

TRANSPORT & INFRASTRUCTURE PLANNING

HB (South Caldecotte) Ltd
South Caldecotte, V10 Brickhill Street
Danesborough & Walton, Milton Keynes
Transport Assessment

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1.0 INTRODUCTION

Appointment

- 1.1 BWB Consulting Ltd (BWB) has been appointed by HB (South Caldecotte) Ltd (The Client) to prepare this Transport Assessment (TA) report in support of an outline planning application for an employment development. The site is located to the west of V10 Brickhill Street in Danesborough & Walton, Milton Keynes.
- 1.2 The proposals comprise up to 2,600,000 sq.ft. (241,548 sq.m.) of B1(c)/B2/B8 land uses, which include storage, warehouse, distribution, light industrial and ancillary offices. Each unit will be associated with access, parking provision, servicing, groundworks and landscaping. The indicative site layout plan is included in **Appendix A** for reference.
- 1.3 A Framework Travel Plan (FTP) has been prepared as a separate documents in support of the planning application. It is read in conjunction with this TA and relevant national and local transport policies.

Background

- 1.4 The local planning and highways Authority is Milton Keynes Council (MKC), a unitary authority.
- 1.5 The development site is allocated under policy SD14 of MKC's adopted local plan 'Plan:MK' (March 2019) for a mixed employment development of Class B2 and B8. **Figure 1** below shows the allocated site plan.



Figure 1: Allocated Site Plan

- 1.6 In summary, policy SD14 suggests that the proposed development must have a minimum of 195,000 sq.m. of class B2/B8 and ancillary B1 employment floorspace, subject to a TA that details the development's impact on the local highway network including the A5 / Watling Street roundabout and provide footpath connections to Bow Brickhill railway station and the wider sustainable infrastructure.

Scoping Discussions

Traffic Impact

- 1.7 BWB has engaged in pre-application scoping discussions with SMT on behalf of MKC Highways and AECOM on behalf of Highways England (HE) to agree the key parameters of the TA prior to undertaking the junction modelling assessments. Discussions were held with HE as the application site is located adjacent to the A5 trunk road, which forms part of the Strategic Road Network (SRN). The pre-application scoping has included the submission of a scoping note and the Transport Assessment in 2018.
- 1.8 SMT and AECOM reports and relevant scoping correspondence are included in **Appendix B** for reference. Since the original submission a revised version of the Transport Assessment was submitted to MKC at the end of 2018, which in their comments on 21st January identified the following outstanding points:
- The upgrading of the full length of Brickhill Street to grid road standard is not part of the current proposals, although the evidence is sound, this is a policy issue.
 - A Redway is required along the full length of Brickhill Street (in addition to the internal Redway)
 - Frequent, 7-day early morning to late evening, bus service provision needs to be ensured
- 1.9 In addition to the proposed site access, the extent of the study area junctions agreed with MKC Highways are shown in **Figure 2** below.

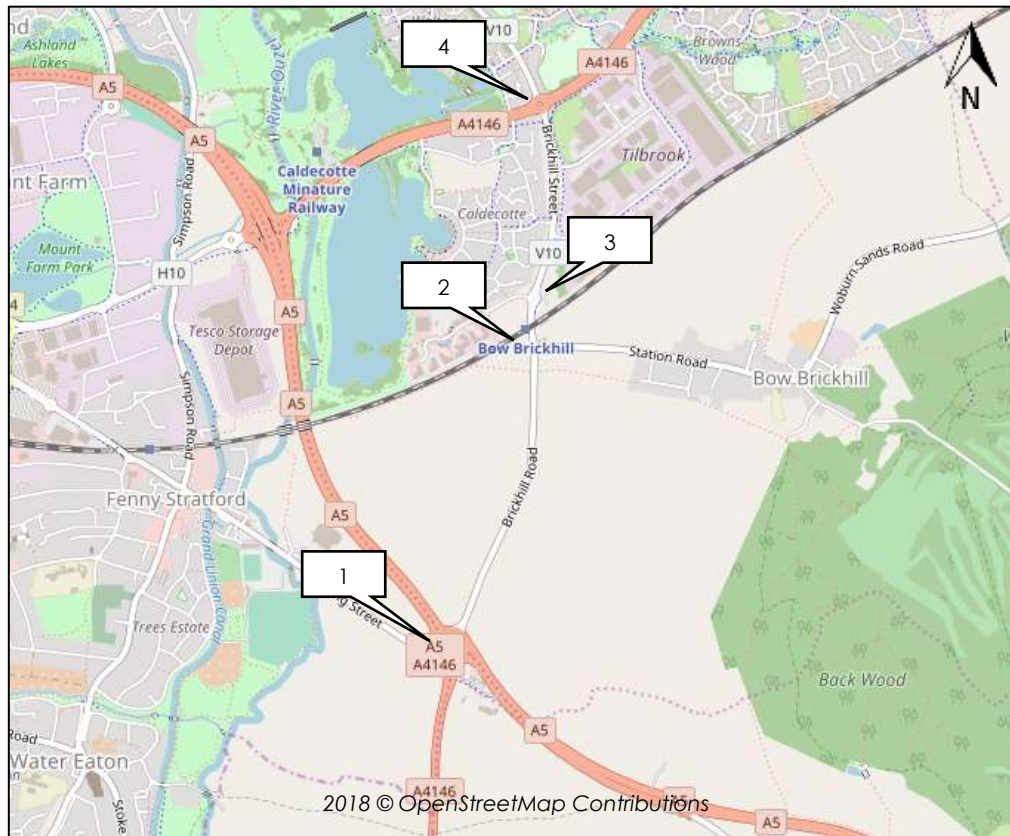


Figure 2: Study Area Junctions

1.10 The above junctions from the south include:

1. A5 / A4146 / Watling Street / V10 Brickhill Street (Kelly's Kitchen Roundabout)
2. V10 Brickhill Street / Station Road mini-roundabout
3. V10 Brickhill Street / Caldecotte Lake Drive (Tilbrook Roundabout)
4. A4146 Bletcham Way / V10 Brickhill Street (Walton Park Roundabout)

1.11 A number of revisions to the VISSIM model of the A5 junction have also been submitted to AECOM since the original submission of the Transport Assessment. In addition AECOM suggested that consideration should be given to the impact of the proposed development on further SRN junctions on the A5 and M1, which is provided.

1.12 Based on a review of the forecast trip generation of the development on the wider SRN BWB considers that the proposed development would not have significant impact on the M1 Junctions 13 and 14 to the northeast of the site, and the wider A5 junctions.

Trip Rates

1.13 To determine the level of traffic generation of the proposed development, BWB provided TRICS trip rates in the original scoping email dated 13th October 2017. The TRICS outputs were further assessed by SMT and AECOM. It was suggested that given the proposed development quantum, alternative trip rates should be considered separately for the B2 and B8 land uses, rather than multi-modal trip rates.

1.14 Both SMT and AECOM provided different vehicular trip rates, whereas the HGV trip rates were agreed. BWB used SMT's higher vehicular trip rates, hence is considered robust assessment in terms of traffic generation of the proposed development.

Traffic Distribution and Assignment

- 1.15 As detailed further within **Section 5.0** of this TA, the forecast traffic distribution of the proposed development was based on 2011 Census 'Location of usual residence and place of work by method of travel to work'. The Middle Super Output Area (MSOA) Milton Keynes 024 has been selected as the 'destination' data and the selected Usual Residence 'origin' data is everywhere else in England.
- 1.16 MSOA Milton Keynes 024 include major employment sites such as Magna Park, and therefore is considered representative in terms of a destination for employment travel similar to the proposed development.
- 1.17 The above would determine the vehicular distribution proportions, however HGV traffic is unlikely to follow the same route and is expected to predominantly use principle roads to/from the proposed development.
- 1.18 Therefore a secondary distribution exercise has been undertaken using traffic count data obtained from Department for Transport (DfT). It is acknowledged that the data is not available for HGV traffic along Station Road, Watling Street and V10 Brickhill Street near the site, however representative data is available for the main trunk roads in the vicinity, including the A5, A4146 south and near Walton Park Roundabout.
- 1.19 Based on the DfT data, it was estimated that 78% of the proposed development's HGV trips would use the A5 via Kelly's Kitchen Roundabout and 22% would use the V10 Brickhill Street and to the north towards the A4146. However SMT suggested that it is not ideal to base HGV distribution on DfT data, as they are based on estimated counts rather than actual data and excludes traffic using Station Road and Watling Street.
- 1.20 Subsequently, SMT has undertaken a snap-short survey at Tilbrook Roundabout and showed that the ahead traffic movements on the V10 Brickhill Street is nearer 50/50 split. As such, it was suggested that the HGV distribution should be reviewed. For robustness, BWB revised the HGV distribution and assumed 60% would use the A5 to the south and 40% to the north along V10 Brickhill Street and towards the A4146 and the M1. This is a worst case sensitivity assessment for the local highway network.

Growth Factors, Assessment Years and Committed Developments

- 1.21 2018 has been agreed as the baseline assessment year, although the baseline traffic surveys were undertaken in October 2017, TEMPro growth factors were applied to identify the 2018 baseline.
- 1.22 To assess the operation of Milton Keynes study area junctions during the peak hours when the proposed development is fully constructed; further TEMPro growth factors were applied to the 2018 baseline to determine the 2023 baseline traffic situation.
- 1.23 As suggested by AECOM, additional growth factors were also applied to the 2018 baseline to determine the 2031 baseline traffic situation for Kelly's Kitchen Roundabout. This is in line with DfT Circular 02/13, which states that *"The overall forecast demand should be compared to the ability of the existing network to accommodate traffic over a period up to ten years after the date of registration of a planning application or the end of the relevant Local Plan whichever is the greater"*. Plan:MK covers the period up until 2031, hence this baseline has been chosen instead of 2028 and in accordance with the above statement.

- 1.24 It should be highlighted that alternative assumptions have been applied to the future growth factors (2023 and 2031) to take into consideration residential developments of up to 1100 units near the site (the considered committed developments are detailed below). The alternative assumptions would result in realistic growth figures of traffic for the local highway network. Again this is detailed further within **Section 5.0** of this TA.
- 1.25 In terms of committed developments, AECOM suggested the land at Eaton Leys development, which included a major highway mitigation scheme for Kelly's Kitchen Roundabout. At the time of writing this TA, the following committed developments were therefore considered:
- Land at Eaton Leys – 600 units (Reference **15/01533/OUTEIS**)
 - Levante Gate: Land south of the A5 – 500 units (Reference **17/03233/OUT**)
 - Red Bull: Land east of V10 Brickhill Street (Reference **17/03361/FUL**)
- 1.26 Whilst the Levante Gate application has recently been refused the site has been kept within the assessment to ensure a robust assessment.
- 1.27 Revised TEMPRO growth factors were provided by SMT for 2018, 2023 and 2031 assessment years. The reason being as BWB previously provided growth factors using TEMPro version 7.0, which was superseded by version 7.2 in March 2017. Although the revised growth factors are marginally higher, BWB have used these factors to assess the impact of the proposed development in the future baseline scenarios.

Framework Travel Plan

- 1.28 A FTP will be submitted in support of the planning application and will be read in conjunction with this TA. The FTP contents are below:
- Summarise of aims, objectives and methodology of the FTP;
 - Summarise overall targets proposed to minimise the number of vehicular trips and increase the proportion travelling by sustainable modes of transport;
 - Summarise indicative travel plan measures to encourage staff and visitors to travel by walking, cycling, public transport and car sharing; and
 - Identify an administration process for monitoring and reviewing the FTP.
- 1.29 MKC Highways and AECOM considered the contents of the FTP to be reasonable, providing that comprehensive measures are in place to reduce the traffic impact of the proposed development and manage the on-site parking demand.

Report Structure

- 1.30 Following the introductory section and as agreed during the scoping discussions with MKC Highways and AECOM; this TA is therefore structured as follows:
- **Section 2: Policy Context** - summarises the key national and local planning policies relating to transport within the context of the scale and location of the proposed development;
 - **Section 3: Existing Conditions** - describes the local highway network and the existing sustainable travel facilities, including a review of current road safety situation;

- **Section 4: Development Proposals** – provides details of the proposed development and access arrangements including a review of MKC parking standards and site servicing arrangements;
- **Section 5: Trip Generation, Distribution and Assignment** – quantifies the estimated trip generation of the proposed development during the peak hours of the highway network and describes how these would be assigned to the study area. Key assumptions relating to background traffic growth, committed developments and assessment years are also detailed in this section;
- **Section 6: Highway Impact Assessment** – details the impact of the proposed development on the local network in terms of road safety and highway capacity;
- **Section 7: Highway Mitigation** – details the committed and proposed highway mitigation schemes which would off-set the traffic impact of the proposed development; and
- **Section 8: Summary and Conclusions** – summarises the findings of the report and offers conclusions in relation to the proposed development impacts.

2.0 POLICY CONTEXT

Introduction

- 2.1 This chapter of the TA examines the context of the application site and how this relates to relevant planning policies and guidelines. It provides an overall spatial and planning context for the development proposal.
- 2.2 The following national and local planning documents have been reviewed:
- The National Planning Policy Framework (2012) and draft framework (March 2018);
 - National Planning Practice Guidance: Transport Evidence Bases in Plan Making.
 - MKC Adopted Local Plan Plan:MK (March 2019);
 - MKC's Parking Standards: Supplementary Planning Document (SPD, January 2016); and
 - MKC's Local Transport Plan 3 (2011-2031);

National Policy

National Planning Policy Framework

- 2.3 In March 2012, the Department for Communities and Local Government published the NPPF document which replaces historical National Planning Policy. This has since been updated and a revised NPPF document was published in July 2018 and the latest in February 2019.
- 2.4 The NPPF constitutes guidance for local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining applications.
- 2.5 Planning law requires that applications for planning permission must be determined in accordance with the local development plan, unless material considerations indicate otherwise. It suggests that encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.
- 2.6 Part 9 of the revised February 2019 NPPF relates to 'Promoting sustainable transport' and highlights the needs for transport issues to be considered from the earliest stages of development proposals, "so that:
- a) the potential impacts of development on transport networks can be addressed;*
 - b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised;*
 - c) opportunities to promote walking, cycling and public transport use are identified and pursued;*
 - d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and considered;*

- e) *patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and continue to make highway quality places."*
- 2.7 In relation to 'considering development proposals', paragraph 108 of the revised NPPF stipulates that in assessing specific application for development, *"it should be ensured that:*
- a) *Appropriate opportunities to promote sustainable transport modes can or have been taken up, given the type of development and its location;*
 - b) *Safe and suitable access to the Site can be achieved for all users;*
 - c) *Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree"*.
- 2.8 In response to the above, the proposed development includes measures as part of the Travel Plan to promote sustainable transport modes. This report demonstrates that safe and suitable access can be achieved by all modes of travel.
- 2.9 Paragraph 109 of the Revised NPPF is key in terms of clarifying when a development should or should not be allowed planning permission. Paragraph 109 reads as follows:
- "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"*.
- 2.10 The outcomes of the TA report demonstrate that the proposal would not have an unacceptable impact on highway safety, neither would the residual cumulative impacts on the road network be considered 'severe'. On this basis, it is considered that the proposed development is planned in accordance with the Revised NPPF policy.
- 2.11 In terms of setting parking standards, paragraph 106 of the NPPF document states that *"Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11 of this Framework). In town centres, local authorities should seek to improve the quality of parking so that it is convenient, safe and secure, alongside measures to promote accessibility for pedestrians and cyclists."*
- 2.12 Local authorities should therefore take into account:
- The accessibility of the proposed development;
 - The type, mix and use of the proposed development;
 - The availability of public transport;
 - The car ownership levels in the area;
 - The need to ensure that adequate parking is provided for low emission and electric vehicle.

- 2.13 In terms of considering developments proposals, the NPPF suggests that where a site becomes allocated for development in the local plan, 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; 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.”*
- 2.14 As such, it is assumed that the above have been considered as the site was allocated under policy SD14 of Plan:MK.
- 2.15 The adopted March 2012 NPPF states that *“Development should only be prevented or refused on transport grounds where the residual cumulative impacts of the development are severe”*. Although the draft consultation NPPF document broadly adopts this statement under paragraph 109, it expands within this context that new developments should:
- First give priority to pedestrians and cyclists both within the scheme and with neighbouring areas, followed by access to high quality public transport facilities;
 - Address the need for people with disabilities and reduced mobility in relation to all modes of transport;
 - Create safe, secure and attractive places by minimising conflicts between pedestrians, cyclists and vehicles;
 - Ensure adequate access is provided for services and emergency vehicles, including efficient delivery of goods; and
 - Be designed to enable safe, accessible and convenient plug-in charging points for ultra-low emission vehicles.
- 2.16 In line with the above policies, this FTP has therefore been prepared to promote sustainable travel to/from the proposed development with the overarching aim to reduce single occupancy business travel, traffic generation and parking demand.

Planning Practice Guidance: Transport Evidence Bases in Plan Making

- 2.17 The NPPF is supported by a range of associated national Planning Practice Guidance (PPG) documentation. This includes advice on 'Transport evidence bases in plan making and decision taking', which provides guidance to assist local planning authorities with assessing strategic transport needs and identify suitable mitigation within Local Plans.
- 2.18 The PPG provides more informative approach to consider the wider impact of a proposed development on the local community in terms of design, air quality, climate change, health and wellbeing.

- 2.19 In terms of transport, the PPG broadly mirrors the NPPF policies on promoting and encourage sustainable developments. This include making the fullest possible use of public transport, walking and cycling.

Local Policy

Milton Keynes Third Local Transport Plan: 2011-2031

- 2.20 MKC's third Local Transport Plan (LTP3) details the council's objectives to deliver sustainable developments and compliment the wider local plan and core strategy. LTP3 adopted seven objectives are as follows:
- *“Provide real and attractive transport choices to encourage more sustainable travel behaviour as Milton Keynes grows;*
 - *Support the economic growth of the borough through the fast, efficient and reliable movement of people and goods;*
 - *Reduce transport based CO2 emissions to help tackle climate change;*
 - *Provide access for all to key services and amenities in Milton Keynes, including employment, education, health, retail and leisure;*
 - *Improve safety, security and health;*
 - *Contribute to quality of life for all Milton Keynes residents, strengthening linkages between communities; and*
 - *Establish a development framework that embraces technological change, in which Milton Keynes can continue to grow, pioneer and develop.”*
- 2.21 LTP3 contains a list of short, medium and long term strategies to be delivered to facilitate the growth in public transport use, walking & cycling and highways & traffic management by improving the capacity at key junctions along the A5.

Milton Keynes Local Plan MK: March 2019

- 2.22 In relation to the proposed development, the site is allocated under Plan:MK policy SD14 for *“Strategic Employment, Land South of Milton Keynes, South Caldecotte”*.
- 2.23 Policy SD14 suggests that the development must accord with the below principles, including being brought forward in line with policies SD1, SD9, SD10, NE1-6, and INF1.
- *A minimum of 195,000m2 of Class B2/B8 and ancillary B1 employment floorspace.*
 - *Access to be taken from Brickhill Street, which will be upgraded to grid road standard.*
 - *The development will be subject to a Transport Assessment, which will investigate the development's impact on the local highway network, including the A5/Watling Street roundabout. The development will contribute to any necessary improvements, as agreed by the relevant highway authorities and Highways England. The Transport Assessment will also set out the basis for effective public*

connections to and from the site to be implemented prior to completion of the development.

- *A green open space link will be created on the site, linking into Caldecotte Lake to the north and providing future opportunity to link the park to the south/east. The open space link should include access and connectivity to Caldecotte Lake with mechanisms in place for its sustainable management over the long term and balancing ponds as part of a Sustainable Urban Drainage system across the site.*
- *Direct footpath connections to Bow Brickhill railway station and the existing Public Right of Way running along the site's northern boundary will be effectively integrated into the development.*
- *Building heights should be informed by the Landscape and Visual Impact Assessment (LVIA) and should avoid unacceptable impact on the wider landscape and heritage assets.*
- *The design and appearance of buildings should be sensitive to the neighbouring uses, with development fronting Brickhill Street being sensitive to views into the site from the wider landscape. Buildings should be designed to provide an attractive entrance to Milton Keynes from the south.*
- *Existing vegetation to site boundaries should be maintained and enhanced to screen the development from wider views where a LVIA deems this necessary. New planting should be of native species to mitigate the loss of hedgerows necessary to facilitate development.*
- *A desktop Archaeological Assessment should be undertaken to understand the likely presence of archaeological remains within the site. The recommendations of the Assessment will be implemented prior to each phase of development commencing. It may be necessary to undertake a field investigation to understand the archaeological potential and significance of this site and to inform the layout of development.*

2.24 The employment development will be complimented by strategic housing developments in the area and new local centres.

2.25 Policy SD13 relates to Land at Eaton Leys, Little Brickhill, for developments of up to 600 units, a local centre, a health centre, land reserved for a 1-form entry primary school, associated highway works including improvements to the A4146 approach to the A5 / A4146 roundabout, sustainable infrastructure improvements and public open space. As mentioned previously, an outline planning application for this site was approved in June 2017 for up to 600 units.

3.0 EXISTING CONDITIONS

Site Location

- 3.1 The proposed development site is located to the east of Bletchley, approximately 6km south east of Milton Keynes Town Centre. **Figure 3** shows the location of the proposed development site and the local highway network.



Figure 3: General Site Location Plan

Existing Use

- 3.2 The existing site currently comprises several agricultural fields bound to the north by the Bletchley to Bedford Marston Vale Railway Line and Caldecotte Lake/Business Park, east by V10 Brickhill Street and agricultural fields, south by the A5 Kelly's Kitchen Roundabout and services and west by the A5 trunk road, a garden centre and agricultural fields.
- 3.3 Vehicle access for the existing site is currently taken from a number of gated farm accesses from V10 Brickhill Street, and the southbound carriageway of the A5 dual carriageway. Pedestrian access can also be taken from public footpath 'Bow Brickhill FP 004' (A&B) which run between Belvedere Lane and Greenways to the east, with links to Caldecotte Lake and V10 Brickhill Street.

Local Highway Network

- 3.4 V10 Brickhill Street is a single carriageway road routing in a north to south direction on the eastern edge of the proposed development. The road is approximately 7m wide and subject to the national speed limit within the vicinity of the proposed development.

- 3.5 There is an existing bend and crest on Brickhill Street that restrict forward visibility. The bend restricts forward visibility to about 60m and the crest to 120m. Drawing **SCD-BWB-GEN-01-DR-TR-003** shows the vertical alignment and drawing **SCD-BWB-GEN-01-DR-TR-004** shows the horizontal alignment of the forward visibility at 215m.
- 3.6 To the north, V10 Brickhill Street leads on to a roundabout with Station Road. Station Road provides a route eastbound, through Bow Brickhill and into Woburn Sands. V10 Brickhill Street continues northbound where a level crossing is present providing access over the railway tracks at Bow Brickhill Railway Station.
- 3.7 V10 Brickhill Street continues to route north through Caldecotte, routing to Bletcham Way and the Milton Keynes grid road system which provides excellent access throughout Milton Keynes.
- 3.8 To the south, V10 Brickhill Street routes to Kelly's Kitchen Roundabout junction with the A5, A4146 and Watling Street. The A5 routes south east towards Luton and the M1, and northwest through Milton Keynes, Towcester and onto the M1. The A4146 routes south towards Leighton Buzzard and Watling Street routes northwest through Bletchley and Milton Keynes.
- 3.9 In terms of the wider highway network, the M1 J14 is located approximately 13.2 km to the north of the site and could be reached in around 12-15 minutes via the A5 / Redmoor Roundabout / A421. M1 J13 is located to the east of the site, approximately 10.6 km, with a journey time of 10-20 minutes via the V10 Brickhill Street / A4146 / A421. M1 J11A is located to the southeast, approximately 19 km and could be reached in around 14-22 minutes via the A5 towards Dunstable.
- 3.10 Overall it is considered that the site is well located for access to the local, regional and national highway network.

Sustainability Infrastructure

Pedestrian Accessibility

- 3.11 The Chartered Institution of Highways and Transportation (CIHT) publication 'Guidelines for Providing for Journeys on Foot' (2000) describes what are considered acceptable walking distances for pedestrians without mobility impairment.
- 3.12 The guidance suggests that for commuting, school, and sight-seeing, up to 500m is the desirable walking distance, up to 1.0 km is an acceptable walking distance, and 2.0 km is the preferred maximum walking distance.
- 3.13 For bus stops in residential areas, 400m has traditionally been regarded as the maximum recommended walking distance. For train stations however, people are willing to walk up to 800m.
- 3.14 **Figure 4** shows 0.5 km, 1 km and 2 km walking isochrones from the site access, covering most of Caldecotte, Bow Brickhill Railway Station and parts of Fenny Stratford.

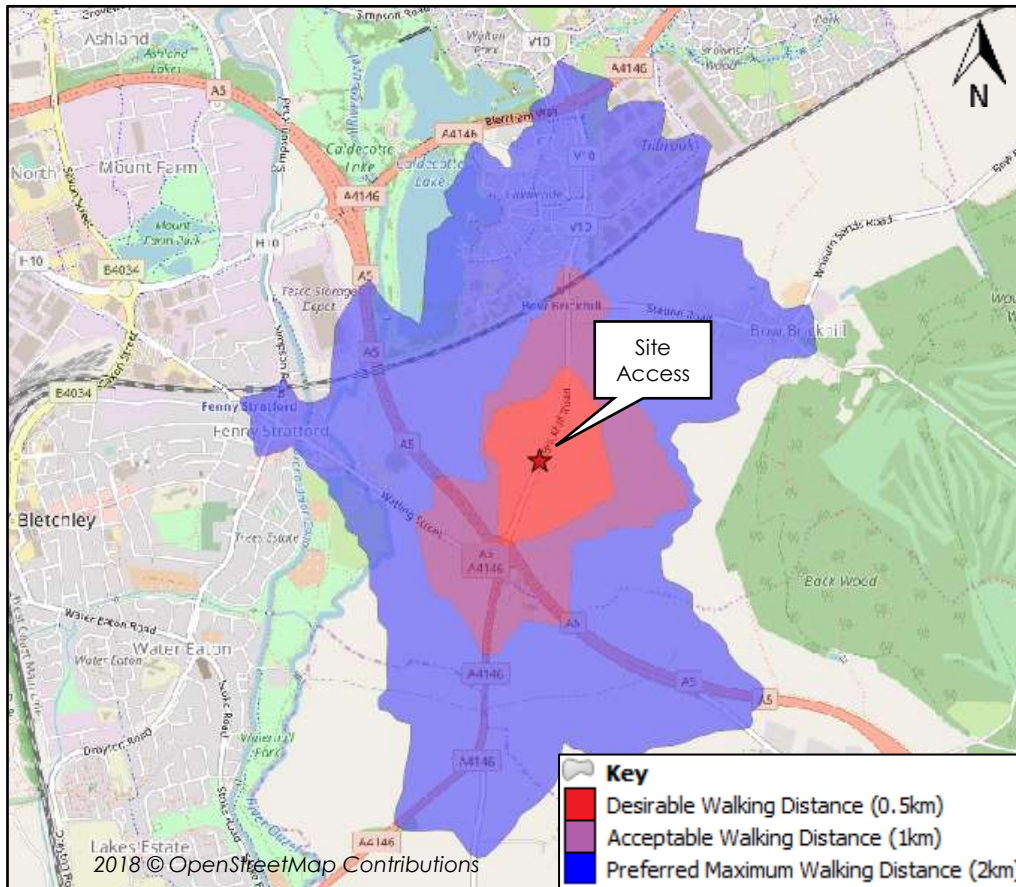


Figure 4: Walking Isochrones

- 3.15 As shown, Bow Brickhill Railway Station is located within acceptable walking distance from the site access. The bus stops located to the north of Station Road are also located on the edge of the acceptable walking distance catchment.
- 3.16 In terms of existing pedestrian infrastructure, footways are not currently provided in the vicinity of the proposed site access along the V10 Brickhill Street. Public footpath Bow Brickhill 004 (A+B) however runs to the north of the site between Belvedere Lane and Greenways to the east, with links to Caldecotte Lake and V10 Brickhill Street near the mini-roundabout.
- 3.17 **Figure 5** shows an extract of Milton Keynes 2018 Redway Map. Redways are shared pedestrian / cycling routes that provide traffic-free links across Milton Keynes. They are generally surfaced with red tarmac and run along grid roads (V10 Brickhill Street) with underpasses or bridges where they meet major junctions.

