0	0	0	0	57	10	
09:00 - 09:15	49	8	2	0	0	0	0	57	8	0	0	1	0	0	29	3	2	0	0	0	0	8	1	0	0	0	0	0	10	2	0	1	0	0	0	33	9	2	2	0	0	0	113	20	3	1	0	0	0	0	0	0	0	0	0	60	5	
09:15 - 09:30	47	10	4	1	0	0	0	46	8	1	0	0	0	0	11	6	1	0	0	0	0	9	0	0	0	0	0	0	11	2	0	0	0	0	0	15	3	1	2	0	0	0	104	13	2	0	0	0	0	0	0	0	0	0	51	5		
09:30 - 09:45	40	16	2	0	0	0	0	49	1	2	0	1	0	0	16	6	0	0	0	0	0	6	1	0	0	0	0	0	10	4	2	1	0	0	0	15	3	0	0	0	0	0	52	6	3	0	0	0	0	0	0	0	0	0	51	8		
09:45 - 10:00	34	14	0	1	0	0	0	30	3	2	0	0	0	0	16	7	0	0	0	0	0	6	0	0	0	0	0	0	6	1	0	0	0	0	0	7	1	2	0	0	0	0	61	12	2	0	0	0	0	0	0	0	0	0	43	8		
10:00 - 10:15	46	11	2	0	0	0	0	42	5	0	0	2	0	0	20	15	1	0	0	0	0	7	0	0	0	0	0	0	13	0	0	1	0	0	0	10	1	0	0	0	0	0	73	6	4	0	0	0	0	0	0	0	0	0	91	20		
10:15 - 10:30	44	19	0	1	0	1	0	44	5	1	0	1	1	0	23	9	1	0	0	0	0	5	3	0	0	0	0	0	12	6	0	0	0	0	0	7	5	0	0	0	0	0	80	3	0	0	1	0	0	0	0	0	0	0	117	24		
10:30 - 10:45	41	8	0	0	0	0	0	38	3	0	0	2	0	0	28	6	0	0	0	0	0	7	0	0	0	0	0	0	8	2	0	0	0	0	0	13	2	0	0	0	0	0	77	8	0	0	0	0	0	0	0	0	0	0	112	20		
10:45 - 17:00	49	7	1	1	0	0	0	37	3	0	1	1	0	0	30	6	0	0	0	0	0	5	2	0	0	0	0	0	11	2	0	0	0	0	0	6	2	0	1	0	0	0	83	16	0	0	0	0	0	1	0	0	0	0	0	100	8	
17:00 - 17:15	71	13	1	0	0	0	0	56	2	0	0	1	0	0	23	4	0	0	0	0	1	6	1	0	0	0	0	0	13	4	0	0	0	0	0	8	0	1	0	0	0	0	85	9	1	0	0	2	0	0	0	0	0	0	122	8		
17:15 - 17:30	48	5	0	0	0	0	0	48	0	0	0	0	0	0	18	5	0	0	0	0	0	3	0	0	0	0	0	0	14	3	0	0	0	0	0	6	1	0	0	0	0	0	87	9	3	0	0	0	0	1	0	0	0	0	0	150	4	
17:30 - 17:45	51	6	0	0	0	0	0	42	3	1	0	1	0	0	22	5	0	0	0	0	0	5	1	0	0	0	0	0	11	2	0	0	0	0	0	16	0	1	0	0	0	0	98	5	0	0	0	0	0	0	0	0	0	0	135	19		
17:45 - 18:00	55	8	0	0	0	0	0	42	5	0	0	0	0	0	24	4	0	0	0	0	0	6	2	0	0	0	0	0	12	0	2	0	0	0	0	14	4	0	0	0	0	0	91	4	0	0	0	0	0	0	0	0	0	0	135	6		
18:00 - 18:15	42	5	0	0	0	0	0	44	3	0	0	1	0	0	23	7	0	0	0	0	0	4	0	0	0	0	0	0	14	1	0	0	0	0	0	8	0	0	0	0	0	0	68	3	0	0	1	0	0	0	0	0	0	0	107	2		
18:15 - 18:30	27	3	0	0	0	0	0	32	0	0	0	0	0	1	17	1	0	0	0	0	0	4	0	0	0	0	0	0	13	2	0	0	0	0	0	14	1	0	0	0	0	0	63	8	2	0	0	0	0	0	0	0	0	0	98	6		
18:30 - 18:45	35	4	0	0	0	0	1	25	2	0	0	1	0	0	13	3	0	0	0	0	0	5	0	0	0	0	0	0	8	2	0	0	0	0	0	4	1	0	0	0	0	0	81	4	0	0	0	0	0	0	0	0	0	0	100	4		
18:45 - 19:00	27	6	0	0	0	0	0	33	1	0	0	0	0	0	17	1	0	0	0	0	0	4	0	0	0	0	0	0	8	0	0	0	0	0	0	7	0	1	0	0	0	0	61	6	0	0	0	0	0	0	0	0	0	0	103	3		

#REF!  
#REF!  
#REF!

Movement I					Movement J							Movement K							Movement L							Movement M							Movement N							Movement O							Movement P							
OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	
2	1	0	0	0	20	3	0	0	1	1	0	14	2	0	0	0	0	0	0	0	0	0	0	0	0	5	4	2	0	0	0	0	0	1	0	0	0	0	0	0	31	11	2	0	0	0	0	0	0	0	0	0	0	0
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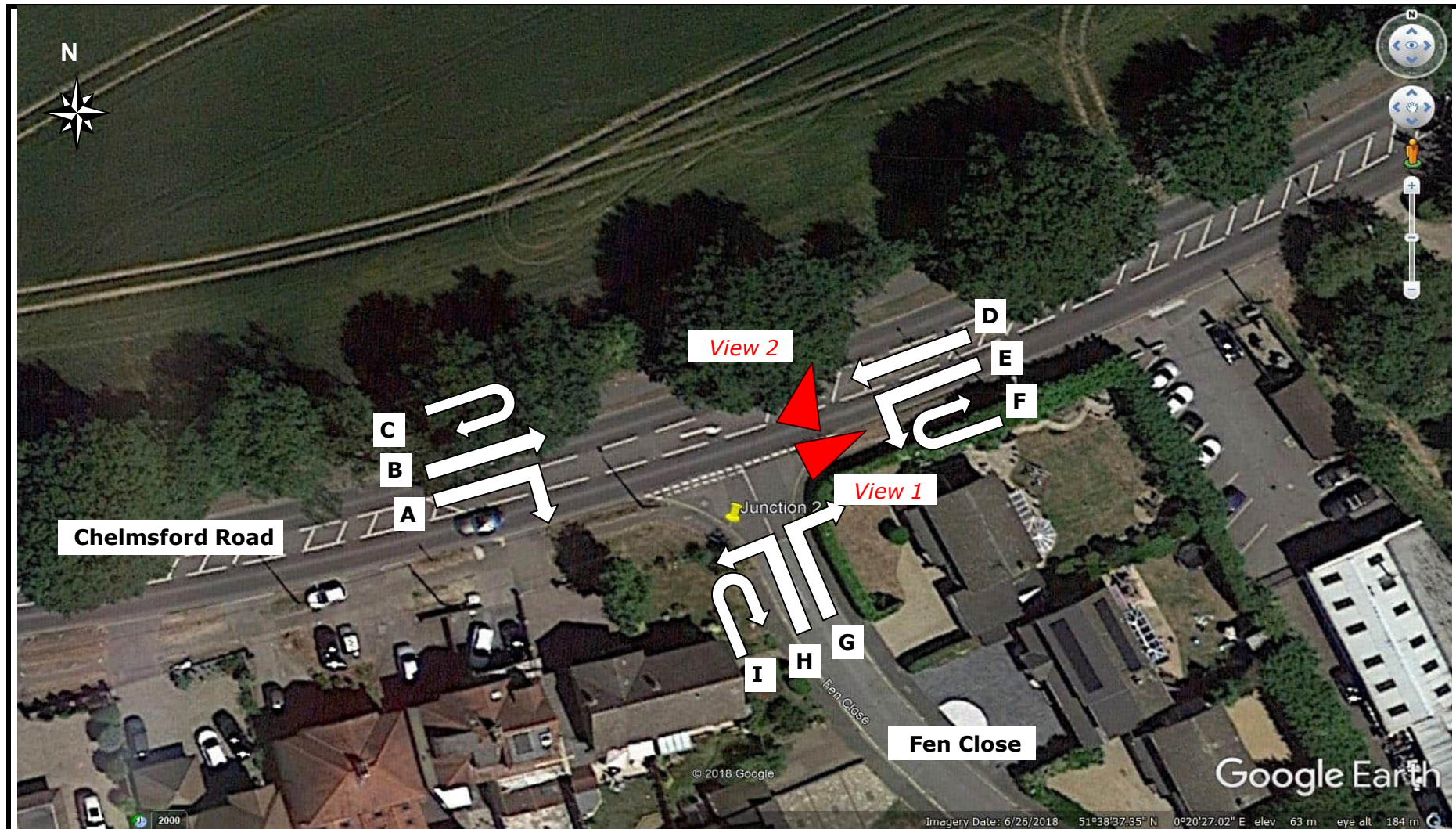
0	0	0	0	0	65	7	0	0	0	0	0	18	3	2	0	0	0	0	0	0	0	0	0	30	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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Job Type: Junction Count

Co-ordinates: 51° 38' 36.97"N, 0° 20' 27.00"E

Postcode: CM15 8SD

Times: 0700-1000  
1600-1900

#REF! #REF!

#REF!	#REF!
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[illegible]



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Movement I				
OGY1	OGY2	PSY	M/B	Cyc
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

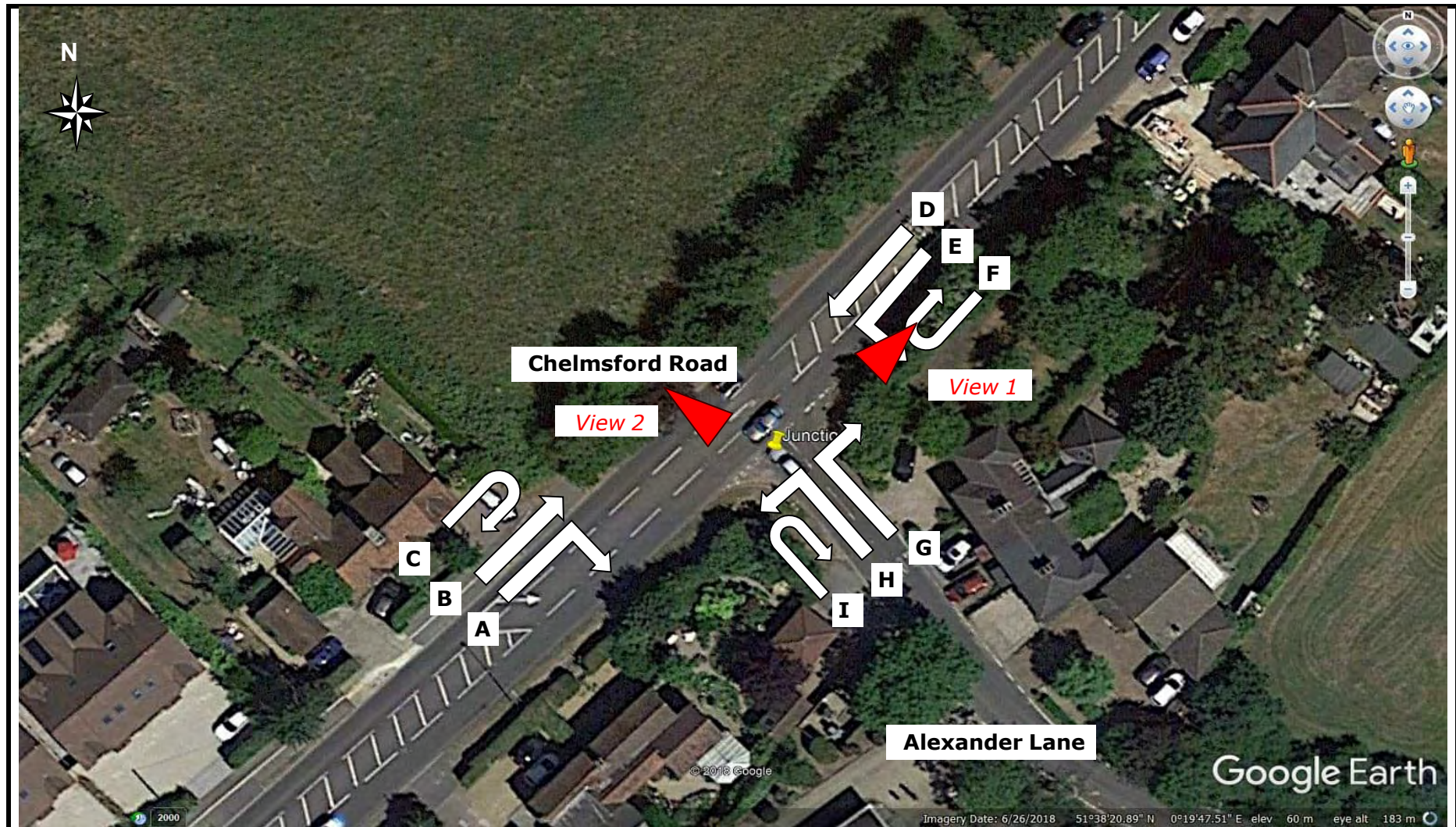
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Job Type: Junction Count

Co-ordinates: 51° 38' 20.75"N, 0° 19' 47.72"E

Postcode: CM15 8RY

Times: 0700-1000  
1600-1900



[illegible]

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Movement I				
OGY1	OGY2	PSY	M/B	Cyc
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



Job Type:

Junction Count

Co-ordinates:

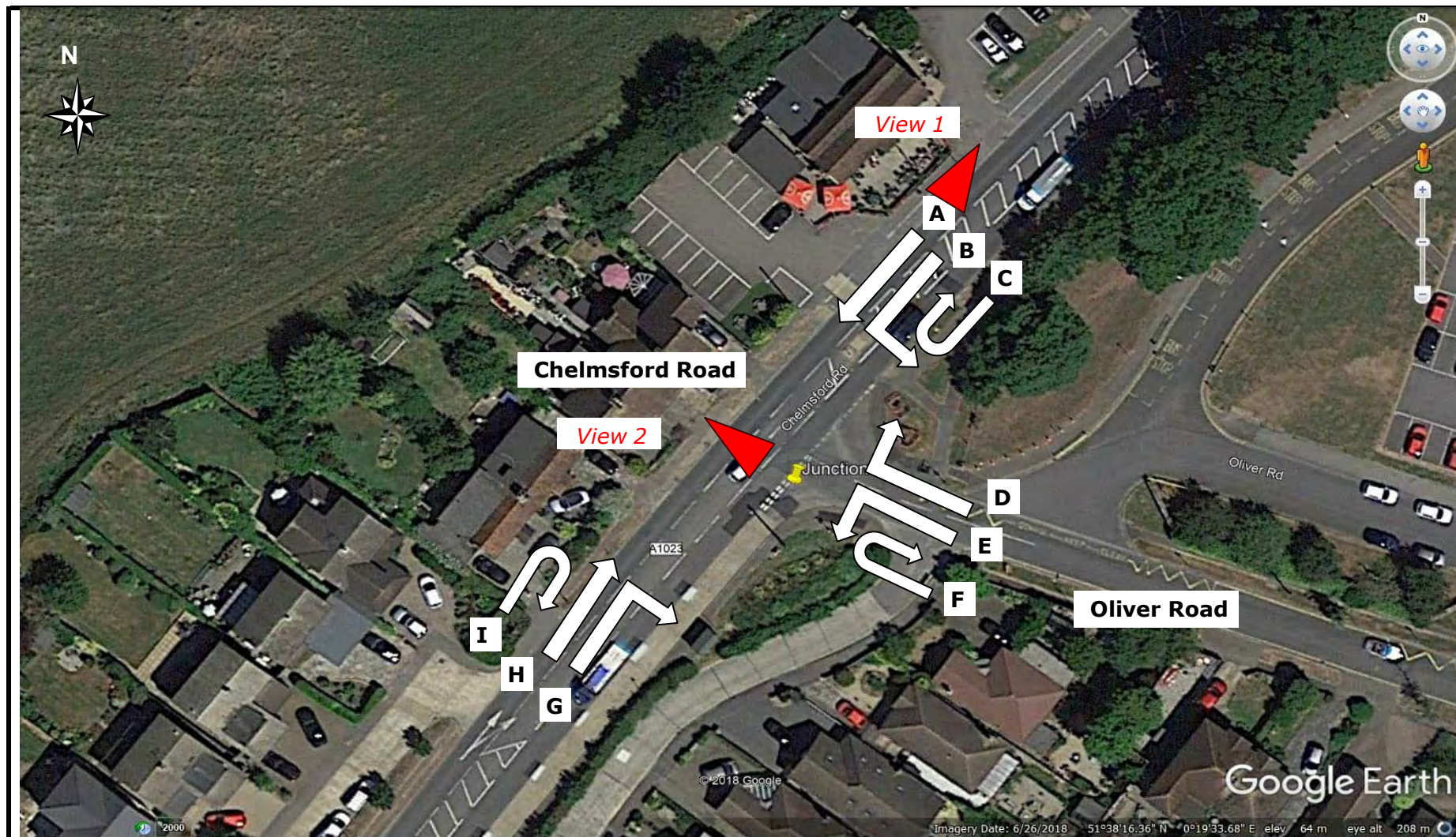
51° 38' 14.57"N, 0° 19' 37.76"E

Postcode:

CM15 8RN

Times:

0700-1000  
1600-1900



[illegible]

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Movement I				
OGY1	OGY2	PSY	M/B	Cyc
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



Job Type:

Junction Count

Co-ordinates:

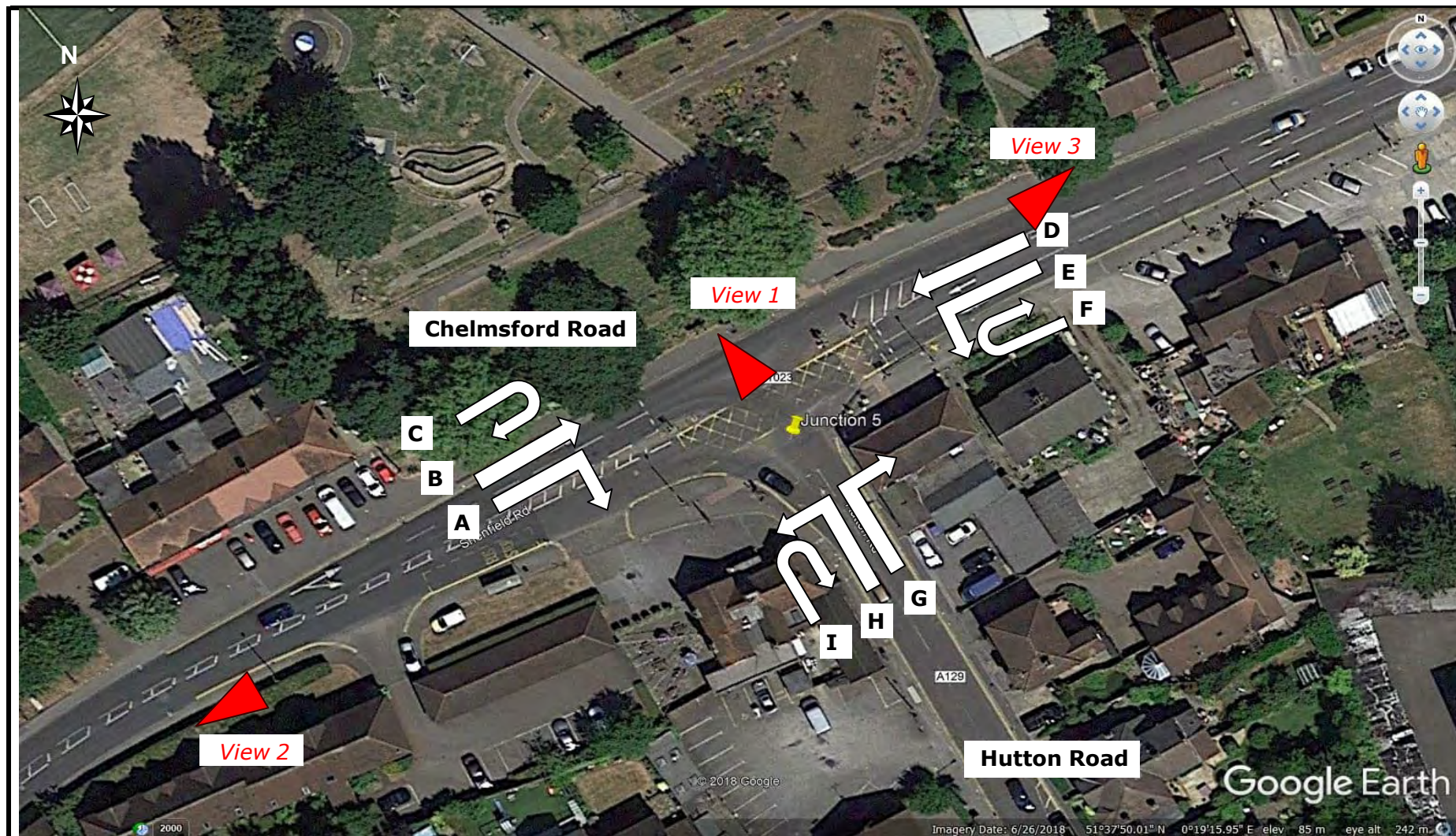
51° 37' 49.93"N, 0° 19' 16.29"E

Postcode:

CM15 8RG

Times:

0700-1000  
1600-1900





#REF! #REF!