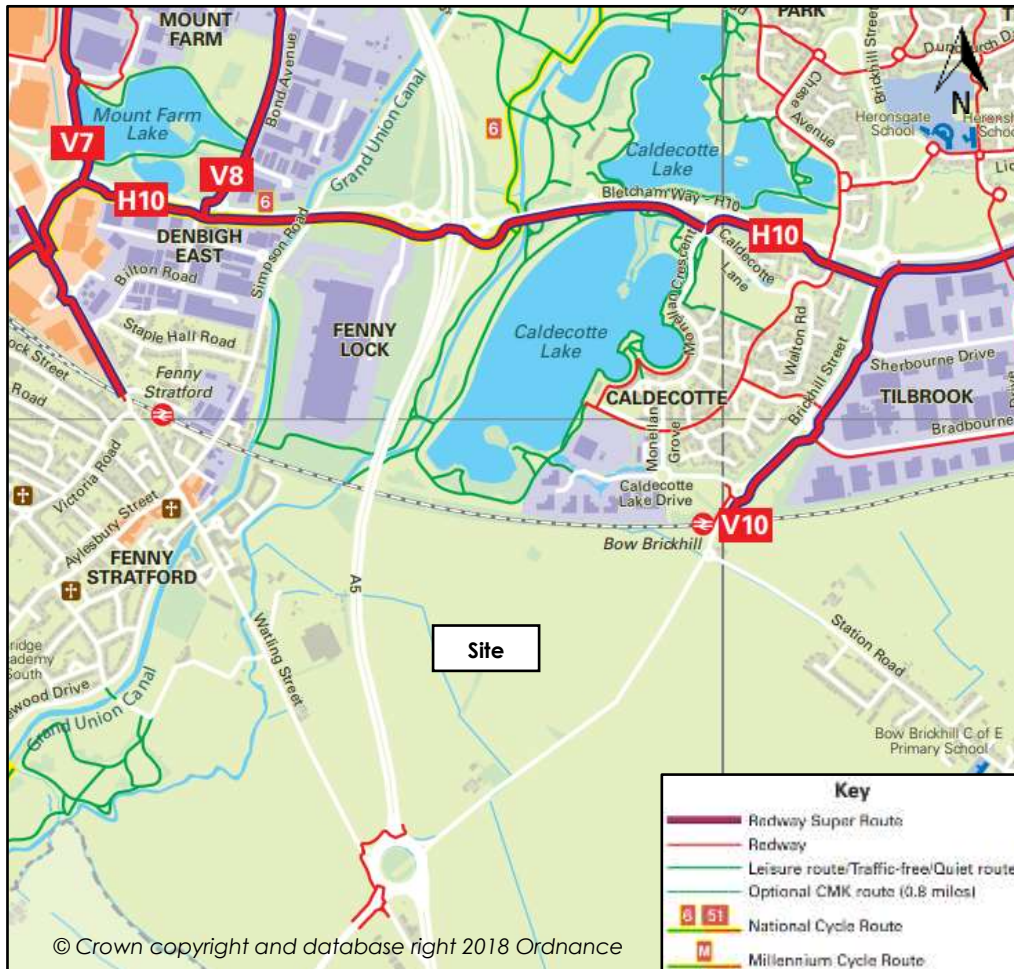


Figure 5: Milton Keynes Redways Plan

- 3.18 As shown, Redway Super Routes are provided along V10 Brickhill Street between Bow Brickhill Railway Station and towards the A4146 Bletcham Way (H10). Both routes connect to local Redways in Caldecotte and Tilbrook. To the south Redways are provided on the northern and western sides of Kelly's Kitchen Roundabout, which link to the footway provision along Watling Street.
- 3.19 **Figure 6** shows the sustainable infrastructure which is not described above. This include public right of ways, footpaths and pedestrian crossing points between the site and the wider Redway network.

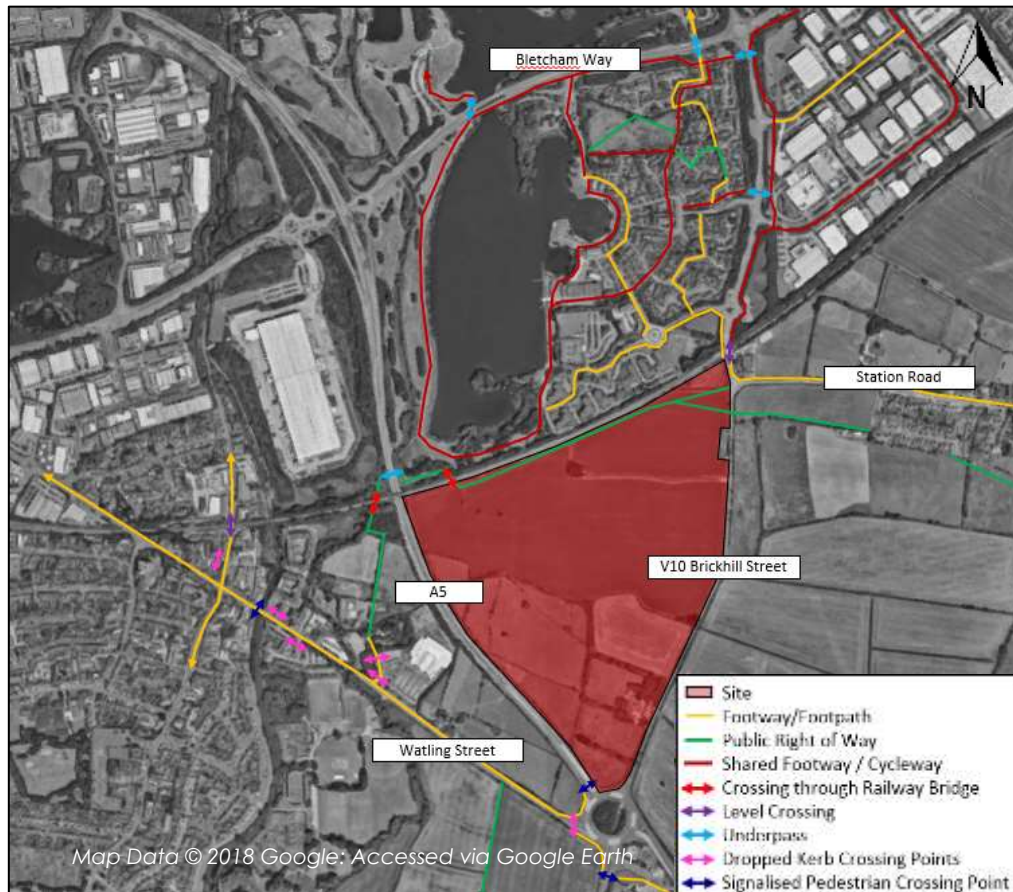


Figure 6: Existing Pedestrian Infrastructure

3.20 Overall, there are good levels of pedestrian infrastructure and crossing facilities available within the vicinity of the site. However, there is an opportunity to improve the pedestrian and cycle connectivity with additional Redways through the site. Such provision is detailed further within **Section 7.0**.

Cycling Accessibility

3.21 DfT's Local Transport Note (LTN) 1/04 suggest that there are limits to the distances generally considered acceptable for cycling. The mean average length for cycling is 4km (2.4 miles), although journeys of up to three times this distance are not uncommon for regular commuters.

3.22 It is widely considered that cycling has the potential to substitute for short car trips, particularly those under 5km, and form part of a longer journey by public transport. Cycling is therefore an important journey to work mode that has the potential to perform a more significant role.

3.23 **Figure 7** shows 1 km, 2.5 km and 5 km isochrones from the site access. It demonstrates that all of Caldecotte, Bow Brickhill, Bletchley, Ashland, Kents Hill and Little Brickhill, and parts of Old Bletchley, Middleton and Oakgrove are within cycling distance to the site.

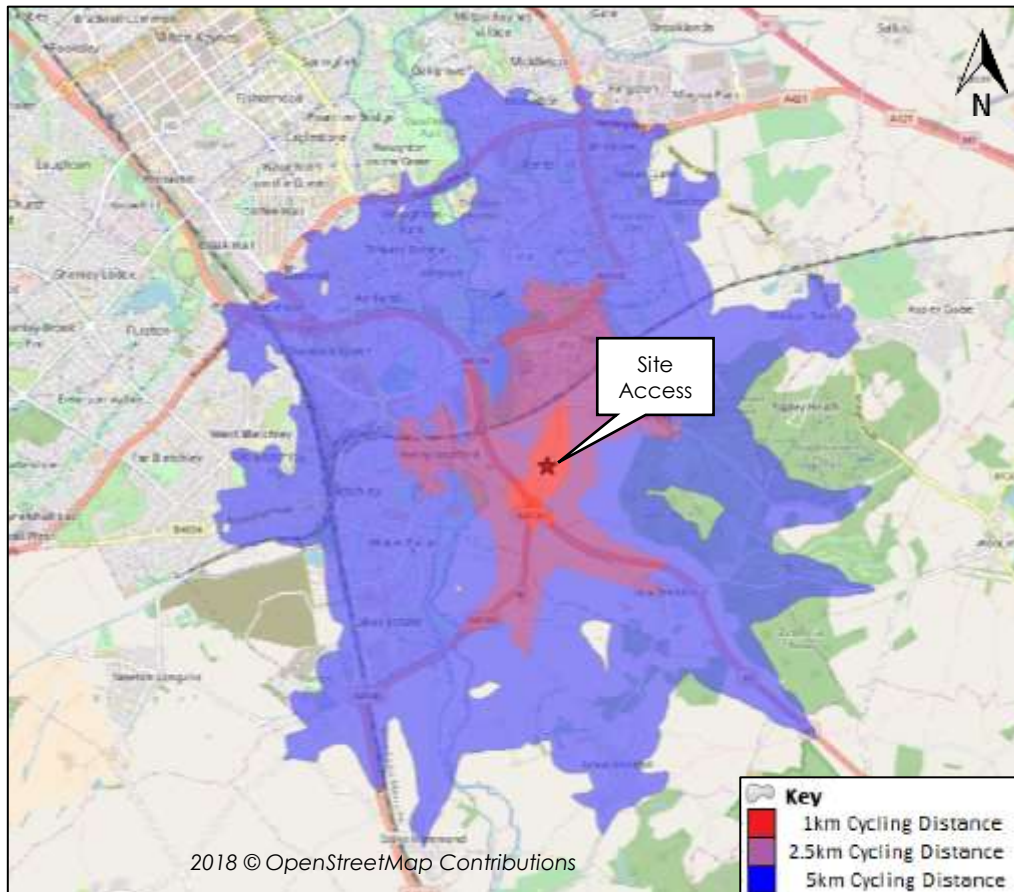


Figure 7: Cycling Isochrones

- 3.24 The cycle routes within the 5 km catchment of the site include on-road and off-road (traffic free) routes, which form part of the Redway network as shown previously within **Figure 5**. National Cycle Route 6 and a number of local leisure routes are located in proximity of the site, around Caldecotte Lake.
- 3.25 The on-road cycle lanes running between Penn Road in Fenny Stratford and Kelly's Kitchen Roundabout (on Watling Street) provide, in combination with the surrounding Redways, good opportunities for cyclists to travel to/from the site and southwest of Milton Keynes.
- 3.26 It is noted that improvements to the pedestrian and cycling infrastructure around the site are committed as part of the Eaton Leys development. Such improvements include extension to the existing Redway near Fenny Stratford Train Station and upgrade of the cycling facilities along Watling Street.
- 3.27 The Eaton Leys development will provide overall improvements to the sustainable infrastructure with on-road and off-road cycle lanes and upgrade of existing network to Redway standards. This would benefit future users of the site in terms of promoting sustainable travel between the residential development, the highway network and the site itself.

Public Transport Accessibility

Bus Travel

- 3.28 In relation to bus accessibility, the Chartered Institute of Highways and Transportation's (CIHT) 'Buses in Urban Developments, January 2018' publication, recommends that the maximum walking distance to 'single high-frequency routes (every 12 minutes or better)' should be 400m. For less frequent bus routes, the maximum recommended walking distance is 300m.
- 3.29 The nearest bus stops to the site are located on V10 Brickhill Street, approximately 560m north of the proposed site access. Bus shelters with table information and laybys are provided on both sides of the road at these bus stops. These bus stops currently only serve rail replacement bus services for Bow Brickhill Station.
- 3.30 Further bus services can be accessed from Station Road and Caldecotte Lake Drive approximately 660m and 780m respectively from the proposed site access.
- 3.31 The bus stops on Station Road are served by bus route 17. The southern side bus stop consists of a bus flag with timetable information on the road verge. The northern side bus stop however has a bus shelter with flag and timetable information on the continuous footway on Station Road. Bus services 11/11A and 12/12A can be accessed via Caldecotte Lake Drive at Caldecotte Business Park.
- 3.32 A summary of the local bus services is provided in **Table 1** below.

Table 1: Local Bus Services Summary

Service	Route (two-way)	Time of Operation & Frequency		
		Weekdays	Saturdays	Sundays
17	Kingston -Woburn Sands - The Brickhills - Bletchley	09:19-16:39 (every 2-3 hours)	09:19-16:39 (every 2-3 hours)	No Service
11/11A and 12/12A	Milton Keynes Central - Kents Hill (12/12A) - Monkston - Open University - Caldecotte	06:30-22:05 (every 30 minutes)	06:27-22:04 (every 30 minutes)	No Service

Source: <https://www.milton-keynes.gov.uk/highways-and-transport-hub/bus-and-taxi/bus-timetables-maps-and-travel-updates>

- 3.33 As shown, bus route 17 operates Monday to Saturday with an average frequency of one bus every 2-3 hours. Bus routes 11/11A and 12/12A offer better accessibility with an average frequency of one bus every 30 minutes. They connect to a number of key public transport hubs, such as Milton Keynes Central railway station and bus station.
- 3.34 At the time of writing, discussions are ongoing with the relevant developers, transport consultants and MKC Passenger Transport Team and Arriva regarding the future public transport provision.
- 3.35 It is likely that this public transport provision would enable additional bus services and bus stops along the V10 Brickhill Street, as it is an arterial route. However until such strategy is confirmed, improvements are required to enhance the accessibility of the site to bus based public transport.

- 3.36 A public transport strategy is therefore proposed for the South Caldecotte development and detailed further within **Section 7.0**.

Train Travel

- 3.37 Bow Brickhill railway station is located approximately 600m (7-9 minutes walking) to the north of the proposed site access. It links to a number of railway stations, including Bletchley to the west and Bedford to the east. **Table 2** shows the direct train journeys to/from Bow Brickhill, including frequency and journey time.

Table 2: Direct Train Services to/from Bow Brickhill

Destination (two-way)	Journey Time	Time of Operation & Frequency		
		Weekdays	Saturdays	Sundays
Bletchley	8-10 minutes	06:47-22:37 (every 60 minutes)	07:06-21:35 (every 60 minutes)	No Service
Bedford, Main	35-37 minutes	06:32-21:08 (every 60 minutes)	06:41-21:08 (every 60 minutes)	No Service

Source: <https://www.thetrainline.com/>

- 3.38 As shown, Bow Brickhill railway station provide direct hourly train journeys to/from Bletchley and Bedford on Weekdays and Saturdays. Although no direct train services are available between Bow Brickhill and Milton Keynes Central, the change is called at Bletchley railway station, with approximate journey time of 18 minutes.
- 3.39 Bow Brickhill is on the Bletchley – Bedford Marston Vale line, hence connecting to a number of railway stations along the line, such as Woburn Sands, Lidlington and Bedford St Johns.

Road Safety

- 3.40 Personal Injury Collision (PIC) data has been obtained from MKC for the latest available five-year period (2012-2017). The study area includes Kelly's Kitchen Roundabout, Walton Park Roundabout and the section of V10 Brickhill Street between both roundabouts.
- 3.41 In total, there were 40 PICs recorded across the study area between June 2012 and July 2017, with 65 casualties. Out of the total 40 PICs, 33 were of 'slight' severity, six were 'serious' and one was fatal. **Table 3** shows PIC locations in terms of the study area junctions. The full PIC data along with severity plot are included in **Appendix C** for reference.

Table 3: PICs at Study Area Junctions (2012-2017)

Study Area Junction	Injury Severity		
	Slight	Serious	Fatal
Kelly's Kitchen Roundabout	17	3	0
V10 Brickhill Street	7	3	1
Walton Park Roundabout	9	0	0

- 3.42 Analysis of these PICs and the impact of the proposed development on the safety of the surrounding highway network are detailed within **Section 6.0** of this TA.

Traffic Surveys

- 3.43 Junction Turning Count (JTC) surveys were undertaken on 18th October 2017 at Kelly's Kitchen Roundabout, V10 Brickhill Street / Station Road mini-roundabout, Tilbrook Roundabout and Walton Park Roundabout.
- 3.44 Queue length surveys were also undertaken on 18th October 2017 on all arms of Kelly's Kitchen Roundabout, Walton Park Roundabout and the approach lanes to Bow Brickhill level crossing. Such data would help validate the capacity models of the roundabouts and identify the level of queuing on Bow Brickhill.
- 3.45 Both the JTC and queue length surveys covered the weekday morning peak period (07:00-10:00) and evening peak period (16:00-19:00). The data was returned in 15-minute intervals for JTCs and 5-minute intervals for the queue lengths.
- 3.46 The data was analysed to identify the weekday morning and evening peak hour of the local highway network. The evening peak hour was between 17:00-18:00 for all three surveyed roundabouts, however the morning peak hour on Kelly's Kitchen Roundabout was between 07:30-08:30, whereas on the V10 Brickhill Street / Station Road, Tilbrook Roundabout and Walton Park Roundabout it was between 08:00-09:00.
- 3.47 It is noted that on the traffic flow diagrams and junction models, the morning peak hour was titled as 08:00-09:00; this is only to highlight the peak hour of the local highway network. The JTC data for 07:30-08:30 was still used for Kelly's Kitchen Roundabout model and distribution, hence assessing the worst case scenario.
- 3.48 In addition, as the proposed development will be mainly serviced by a new roundabout; an Automatic Traffic Counter (ATC) was laid across the V10 Brickhill Street, covering a 7-day period between 14th and 20th October 2017. This is to determine the existing traffic volume, classification and speeds on the carriageway to confirm the design requirements of the proposed roundabout.
- 3.49 The traffic survey data is included in **Appendix D** for reference.

4.0 DEVELOPMENT PROPOSALS

Overview

- 4.1 The proposed development comprises an outline planning application for up 2,600,000 sq.ft. (241,540 sq.m.) Gross Internal Area (GIA) of B1 (c)/B2/B8 employment land uses.
- 4.2 The indicate masterplan presented in **Appendix A** shows an option for how the development site could be laid out with the total floor areas summarised in **Table 4** below.

Table 4: Total Development Schedule

Unit	GIA		Car Parking Provision
	Sq.ft.	Sq.m.	
Total	2600000	241540	2557

- 4.3 The assumed overall development split is B8 land use 80% be B2 land use 20%.

Vehicular Access Arrangements

- 4.4 Vehicular access to the Site for both HGV traffic and non-HGV traffic is proposed to be taken from V10 Brickhill Street via a new roundabout junction. The roundabout design has been considered in accordance with Design Manual for Roads and Bridges (DMRB) standards TD 16/07 Geometric Design of Roundabouts.
- 4.5 It should be noted that there is no defined standard for 'grid road' as there are single and dual carriageway grid roads within Milton Keynes. The key design parameters for grid roads are the provision of wide highway verges and Redways. Such provisions are therefore incorporated into the masterplan.
- 4.6 The roundabout access arrangement is shown in drawing **SCD-BWB-GEN-01-DR-TR-001**, which is included towards the end of this TA. The section along the A5 between the proposed roundabout and towards Kelly's Kitchen Roundabout will be made a dual carriageway. This extends for just under 300m. To the north, the proposed roundabout would tie in with the existing single carriageway section.
- 4.7 In summary, the proposed roundabout would have the following design criteria:
- A normal 3-arm roundabout plus 6.0m wide gated access track.
 - Each arm would have two lane approaches.
 - Inscribed Circle Diameter of 60m.
 - Clearance of 215m for forward visibility along the V10 Brickhill Street and 90m along the site access arm.
 - Splitter Island would be provided on the V10 Brickhill Street northern arm. The site access arm would also have Splitter Island with dropped kerb pedestrian crossing with tactile paving.
 - The V10 Brickhill Street southern arm would have central reservation part of the dual carriageway upgrade.

- 3.0m wide Redways would be provided with 1.0m wide verge separation on the site access arm and 3.0m along the V10 Brickhill Street.
- 4.8 Internal roundabout access arrangements would be also provided to directly serve the larger B8 Units 1 & 2 and the wider development. The geometric design of the internal roundabout would be confirmed at a later stage, however such design would be provided in accordance with DMRB TD 16/07 standards.
- 4.9 MKC Highways have raised concerns regarding the spacing of the site access roundabout to the A5 junction. However, appropriate forward visibility is achievable in all directions and the increased highway provision between the two junctions provides more stacking capacity to accommodate any queuing.

Servicing and HGV Access Arrangements

- 4.10 Given the outline status of the planning application, the internal carriageway, access junctions and service yards are to be confirmed in terms of geometric design and landscape. It is anticipated that detailed / hybrid planning applications would be submitted, specifying the swept path arrangements around each unit and expected number and sizes of articulated / HGV traffic.

Pedestrian and Cyclist Access Arrangements

- 4.11 As shown within the site layout plan, pedestrian links would be provided throughout the site. This include Redway connections to the V10 Brickhill Street, Watling Street and Caldecotte Lake to the north. The precise alignment of the Redway provision is still be agreed with MKC, but a Redway connection between the existing Redways at the level crossing and the A5 junction will be provided.
- 4.12 The existing Redway provision terminates north of the level crossing at Bow Brickhill. Extension of the Redway over the level crossing will be required to connect the Redway to the site. The existing level crossing includes for three lanes of traffic; two northbound and one southbound, and footways both sides (separated from the carriageway by a white line). Highway improvements will be required to extend the Redway across the level crossing. There are a number of options as follows:
- i. Soft improvements (painting/surfacing etc) with cyclist dismount signs for the short section over the railway.
 - ii. Soft improvements with signage stating the Redway is narrow for a short section.
 - iii. Widening the footway to provide 3m Redway over the level crossing and remove one northbound traffic lane.
- 4.13 As demonstrate within **Section 6.0**, the queuing back from the Tillbrook Roundabout on Brickhill Street does not extend as far as the level crossing and therefore reducing the highway capacity will not be detrimental to the capacity of the junction to the north of the level crossing. Reducing the highway capacity will be detrimental to the queue stacking capacity on the approach to the level crossing from the V10 Brickhill Street / Station Road mini-roundabout. Reducing the northbound carriageway to one lane between the level crossing and mini-roundabout will remove queuing space for seven vehicles.

- 4.14 Given that providing a 3m wide Redway provides the safest option for pedestrians and cyclists, and the highway capacity impact is minimal; this option is preferred. BWB drawing **SCD-BWB-GEN-01-DR-TR-002** shows the proposed Redway improvements to the north of the site.

Parking Provision

- 4.15 Owing to the outline nature of the planning application, details of the proposed level of car, HGV and cycle parking across the site will be considered as part of future reserved matters planning applications based on the requirements of future end occupiers, when these are confirmed.
- 4.16 In the interim, this TA considers the level of vehicle parking required based on current standards for the purpose of ensuring that adequate land is allocated for this on-site.
- 4.17 The current car parking standards adopted by MKC are set out in Table 1 of their Parking Standards SPD (January 2016). These are summarised in **Table 5** for the proposed B2 and B8 land uses. B1 Business standards are also included for the provision of ancillary offices in each B2 and B8 unit.
- 4.18 The site is located in Accessibility Zone 4 (Rural Areas) as defined on the Accessibility Zones 1-4 Plan contained in the parking standards document. The application of these standards is to calculate the 'expected' number of parking each unit would have.

Table 5: Milton Keynes Car & HGV Parking Standards Summary

Use Class	Zone 4 (Rural Milton Keynes)
B1 Business	1 per 30 m2
(a) Offices (b) Research Light Industry	B1 (a) (b) and (c) Units over 300 m2 expected to provide one HGV space per 500 m2 or a minimum of one.
B2 General Industrial	1 per 60 + office element as per B1 + 1.0 HGV per 300 m2 or min 1
B8 Storage and Distribution	1 per 100 m2 + office element as per B1 + 1.0 HGV per 300 m2 or min 1
Source: https://www.milton-keynes.gov.uk/highways-and-transport-hub/parking/parking-standards	

- 4.19 In terms of parking provision for electric vehicles; Table 4 in Section 7 of the parking standards document suggest the minimum provision for non-residential developments. For ease of reference these are shown in **Table 6** below.

Table 6: Milton Keynes Electric Vehicles Parking Standards Summary

Car Spaces	Minimum provisions
1-20	0 spaces
21-50	1 space, 1 electric charging point
51-100	2 spaces, 2 electric charging points
1 space and 1 charging point per 100 car parking spaces thereafter	
Note: 10% of car parking provision to have passive provision to allow conversion at a later date	
Source: https://www.milton-keynes.gov.uk/highways-and-transport-hub/parking/parking-standards	

- 4.20 As shown, a minimum of one electric vehicle one charging point should be provided for units of 21-50 spaces, two for units of 51-100 spaces and 1 charging point per 100 car parking spaces thereafter.
- 4.21 A further 10% of car parking should also provide passive provision for electric charge points (i.e. ducting installed) to allow for future conversion as technology progresses and electric vehicles become more popular amongst road users.
- 4.22 Parking spaces near charging points could be marked (EV) so that they are not used by other than electric or hybrid vehicles.
- 4.23 Again, such provision would be confirmed during the design stage and part of reserved matters planning application.
- 4.24 In terms of parking for blue badge holders, MKC's parking standards document suggests that such provision should be in accordance with the government guidelines, Inclusive Mobility (Department for Transport, 2005).
- 4.25 As such, it is expected that a minimum of 5% of the total parking provision should be suitable for blue badge holders. These spaces would be located near the office entry to each unit and designed in accordance with parking spaces layout set out in the parking standards document.
- 4.26 Parking provision for powered two wheelers (i.e. motorcycles, moped etc.) should be provided at a rate of 1 space per 70 total car spaces and with anchorage points.