#REF!	#REF!
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[illegible]

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Movement I				
OGY1	OGY2	PSY	M/B	Cyc
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

Job Type:

Junction Count

Co-ordinates:

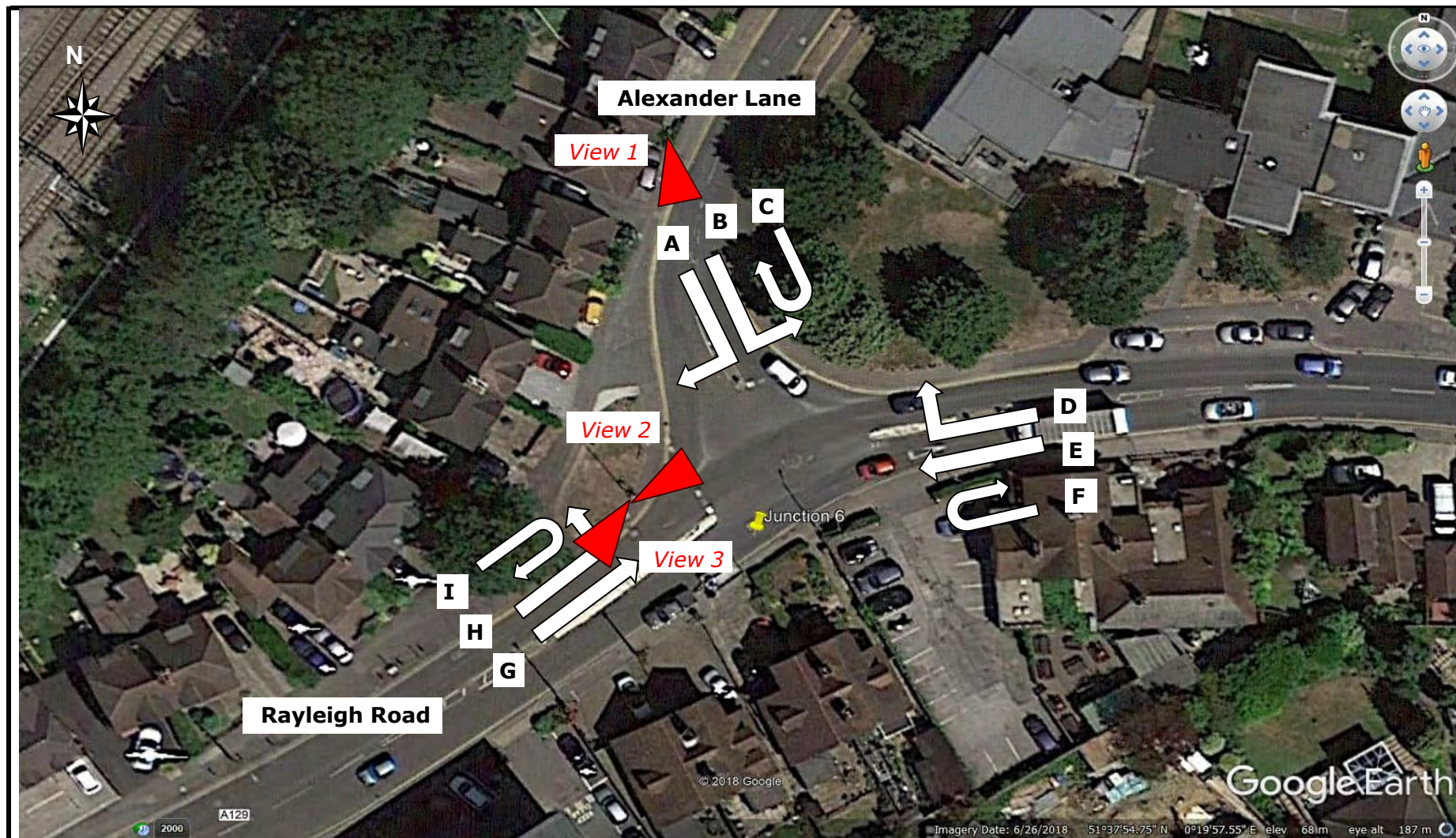
51° 37' 54.37"N, 0° 19' 57.61"E

Postcode:

CM13 1AB

Times:

0700-1000  
1600-1900



	Movement A							Movement B							Movement C							Movement D							Movement E							Movement F							Movement G							Movement H								
Times	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV	OGV1	OGV2	PSV	M/B	Cyc	Cars	LGV							
07:00 - 07:15	45	2	2	0	0	0	0	8	0	0	0	0	0	0	1	0	0	0	0	0	0	14	1	0	0	1	0	0	82	9	0	0	2	0	3	0	0	0	0	0	0	48	7	2	1	1	0	1	17	1	0	0	0	0	0	0	0	
07:15 - 07:30	36	11	0	2	0	0	1	14	7	0	0	0	0	0	0	0	0	0	0	0	0	13	2	1	0	0	1	1	102	7	4	1	3	0	4	3	0	0	0	0	0	68	5	2	1	1	0	0	24	4	0	0	1	0	1	1	0	
07:30 - 07:45	50	7	0	0	0	0	0	25	1	0	0	0	0	0	0	0	0	0	0	0	0	15	1	0	0	0	1	0	93	13	3	0	2	0	2	1	0	0	0	0	0	85	4	2	0	0	0	1	25	2	2	0	1	0	0	0	0	
07:45 - 08:00	52	4	0	0	0	0	0	31	5	0	0	0	0	0	0	0	0	0	0	0	0	21	2	1	0	0	0	0	80	2	0	1	3	0	2	1	0	0	0	0	0	82	11	1	0	0	0	0	41	3	0	0	0	0	0	1	0	
08:00 - 08:15	74	7	1	0	0	0	1	41	7	0	0	0	0	0	0	21	1	1	0	0	0	0	65	13	2	1	2	0	1	65	13	2	1	2	0	1	0	0	0	0	0	77	8	2	0	0	0	1	34	5	2	0	0	0	0	0	0	
08:15 - 08:30	84	6	0	0	0	0	1	45	2	1	0	0	0	0	2	0	0	0	0	0	0	29	1	0	0	0	0	0	93	11	2	0	0	0	2	1	0	0	0	0	0	93	5	4	1	3	1	0	44	3	2	0	0	0	0	1	0	0
08:30 - 08:45	67	7	1	0	1	1	2	61	6	0	0	2	0	0	0	0	0	0	0	0	0	17	2	0	0	0	0	1	81	10	0	2	0	1	0	0	0	0	0	0	0	96	6	4	0	1	0	0	40	2	0	0	2	1	0	0	0	
08:45 - 09:00	51	5	2	0	0	0	0	51	2	0	0	0	0	0	0	0	0	0	0	0	0	22	2	0	0	0	0	0	90	8	2	0	2	0	0	0	0	0	0	0	0	101	12	1	0	0	0	0	34	2	1	0	1	0	0	0	0	
09:00 - 09:15	40	6	0	1	0	0	0	42	5	0	0	0	0	0	0	0	0	0	0	0	0	21	0	0	0	0	0	0	122	11	2	0	1	1	1	0	0	0	0	0	0	98	7	4	1	0	0	1	22	3	1	0	1	0	0	0	0	
09:15 - 09:30	29	4	0	0	0	0	1	40	3	0	0	0	0	0	0	0	0	0	0	0	0	25	2	0	0	0	0	0	93	11	3	0	1	0	2	0	1	0	0	0	0	81	8	2	0	1	0	0	18	3	0	0	1	0	0	0	0	
09:30 - 09:45	25	4	1	0	1	0	1	16	3	0	0	0	0	0	0	0	0	0	0	0	0	12	0	1	0	0	0	0	98	19	3	1	1	0	2	0	0	0	0	0	0	71	11	2	0	0	0	0	26	3	0	0	0	0	0	0	0	
09:45 - 10:00	31	3	0	0	0	0	0	18	2	1	0	0	0	0	0	1	0	0	0	0	0	14	0	0	0	0	0	0	74	14	1	1	0	0	0	0	0	0	0	0	0	53	11	2	0	1	0	0	30	5	1	0	1	0	0	1	0	
10:00 - 10:15	34	3	0	0	0	0	0	31	4	0	0	1	0	0	0	0	0	0	0	0	0	29	4	0	0	0	0	0	93	12	1	0	0	0	0	0	0	0	0	0	0	83	7	3	0	0	0	0	2	25	5	1	0	1	0	1	1	0
10:15 - 10:30	34	3	0	0	0	0	0	45	3	0	0	1	1	0	0	0	0	0	0	0	0	25	0	0	0	0	0	0	75	5	0	0	1	0	0	0	0	0	0	0	0	88	9	0	0	3	0	0	32	5	4	0	1	0	1	2	0	
10:30 - 10:45	22	4	0	0	0	0	0	33	1	0	0	1	0	0	1	0	0	0	0	0	0	47	1	0	0	0	0	0	112	6	0	0	2	0	0	0	1	0	0	0	0	113	11	1	0	1	0	0	28	4	0	0	1	0	1	0	0	
10:45 - 17:00	28	2	1	0	0	0	0	27	1	0	0	1	0	0	0	1	0	0	0	0	0	21	2	0	0	0	0	0	99	4	0	0	1	0	0	0	1	0	0	0	0	93	9	0	2	0	0	0	3	36	4	0	0	0	0	0	4	0
17:00 - 17:15	32	3	0	0	0	0	1	42	3	0	0	0	0	0	0	0	0	0	0	0	0	16	2	0	0	0	0	0	81	6	0	0	0	0	0	0	0	0	0	0	0	90	8	1	0	0	0	0	2	43	4	0	0	2	0	0	1	0
17:15 - 17:30	36	1	0	0	0	0	0	35	3	0	0	0	0	0	1	0	0	0	0	0	0	25	2	0	0	0	0	0	93	6	1	0	4	0	0	1	0	0	0	0	0	103	13	1	0	1	0	2	31	2	0	0	0	1	0	1	0	
17:30 - 17:45	39	1	0	0	0	0	0	41	2	0	0	0	0	0	0	0	0	0	0	0	0	22	2	0	0	0	0	0	85	3	0	0	0	0	0	1	2	0	0	0	0	0	96	3	1	0	1	0	1	32	0	1	0	1	0	2	2	0
17:45 - 18:00	34	1	0	0	0	0	0	50	2	0	0	0	0	0	1	0	0	0	0	0	0	40	0	0	0	0	0	0	97	4	3	0	1	0	1	2	0	0	0	0	0	97	5	1	0	1	0	3	24	1	0	0	1	0	0	2	0	
18:00 - 18:15	41	0	0	0	0	0	0	51	0	0	0	0	0	0	1	0	0	0	0	0	0	22	2	0	0	0	0	0	104	5	0	0	1	0	0	1	0	0	0	0	0	74	4	3	0	0	0	2	31	2	0	0	1	0	0	0	0	
18:15 - 18:30	32	1	0	0	0	0	0	36	2	0	0	0	0	0	1	0	0	0	0	0	0	13	1	0	0	0	0	0	73	4	0	0	2	0	0	1	0	0	0	0	0	111	4	0	0	1	1	3	37	1	0	0	0	0	0	0	0	
18:30 - 18:45	32	0	0	0	0	0	0	28	2	1	0	0	1	0	0	0	0	0	0	0	0	25	2	0	0	0	0	0	77	5	0	0	0	0	0	0	1	0	0	0	0	0	113	6	0	0	0	1	6	42	1	0	0	1	0	1	0	0
18:45 - 19:00	36	1	0	0	0	0	0	34	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0	0	90	9	1	0	1	0	0	0	0	0	0	0	0	98	3	0	0	2	0	0	38	2	0	0	1	0	1	1	0	

--

Movement I				
OGY1	OGY2	PSY	M/B	Cyc
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
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0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

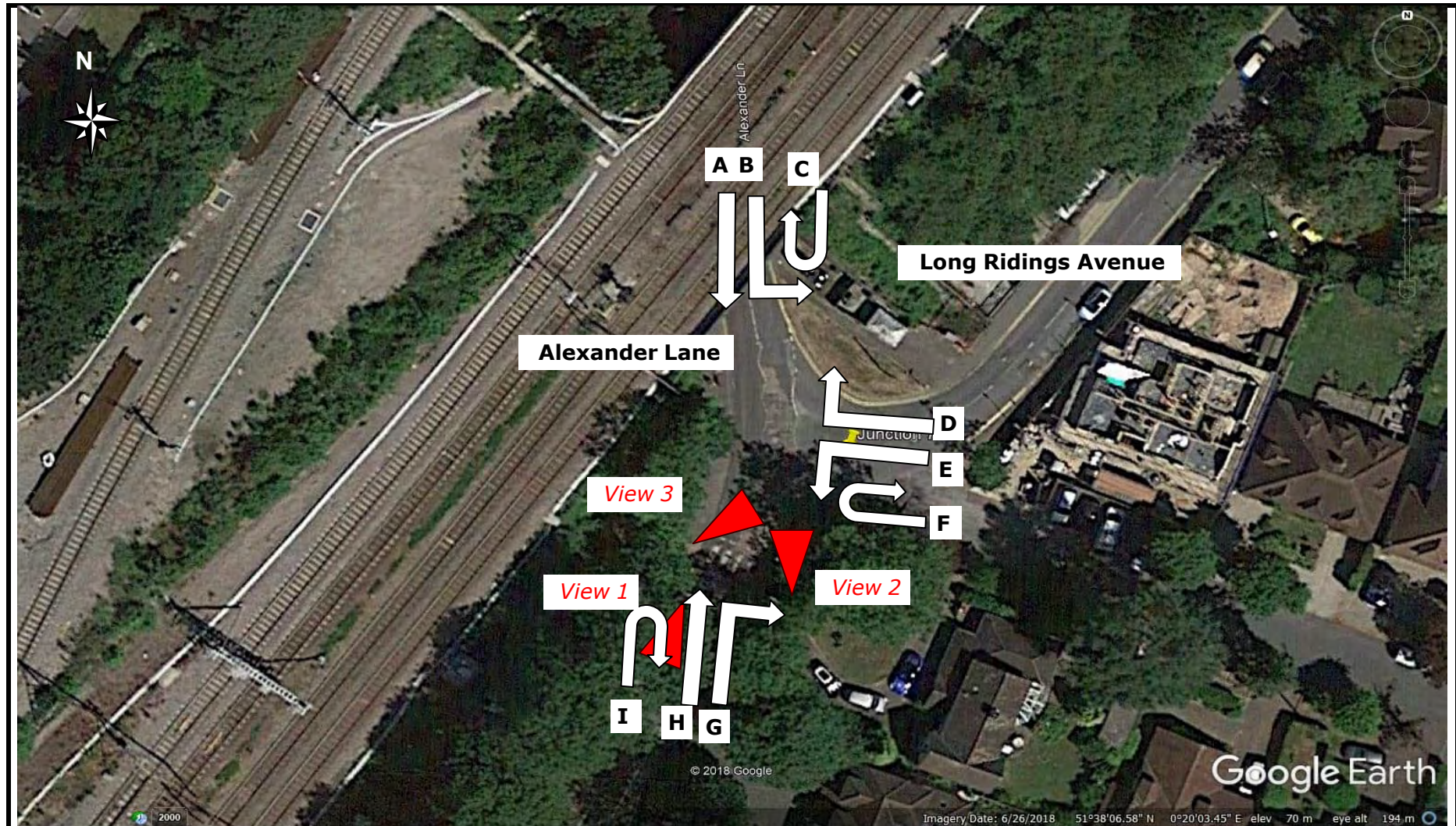


Job Type: Junction Count

Co-ordinates: 51° 38' 5.19"N, 0° 20' 7.37"E

Postcode: CM15 8QF

Times: 0700-1000  
1600-1900



[illegible]

--

Movement I				
00Y1	00Y2	PSY	M/B	Cyc
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0



Advanced Transport Research

#REF!

#REF!

#REF!

#REF!

#REF!