Cycle Parking

- 4.27 The following design requirements for cycle parking should be taken into consideration during the design stage and as part of reserved matters planning application:
- Long term storage for employees to be within a covered and lockable enclosure.
 - Short term cycle parking to be located in a prominent location close to building entrances.
- 4.28 MKC's parking standards document also detail parking requirements for cyclists. These are set out in Table 2 in the adopted document and shown in **Table 7** below for reference.

Table 7: Milton Keynes Cycle Parking Standards Summary

Use Class	Casual / Visitor Parking	Employee / Resident Parking
B1 Business	Min 2 for visitors and at 1 per 500 m2 thereafter	1 per 120 m2 or 1 per 10 FTE staff
B2 General Industrial	Min 2 for visitors and at 1 per 500 m2 thereafter	1 per 400 m2 or 1 per 10 FTE staff
B8 Storage and Distribution	Min 2 for visitors and at 1 per 1000 m2 thereafter	1 per 700 m2 or 1 per 10 FTE staff
Source: https://www.milton-keynes.gov.uk/highways-and-transport-hub/parking/parking-standards		

Framework Travel Plan

- 4.29 A standalone FTP has been produced for the proposed development and in support of the planning application. The FTP outlines the initial targets and measures aimed at reducing single occupancy car travel to and from the site and encourage travel by sustainable modes of transport, such as walking, cycling and public transport. This would reduce congestion and parking demand generated by the proposed development.
- 4.30 As each unit is developed and end occupiers are identified, individual Travel Plans will be prepared and implemented by a site specific Travel Plan Co-ordinator (TPC). Each Travel Plan should be prepared in accordance with the targets and measures set out in the FTP. Preparation of site specific Travel Plans could be conditioned as part of planning application approval and summited as reserved matters / discharge condition planning applications.

5.0 TRAFFIC GENERATION, DISTRIBUTION & ASSIGNMENT

Introduction

5.1 This section details the approximate volume of traffic the proposed development is likely to generate during the weekday peak hours of the local highway network. The distribution proportions and considered committed developments impact on the study area is also detailed.

Vehicular Trip Rates & Traffic Generation

5.2 In order to determine the likely level of vehicle and multi-modal persons trip generation associated with the proposed development, a traffic generation exercise has been undertaken using 'TRICS Trip Rates'.

5.3 As mentioned in the scoping section, AECOM and SMT provided trip rates for 'Industrial Estate' and 'Warehouse (Commercial)' for the proposed B2 and B8 land uses respectively. In summary the following criteria were applied to extract relevant trip rates:

- Main Land Use: Employment.
- Categories: Industrial Estate (B2) and Commercial Warehouse (B8).
- Selected Regains: South East, South West, East Midlands, West Midlands, Yorkshire & North Lincolnshire, Wales and Scotland.
- Selected Locations Character: Suburban Area (out of Centre) and Edge of Town.
- Categories: Industrial and residential zones.
- Comparable sites area: 10000-24980 sq.m for B2 and 9000-32300 sq.m for B8.
- Separate trip rates for light vehicles and HGVs were obtained.

5.4 AECOM's suggested HGV trip rates and vehicular trip rates for the B2 use were accepted by SMT. However SMT provided higher vehicular trip rates for the B8 use, which were used to determine the traffic generation of the proposed development.

5.5 **Tables 8 and 9** below shows the resultant trip rates. It should be noted that no TRICS outputs were provided by SMT, hence only AECOM TRICS outputs are included in **Appendix E**.

Table 8: Vehicular Trip Rates

Land use and weekday peak periods	Morning Peak (08:00-09:00)			Evening Peak (17:00-18:00)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
Vehicular Trip Rates						
B2 Industrial Units	0.318	0.164	0.482	0.097	0.276	0.373
B8 Warehousing / Distribution	0.107	0.060	0.167	0.036	0.089	0.125

Table 9: HGV Trip Rates

Land use and weekday peak periods	Morning Peak (08:00-09:00)			Evening Peak (17:00-18:00)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
HGV Trip Rates						
B2 Industrial Units	0.015	0.020	0.035	0.007	0.010	0.017
B8 Warehousing / Distribution	0.017	0.019	0.036	0.019	0.020	0.039

5.6 The above trip rates were applied to the relevant land use to quantify the proposed development's traffic generation. A total development floor area of 2,600,000 sq.ft has been used. The traffic calculations are based on 20% of the development being B2 and 80% being B8. This is considered robust, and would also allow for flexibility in the site layout plan at this outline planning application stage. **Table 10** below show the above comparisons respectively.

Table 10: Development Quantum and B1(c)/B2/B8 Split

Rounded-up Development Quantum		Assessed Development Split
sq.ft	sq.m	
213,825	19,865	20% of B2 = 48,310 sq.m
2,386,175	221,683	80% of B8 = 193,238 sq
2,600,000	241,548	Total = 241,548 sq.m

5.7 **Tables 11** and **12** below show respectively the vehicular and HGV traffic generated by both the B2 and B8 uses.

Table 11: Vehicular Traffic Generation

Land use and weekday peak periods	Morning Peak (08:00-09:00)			Evening Peak (17:00-18:00)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
B2 Industrial Units - 20% = 48,310 sq.m.	154	79	233	47	133	180
B8 Warehousing / Distribution - 80% = 193,238 sq.m.	207	116	323	70	172	242
Total (241,548 sq.m.)	360	195	556	116	305	422

Table 12: HGV Traffic Generation

Land use and weekday peak periods	Morning Peak (08:00-09:00)			Evening Peak (17:00-18:00)		
	Arrive	Depart	Two-way	Arrive	Depart	Two-way
B2 Industrial Units - 20% = 48,310 sq.m.	7	10	17	3	5	8
B8 Warehousing / Distribution - 80% = 193,238 sq.m.	33	37	70	37	39	75
Total (241,548 sq.m.)	40	46	86	40	43	84

5.8 As shown, the proposed development is expected to generate approximately 556 and 422 vehicular traffic during the morning and evening peak hours respectively. In

addition, it would generate 86 and 84 HGV traffic during the respective peak hours of the local highway network.

Multi-Modal Split and Person Trip Generation

- 5.9 In order to estimate the number of pedestrian, cyclist and public transport trips associated with the proposed development, the 2011 Census 'Location of usual residence and place of work by method of travel to work' data has been studied.
- 5.10 MSOA E02003482: Milton Keynes 024 has been selected as the 'destination' area, and the 'origin' area selected as everywhere else in England. Milton Keynes 024 includes major employment destinations in proximity of the site such as Magna Park, hence considered comparable to the expected modal split for the proposed development. **Table 13** below shows the resultant method of travel to the local area.

Table 13: Method of Travel to MSOA Milton Keynes 024

Method of Travel to work	Total	Percentage
Underground, metro, light rail or tram	5	0%
Train	29	1%
Bus, minibus or coach	112	4%
Taxi	29	1%
Motorcycle, scooter or moped	27	1%
Driving a car or van	2079	76%
Passenger in a car or van	212	8%
Bicycle	72	3%
On foot	165	6%
Total	2730	100%

- 5.11 Using the above modal split proportions and the traffic generation as 'driving a car or van' identified for the proposed development (**Tables 11 and 12**), the total person's trip generation can be calculated. These are shown in **Table 14** below.

Table 14: Person's Trip Generation

Method of Travel	Morning Peak (08:00-09:00)	Evening Peak (17:00-18:00)
Underground, metro, light rail or tram	1	1
Train	8	6
Bus, minibus or coach	30	23
Taxi	8	6
Motorcycle, scooter or moped	7	5
Driving a car or van	556	422
Passenger in a car or van	57	43
Bicycle	19	15
On foot	44	33
Total	730	554

- 5.12 As shown, the proposed development is expected to generate 38 and 29 public transport trips during the morning and evening peak hours respectively. This include bus and train trips. The development will also generate 44 and 33 pedestrian trips and 19 and 15 cycling trips during the respective peaks.

Traffic Distribution

- 5.13 As mentioned previously, employment developments would be a 'destination' for traffic arriving from a certain region, whereas residential developments would be an 'origin' of traffic departing from the site.
- 5.14 Therefore to establish the appropriate level of trip distribution associated with the proposed development, 2011 Census 'Origin-Destination' data for the local MSOA E02003482: Milton Keynes 024 area has been analysed. Each trip coming to the area (i.e. V10 Brickhill Street) has been assigned to the most direct and fastest route using Google directions.
- 5.15 **Figure 8** show the route drivers are likely to use to travel to/from the site. The detailed 2011 Census Origin-Destination data and route split proportions are included in **Appendix F** for reference.

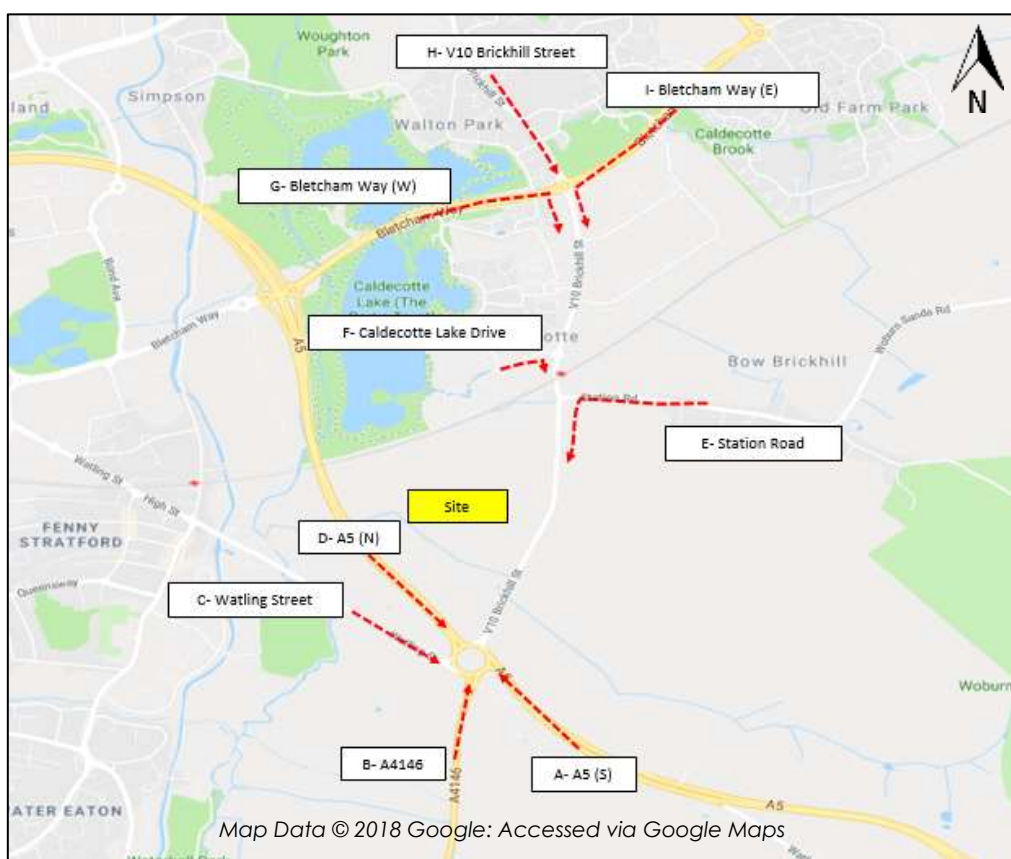


Figure 8: Traffic Distribution Routes

- 5.16 The proposed development's vehicular traffic has been assigned to each of the above routes, hence identifying the traffic direction existing visitors / workers use to travel to the area. **Table 15** show the distribution proportions to each route.

Table 15: Traffic Distribution Proportions per Route

Main Routes	Trips	Percentage
A - A5 (S)	426	21%
B - A4146	159	8%

C - Watling Street	57	3%
D - A5 (N)	712	34%
E - Station Road	138	7%
F - Caldecotte Lake Drive	17	1%
G - Bletcham Way (W)	25	1%
H - V10 Brickhill Street	233	11%
I - Bletcham Way (E)	313	15%
Total	2079	100%

5.17 As shown, in total 66% of existing traffic currently routes via Kelly's Kitchen Roundabout to get to the site. The remaining 34% travels from the north via Walton Park Roundabout, Tilbrook Roundabout and V10 Brickhill Street / Station Road mini-roundabout.

5.18 As for the proposed development's HGV traffic distribution, these have been estimated using DfT's traffic counter points in Milton Keynes in proximity of the site. It is acknowledged that although no data is available for HGV traffic along Station Road and Watling Street, DfT data is available for the main trunk roads in proximity, including V10 Brickhill Street along the site frontage (from ATC survey), the A5, A4146 south and A4146 Bletcham Way near Walton Park Roundabout. These are shown in **Figure 9** below.

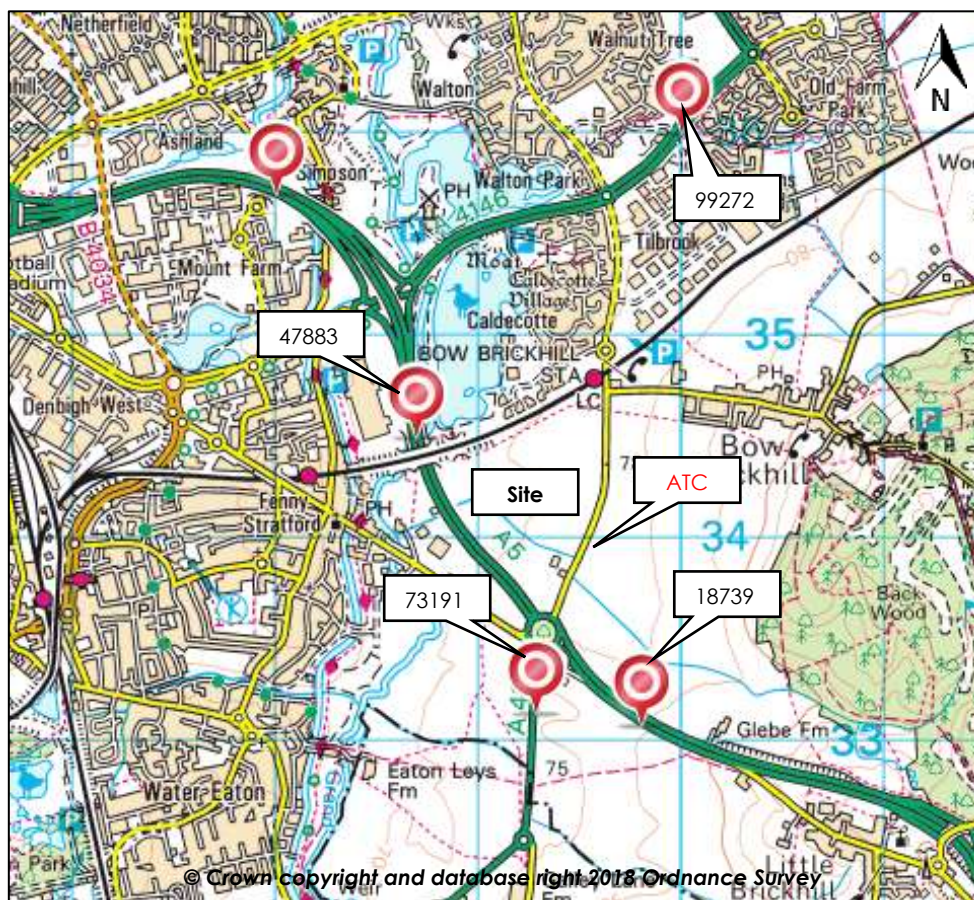


Figure 9: DfT Local Traffic Counter Points

5.19 The Average Annual Daily Traffic (AADT) data for the identified traffic counter points was analysed to determine the percentage of HGV traffic on each route. The full data is included in **Appendix G** for reference and summarised in **Table 16** below.

Table 16: HGV Traffic Distribution

Route Code	Route	AADT	Of which HGVs	HGV Distribution %
A - 18739	A5 South	18739	977	16%
B - 73191	A4146	73191	1864	31%
C - 47883	A5 North	47883	1201	20%
D - 99272	Near Walton Park Rbt	99272	1339	22%
E	Watling Street	N/A	0	0%
F	Station Road	N/A	0	0%
ATC	V10 Brickhill Street	13909	700	12%
Total		252,994	5381	100%

5.20 As shown, out of the total 5,381 HGVs on the selected routes, 67% route via the A5 south, A4146 near Kelly's Kitchen Roundabout and A5 north. The remaining 33% are to the north towards the V10 Brickhill Street and A4146 near Walton Park Roundabout.

5.21 This suggests that the A5 and Kelly's Kitchen Roundabout provide more convenient and direct route for HGV drivers to access the wider network and motorway junctions, including the M1 Junction 11A to the southeast, north towards Milton Keynes and the M1 / M45 to the northwest.

5.22 Nonetheless to provide a balanced approach to the HGV distribution and following discussions with SMT, it was assumed that 60% of the development's HGV traffic would route via Kelly's Kitchen Roundabout and 40% via Walton Park Roundabout. This is a worst case sensitivity assessment for the local highway network. This is to take into consideration missing HGV traffic from Watling Street, Station Road, A4146 Bletcham Way (W) and V10 Brickhill Street near Walton Park.

5.23 Therefore the revised and adjusted HGV traffic distribution is as follows:

- To/from south of the site (Kelly's Kitchen Roundabout):
 - A5 South = 12%
 - A4146 South = 16%
 - Watling Street = 2%
 - A5 North = 30%
- To/from north of the site (Walton Park Roundabout)
 - V10 Brickhill Street (N) = 5%
 - A4146 Bletcham Way (E) = 12%
 - A4146 Bletcham Way (W) = 18%
 - Station Road = 5%

5.24 These proportions have been used to distribute the proposed development's HGV traffic accordingly.

SRN Distribution

5.25 Highways England have requested that the development traffic is assigned to the wider Strategic Road Network (SRN), including the A5 Redmoor, Portway, and Monks

Way junction, and M1 J13 and J14. AECOM have suggested development traffic distributions at the junctions as follows:

- A5 Redmoor Junction – 15%
- A5 Portway Junction – 7%
- A5 Monks Way – 8%
- M1 J13 – 5%
- M1 J14 – 14%

5.26 Using the AECOM distribution, the development traffic has been assigned on the wider highway network. The detail is presented in **Appendix H**. The distribution shows the following traffic flows:

- A5 Redmoor Junction
 - AM peak 62 arrival trips and 38 departure trips
 - PM peak 25 arrival trips and 54 departure trips
- A5 Portway Junction
 - AM peak 39 arrival trips and 29 departure trips
 - PM peak 20 arrival trips and 38 departure trips
- A5 Monks Way
 - AM peak 36 arrival trips and 26 departure trips
 - PM peak 19 arrival trips and 33 departure trips
- M1 J13
 - AM peak 21 arrival trips and 8 departure trips
 - PM peak 13 arrival trips and 18 departure trips
- M1 J14
 - AM peak 58 arrival trips and 24 departure trips
 - PM peak 36 arrival trips and 51 departure trips

5.27 Based on the above traffic flow no further assessment of the impacts on the wider SRN is deemed necessary. It is worth noting that largest traffic flow number above of 62 is the total of movements across the whole junction with the majority travelling through the junction on the A5.

Committed Developments

5.28 BWB has reviewed MKC online planning portal to identify any committed developments in proximity of the site. The relevant TA reports, MKC highways correspondence and highway mitigation schemes were studied.

5.29 **Figure 10** below shows the location of such developments. Each development's site layout plan, relevant traffic flow diagrams and any highway mitigation schemes are included in **Appendix I** for reference.



Figure 10: Identified Committed Developments

5.30 The above developments are as follows:

- Land at Eaton Leys (Reference **15/01533/OUTEIS**)

“Outline planning application with all matters reserved for a residential-led development including up to 1,800 dwellings, distributed between Aylesbury Vale and Milton Keynes as follows: Within Milton Keynes; the development of up to 600 dwellings, a local centre to include retail and a community centre, a health centre, land reserved for a one 1 form of entry primary school, associated highway infrastructure including one proposed vehicular accesses with the A4146, one proposed pedestrian and cycle bridge crossing the river Ouzel, multi-functional public open space, informal amenity space, children’s play space, open space incorporating the scheduled monument, surface water attenuation and strategic landscaping, and associated services and utilities infrastructure. Within Aylesbury Vale; the demolition of all existing farm buildings (except farmhouse) and the development of up to 1,200 dwellings, one 2 forms of entry primary school, associated highway infrastructure including one proposed vehicular accesses with the A4146, one proposed pedestrian and cycle bridge crossing the river Ouzel, multi-functional public open space, informal amenity space, children’s play space, playing fields, allotments, surface water attenuation and strategic landscaping, and associated services and utilities infrastructure. | Land At Eaton Leys Galley Lane Little Brickhill”

- Land south of the A5 (Reference **17/03233/OUT**)

“An outline proposal with all matters reserved for development of land to the south of the A5 and east of the A4146, Milton Keynes for up to 500 homes, including 40% affordable homes; a 1 Form Entry Primary School; a local Centre, open space and associated works | Land At Levante Gate Galley Lane Little Brickhill”

- Land east of V10 Brickhill Street (Reference **17/03361/FUL**)

“Change of use of land to form new access from Tilbrook roundabout, car park, stopping-up of Bradbourne Drive, erection of gatehouses, landscaping, and associated works. | Land East of Brickhill Street V10 Bradbourne Drive Tilbrook Milton Keynes”

- 5.31 It is noted that Eaton Leys development is only committed at the Milton Keynes section, which is up to 600 units. The Aylesbury Vale section of the development, which was up to 1200 units (reference **15/02201/AOP**) has been withdrawn in February 2017. As such, the traffic impact of the Eaton Leys development would only be a 'third' on the assessed study area junctions.
- 5.32 It should be highlighted that the land south of A5 development has been refused on 13th September 2018. However as the refusal was not on highway grounds, BWB has accounted for the traffic associated with this development. This would ensure robust assessment and worst case modelling of the study area junctions.
- 5.33 Other committed developments in the area include Newton Leys (reference **02/01337/OUT**) and land south of Newton Leys in Aylesbury Vale (**10/01535/AOP**). The Newton Leys development comprise up to 1,650 units (with ancillary primary school and local community centre) and employment use of up to 19,050 sq.m. The land south of Newton Leys development comprise up to 350 units, dentist surgery, playing field and associated landscape.
- 5.34 As these developments are mostly built, occupied and being developed in phases with relevant reserved matters planning applications being approved, the associated traffic impact were not considered separately in this TA. Instead, the traffic growth factors had alternative assumptions to take into consideration the background traffic growth in the area, which would reflect the traffic impact of both developments. In addition the traffic surveys undertaken in October 2017 would have accounted for both developments traffic impacting the study area junctions.

Highway Mitigation Schemes

- 5.35 In terms of highway mitigation schemes, part of the Eaton Leys development, a major scheme has been developed for Kelly's Kitchen Roundabout. This has been conditioned under paragraph 2 of the planning approval, as follows:

“No part of the development hereby approved shall be occupied until a Section 278 (of the Highways Act 1980) agreement has been entered into which includes an obligation on the part of Gallagher Estates (the applicant) to pay the cost of implementing the improvement works to the A5/A4146 junction as generally shown on CH2M drawing Number 481693.01/GA01 Revision 2 with an additional sum to cover relevant costs prior to implementation e.g. those associated with agreeing the design, supervision and Road Safety audits 1-4. The Section 278 agreement to which this condition relates shall also include an obligation on the part of Gallagher Estates to undertake the necessary diversion of utility apparatus at a time to be specified by Highways England in advance of the construction by Highways England of the A5/A4146 improvement scheme.”

- 5.36 It is unclear whether a Section 278 has been submitted or approved for the detailed design and construction of this scheme, however it was originally designed to safeguard the roundabout and its ability to accommodate Eaton Ley's development traffic impact. BWB has therefore modelled the impact of the proposed development with the mitigation scheme in place. This mitigation scheme drawing is included in **Appendix I** for reference.
- 5.37 In addition, as part of Land South of the A5 development, a highway mitigation scheme has been identified for Walton Park Roundabout as it was forecasted to operate over-capacity on all future year scenarios.
- 5.38 The mitigation scheme drawing is included within **Appendix I**. In summary, the mitigation includes increasing the flare of the northern approach (V10 Brickhill Street) from 11.6m to 20m with a maintained entry width of 7.12m.
- 5.39 The flare length on the southern approach (V10 Brickhill Street) would be also increased to 31.4m, however the entry width would be reduced from 9.07m to 7.12m as extending the flare on this arm would involve widening the carriageway on the subway bridge, which would require structural analysis to assess its feasibility.
- 5.40 As the position of this mitigation scheme is unknown and the Land South of the A5 development has been refused, BWB prepared a separate model for Walton Park Roundabout with a new mitigation scheme. The results of this model (with and without mitigation) are detailed further within **Sections 6.0** and **7.0**.
- 5.41 A mitigation scheme has recently been committed for Tilbrook Roundabout, part of the Red Bull Racing development at land east of V10 Brickhill Street. The scheme was provided to facilitate the additional diverted traffic (following a stopping up order on Bradbourne Drive) to/from the roundabout and improve access to the site from the east after the removal of the existing car park.
- 5.42 The mitigation scheme drawing is included within **Appendix I** for reference. In summary it includes additional road width and markings on the eastern arm to enhance capacity and allow for HGV movements. The flare length and entry width of the northern approach of Tilbrook Roundabout (V10 Brickhill Street – North) will also be increased to ease HGVs turning left to the site.
- 5.43 It's unknown when this mitigation scheme will be implemented, however BWB have modelled Tilbrook Roundabout with and without the mitigation scheme to determine the impact of the proposed development and how it would benefit from it. The results of which are also included within **Section 7.0**.

Traffic Growth Factors

- 5.44 Traffic growth factors have been applied to the surveyed 2017 peak hour traffic flows to assess the baseline traffic conditions in 2018, development completion year 2023 (expected) and end of local plan 2031.
- 5.45 At first TEMPro version 7.0 has been used to calculate the growth factors. However SMT recommended to recalculate the growth factors by using more recent TEMPro version 7.2. The National Transport Model (NTM) database has been analysed with consideration of local assumptions regarding housing and employment growth. This is a standard approach to estimating future traffic flows.

- 5.46 As a worst case, the Milton Keynes local authority region was chosen as the geographic area, instead of the local MSOA. This is due to the size and the impact the proposed development (and the committed developments) is likely to have on Milton Keynes.
- 5.47 Within the TEMPro database, the following parameters were applied:
- Trip end selection = All purposes
 - Transport mode = Car driver
 - Selected time period = Weekday AM peak period (07:00-09:59) and PM peak period (16:00-18:59)
 - Trip end type = Origin/Destination
 - Area and road type = All
- 5.48 It should be noted that alternative assumptions were applied to take into consideration the residential committed developments already accounted for in this TA. This include up to 1100 units at Eaton Leys and land south of the A5. Therefore the future household assumption for Milton Keynes local authority area has been reduced by 1100 for the future assessments of 2023 and 2031.
- 5.49 No further assumptions or reductions have been applied. This is to take into consideration other major committed developments in the area, such as Newton Leys and land south of Newton Leys sites. **Table 17** show the resultant traffic growth factors.