Job Type:

Junction Count

Co-ordinates:

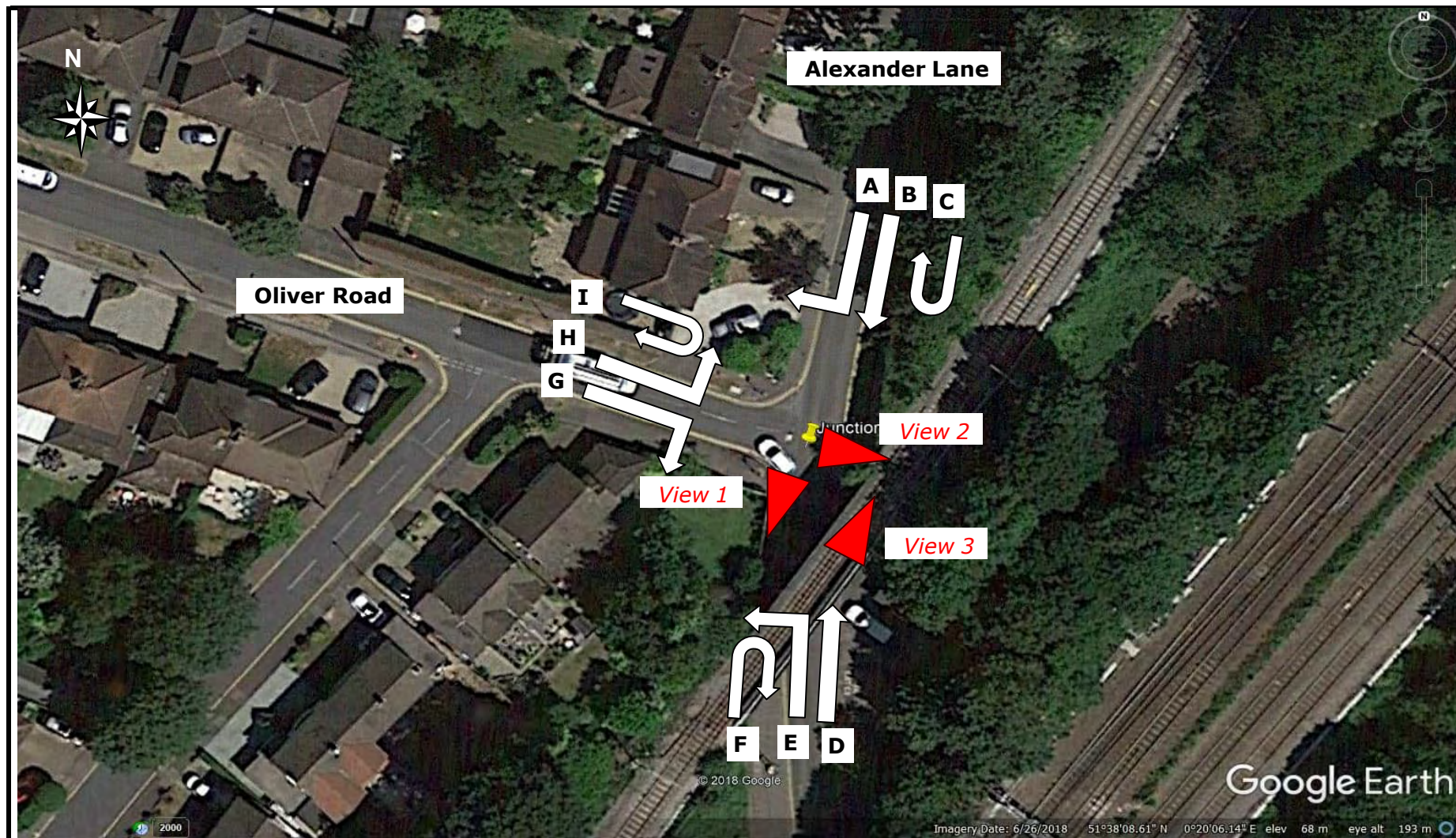
51° 38' 8.51"N, 0° 20' 6.48"E

Postcode:

CM15 8QF

Times:

0700-1000  
1600-1900



[illegible]

--

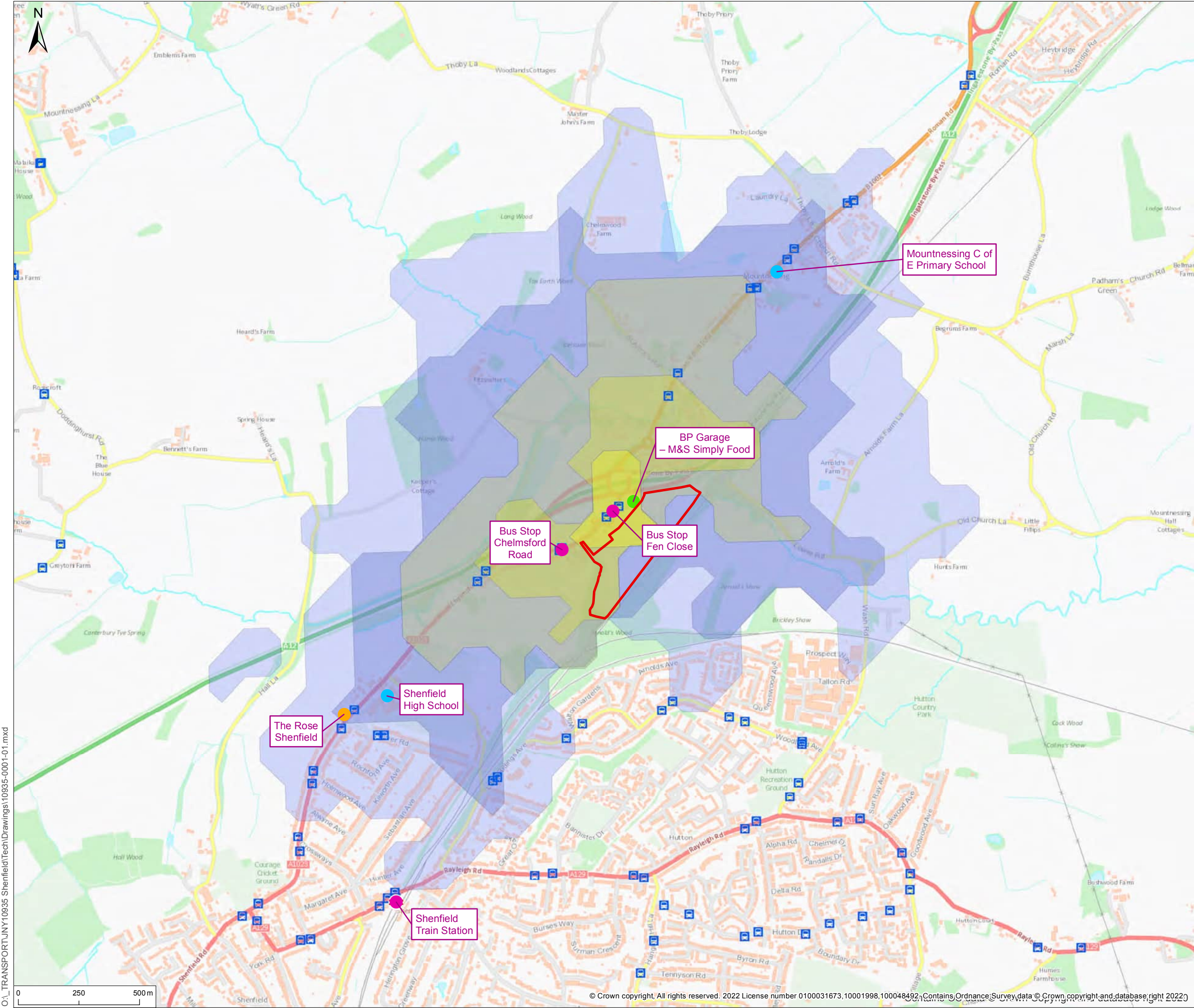
Movement I				
OGY1	OGY2	PSY	M/B	Cyc
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0
0	0	0	0	0