Table 17: TEMPro 7.2 Growth Factors

Year	Weekday AM Peak Period (0700 - 0959)	Weekday PM Peak Period (1600 - 1859)
2017-2018	1.0167	1.0166
2018-2023	1.0833	1.0838
2018-2031	1.1813	1.1871

Summary

- 5.50 Following the distribution and traffic assignment of the proposed development, considering committed developments and applying the relevant traffic growth factors; the below traffic flow scenarios have been created for reference. These are included towards the end of this TA.
- **Diagram 1** → Trip Distribution Percentages
 - **Diagram 2** → Trip Assignment: Morning Peak (0800-0900)
 - **Diagram 3** → Trip Assignment: Evening Peak (1700-1800)
 - **Diagram 4** → 2017 Baseline Traffic: Morning Peak (0800-0900)
 - **Diagram 5** → 2017 Baseline Traffic: Evening Peak (1700-1800)
 - **Diagram 6** → 2018 Baseline Traffic: Morning Peak (0800-0900)
 - **Diagram 7** → 2018 Baseline Traffic: Evening Peak (1700-1800)
 - **Diagram 8** → Eaton Leys Committed Development Traffic Flows: Morning Peak (0800-0900)
 - **Diagram 9** → Land South of A5 Committed Development Traffic Flows: Morning Peak (0800-0900)
 - **Diagram 10** → Land East of V10 Brickhill Street Committed Development Traffic Flows: Morning Peak (0800-0900)
 - **Diagram 11** → Eaton Leys Committed Development Traffic Flows: Evening Peak (1700-1800)

- **Diagram 12** → Land South of A5 Committed Development Traffic Flows: Evening Peak (1700-1800)
- **Diagram 13** → Land East of V10 Brickhill Street Committed Development Traffic Flows: Evening Peak (1700-1800)
- **Diagram 14** → All Committed Development Traffic Flows: Morning Peak (0800-0900)
- **Diagram 15** → All Committed Development Traffic Flows: Evening Peak (1700-1800)
- **Diagram 16** → 2023 Baseline + Committed Development Traffic: Morning Peak (0800-0900)
- **Diagram 17** → 2023 Baseline + Committed Development Traffic: Evening Peak (1700-1800)
- **Diagram 18** → 2023 Baseline + Committed + Proposed Development Traffic: Morning Peak (0800-0900)
- **Diagram 19** → 2023 Baseline + Committed + Proposed Development Traffic: Evening Peak (1700-1800)
- **Diagram 20** → 2031 Baseline + Committed Development Traffic: Morning Peak (0800-0900)
- **Diagram 21** → 2031 Baseline + Committed Development Traffic: Evening Peak (1700-1800)
- **Diagram 22** → 2031 Baseline + Committed + Proposed Development Traffic: Morning Peak (0800-0900)
- **Diagram 23** → 2031 Baseline + Committed + Proposed Development Traffic: Evening Peak (1700-1800)

- 5.51 **Diagrams 18-19 and 22-23** show the cumulative traffic generation of the proposed development and committed developments added to the future baseline of 2023 and 2031. These represent the worst case scenario in terms of traffic impact and modelling of the study area junctions.
- 5.52 The future baseline assessment of 2023 was to assess the operation of Milton Keynes junctions, which include V10 Brickhill Street / Station Road mini-roundabout, Tilbrook Roundabout and Walton Park Roundabout. The 2031 future baseline was considered to assess the operation of Kelly's Kitchen Roundabout, as it forms part of the SRN for HE.
- 5.53 This is in line with DfT's Circular 02/13, which requires the highway assessment of SRN for up to 10 years following planning application year or end of Local Plan year, whichever is greater.

6.0 HIGHWAY IMPACT ASSESSMENT

Introduction

- 6.1 This section of the TA details the impact of the proposed development on the surrounding highway network in terms of road safety, accessibility and highway capacity on the agreed study area junctions.

Impact on Road Safety

- 6.2 As mentioned within **Section 3.0**, there were six serious PICs and one fatality occurred within the study area. It is therefore necessary to understand the nature of these collisions, including identifying any trends and clusters associated with the extent of the highway network.
- 6.3 On Kelly's Kitchen Roundabout, a total of 20 PICs occurred between June 2012 and July 2017, three of which were serious. These are detailed as follows:
- The first serious PIC took place on the A4146 and involved a cyclist, who was travelling north towards the A5. The cyclist was seriously injured after he was hit from behind by a vehicle travelling in the same direction. Recorded contributory factors including cyclist was wearing dark clothes at night, not displaying lights at night or in poor visibility and failed to look properly.
 - The second serious PIC occurred on Kelly's Kitchen Roundabout was on the circulatory carriageway section between Watling Street and the A5. The collision occurred when a vehicle turning left onto the A5 from Watling Street collided with another vehicle that was on the roundabout in the first lane. The causation factors suggest that the first driver failed to judge other persons path or speed and inexperienced driver, whilst the second driver failed to signal when leaving the roundabout.
 - The third and final PIC occurred on Kelly's Kitchen Roundabout involved one vehicle, which was travelling south from the A5 northern approach. The driver was impaired by alcohol, as mentioned in the causation indicator, and as a result disobeyed automatic traffic signals and lost control whilst navigating the roundabout. The vehicle crossed through the central fencing, rolled and entered a ditch on the central island.
- 6.4 Out of the total 20 PICs, 14 occurred before February 2014, when the roundabout was improved as part of the Newton Leys development to include additional lanes and signalisation of the circulatory and approach lanes. Such improvements included alterations to road markings and additional street lights, which improved the road safety situation on the roundabout.
- 6.5 In addition, as part of the Eaton Leys committed development, a further mitigation scheme has been confirmed for the roundabout which was subject to a stage 1 Road Safety Audit (RSA). During detailed design and implementation, the mitigation scheme would be subject to further stage 2 and 3 RSAs, which would ultimately monitor the road safety situation on the roundabout.
- 6.6 One slight, one serious and one fatal PIC occurred at the bend on V10 Brickhill Street near the mini-roundabout. These PICs are detailed as follows:

- The fatal PIC took place around 500m south of V10 Brickhill Street / Station Road mini-roundabout and involved two vehicles. A female passenger was fatally injured after the driver collided with another vehicle in front travelling in the same direction. The driver of the vehicle in front braked to turn right into a field access to turn around and the driver of the first vehicle failed to react in time and collided with the rear of the second vehicle. The records noted that the driver of the first vehicle (behind) failed to judge other persons path or speed and failed to look properly.
 - The serious PIC also took place south of V10 Brickhill Street / Station Road mini-roundabout, around 450m. The collision occurred after a vehicle hit an animal on the carriageway causing the vehicle to swerve into the opposite lane, hence colliding with an oncoming vehicle. The collision caused the driver of the first vehicle to be seriously injured as a result.
 - The slight PIC took place is a similar location and involved a vehicle travelling north veered into the opposite carriageway, for unknown reasons, and collided with an oncoming car.
- 6.7 From the data provide all three accidents occurred at or close to the bend and the crest has not influenced the accidents. The fatal PIC did not occur due to the impact of the bend in terms of forward visibility as the field access is located to the south of the bend and vehicles were travelling north. Forward visibility was therefore unrestricted. This suggests that the driver of the vehicle behind misjudged the front vehicle's path or speed, hence is likely to be 'driver error'.
- 6.8 The serious PIC on the bend took place as a result of wildlife (deer) running into the path of a vehicle travelling northbound. This has caused the driver to swerve into the opposite lane and colliding with an oncoming vehicle. This would be omitted in the future as a result of the proposed development, where there would be less wildlife in the area.
- 6.9 Therefore only the slight accident could be attributed to the bend but the details suggest that the vehicle is travelling too fast for the bend rather than restricted forward visibility. Whilst forward visibility is restricted along the V10 Brickhill Street bend, it is clearly not the primary reason for the accident cluster in this location. However, mitigation is proposed to improve forward visibility, as set out within **Section 7.0**.
- 6.10 Two additional serious PIC occurred further afield along the V10 Brickhill Street. These are detailed as follows:
- The first serious PIC occurred around 390m north of Kelly's Kitchen Roundabout and involved a motorcyclist, who was seriously injured as a result. The collision took place when a driver of vehicle queuing on the V10 Brickhill Street southbound performed a U-Turn which caused the motorcyclist, who was travelling northbound, to brake and fall from his motorcycle. The records noted that the driver failed to look properly, failed to judge other person's path or speed and dazzling sun. Other possibilities include slippery road (due to weather) and sudden braking.
 - The second serious PIC took place around 180m to the north of Tilbrook Roundabout and involved a cyclist, who was travelling south on the V10 Brickhill Street. A bus/coach was travelling in the same direction and was in process of overtaking the cyclist, who swerved to the right and collided the nearside of the bus/coach. Contributory factors suggest that the cyclist was impaired by alcohol / drugs (illicit or medicinal) which resulted in poor turn or manoeuvre.

- 6.11 Although the contributory factors have indicated that the above PICs occurred due to driver or road user error, the proposed roundabout on the V10 Brickhill Street, which would serve the proposed development, would benefit the highway network in terms of accessibility, capacity and road safety. The roundabout arrangement is shown in drawing **SCD-BWB-GEN-01-DR-TR-001**, and would be subject to the relevant RSAs.

Traffic Impact Assessment

- 6.12 In addition to the proposed site access roundabout, the extent of the study area junctions agreed with MKC Highways are as follows:
1. A5 / A4146 / Watling Street / V10 Brickhill Street (Kelly's Kitchen Roundabout)
 2. V10 Brickhill Street / Station Road mini-roundabout
 3. V10 Brickhill Street / Caldecotte Lake Drive (Tilbrook Roundabout)
 4. A4146 Bletcham Way / V10 Brickhill Street (Walton Park Roundabout)
- 6.13 The Bow Brickhill signalised level crossing has also been assessed in term of observed queuing following the level crossing surveys undertaken on 18th October 2017.
- 6.14 The traffic impact on the proposed roundabout, V10 Brickhill Street / Station Road mini-roundabout, Tilbrook Roundabout and Walton Park Roundabout has been assessed using TRL industry-standard modelling software Junctions 9 (PICADY/ARCADY 9).
- 6.15 PICADY and ARCADY models return results in Ratio of Flow to Capacity (RFC) and queuing in each 15-minute time segment, measured in the number of Passenger Car Units (PCUs).
- 6.16 RFC values between 0.00 and 0.85 indicate satisfactory operating conditions, values of between 0.85 and 1.00 represent variable operation (i.e. queues building at the junction resulting in increased vehicle delay moving through the junction). RFC values in excess of 1.00 represent overloaded conditions.

Kelly's Kitchen Roundabout

- 6.17 In February 2014, a mitigation scheme was completed for Kelly's Kitchen Roundabout as part of the Newton Leys development.
- 6.18 The mitigation provided additional lanes and signalisation of the circulatory carriageway and approach lanes, alterations to the road markings, additional street lights and Redways between the A5 north, Watling Street and A4146.
- 6.19 However in order to safeguard Kelly's Kitchen Roundabout for future developments in the area, additional mitigation scheme has been prepared part of the Eaton Leys committed development. This is illustrated in **Figure 11** below.

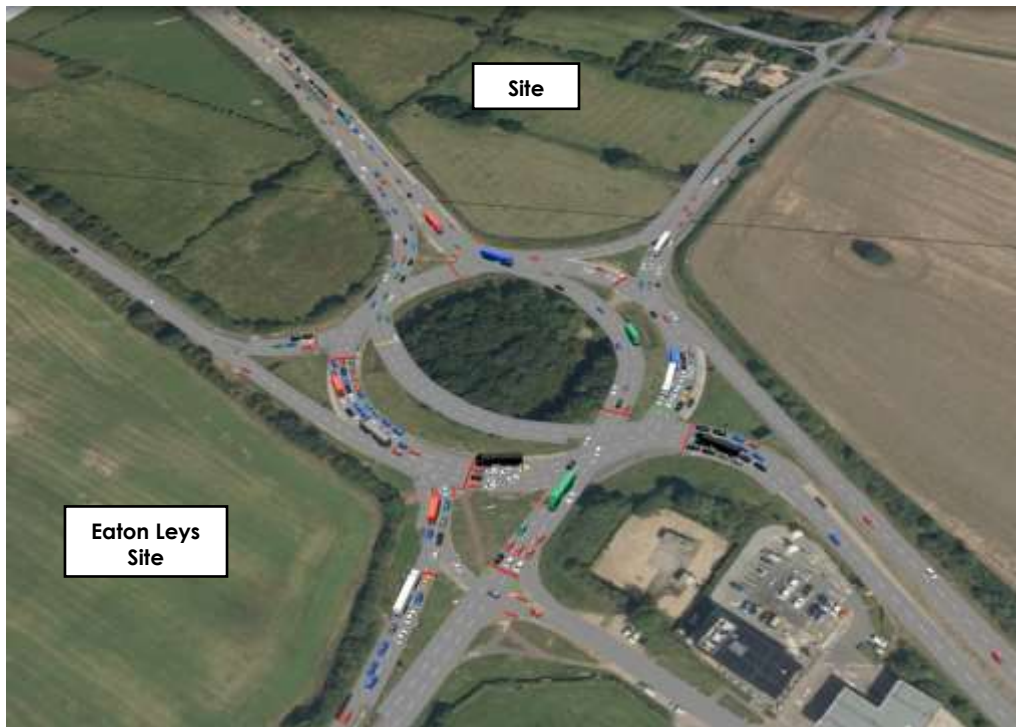


Figure 11: VISSIM Model – Kelly's Kitchen Roundabout

- 6.20 The roundabout has been modelled with this mitigation using a PTV VISSIM model developed by BWB. PTV VISSIM is a microscopic, time-step, behaviour-based simulation tool developed to model traffic and public transport operations.
- 6.21 VISSIM models individual vehicles and presents these movements visually, assisting in model validation and in the assessment of the performance of network improvement options. In addition, VISSIM uses gap acceptance model theories for give-way junctions, reflecting driver behaviour and utilises signal specifications obtained from signal modelling tool such as LinSig.
- 6.22 Similar to Junctions 9, VISSIM could present resulting queues, delays and journey times on identified routes. VISSIM also enables videos to be produced, hence providing a useful visual simulation of the highway network.
- 6.23 Therefore BWB modelled Kelly's Kitchen Roundabout with and without the new mitigation scheme, results of which are summarised within **Section 7.0**.
- 6.24 A standalone model validation report has been prepared for Kelly's Kitchen Roundabout mitigation and a copy is contained in **Appendix J**.

Proposed Site Access Roundabout

- 6.25 **Table 18** shows the operation of the proposed roundabout in 2023 baseline plus committed and proposed development traffic. The full Junctions 9 output is included in **Appendix K** for reference.

Table 18: Proposed Site Access Roundabout Modelling Results

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2023 Baseline + Committed + Proposed Development						
Arm A = V10 Brickhill Street (S)	2	4	0.59	1	3	0.40
Arm B = Site Access	0	3	0.21	0	3	0.27
Arm C = V10 Brickhill Street (N)	2	5	0.59	2	7	0.68

6.26 As shown, the proposed roundabout would be operating well within capacity during the peak hours of the local highway network. The roundabout is forecast to accommodate the baseline traffic growth, committed and proposed developments traffic impact in 2023.

V10 Brickhill Street / Station Road Mini-Roundabout

6.27 **Table 19** below shows the operation of V10 Brickhill Street / Station Road mini-roundabout during the 2018 baseline and 2023 baseline plus committed development scenarios. The full Junctions 9 Model is presented in **Appendix L** for reference.

Table 19: V10 Brickhill Street / Station Road Mini-Roundabout Modelling Results #1

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2018 Baseline						
Arm A = V10 Brickhill Street (N)	1	9	0.54	204	834	1.39
Arm B = Station Road	64	216	1.12	1	8	0.45
Arm C = V10 Brickhill Street (S)	19	92	1.00	2	12	0.67
2023 Baseline + Committed Developments						
Arm A = V10 Brickhill Street (N)	2	11	0.61	383	1622	1.63
Arm B = Station Road	127	517	1.27	1	10	0.51
Arm C = V10 Brickhill Street (S)	102	480	1.22	3	17	0.77

6.28 As shown, the V10 Brickhill Street / Station Road model shows that the mini-roundabout is and will be operating over-capacity during both the morning and evening peak hours.

6.29 **Table 20** below shows the operation of the mini-roundabout with the addition of the committed and proposed development traffic in 2023 during both the morning and evening peak hours.

Table 20: V10 Brickhill Street / Station Road Mini-Roundabout Modelling Results #2

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2023 Baseline + Committed + Proposed Development						
Arm A = V10 Brickhill Street (N)	4	19	0.73	484	2049	1.75
Arm B = Station Road	218	899	1.44	1	10	0.54
Arm C = V10 Brickhill Street (S)	178	793	1.32	11	48	0.94

6.30 As expected, the min-roundabout would continue to operate over-capacity on all approaches during the peak hours of the local highway network.

6.31 It should be highlighted that Junctions 9 identified the following warning regarding this model:

“Mini-roundabout appears to have unbalanced flows and may behave like a priority junction; treat results with caution. See User Guide for details. [Arms A and C have 82% of the total flow for the roundabout for one or more time segments]”

6.32 Section 13 of Junctions 9 User Guide provides the below guidance on mini-roundabouts that appear to be T-shaped, which is the case for V10 Brickhill Street / Station Road. Paragraph 12.3.1 states:

“Some mini-roundabouts have a T-shape with unbalanced flows and may behave more like priority junctions than roundabouts; and as a result are difficult to evaluate accurately with any traffic model. The results associated with such mini-roundabouts should be treated with caution.

This also applies to any mini-roundabout that has a dominant ‘through’ movement. The most common case is where the junction has a T-shape, particularly if a mini-roundabout replaces an older T-junction and has little or no deflection for straight-ahead movement(s). At such sites, some drivers may continue to treat the junction as if the original priority system is still partially in place. If this is the case, consider adding a suitable intercept correction to the relevant arms. Otherwise the capacity of these arms may be underestimated by the model.”

6.33 It has been identified that during the morning peak hour, the V10 Brickhill Street / Station Road have 787 trips on the ahead movements against 1196 trips on the turning movements from V10 Brickhill Street and Station Road. During the evening peak hour, the ahead movements are 852 trips and the turning movements are 1047 trips.

6.34 This suggests that the mini-roundabout has unbalanced flows across all arms and hence would act as a priority junction. In addition, during busy periods at mini-roundabouts, drivers usually start to give-way to each other at a meeting situation, thus resulting in inefficient operation of the junction. This is difficult to model as Junctions 9 does not take driver behaviour into account without applying certain factors from on-site observations.

6.35 As such and in line with paragraph 12.3.1 of Junctions 9 user guide; intercept corrections have been applied so that the baseline modelled queues match the observed queues during the surveys. The results of the mini-roundabout model with the adjustments are detailed within **Section 7.0**.

Bow Brickhill Level Crossing

- 6.36 The impact at the level crossing has been established on first principle basis and using the observed queue length surveys. Whilst the queue surveys were only undertaken on one day a seven day automatic traffic count has been conducted on Brickhill Street and this confirms that the queue survey was undertaken on a representative day.
- 6.37 **Table 21** below shows the observed queues during the morning and evening peak hours when the level crossing was called for approaching train. On average, the duration the barriers are closed throughout the day is 3:31 minutes.

Table 21: Bow Brickhill Level Crossing Observed Queues

Barrier			No. of Trains	Queue		
Time Down	Time Up	Duration (mm:ss)		V10 Brickhill Street (S) – Lane 1	V10 Brickhill Street (S) – Lane 2	V10 Brickhill Street (N)
Morning Peak Hour (08:00-09:00)						
08:03:00	08:05:36	02:36	1	45	3	34
08:27:05	08:30:25	03:20	1	29	1	27
09:04:06	09:07:22	03:16	1	46	1	18
Evening Peak Hour (17:00-18:00)						
17:12:09	17:15:21	03:12	1	23	2	131
17:38:51	17:42:10	03:19	1	6	3	85
17:48:59	17:50:06	01:07	1	27	1	136

- 6.38 As shown, during the call period 08:03-08:05 the southern approach of V10 Brickhill Street had a maximum of 45 vehicles queuing on the first lane, whereas on the northern approach, V10 Brickhill Street had a maximum of 34 vehicles.
- 6.39 During the call period 17:49-17:50, the northern approach had a total of 136 vehicles queue on the approach, whereas on the southern approach, a total of 27 vehicles queued on the first lane approach.
- 6.40 It was also observed that the queuing at the level crossing extends to the mini-roundabout and along Station Road, which then rapidly disburse once the level crossing is open. The queue at the level crossing does not block back as far as the proposed site access roundabout.
- 6.41 **Table 22** shows the development's traffic, which would be going through the level crossing. This is from the trip assignment traffic flow diagrams for the morning and evening peak hours.

Table 22: Development Trip Generation at Bow Brickhill Level Crossing

Development Trip Gen. @ Level Crossing	Morning Peak (08:00-09:00)		Evening Peak (17:00-18:00)	
	Northbound	Southbound	Northbound	Southbound
Per 60 minutes	90	130	117	64
Per 1 minute	2	2	2	1
Per 3:31 minutes	5	8	7	4

- 6.42 As shown, the proposed development would add 90 and 130 trips during the morning peak hour on the northbound and southbound directions respectively. During the evening peak hour, the increase is 117 and 64 trips on the northbound and southbound directions respectively.

- 6.43 Therefore the increase per minute is only four and three vehicles during the morning and evening peak hours. The increase per 3:31 minutes (average barriers close duration) is therefore only 5 northbound/8 southbound and 7 northbound/4 southbound during the morning and evening peak hours respectively. Therefore the proposed development is not expected to increase the queuing significantly on the level crossing during the barrier down period.
- 6.44 Feedback from Network Rail has identified that they require specific consideration of the impacts of pedestrians and vehicular traffic at the level crossing. It worth noting that the level crossing currently has warning lights, barriers, cameras and is also lit. The crossing is also currently well used by vehicles and pedestrians.
- 6.45 The vehicle trip impact is discussed above. Earlier in the Transport Assessment in Table 14 the peak hour pedestrian trips were forecast as 44 two-way trip in the morning peak and 33 two-way trips in the evening peak. The pedestrian catchment shown in Figure 4 suggest this includes Bow Brickhill, Fenny Stratford and Caldecotte. Based on the quantum of residential development in the catchment areas it is estimates that 80% of the pedestrian trips will come from Caldecotte. The likely increase in pedestrian trips across the level crossing is 35 tow-way trips in the morning peak and 26 two-way trips in the evening peak. This number of pedestrian trips, combined with the proposed improvements at the crossing discussed in section 7, is unlikely to materially affect the operation of the level crossing.
- 6.46 Network Rail also requested the likely increase in footfall at the station is considered. The forecast trips to and from the site is 8 two-way trips in the morning peak and 6 two-way trips in the evening peak. This volume of trips is unlikely to materially affect the operation of the stations.

Tilbrook Roundabout

- 6.47 **Table 23** below shows the operation of Tilbrook Roundabout during the 2018 baseline and 2023 baseline plus committed developments traffic. This excludes the mitigation scheme identified part of the Red Bull Racing development. The full Junctions 9 Model is presented in **Appendix M** for reference.

Table 23: Tilbrook Roundabout Modelling Results #1

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2018 Baseline						
Arm A = V10 Brickhill Street (N)	1	5	0.55	2	6	0.61
Arm B = Car Park Access	0	6	0.01	0	8	0.03
Arm C = V10 Brickhill Street (S)	2	8	0.70	0	3	0.23
Arm D = Caldecotte Lake Drive	0	4	0.13	1	4	0.37
2023 Baseline + Committed Developments						
Arm A = V10 Brickhill Street (N)	3	9	0.75	2	7	0.67
Arm B = Car Park Access	0	7	0.12	1	14	0.44
Arm C = V10 Brickhill Street (S)	6	16	0.85	0	3	0.28

Arm D = Caldecotte Lake Drive	0	4	0.16	1	5	0.43
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6.48 As shown, Tilbrook Roundabout is operating within capacity during the peak hours in the 2018 baseline and 2023 baseline with committed development scenarios.

6.49 **Table 24** shows Tilbrook Roundabout model summary with the addition of committed and proposed development traffic in 2023 during both the morning and evening peak hours.

Table 24: Tilbrook Roundabout Modelling Results #2

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2023 Baseline + Committed + Proposed Development						
Arm A = V10 Brickhill Street (N)	5	14	0.84	3	8	0.71
Arm B = Car Park Access	0	9	0.13	1	17	0.48
Arm C = V10 Brickhill Street (S)	9	25	0.91	1	3	0.35
Arm D = Caldecotte Lake Drive	0	5	0.17	1	5	0.46

6.50 As shown, the roundabout would continue to operate at acceptable level of capacity. The southern approach of V10 Brickhill Street would operate slightly over-capacity during the morning peak hour. However this would not result in overloading conditions and queues would occur at variable time segments. RFC values of over 1.00 would generally result in extended queues and delays.

6.51 As mentioned previously, part of the Red Bull Racing committed development a mitigation scheme has been approved to increase the flare length of V10 Brickhill Street northern approach and width of the eastern car park approach. The impact of this scheme is further detailed within **Section 7.0**.

Walton Park Roundabout

6.52 **Table 25** shows the operation of Walton Park Roundabout during the 2018 baseline and 2023 baseline plus committed developments. This excludes the mitigation scheme identified part of land south of A5 development. The full Junctions 9 Model is presented in **Appendix N** for reference.

Table 25: Walton Park Roundabout Modelling Results #1

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2018 Baseline						
Arm A = V10 Brickhill Street (N)	9	56	0.93	3	23	0.78
Arm B = A4146 Bletcham Way (E)	10	23	0.92	3	6	0.72
Arm C = V10 Brickhill Street (S)	27	106	1.03	108	343	1.24
Arm D = A4146 Bletcham Way (W)	3	8	0.77	3	7	0.75

2023 Baseline + Committed Developments						
Arm A = V10 Brickhill Street (N)	54	257	1.16	8	50	0.91
Arm B = A4146 Bletcham Way (E)	44	79	1.03	5	10	0.82
Arm C = V10 Brickhill Street (S)	118	477	1.27	210	757	1.50
Arm D = A4146 Bletcham Way (W)	6	11	0.85	4	9	0.80

- 6.53 As shown, the roundabout is operating slightly over-capacity during the morning peak hour on the V10 Brickhill Street northern approach and A4146 Bletcham Way eastern approach in 2018 baseline, and over-capacity on the the V10 Birkhill Street southern approach. During the evening peak hour, the V10 Brickhill Street southern approach is also operating over-capacity, with an RFC value of 1.24.
- 6.54 During the forecast 2023 baseline with the addition of committed developments traffic, the roundabout is expected to operate over-capacity, particularly on the V10 Brickhill Street approaches.
- 6.55 **Table 26** shows the operation of Walton Park Roundabout with the addition of committed and proposed development traffic in 2023 during both the morning and evening peak hours.

Table 26: Walton Park Roundabout Modelling Results #2

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2023 Baseline + Committed + Proposed Development						
Arm A = V10 Brickhill Street (N)	86	400	1.29	11	67	0.95
Arm B = A4146 Bletcham Way (E)	74	123	1.07	6	11	0.85
Arm C = V10 Brickhill Street (S)	170	652	1.32	316	1128	1.66
Arm D = A4146 Bletcham Way (W)	6	13	0.86	5	10	0.82

- 6.56 As expected, the roundabout would operate over-capacity during the peak hours of the highway network and with the addition of the proposed development traffic. The impact would mainly occur on the V10 Brickhill Street approaches.
- 6.57 As a result, BWB prepared a mitigation scheme to reduce the impact of the proposed development on Walton Park Roundabout. The roundabout modelling results with the mitigation scheme are detailed within **Section 7.0**.

Upgrade of V10 Brickhill Street

- 6.58 Policy SD16 suggests that the V10 Brickhill Street needs to be upgraded to grid road standard. However, following a detailed assessment of the road safety records, the existing geometry, existing traffic flows, and the traffic impact of the proposed

development, the V10 Brickhill Street will not be updated to grid road standard to the north of the proposed site access roundabout.

6.59 The flow scenarios on V10 Brickhill Street, north of the proposed site access junction, are presented in **Table 27** below.

Table 27: V10 Brickhill Street Traffic Flows

Direction	Morning Peak	Evening Peak
Northbound (2017)	663	551
Southbound (2017)	656	774
Northbound (2023)	730	635
Southbound (2023)	723	853
Northbound (Committed)	142	56
Southbound (Committed)	41	103
Northbound (2023 + Committed)	872	691
Southbound (2023 + Committed)	764	956
Northbound (Development)	109	144
Southbound (Development)	159	76
Northbound (2023 + Com + Dev)	969	821
Southbound (2023 + Com + Dev)	913	1006

6.60 Whilst traffic flows increase on the V10 Brickhill Street as a result of the development, they are mainly associated with the background traffic growth and committed developments. The percentage change associated with the development, and those associated with the committed are presented in **Table 28** below.

Table 28: V10 Brickhill Street Traffic Flows Percentage

Percentage Increase	Morning Peak	Evening Peak
Development to 2023 + Com (Northbound)	12.5%	20.8%
Development to 2023 + Com (Southbound)	20.8%	7.9%
Committed to 2023 (Northbound)	19.5%	8.8%
Committed to 2023 (Southbound)	5.7%	12.1%

6.61 As shown, the percentage changes are comparable in certain peak periods and therefore the increase in traffic is attributed to the committed developments in the area. As such, if upgrading of the V10 Brickhill Street to grid road standard is required, it should be contributed to be a range of developments rather than from a single development.

6.62 The Congestion Reference Flow (CRF) has also been calculated for the V10 Brickhill Street. The CRF is taken from TA46/97 Traffic Flow Ranges for Use in the Assessment of New Rural Roads and is an estimate of the Annual Average Daily Traffic (AADT) flow at which the carriageway is likely to be 'congested' in the peak periods on an average day.

6.63 The CRF calculation is presented in **Table 29** below and is calculated to be over 25,000 AADT. The existing AADT on the V10 Brickhill Street is 13,000.

Table 29: CRF Results for V10 Brickhill Street

1	Capacity	1380	15	3%	1379.55
2	Number of Lane (NL)	1			
3	Width Factor (Wf)	0.171	7	0.25	0.947

4	Proportion of total daily flows that occurs in the peak hour (PkF)		100	9.00	11.11111
5	Directional Spilt of the peak hour flow (PkD)		100	53.00	1.886792
6	AADT		12896		0.930045
7	AAWT		13866		
CRF Result	CRF	25,473	=1*2*3*4*5*6		

6.64 As shown, with the addition of committed and development traffic, plus allowances for background traffic growth, the AADT is not forecast to exceed 20,000. Therefore the link of V10 Brickhill Street should not experience congestion and does not require upgrading.

7.0 HIGHWAY MITIGATION

Introduction

- 7.1 This section outlines the committed and proposed mitigation schemes to improve the sustainable accessibility of the site and operation of the study area junctions. This include adjustments to some of the models to establish accurate capacity results and identify whether additional mitigation schemes are required.

Redway Infrastructure Provision

- 7.2 As indicated within the site layout plan included in **Appendix A**, a new Redway is proposed between the existing Redways on Kelly's Kitchen Roundabout and on the V10 Brickhill Street to the north of the site. The alignment of the Redway will be confirmed through discussions with MKC. The preferred route of the Redway is through the site as shown on the layout plan in **Appendix A**.
- 7.3 The traffic survey at the A5 roundabout identified 4 two-way cycle movements in the morning and 5 two-way cycle movements in the evening. **Table 14** forecasts that the development will generate 19 two-way cycle movements in the morning and 15 two-way cycle movements in the evening. The Redway is clearly being provided to serve the development and should therefore route through the site.
- 7.4 The existing cyclists will benefit from the Redway provision. The Redway route through the site is slightly longer than if it was alongside Brickhill Street. However the extra distance is approximately 400m and is therefore an additional cycle time approximately 2 minutes, which is likely to be immaterial in the overall journey time.
- 7.5 The proposed Redway would also link with the existing Bow Brickhill 004A public footpath, which currently runs to the north of the site between Belvedere Lane and Greenways to the east. The footpath would be extended to link to the proposed internal roundabout and Kelly's Kitchen Roundabout as indicated within the site layout plan.
- 7.6 As mentioned previously, pedestrian connectivity to Bow Brickhill Railway Station would also be improved by providing 3.0m wide Redway over the level crossing.

Initial Public Transport Strategy

- 7.7 The proposed public transport strategy is to extend the existing bus services 11/12 to serve the site. The proposed internal roundabout would be designed to allow for a bus to manoeuvre around the site. Alternatively if operators do not wish to divert into the site, bus stops could be provided along the V10 Brickhill Street near the main roundabout.
- 7.8 The existing bus services 11/12 operate at 30 minute frequency on weekdays, which is suitable to serve the proposed development. The first bus reaches the nearest bus stops on V10 Brickhill Street north of the level crossing at around 06:30 and the last bus departs at 22:06.
- 7.9 The extension to serve the proposed development is likely to require additional 5 minutes based on the additional distance of 500-900 metres and at an operating

speed of 26 kph. Depending on end occupier requirements; slightly earlier and later services may also be required to service potential shift changes at 06:00 and 22:00.

- 7.10 There is insufficient operation time within the existing services to serve the proposed development and therefore improvements would be required. The provision of one additional bus would require extension to services 11/12 to serve the site.
- 7.11 The provision of one bus would be more than sufficient to serve the proposed development. This could be done by either increasing the frequency of the existing services or extending the service length to route through the site's proposed internal roundabout.

V10 Brickhill Street

- 7.12 Forward visibility will be improved around the bend on Brickhill Street to the required visibility based on the speed limit of the road. The existing substandard forward visibility of 60m will be improved to provide 215m by widening the highway verge and relocating the highway boundary into the development site. Approximately 320m of existing hedgerow adjacent to the inside of the bend will be removed and replaced on a revised alignment. As shown within drawing **SCD-BWB-GEN-01-DR-TR-003**. The proposed cross section for the widen highway verge to improve the forward visibility is presented on drawing **SCD-BWB-HGN-XX-SK-D-130**.

Kelly's Kitchen Roundabout VISSIM Model

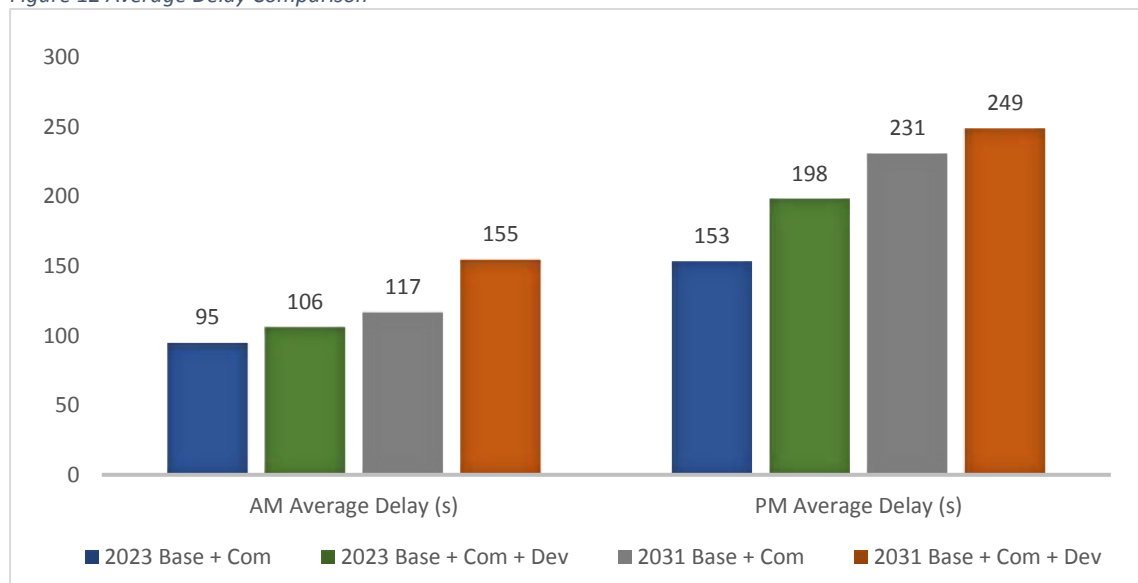
Network Performance

- 7.13 Ten iterations of each of the models were run starting at a random seed of 42 and increasing by 5 each iteration. The network performance parameter 'average delay per vehicle' was obtained for each run. The mean of the 10 runs was found for each option and the average was selected for calibration however where network instability was found, anomalies were removed and the seed closest to the 'average delay per vehicle' was used for output. The results of this process are presented in Table 30 below and illustrated graphically in Figures 12 to 15.

Table 30 Network Performance

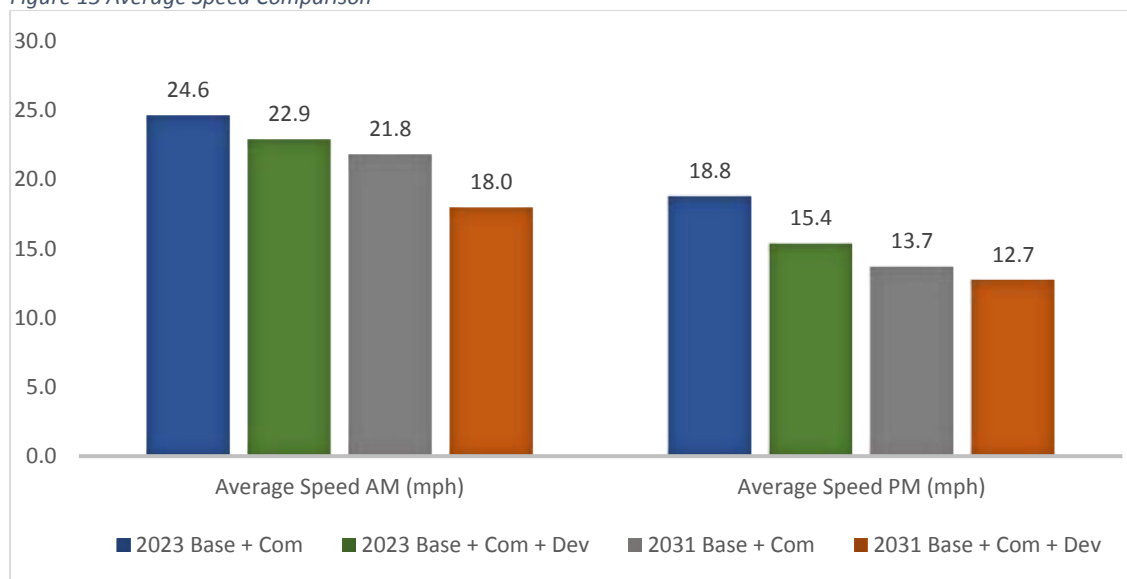
	1. 2023 Base + Com		2. 2023 Base + Com + Dev		3. 2031 Base + Com		4. 2023 Base + Com + Dev	
	AM	PM	AM	PM	AM	PM	AM	PM
Average Delay	95	153	106	198	117	231	155	249
Average Speed	25	19	23	15	22	14	18	13
Total Vehicles Arrived	7342	7133	7268	7204	7661	7137	7800	7178
Latend Demand	1203	347	1499	593	1674	1031	2107	1391

Figure 12 Average Delay Comparison



7.14 Figure 12 illustrates that the increase in average delay between the with and without development scenarios during the morning peak hour period equates to 11 seconds and 38 seconds in 2023 and 2031 respectively. The increase in average delay between the with and without development scenarios during the evening peak hour period equates to 36 seconds and 18 seconds in 2023 and 2031 respectively.

Figure 13 Average Speed Comparison



7.15 Figure 13 illustrates a decrease in average speed between the assessment scenarios in both peak hours due to congestion.

Figure 14 Total Vehicle Arrived Comparison

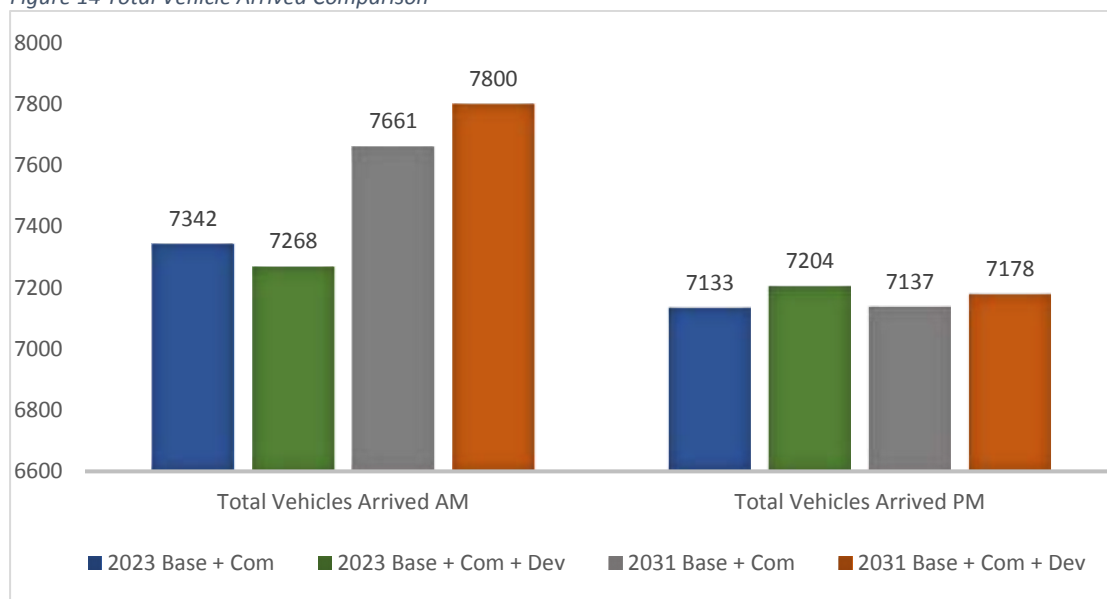
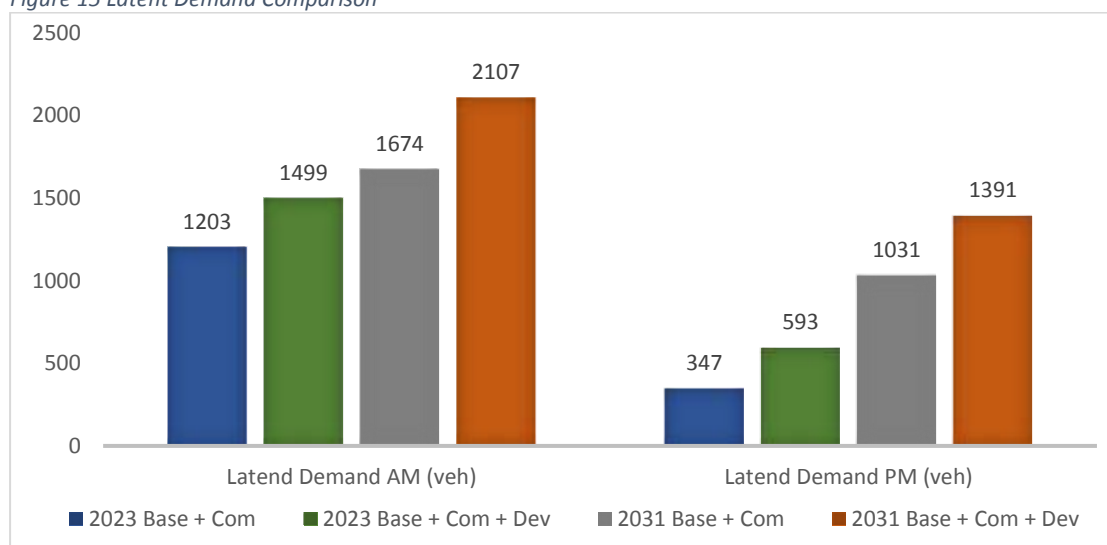


Figure 15 Latent Demand Comparison



7.16 Figures 14 and 15 shows the total number of vehicles arrived and the latent demand in each scenario respectively. These show that there is an inherent latent demand in the base scenarios which are exacerbated with additional flows. The latent demand was mainly attributable to the flows along A4146 not being able to enter the model.

7.17 The peak hour input flows were examined to identify the level of committed development versus the proposed development flows across the Kellys Kitchen Roundabout. Table 2 provides a summary.

Table 31 Proposed/Committed development flows across Kellys Kitchen Roundabout

	Committed Scheme		Proposed Development	
	AM	PM	AM	PM
J4 Brickhill St	41	103	99	150
J4 A5 S	27	70	58	21

J4 A4146	499	214	22	8
J4 Watling St	10	25	8	3
J4 A5 N	67	169	94	34
Total	644	581	282	216

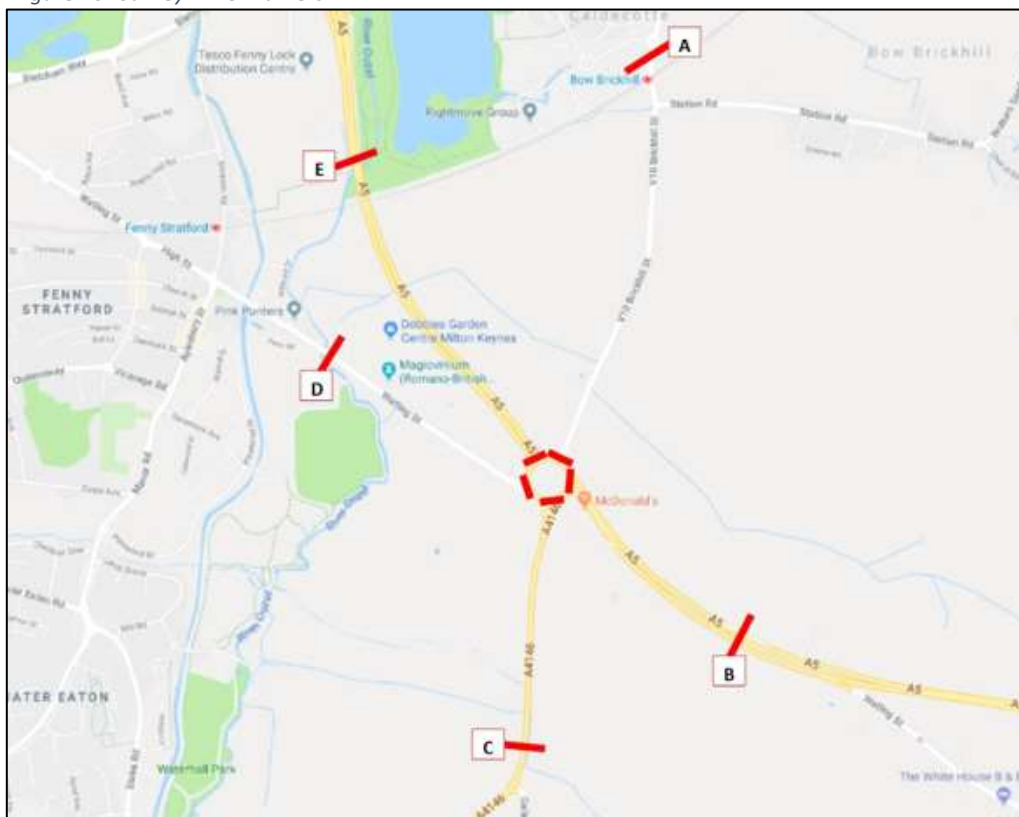
7.18 Table 31 demonstrates that only 22 vehicles and 8 vehicles are forecast as part of the proposed scheme along the A4146 during the morning and evening peak hours respectively. This further supports the findings of the inherent latent demand exacerbating with additional flows.

7.19 In summary, the VISSIM modelling has demonstrated that with the development trips in place, journey time increases across the roundabout would rarely exceed one minute, with the largest increase being 85 seconds in 2031. Given the scale of the roundabout and the existing journey times recorded in the baseline scenarios, such increases are not considered to be severe, hence no further mitigation is proposed.

Journey Time Comparison

7.20 In order to assess the impact of the proposed development on Kelly's Kitchen Roundabout, the journey times results have been compared under the 'with and without development' traffic flow scenarios. Times have been summarised between the routes depicted in the **Figure 16** below.

Figure 16 Journey Time Markers



7.21 The tables below present the results for the 2023 and 2031 base and with development scenarios. The assessments have also been examined with and without the mitigation to the Kelly's Kitchen Roundabout.

7.22 **Table 32** summarises the journey time outputs under the 2023 with and without development scenarios during the peak hours. This assessment does not include the committed mitigation scheme for the roundabout.

Table 32: 2023 Base and 2023 Base + Development (No Mitigation)

Route	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	2023 Base	2023 Base + Dev	Difference	2023 Base	2023 Base + Dev	Difference
A- GW	178	123	55	182	139	42
A'GW-B	34	34	0	35	34	1
A'GW-C	96	80	16	83	79	4
A'GW-D	129	110	19	88	87	1
B-GW	188	248	-60	42	45	-2
B'GW-A	253	324	-71	185	193	-8
B'GW-C	54	48	6	55	56	0
B'GW-D	67	60	7	56	55	0
B'GW-E	106	103	3	99	99	0
C-GW	206	230	-23	235	291	-56
C'GW-A	225	302	-77	166	164	2
C'GW-B	99	105	-6	115	122	-6
C'GW-D	34	34	0	34	34	0
C'GW-E	71	74	-2	77	76	1
D-GW	66	75	-9	49	51	-2
D'GW-A	198	275	-77	144	145	-1
D'GW-B	79	83	-4	92	100	-8
D'GW-C	130	125	6	108	139	-31
D'GW-E	51	52	0	52	52	0
E-GW	68	103	-35	253	206	48
E'GW-B	52	52	-1	55	54	1
E'GW-C	109	99	9	100	97	3
E'GW-D	142	123	19	102	99	3

*Give-way / Stop line (GW)

7.23 The table above demonstrates that the increases in journey times between the 2023 base and 2023 with development scenario (i.e. No committed developments or mitigation), would rarely exceed 1 minute, with the highest increases being 77 seconds along routes D-A and C-A in the morning peak.

7.24 It is noted that some arms will experience an improved journey time even with the additional development trips in place. This can be attributed to the model being created using VISVAP, which seeks to optimise signal timings every cycle delivering comparable benefits to MOVA.

7.25 **Table 33** summarises the journey time outputs under the 2023 with and without development scenarios. This assessment includes the mitigation scheme and accounts for the committed developments.

Table 33: 2023 Base + Committed + Mitigation and 2023 Base + Committed + Mitigation + Development

Route	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	2023 Base + Committed	2023 Base + Committed + Development	Difference	2023 Base + Committed	2023 Base + Committed + Development	Difference
A- GW	108	116	-9	125	208	-83
A'GW-B	41	40	1	38	38	0
A'GW-C	93	95	-2	188	194	-6
A'GW-D	111	114	-2	100	113	-12
B-GW	55	58	-3	53	56	-3
B'GW-A	225	259	-34	206	258	-52
B'GW-C	45	46	-1	130	135	-5
B'GW-D	66	67	0	56	64	-8
B'GW-E	96	99	-3	104	141	-36
C-GW	174	221	-48	265	323	-59
C'GW-A	200	227	-28	176	222	-46
C'GW-B	103	113	-11	138	181	-43
C'GW-D	37	37	0	36	36	0
C'GW-E	94	102	-8	93	115	-22
D-GW	62	68	-6	63	93	-29
D'GW-A	169	192	-24	140	146	-6
D'GW-B	71	75	-4	105	114	-10
D'GW-C	127	137	-10	248	270	-22
D'GW-E	53	53	0	55	58	-3
E-GW	58	60	-2	175	206	-31
E'GW-B	47	49	-1	58	63	-5
E'GW-C	85	85	0	179	196	-17
E'GW-D	117	123	-6	116	134	-18

7.26 The table above demonstrates that under 'with development' scenario, journey times across the roundabout would exceed one minute on Route A during evening peak, at 83 seconds.

7.27 **Table 34** summarises the journey time outputs under the 2031 with and without development scenarios. This assessment includes the mitigation scheme and accounts for the committed developments.

Table 34: 2031 Base + Committed + Mitigation and 2031 Base + Committed + Mitigation + Development

Route	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	2031 Base + Committed	2031 Base + Committed + Development	Difference	2031 Base + Committed	2031 Base + Committed + Development	Difference
A- GW	114	151	-37	167	234	-67
A'GW-B	41	40	1	39	38	1
A'GW-C	118	122	-4	222	192	30
A'GW-D	123	131	-8	116	112	4
B-GW	83	151	-69	59	56	3

B'GW-A	264	307	-43	252	253	-1
B'GW-C	58	55	3	148	134	14
B'GW-D	69	72	-2	66	66	0
B'GW-E	101	116	-16	115	124	-9
C-GW	209	274	-64	303	389	-85
C'GW-A	241	286	-45	215	223	-8
C'GW-B	116	141	-25	182	177	4
C'GW-D	37	37	0	36	36	0
C'GW-E	103	113	-10	117	122	-5
D-GW	78	104	-26	180	241	-61
D'GW-A	195	230	-35	142	140	2
D'GW-B	78	89	-11	115	112	3
D'GW-C	154	169	-15	296	270	26
D'GW-E	53	54	-2	57	57	0
E-GW	63	61	2	303	315	-12
E'GW-B	50	57	-7	62	62	-1
E'GW-C	104	108	-4	221	193	28
E'GW-D	127	143	-15	133	134	0

7.28 The table above demonstrates that under 'with development' scenario, journey times across the junction would exceed one minute on five routes. However, the majority of these increases are only a few seconds over the one minute threshold. The longest increase would be along route C-GW with an increase of 85 second.

Queue Comparison

7.29 Queue counters were placed at the approach stop lines of Kelly's Kitchen roundabout within the VISSIM model. A summary of the queue comparison is presented in **Table 35** below.

Table 35 Queue Comparison

		2023 Base +Com	2023 Base +Com + Dev	Difference	2031 Base +Com	2031 Base +Com + Dev	Difference
AM	Brickhill Street	3	5	2	4	8	4
	A5 South	8	9	1	19	47	28
	A4146	53	64	11	71	74	3
	Watling Street	14	7	-7	64	51	-13
	A5 North	5	3	-2	7	4	-3
PM	Brickhill Street	3	12	9	7	30	23
	A5 South	2	2	0	3	3	0
	A4146	77	80	3	78	80	2
	Watling Street	13	33	20	80	82	2
	A5 North	72	77	5	78	78	0

7.30 **Table 35** illustrates a comparison between the queues at the approach arms of the roundabout. The 2023 with and without development comparison illustrates that there is a maximum increase in queue of 11 PCUs on the A4146 arm during the morning peak hour and 20 PCUs in the evening peak hour on Watling Street.