---

## **Appendix 4 – Pedestrian Isochrone and Local Facilities**





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Notes

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**Legend**

- Site Boundary
- 5 minute walk
- 10 minute walk
- 15 minute walk
- 20 minute walk
- 25 minute walk

**Local Facilities**

- Education
- Leisure Facilities
- Public Transport
- Shopping / Retail
- Bus Stop

Rev	Description	By	CB	Date



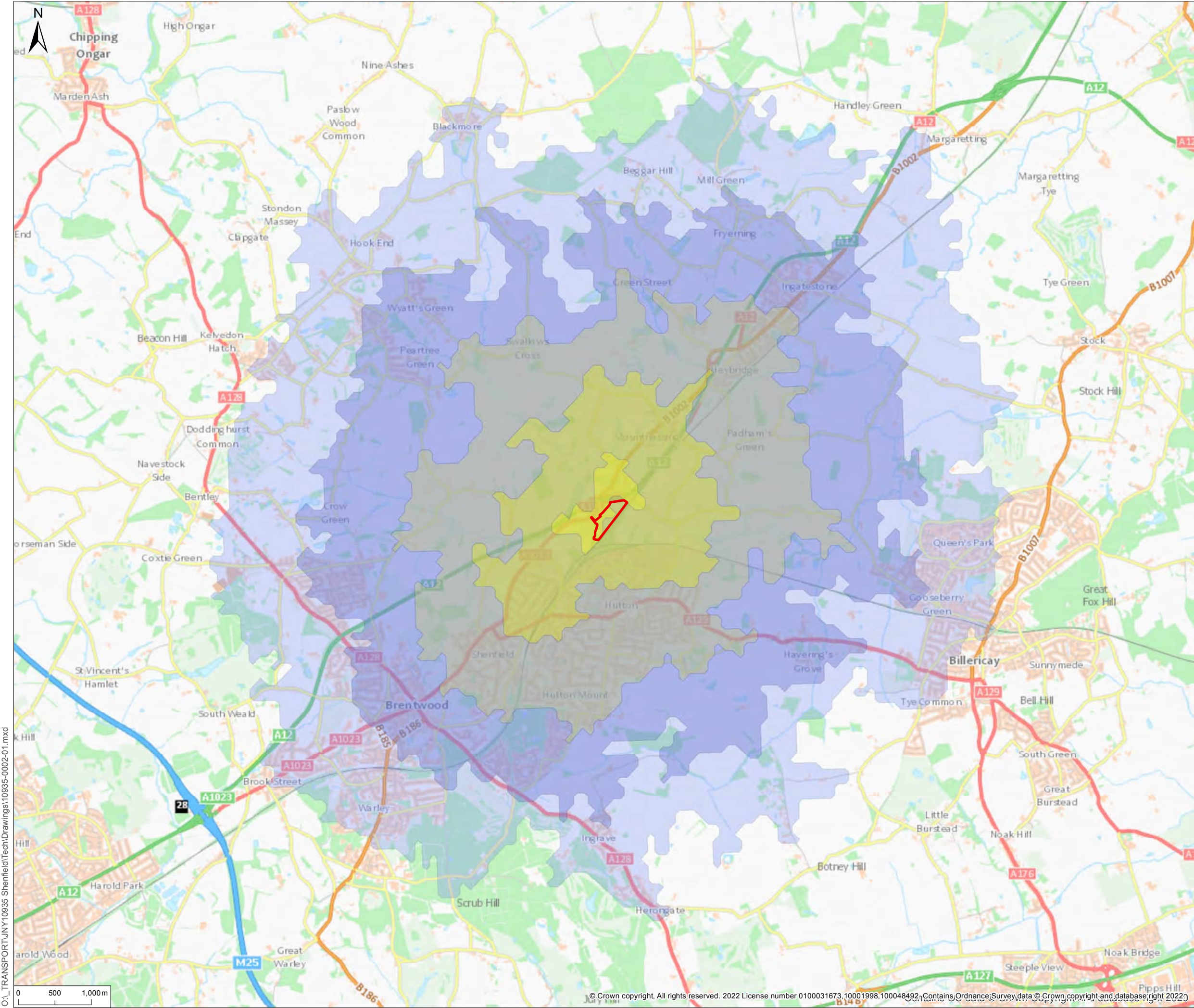
20 Western Avenue, Milton Park, Abingdon, Oxfordshire, OX14 4SH  
T: +44(0)1235 821 888 E: [rps@rpsgroup.com](mailto:rps@rpsgroup.com)

Client	-		
Project	Shenfield		
Title	Pedestrian Isochrone and Local Facilities Plan		
Status	Drawn By	PM/Checked By	
FINAL	JM	LS	
Project Number	Scale @ A3	Date Created	
JNY10935	1:15,000	AUG 2022	
Figure Number	Rev		
1	-		

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## Appendix 5 – Cycling Isochrones





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Legend

- Site Boundary
- 5 minute cycle
- 10 minute cycle
- 15 minute cycle
- 20 minute cycle
- 25 minute cycle

Rev	Description	By	CB	Date



20 Western Avenue, Milton Park, Abingdon, Oxfordshire, OX14 4SH  
T: +44(0)1235 821 888 E: [rps@rpsgroup.com](mailto:rps@rpsgroup.com)