7.31 Furthermore, the maximum queues observed during the 2031 with and without development scenarios indicated that there is a maximum increase of 28 PCUs along

A5 South in the morning peak hour and 23 PCUs on Brickhill Street during the evening peak hour.

- 7.32 The general increase in queues across the junction is considered to be minimal as none of the major queues are materially affected by the development traffic. Also given that the increase in journey time on majority of the routes is within 60 seconds, it is considered that the proposed development does not materially impact the operation of the proposed Kelly's Kitchen Roundabout scheme.

V10 Brickhill Street / Station Road Mini-Roundabout

- 7.33 As mentioned previously, Junctions 9 suggests that the mini-roundabout had unbalanced flows and may behave like a priority junction during peak hours. As such, the queueing and delays may overestimate the capacity of the mini-roundabout.
- 7.34 Therefore prior to identifying a mitigation scheme, the existing and future capacity of the roundabout should be accurately established.
- 7.35 Queue length surveys were undertaken on 19th October 2017 part of the Levante Gate development. The 'TA Addendum' submitted in support of the planning application included the results of the queue lengths at the mini-roundabout and compared against the modelled queues on each approach. These are shown in **Table 36**.

Table 36: V10 Brickhill Street / Station Road mini-roundabout Queue Comparison

Approach	Lane	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
		Max.	Ave.	Modelled (2018 Base)	Max.	Ave.	Modelled (2018 Base)
Arm A = V10 Brickhill Street (N)	Left	0	0.0	1	1	0.1	199
	Right	2	0.3		1	0.2	
Arm B = Station Road	Left	15	1.5	62	1	0.1	1
	Right	2	0.3		2	0.3	
Arm C = V10 Brickhill Street (S)	-	5	1.2	19	8	1.3	2

- 7.36 As shown, the model is significantly overestimating the baseline queuing on Station Road during the morning peak hour and on the V10 Brickhill Street northern approach during the evening peak hour.
- 7.37 Therefore similar to the approach detailed in the 'TA Addendum' and in line with paragraph 12.3.1 of Junctions 9 user guide; intercept corrections were applied so that the modelled queues closely match the observed queues during the baseline condition. This would also accurately predict the capacity of the mini-roundabout in the 2023 scenario.
- 7.38 The applied intercept correction values were 250% for V10 Brickhill Street north, 190% for Station Road and 160% for V10 Brickhill Street south. The mini-roundabout results are shown in **Table 37**, and the full model output is included in **Appendix O** for reference.

Table 37: V10 Brickhill Street / Station Road Mini-Roundabout Results with Adjustments #1

Approach	Morning Peak Hour (08:00-09:00)	Evening Peak Hour (17:00-18:00)
----------	---------------------------------	---------------------------------

	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2018 Baseline						
Arm A = V10 Brickhill Street (N)	0.3	2	0.20	1.0	3	0.49
Arm B = Station Road	1.2	4	0.54	0.3	3	0.22
Arm C = V10 Brickhill Street (S)	1.3	6	0.56	0.7	4	0.41
2023 Baseline + Committed Developments						
Arm A = V10 Brickhill Street (N)	0.3	2	0.23	1.0	4	0.57
Arm B = Station Road	1.5	5	0.60	0.4	3	0.26
Arm C = V10 Brickhill Street (S)	2.5	10	0.71	0.9	5	0.47

- 7.39 As shown the modelled 2018 base queues closely match the on-site observations during the morning and evening peak hours, hence presenting realistic results of the mini-roundabout capacity.
- 7.40 The mini-roundabout is forecasted to operate within capacity during the future baseline scenarios 2023 with the inclusion of committed developments traffic.
- 7.41 **Table 38** shows the operation of V10 Brickhill Street / Station Road mini-roundabout with the addition of the proposed development trips during both the morning and evening peak hours in 2023.

Table 38: V10 Brickhill Street / Station Road Mini-Roundabout Results with Adjustments #2

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2023 Baseline + Committed + Proposed Development						
Arm A = V10 Brickhill Street (N)	0.4	2	0.29	1.5	4	0.60
Arm B = Station Road	1.8	6	0.64	0.4	3	0.27
Arm C = V10 Brickhill Street (S)	4.0	14	0.80	1.4	5	0.57

- 7.42 As shown, the mini-roundabout would be able to accommodate the proposed development's traffic during both the morning and evening peak hours. As such, no mitigation measures are required for the V10 Brickhill Street / Station Road.

Tilbrook Roundabout

- 7.43 As mentioned previously, the committed Red Bull Racing development provided a mitigation scheme for Tilbrook Roundabout, particularly for the V10 Brickhill Street northern approach and the eastern car park access approach.
- 7.44 Therefore the roundabout has been modelled with this mitigation to confirm its capacity in the 2023 scenario. This is shown in **Table 39** below, and the full outputs are included in **Appendix P** for reference.

Table 39: Tilbrook Roundabout Modelling Results #1 – With Mitigation

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2023 Baseline + Committed Developments						
Arm A = V10 Brickhill Street (N)	2	7	0.70	2	6	0.62
Arm B = Car Park Access	0	3	0.06	0	4	0.20
Arm C = V10 Brickhill Street (S)	5	15	0.85	0	3	0.28
Arm D = Caldecotte Lake Drive	0	4	0.16	1	5	0.43

- 7.45 Comparing the above scenarios with the results shown in **Table 20** (i.e. without mitigation), the RFC and queuing on V10 Brickhill Street northern approach is slightly improved during the morning peak hour.
- 7.46 **Table 40** shows the operation of the roundabout in 2023 with the approved mitigation scheme and proposed development traffic.

Table 40: Tilbrook Roundabout Modelling Results #2 – With Mitigation

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2023 Baseline + Committed + Proposed Development						
Arm A = V10 Brickhill Street (N)	4	10	0.78	2	6	0.66
Arm B = Car Park Access	0	4	0.06	0	5	0.21
Arm C = V10 Brickhill Street (S)	9	25	0.91	1	3	0.35
Arm D = Caldecotte Lake Drive	0	5	0.17	1	5	0.46

- 7.47 Comparing the above results with those detailed in **Table 24** (i.e. without mitigation), the impact of the proposed development is reduced on the V10 Brickhill Street northern approach during both peak hours. However the impact on the southern approach is similar as the approved mitigation scheme does not include this approach. However as concluded previously, the impact of the proposed development is considered immaterial on the southern approach and the overall performance of Tilbrook Roundabout. As such, no further mitigation scheme is proposed.

Walton Park Roundabout

- 7.48 As mentioned previously, a mitigation scheme has been prepared to reduce the impact of the proposed development on Walton Park Roundabout. The scheme would also mitigate the impact during the peak hours in 2023 baseline scenario with committed developments traffic.

7.49 Drawing **SCD-BWB-GEN-01-DR-TR-005** (included towards the end of this TA) shows the proposed mitigation scheme, which includes:

- Increasing the flare length of V10 Brickhill Street North (Arm A) from 11.6m to 20m.
- Increasing the flare length of A4146 Bletcham Way East (Arm B) from 19.7m to 25m.
- Increasing the entry width of A4146 Bletcham Way East (Arm B) from 9.35m to 10m.
- Increasing the flare length of V10 Brickhill Street South (Arm C) from 14.3m to 25m.

7.50 **Table 41** below shows the modelling results of Walton Park Roundabout with the proposed mitigation scheme in 2023. The full outputs are included in **Appendix Q** for reference.

Table 41: Walton Park Roundabout Results with Mitigation

Approach	Morning Peak Hour (08:00-09:00)			Evening Peak Hour (17:00-18:00)		
	Queue (PCU)	Delay (S)	RFC	Queue (PCU)	Delay (S)	RFC
2023 Baseline + Committed + Proposed Development						
Arm A = V10 Brickhill Street (N)	49	221	1.13	6	36	0.87
Arm B = A4146 Bletcham Way (E)	24	45	0.98	3	7	0.76
Arm C = V10 Brickhill Street (S)	112	373	1.24	211	670	1.45
Arm D = A4146 Bletcham Way (W)	6	12	0.85	5	10	0.82

7.51 Comparing the above results to those shown in **Table 25** (i.e. without mitigation), the RFC value of V10 Brickhill Street northern and southern approaches improved during the morning peak hour from 1.29 to 1.13 and from 1.32 to 1.24 respectively. During the evening peak hour, the RFC values on the northern and southern approaches also improved, from 0.95 to 0.87 and 1.66 to 1.45 on the respective approaches.

7.52 The queueing is also predicted to decrease from 316 to 211 PCUs on the critical V10 Brickhill Street southern approach during the evening peak hour.

7.53 The increased entry width to the A4146 Bletcham Way eastern approach would also improve the capacity, where the RFC value would improve from 1.07 to 0.98 and decreased queuing from 74 to 24 PCUs during the morning peak hour.

7.54 Therefore the mitigation scheme would provide a modest improvement to the roundabout, particularly to the critical approaches. A financial contribution via a Section 106 agreement could be used to enable delivery of the mitigation scheme.

8.0 SUMMARY & CONCLUSIONS

- 8.1 BWB Consulting Ltd has been appointed by HB (South Caldecotte) Ltd to prepare this Transport Assessment report in support of an outline planning application for an employment development. The site is located to the west of V10 Brickhill Street in Danesborough & Walton, Milton Keynes.
- 8.2 The proposals comprise up to 2,600,000 sq.ft. (241,540 sq.m.) of B1(c)/B2/B8 land uses, which include storage, warehouse, distribution, light industrial and ancillary offices. The proposed development will be served by new roundabout from the V10 Brickhill Street. Each unit will be associated with access, parking provision, servicing, groundworks and landscaping.
- 8.3 The development site is allocated under policy SD16 of Milton Keynes Council's Local Plan 'Plan:MK' (March 2019) for a mixed employment development of Class B2 and B8.
- 8.4 In terms of improvements to the sustainable infrastructure, a Redway will be provided connecting the existing Redways at the A5 junction and on Brickhill Street to the north of the site. A route across the level crossing will also be provided to connect the existing Redways to the site Redway.
- 8.5 The proposed public transport strategy is to provide additional bus stops and routes through the site. Commercial services 11/12, which currently route to/from South Caldecotte Lake Drive will be extended to serve the proposed development.
- 8.6 Discussions are currently ongoing with the public transport team and relevant local operators to agree the details.
- 8.7 BWB has engaged in pre-application scoping discussions with SMT on behalf of Milton Keynes Council and AECOM on behalf of Highways England to agree the key parameters of the Transport Assessment. This included the below study area junctions, the proposed site access roundabout and queue assessment of Bow Brickhill level crossing.
1. A5 / A4146 / Watling Street / V10 Brickhill Street (Kelly's Kitchen Roundabout)
 2. V10 Brickhill Street / Station Road mini-roundabout
 3. V10 Brickhill Street / Caldecotte Lake Drive (Tilbrook Roundabout)
 4. A4146 Bletcham Way / V10 Brickhill Street (Walton Park Roundabout)
- 8.8 Junction turning count surveys were undertaken at the above junctions in October 2017 and growth factors were applied to represent 2018 as the baseline. Queue length surveys were also undertaken on Kelly's Kitchen Roundabout, Bow Brickhill level crossing and Walton Park Roundabout. In addition, automatic traffic count survey was undertaken on the V10 Brickhill Street along the site frontage for the proposed roundabout design.
- 8.9 Subsequently the study area junctions were modelled to determine the existing 2018 capacity, opening year 2023 and end of local plan (Plan:MK) 2031. Relevant traffic growth factors were applied to the morning and evening peak hours of the local highway network, which were identified 08:00-09:00 and 17:00-18:00 respectively.
- 8.10 At the time of writing this report, the following committed developments that would impact the agreed study area junctions were identified:
- Land at Eaton Leys – 600 units
 - Levante Gate: Land south of the A5 – 500 units

- Red Bull: Land east of V10 Brickhill Street
- 8.11 It should be highlighted that the land south of A5 development has been refused on 13th September 2018. However as the refusal was not on highway grounds, BWB has accounted for the traffic associated with this development. This would ensure robust assessment and worst case modelling of the study area junctions.
- 8.12 In terms of traffic generation, the proposed development is anticipated to generate a total of 556 two-way vehicular trips and 86 HGV trips during the morning peak hour. During the evening peak hour, the development would generate 422 two-way vehicular trips and 84 HGV trips. This is based on TRICS trip rates provided by AECOM on behalf of HE and SMT on behalf of MKC for the B2 and B8 separately, which were assessed based on 20% of the overall development being of B2 land use and 80% B8 land use.
- 8.13 It was calculated that 66% of the vehicular trips would route via Kelly's Kitchen Roundabout, whereas the remaining 34% would travel north along the V10 Brickhill Street. This is based on the 2011 Census 'Origin-Destination' data for the local MSOA E02003482: Milton Keynes 024, which looks at other employment destinations in the area that would have similar origin-destination patterns to the proposed development.
- 8.14 As for the proposed development's HGV traffic distribution, these have been calculated using Department for Transport's traffic counter points within Milton Keynes in proximity of the site. Adjustments were made to take into consideration the HGV proportions that would use Station Road, Watling Street and through Walton Park Roundabout to the north. It was established that 60% of the development's HGV traffic would route to/from the south via Kelly's Kitchen Roundabout and 40% to/from the north via Walton Park Roundabout. These proportions have been suggested by SMT following review of the previously issued Transport Assessment and have been used as a worst case assessment for the local highway network.
- 8.15 AECOM requested that the development traffic was assigned to the wider Strategic Road Network. This exercise has been completed and concluded that no wider assessment of the development impact on the SRN is required.
- 8.16 Kelly's Kitchen Roundabout has been modelled using a PTV VISSIM model. The model is for a mitigation scheme proposed for the roundabout part of Eaton Leys committed development, southwest of the A5.
- 8.17 The VISSIM modelling has demonstrated that with the development trips in place, journey time increases across the junction would rarely exceed 1 minute, with the largest increase being 85 seconds in 2031. Given the scale of the junction and the existing journey times recorded in the baseline scenarios, such increases are not considered to be severe and no further mitigation is proposed.
- 8.18 A mitigation scheme has been identified for Tilbrook Roundabout, part of land east of V10 Brickhill Street (Red Bull Racing) committed development. Therefore the roundabout has been modelled with and without the mitigation scheme, which includes widening of the eastern arm, increasing the flare length and entry width of the northern arm (V10 Brickhill Street) and associated road markings.
- 8.19 It was concluded that the proposed development would have minimal impact on the operation of Tilbrook Roundabout, precisely the northern and southern approaches. The impact on the northern approach would be further reduced as a result of the

mitigation scheme, whereas the impact on the southern approach would not be significant as a result of the proposed development.

8.20 A mitigation scheme has been prepared for Walton Park Roundabout, as it is operating over-capacity in the current 2018 baseline during the peak hours and is forecast to do so in the 2023 future baseline.

8.21 The mitigation scheme includes:

- Increasing the flare length of V10 Brickhill Street northern approach from 11.6m to 20m.
- Increasing the flare length of A4146 Bletcham Way eastern approach from 19.7m to 25m.
- Increasing the entry width of A4146 Bletcham Way eastern approach from 9.35m to 10m.
- Increasing the flare length of V10 Brickhill Street southern approach from 14.3m to 25m.

8.22 The roundabout was subsequently modelled with and without the above mitigation, and it was identified that such scheme would improve to the operation of the roundabout during the morning and evening peak hours. The mitigation particularly benefits the more critical V10 Brickhill Street approaches, and the eastern approach of the A4146 Bletcham Way. The scheme would be implemented subject to agreement with MKC highways and an independent Road Safety Auditing.

DRAWINGS

SCD-BWB-GEN-01-DR-TR-001

Proposed Site Access Roundabout



215 metres forward visibility improvement to bend

215 metres forward visibility to roundabout give way

215 metres forward exit visibility splay

90 metres forward visibility splay

215 metres forward exit visibility splay

215 metres forward visibility to A5 traffic light signal head

215 metres forward visibility to roundabout give way

sub station access 4.5 x 90m visibility

SCALE 1:1000



7.3 m Industrial Access Road - Site access

2m footway
2m verge

Landscaped Grid Road reserve corridor

Fence

Hedgerow / Highway Boundary

Ditch

6m verge (to accommodate future Redway)

2m verge

3m redway

1m verge

Brickhill Brook extended into development site

Landscape Grid Road reserve corridor

3m verge

3m redway

1m verge

Highway ditch

Hedgerow / Highway Boundary

Fence

Landscaped Grid Road reserve corridor

WPD 33kv and IDNO Electricity Sub Station

Ties into existing carriageway

3m redway ties into existing redway

Ties into existing carriageway

SCALE 1:500

Notes

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3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

Key Plan



Legend

- Ditch
- Hedgerow / Highway Boundary
- Fence
- 60m ICD roundabout
9m circulatory carriageway
- Existing ditch connected to new ditch
- 6m field access
12m gates, set 16m from roundabout
- existing gas main
- 3m verge widened for visibility splay
- Ditch
- Hedgerow / Highway Boundary
- Fence
- Brickhill Brook connected to new ditch
- Brickhill Brook to be piped under Brickhill Street
- 7.3m dual carriageway link between site access roundabout and the A5 roundabout
- tie in to existing ditch
- 3m verge

Rev	Date	Details of issue / revision	Drawn	Checked
P7	11.06.19	Roundabout location amended to suit masterplan	AJO	CH
P6	12.03.19	Drainage added	HB	CH
P5	12.07.18	Verges and redways added	AJO	CH
P4	10.07.18	Access track added to eastern side of roundabout	AJO	CH
P3	22.06.18	Layout amended	AJO	CH
P2	24.04.18	Layout amended	AJO	CH
P1	19.02.18	Preliminary Issue	AJO	CH
Rev	Date	Details of issue / revision	Drawn	Rev

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Client
HB (South Caldecotte) Ltd

Project Title
South Caldecotte, Milton Keynes

Drawing Title
Proposed Site Access Roundabout and Dual Carriageway Link to the A5

Drawn: AJ Oakes
Reviewed: C Holloway

BWB Ref: NTS 2582
Date: 19.02.18
Scale: A3
As Shown

Drawing Status
PRELIMINARY

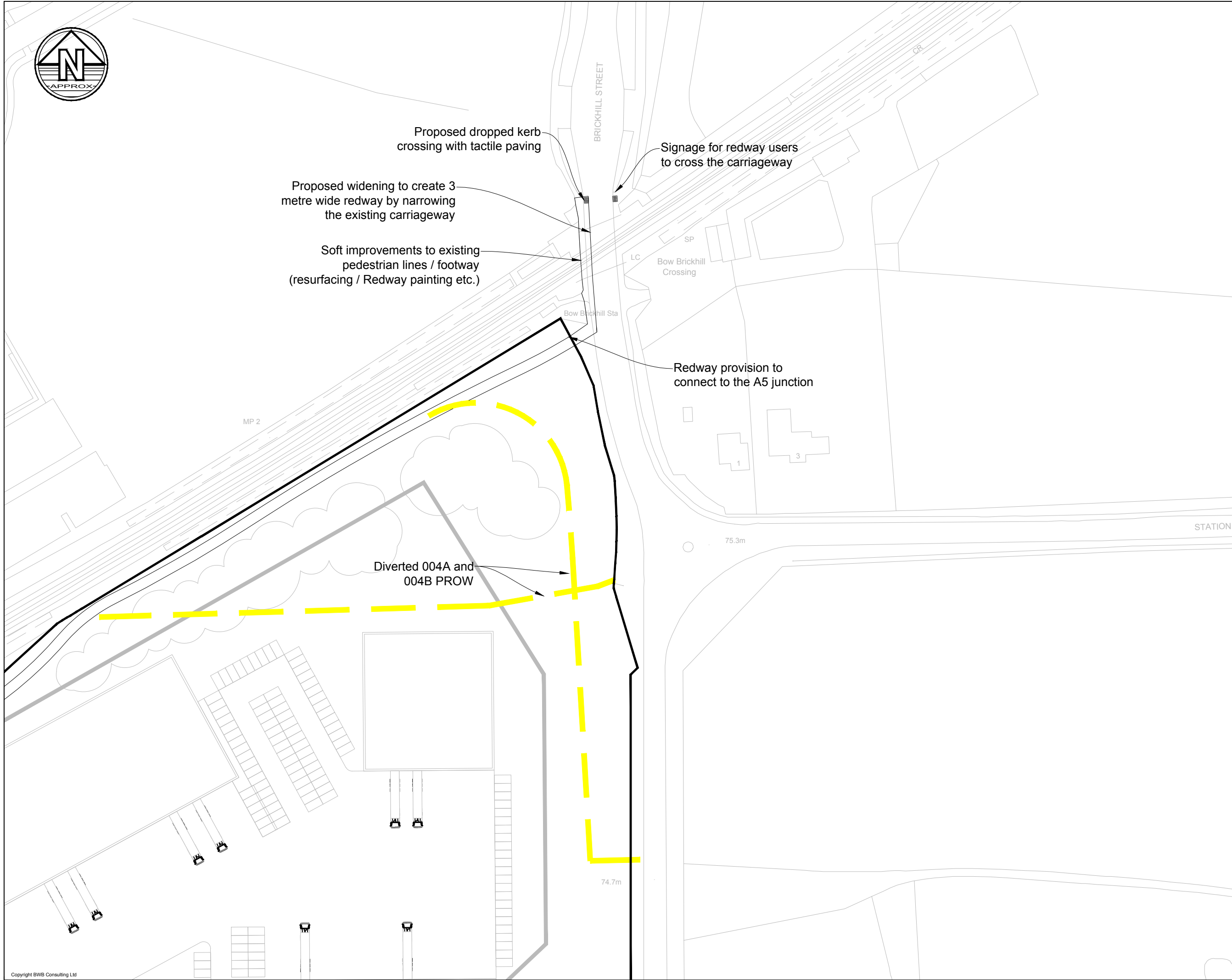
Project - Originator - Zone - Level - Type - Risk - Number
SCD-BWB-GEN-01-DR-TR-001

Status
S2

Rev
P7

SCD-BWB-GEN-01-DR-TR-002

Pedestrian Infrastructure and Redway Improvements around Bow Brickhill Station



Proposed dropped kerb crossing with tactile paving

Signage for redway users to cross the carriageway

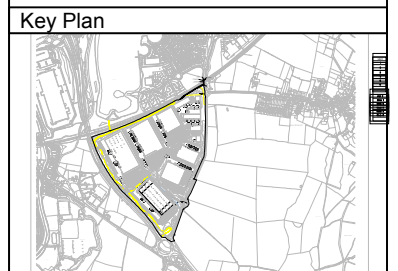
Proposed widening to create 3 metre wide redway by narrowing the existing carriageway

Soft improvements to existing pedestrian lines / footway (resurfacing / Redway painting etc.)

Redway provision to connect to the A5 junction

Diverted 004A and 004B PROW

- Notes**
1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
 2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
 3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
 4. Any discrepancies noted on site are to be reported to the engineer immediately.



Legend

Rev	Date	Details of issue / revision	Drw	Rev
P2	06.11.18	Redway Provision	KB	CH
P1	09.10.18	For Information	ATH	CH

Issues & Revisions

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Client
HB (South Caldecotte) Ltd

Project Title
South Caldecotte, Milton Keynes

Drawing Title
Pedestrian Infrastructure and Redway Improvements around Bow Brickhill Station

Drawn:	K. Borowiec	Reviewed:	C. Holloway
BWB Ref:	NTS 2682	Date:	06.11.18
Scale@A3:	1:1000		
For Information			
Project - Originator - Zone - Level - Type - Role - Number	Status	Rev	
SCD-BWB-GEN-01-DR-TR-002	S2	P2	

SCD-BWB-GEN-01-DR-TR-003

60m Forward Visibility Assessment at V10 Brickhill Street Bend/Crest and Vertical Alignment
Review

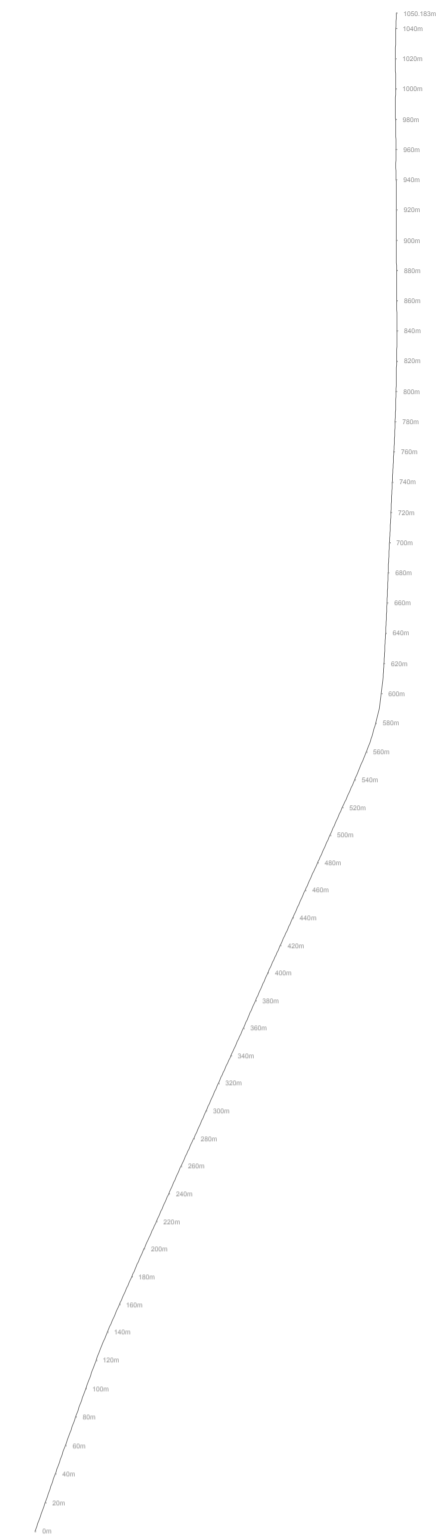


Scale @ A1 = 1:250

Notes

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3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

Key Plan



Legend

Rev	Date	Details of issue / revision	Drw	Rev
P2	05.10.18	Issue For Information	ATH	CH
P1	05.10.18	Issue For Information	ATH	CH

Issues & Revisions

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Client
HB (South Caldecotte) Ltd

Project Title
South Caldecotte, Milton Keynes

Drawing Title
Existing Forward Visibility Assessment at V10 Brickhill Street Bend/ Crest

Drawn:	AT. Huneidi	Reviewed:	C. Holloway
BWB Ref:	NTS 2682	Date:	05.10.18
Scale@A1:	As Shown		

Drawing Status		
For Information		
Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
SCD-BWB-GEN-01-DR-TR-003	S2	P2



60 metres forward visibility splay

74.2m

215m SSD measured from a 5.25m height (1.05m eye height x 5m to take into consideration the exaggerated vertical scale) - Southbound Direction

215m SSD measured from a 5.25m height (1.05m eye height x 5m to take into consideration the exaggerated vertical scale) - Northbound Direction

Point of V10 Brickhill Street Bend

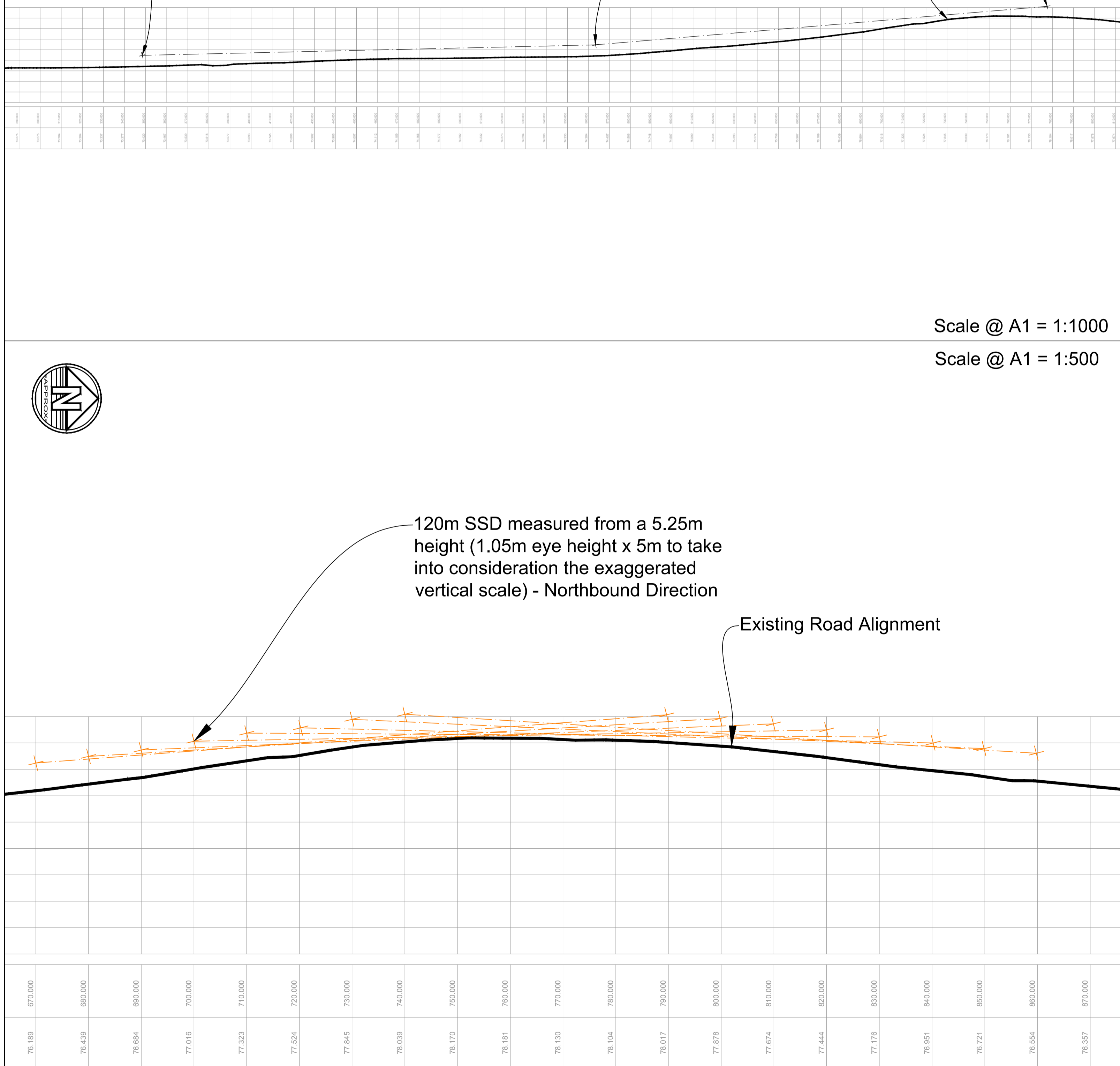
Existing Road Alignment

Scale @ A1 = 1:1000

Scale @ A1 = 1:500

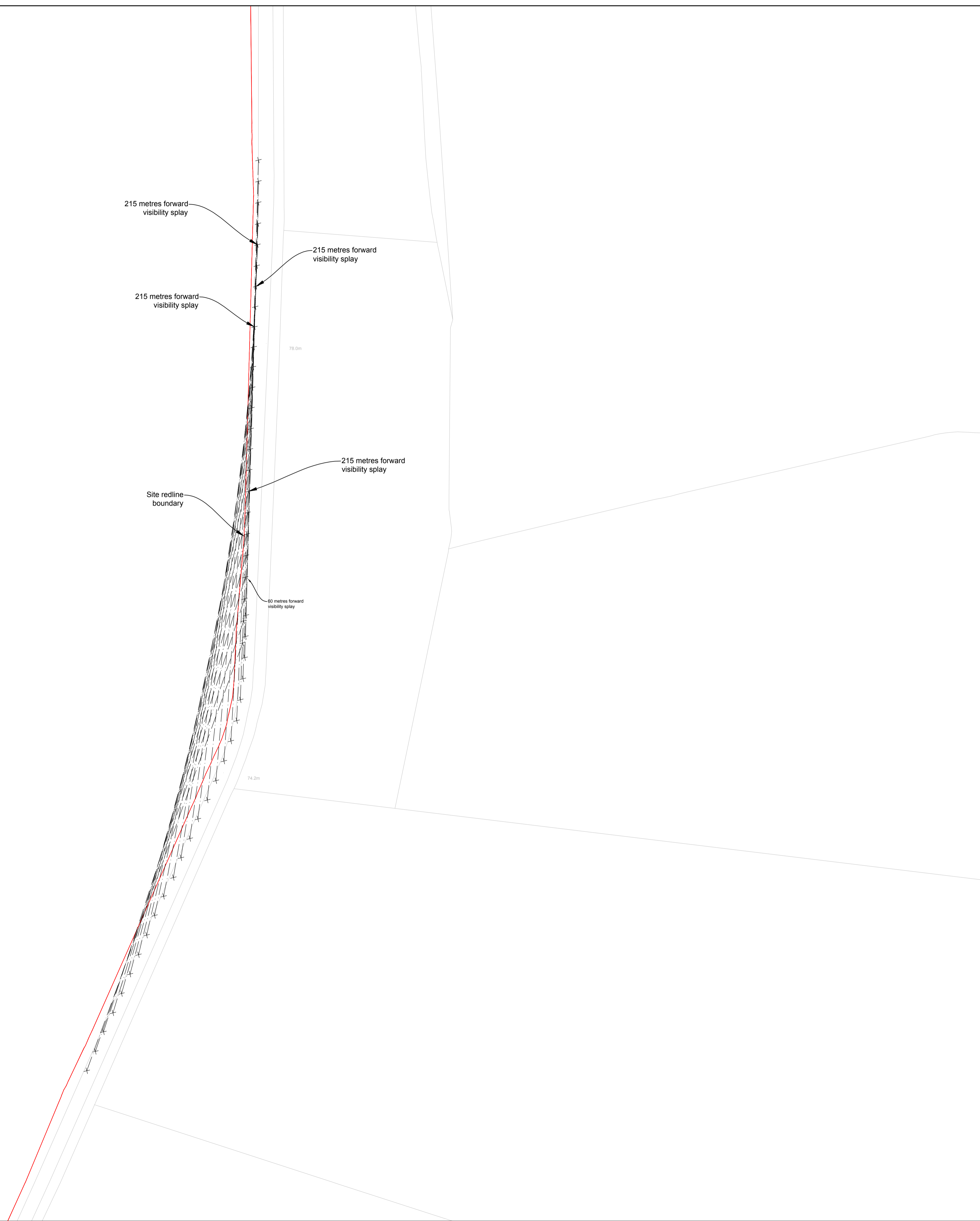
120m SSD measured from a 5.25m height (1.05m eye height x 5m to take into consideration the exaggerated vertical scale) - Northbound Direction

Existing Road Alignment



SCD-BWB-GEN-01-DR-TR-004

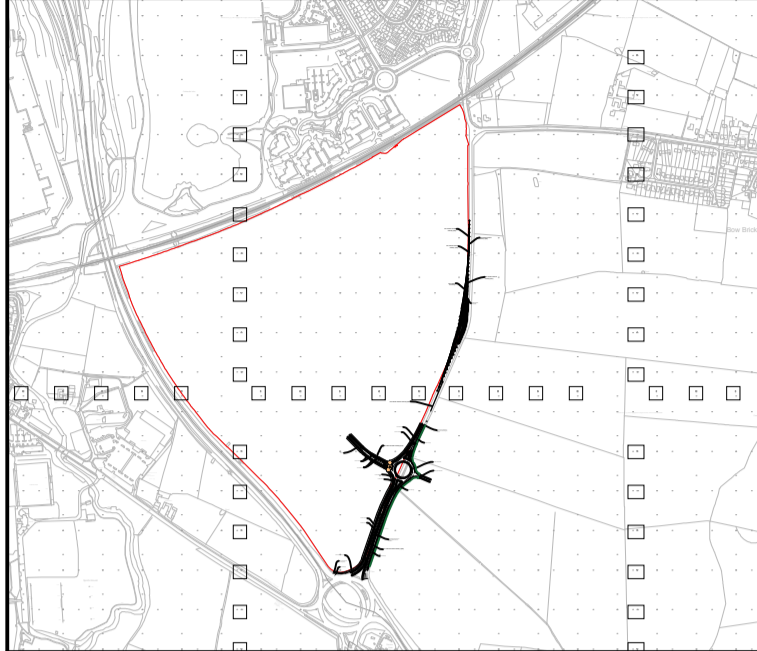
Forward Visibility Assessment at V10 Brickhill Street Bend – Horizontal Alignment



Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

Key Plan



Legend

Rev	Date	Details of issue / revision	Drw	Rev
P2	05.10.18	Issue For Information	ATH	CH
P1	05.10.18	Issue For Information	ATH	CH

Issues & Revisions

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Client
HB (South Caldecotte) Ltd

Project Title
South Caldecotte, Milton Keynes

Drawing Title
Forward Visibility Assessment at V10 Brickhill Street Bend - Horizontal Alignment

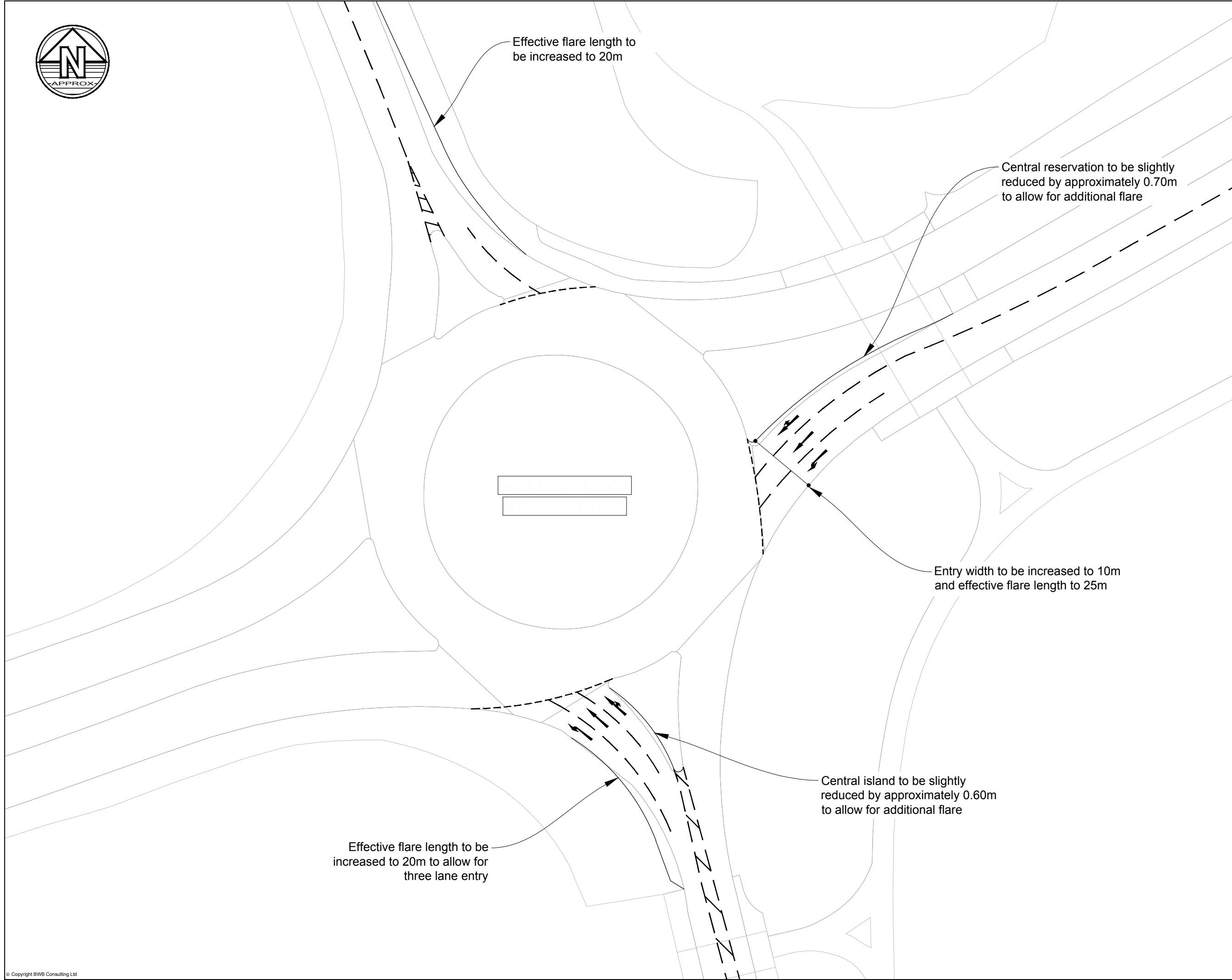
Drawn:	AT. Huneidi	Reviewed:	C. Holloway
BWB Ref:	NTS 2682	Date:	05.10.18
Scale@A1:	1:1000		

For Information

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
SCD-BWB-GEN-01-DR-TR-004	S2	P2

SCD-BWB-GEN-01-DR-TR-005

Proposed Walton Park Roundabout Mitigation Scheme



Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

Key Plan

Legend

P2	29.10.18	FOR INFORMATION	CC	CH
P1	29.06.18	FOR INFORMATION	CC	CH
Rev	Date	Details of issue / revision	Drw	Rev

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Client

HB (South Caldecotte) Ltd

Project Title

South Caldecotte, Milton Keynes

Drawing Title

Proposed Walton Park Roundabout Mitigation Scheme

Drawn:	C. Cresswell	Reviewed:	C. Holloway
BWB Ref:	NTS 2682	Date:	29.10.18
Scale:	A3	Scale:	1:500

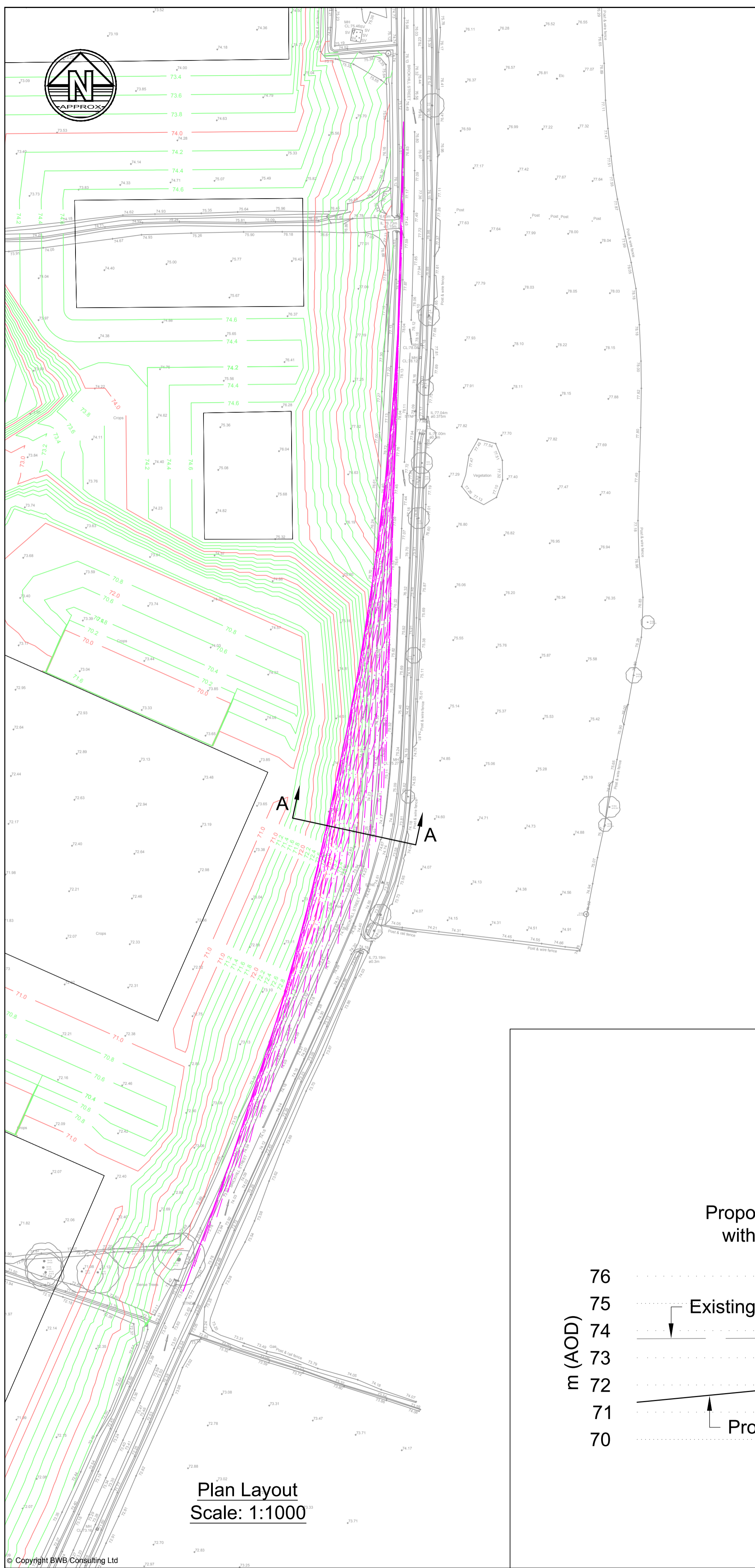
Drawing Status

For Information

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
SCD-BWB-GEN-01-DR-TR-005	S2	P2

SCD-BWB-HGN-XX-SK-D-130

V10 Brickhill Street Cross Section Through Visibility Splay



- Notes**
1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
 2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
 3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
 4. Any discrepancies noted on site are to be reported to the engineer immediately.

- Key Plan**
- Proposed Finished Contours
 - 215m Forward visibility splay

P2	23.11.18	Section A-A revised	RAL	CH
P1	15.11.18	Preliminary issue	RAL	CH
Rev	Date	Details of issue / revision	Drw	Rev

Issues & Revisions

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Client
Hampton Brook

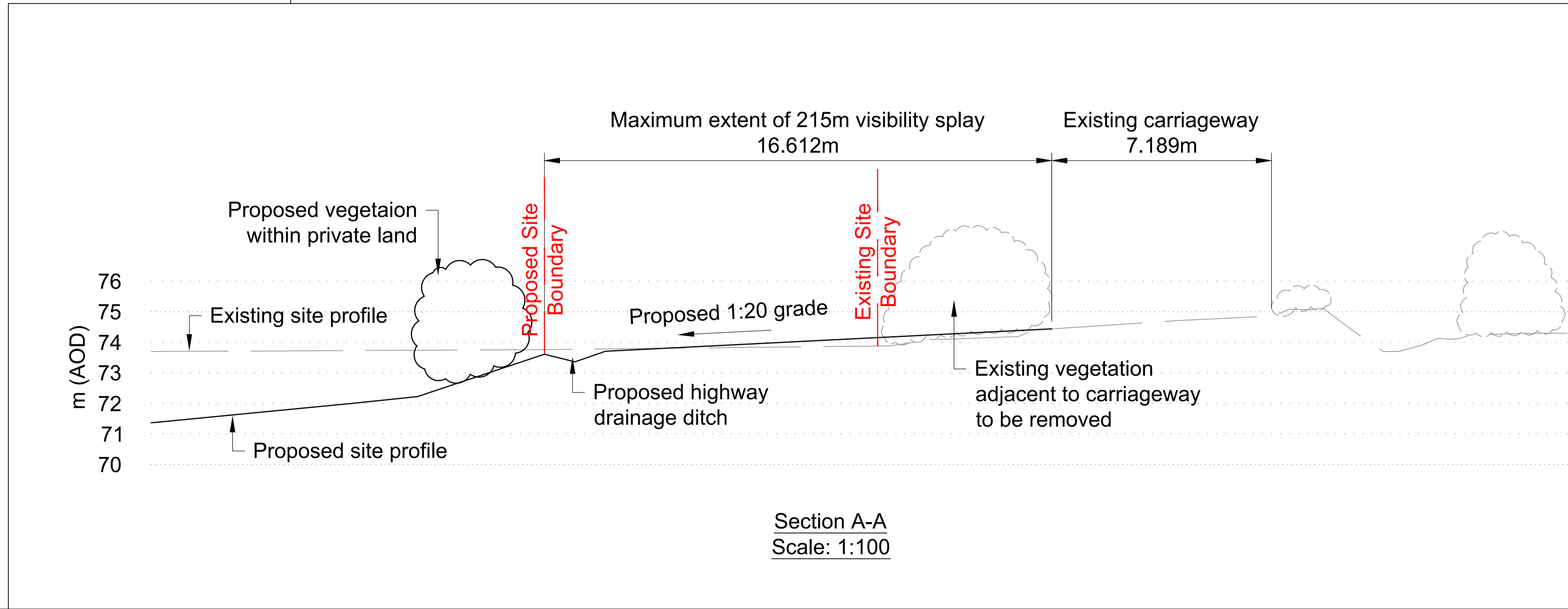
Project Title
South Caldecotte

Drawing Title
**V10 Brickhill Street
Cross Section Through
Visibility Splay**

Drawn:	R. Leyland	Reviewed:	C. Holloway
BWB Ref:	NTS 2682	Date:	18.05.18
Drawing Status	Scale@A1:	as shown	

Preliminary

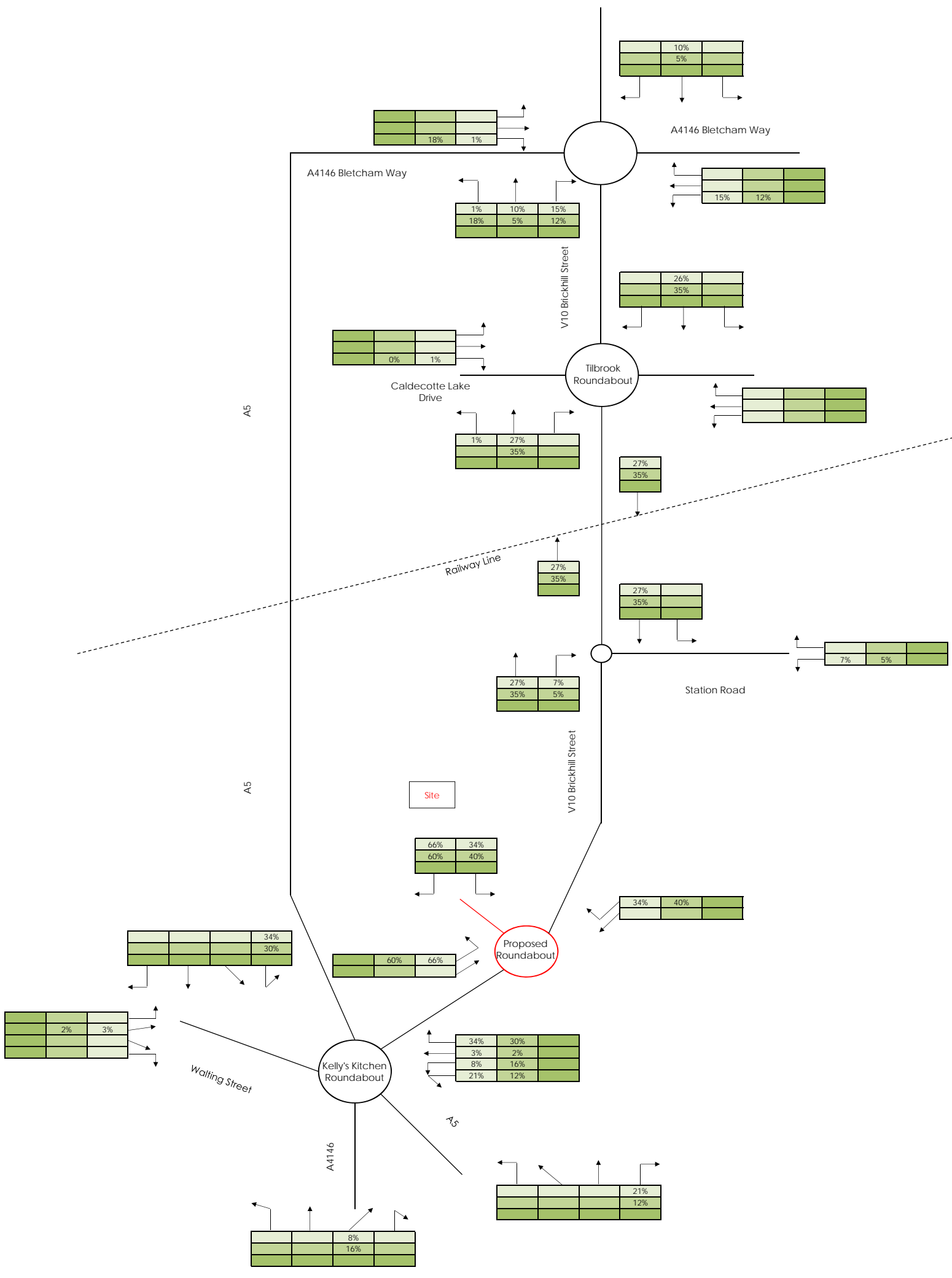
Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
SCD-BWB-HGN-XX-SK-D-130	S1	P2



Plan Layout
Scale: 1:1000

Section A-A
Scale: 1:100

TRAFFIC FLOW DIAGRAMS



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London
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London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