Client -

Project Shenfield

Title Cycle Isochrone Plan

Status FINAL Drawn By JM PM/Checked By LS

Project Number JNY10935 Scale @ A3 1:50,000 Date Created AUG 2022

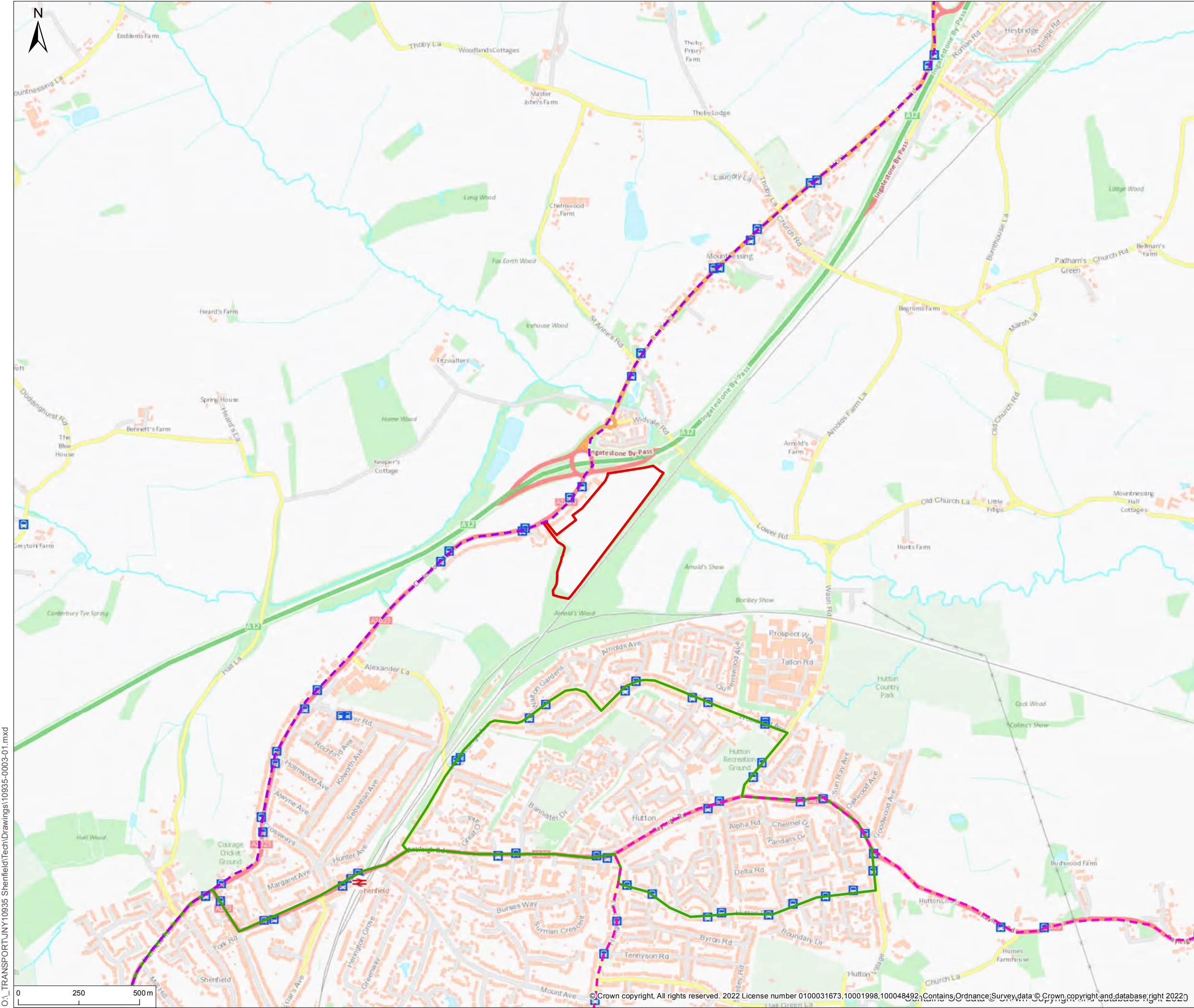
Figure Number 1 Rev -

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## Appendix 6 – Bus Route Plan





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Legend

- Site Boundary
- Bus Routes
  - Route 351
  - Route 81
  - Route 9

Rev	Description	By	CB	Date



20 Western Avenue, Milton Park, Abingdon, Oxfordshire, OX14 4SH  
T: +44(0)1235 821 888 E: [rpsox@rpsgroup.com](mailto:rpsox@rpsgroup.com)

Client -

Project Shenfield

Title Bus Route Plan

Status	Drawn By	PM/Checked By
FINAL	JM	LS
Project Number	Scale @ A3	Date Created
JNY10935	1:15,000	AUG 2022
Figure Number		Rev
1		-

[rpsgroup.com](http://rpsgroup.com)

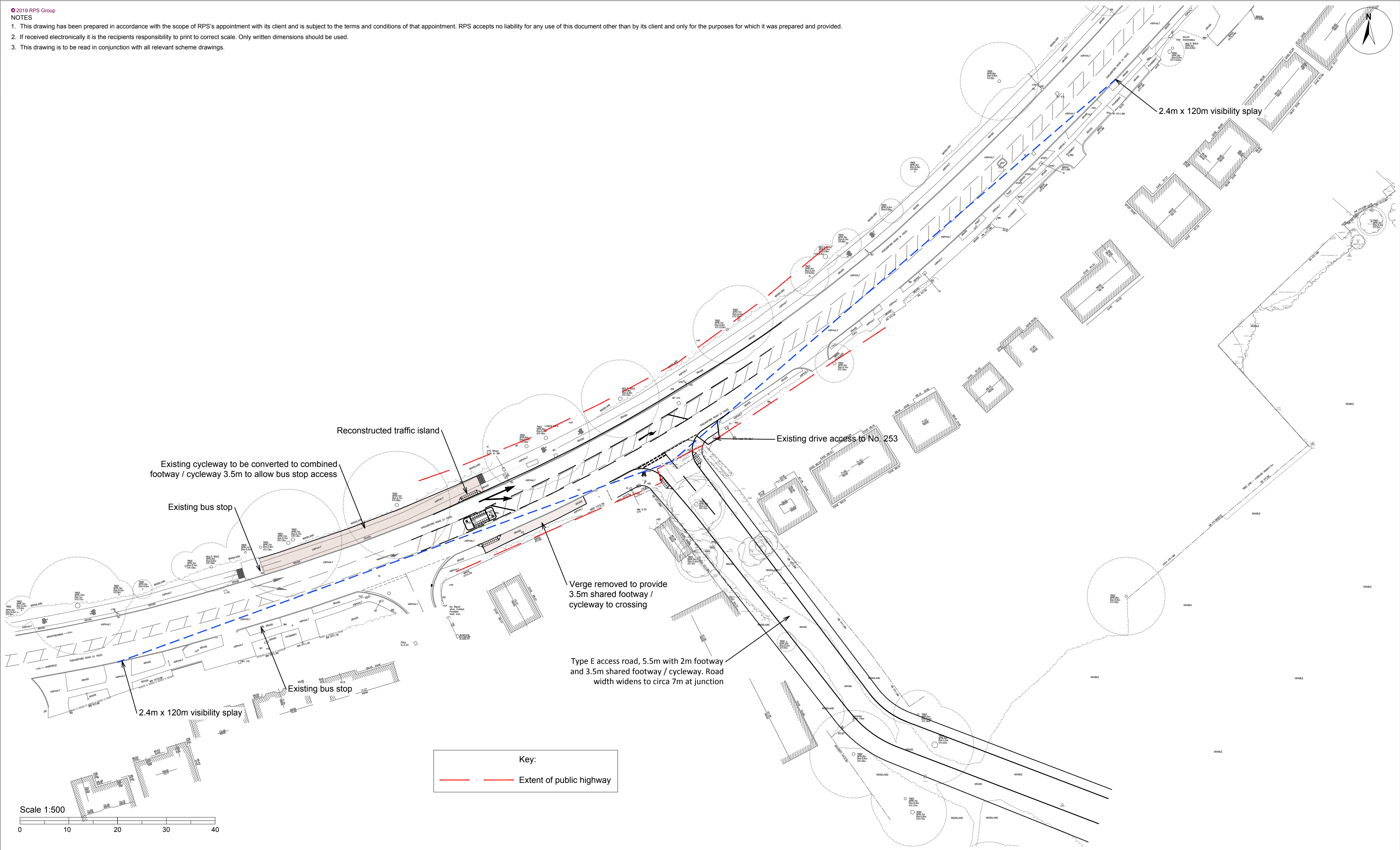
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## **Appendix 7 – Proposed Priority Junction - Ghost Island Right Turn Lane**



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NOTES

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3. This drawing is to be read in conjunction with all relevant scheme drawings.



20 Farringdon Street, London EC4A 4AB  
T: +44(0)20 3691 0500 E: transport@rpsgroup.com

MAKING  
COMPLEX  
EASY

Client Redrow Homes

Project Shenfield

Title Proposed Ghost Island Priority Junction

F	Highway boundary adjusted	AJ	ID	30/08/22
E	Ped crossing reconstructed	AJ	ID	02.08.22
D	Updated Topographical Survey	GM	ID	13.07.22
C	Ped refuse crossing island added and footway widening	AJ	ID	30.06.22
B	Access road tied into internal site	AJ	MSB	08.06.22
A	Access footway widened	AJ	MSB	21.10.21
Rev	Description	By	CB	Date

Status PRELIMINARY  
Project Number JY10935  
RPS Drawing/Figure Number JNY10935-01  
Drawn By AJ  
Scale @ A2 1:500  
PM/Checked by MSB  
Date Created 20.4.21  
Rev F

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## Appendix 8 – Access Tracking Plans