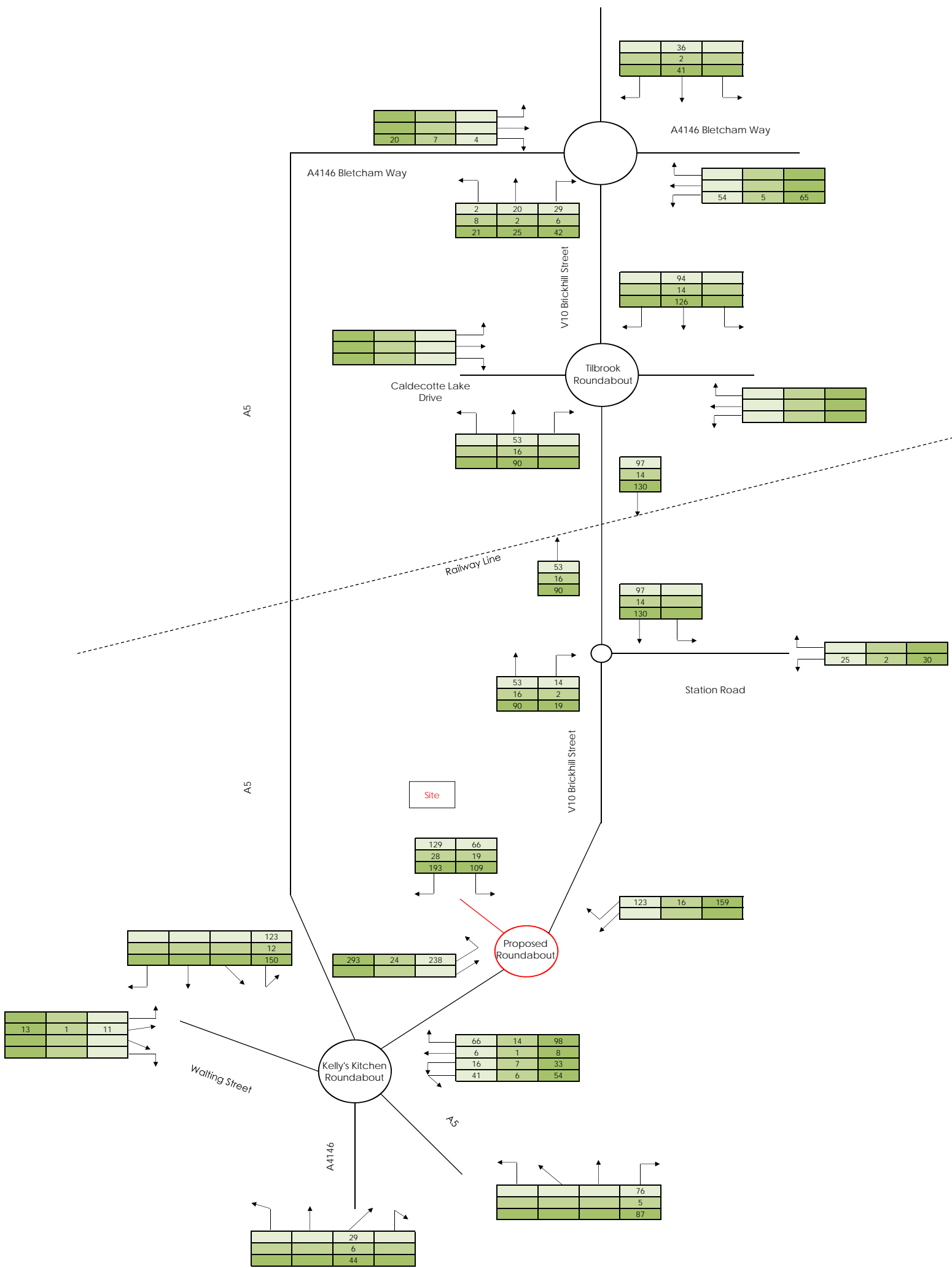
Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project
Land West of Brickhill Street
South Caldecotte, Milton Keynes

Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title
Diagram 1
Trip Distribution Percentages

Project Number
NTS2682



Vehicular Trips			
Use	Arr.	Dep.	2-way
B2	154	79	233
B8	207	116	323
Total	360	195	556

HGV Trips			
Use	Arr.	Dep.	2-way
B2	7	10	17
B8	33	37	70
Total	40	46	86

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



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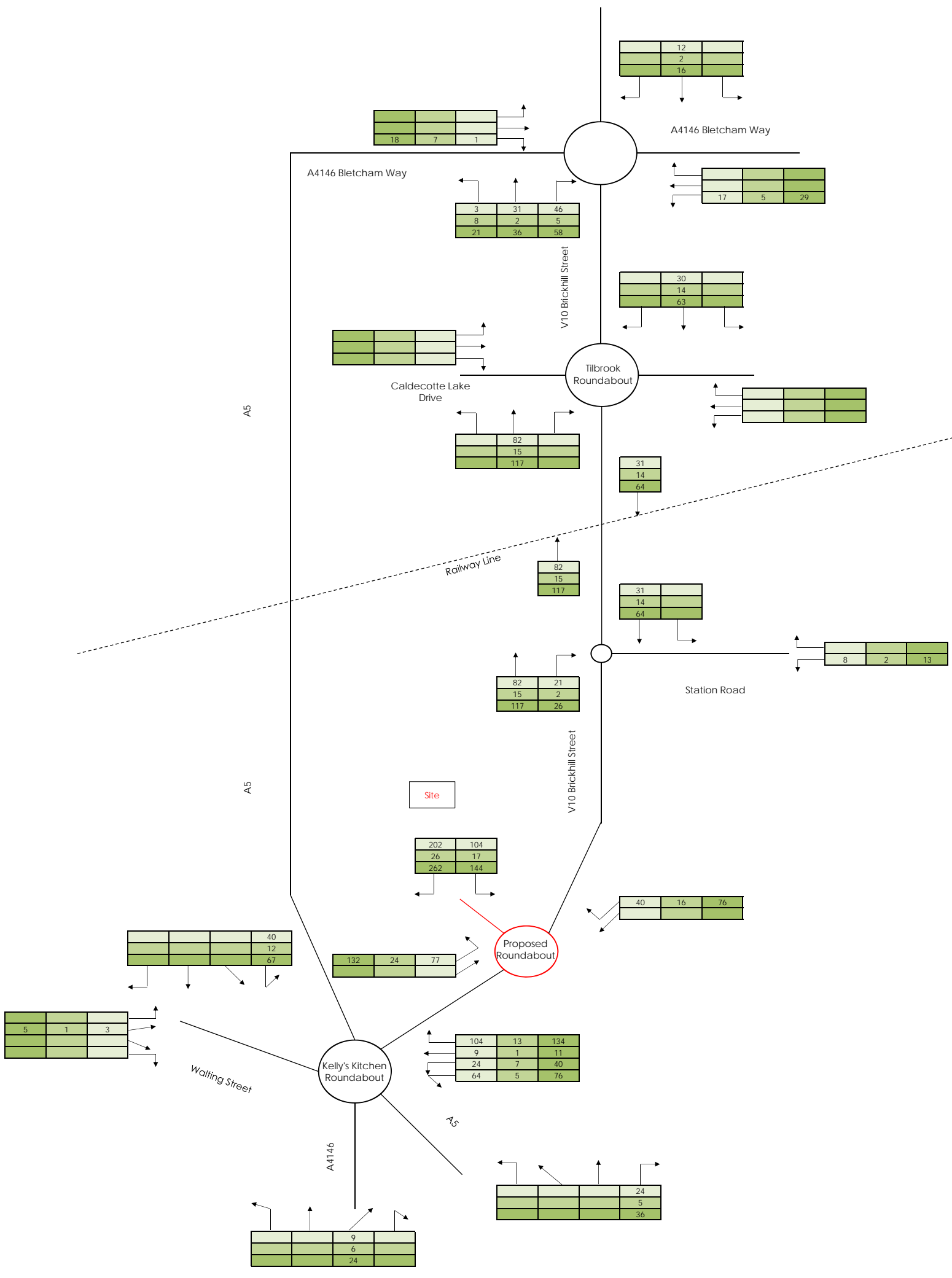
Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
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Project
Land West of Brickhill Street
South Caldecotte, Milton Keynes

Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title
Diagram 2
Trip Assignment: Morning Peak (08:00-09:00)

Project Number
NTS2682



Vehicular Trips			
Use	Arr.	Dep.	2-way
B2	47	133	180
B8	70	172	242
Total	116	305	422

HGV Trips			
Use	Arr.	Dep.	2-way
B2	3	5	8
B8	37	39	75
Total	40	43	84

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



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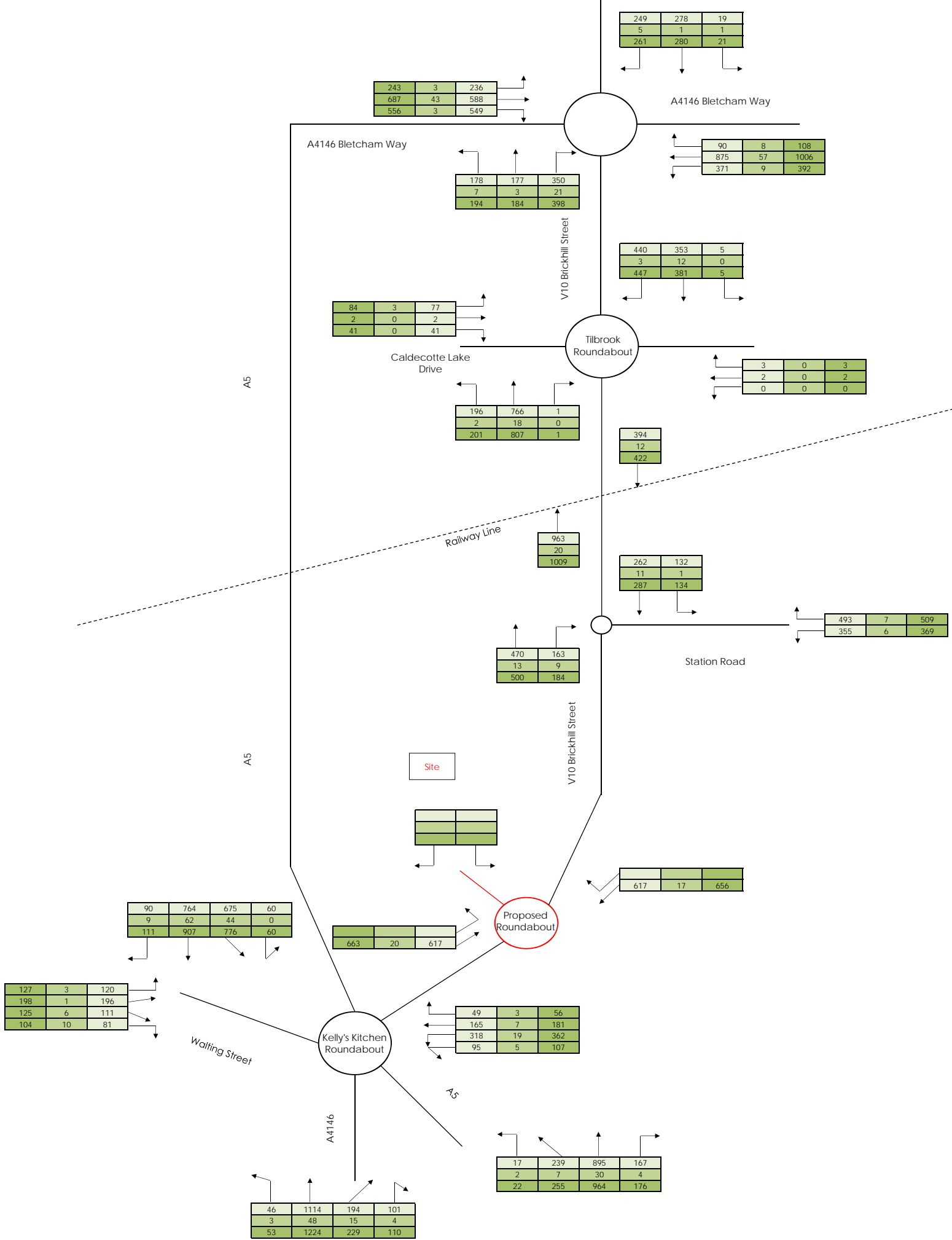
Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project
Land West of Brickhill Street
South Caldecotte, Milton Keynes

Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title
Diagram 3
Trip Assignment: Evening Peak (17:00-18:00)

Project Number
NTS2682



Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



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Leeds
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T: 0113 233 8000

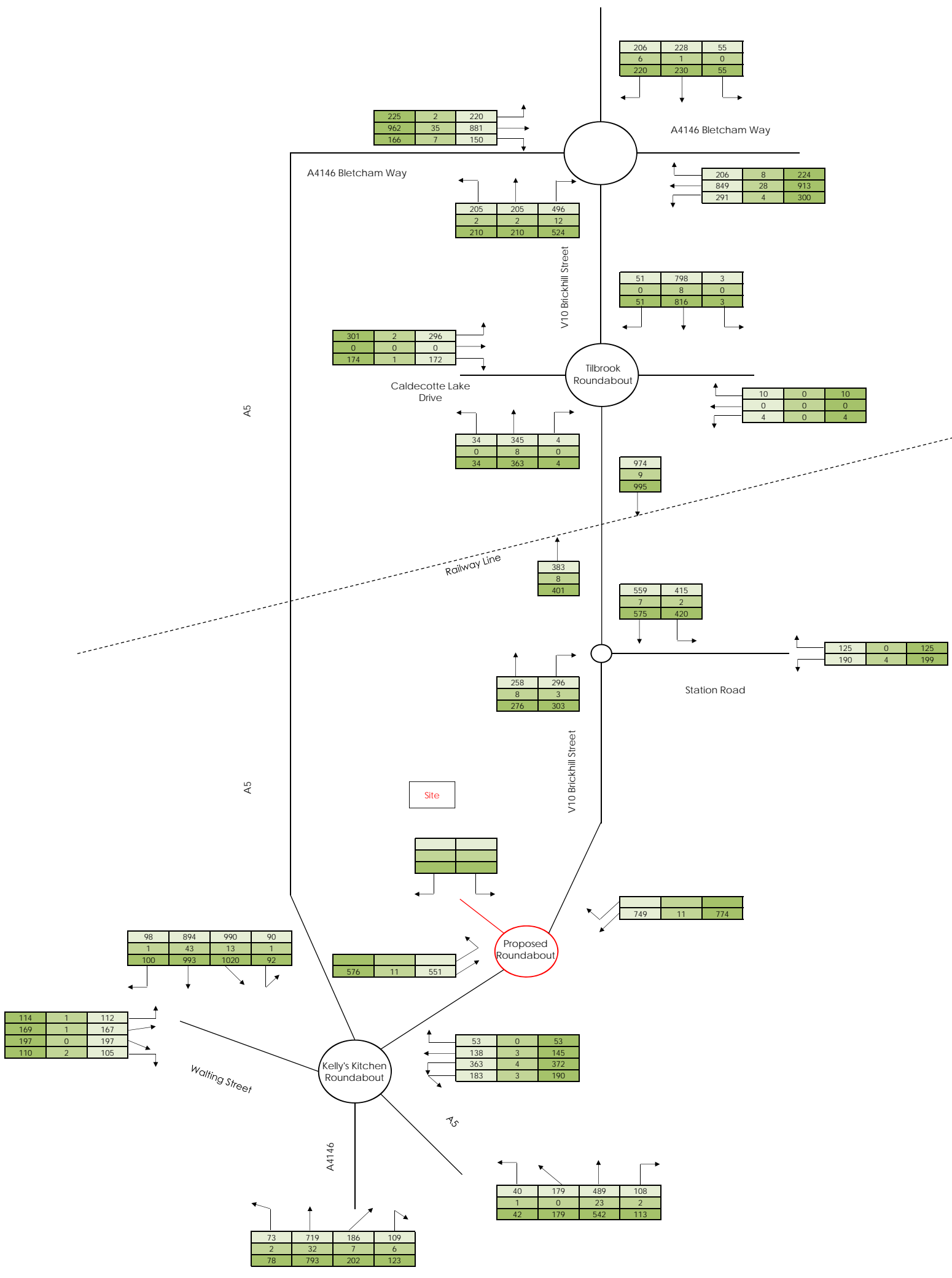
London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	Diagram 4 2017 Baseline Traffic: Morning Peak (08:00-09:00)
Project Number	NTS2682



Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



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Leeds
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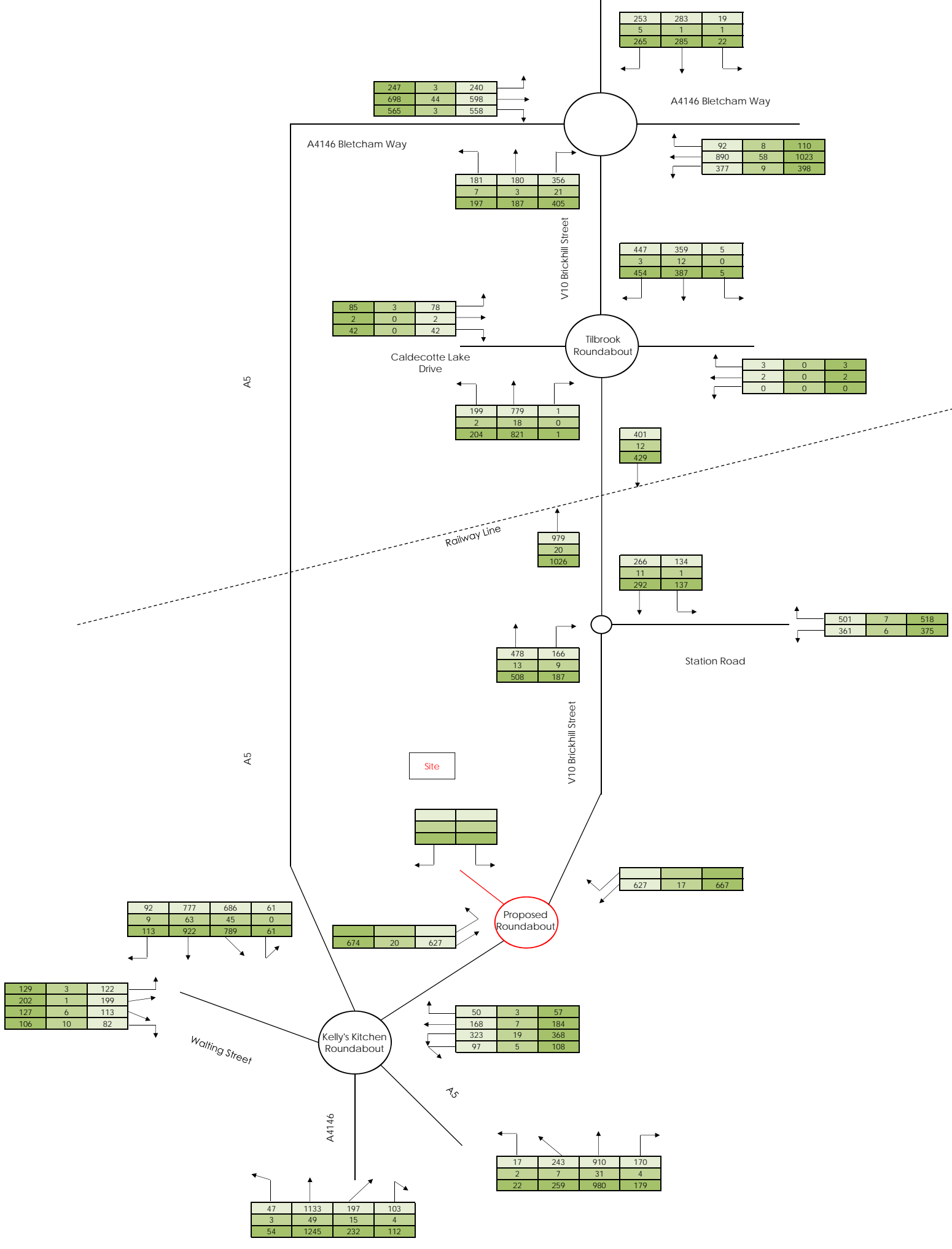
London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
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Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	
Diagram 5 2017 Baseline Traffic: Evening Peak (17:00-18:00)	
Project Number	
NTS2682	



Traffic Growth Factor: 2017-2018 AM
1.0167

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



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Leeds
Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH
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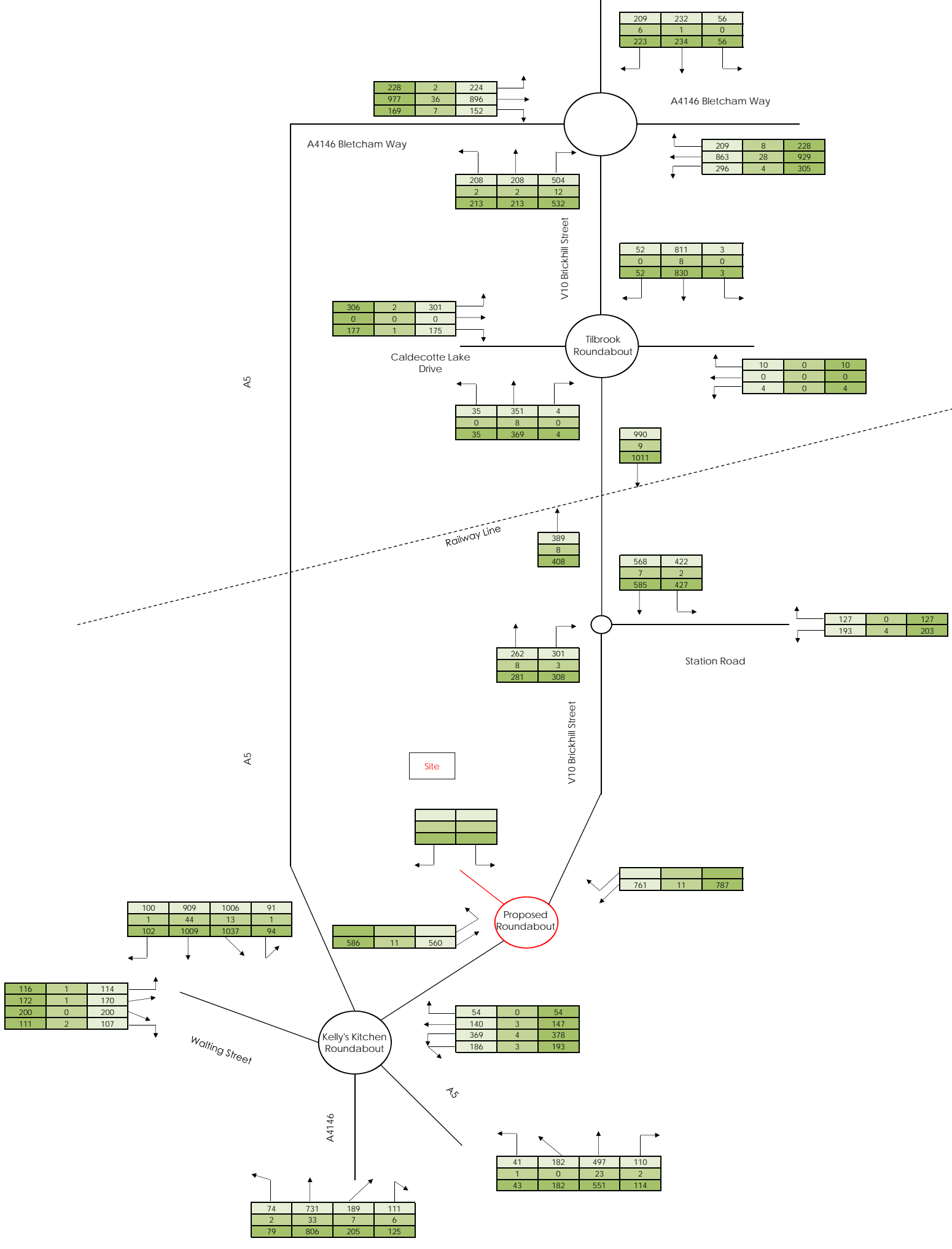
London
11 Borough High Street, London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	
Diagram 6 2018 Baseline Traffic: Morning Peak (08:00-09:00)	
Project Number	
NTS2682	



Traffic Growth Factor: 2017-2018 PM
1.0166

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



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London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

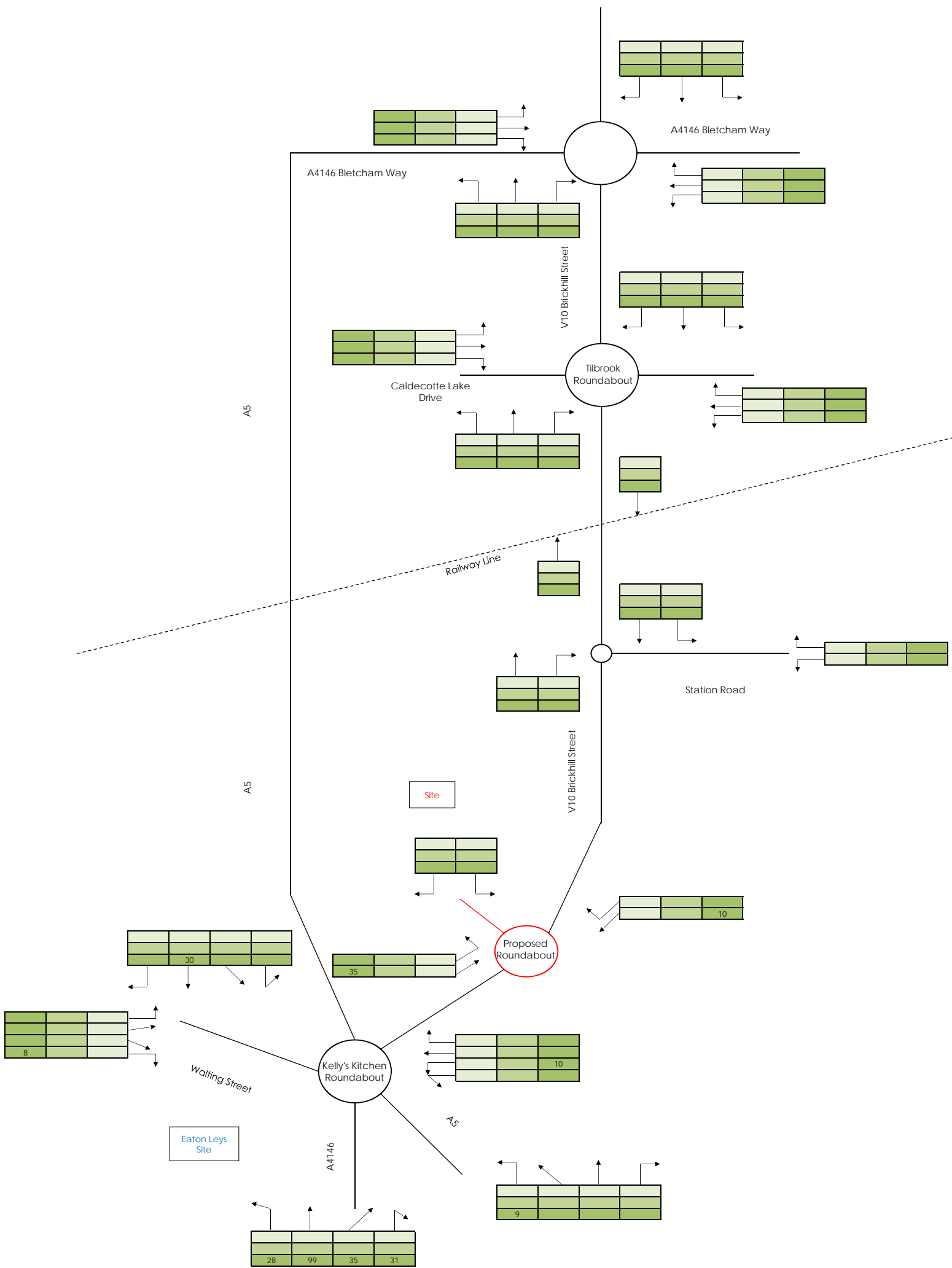
Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project
Land West of Brickhill Street
South Caldecotte, Milton Keynes

Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title
Diagram 7
2018 Baseline Traffic: Evening Peak
(17:00-18:00)

Project Number
NTS2682




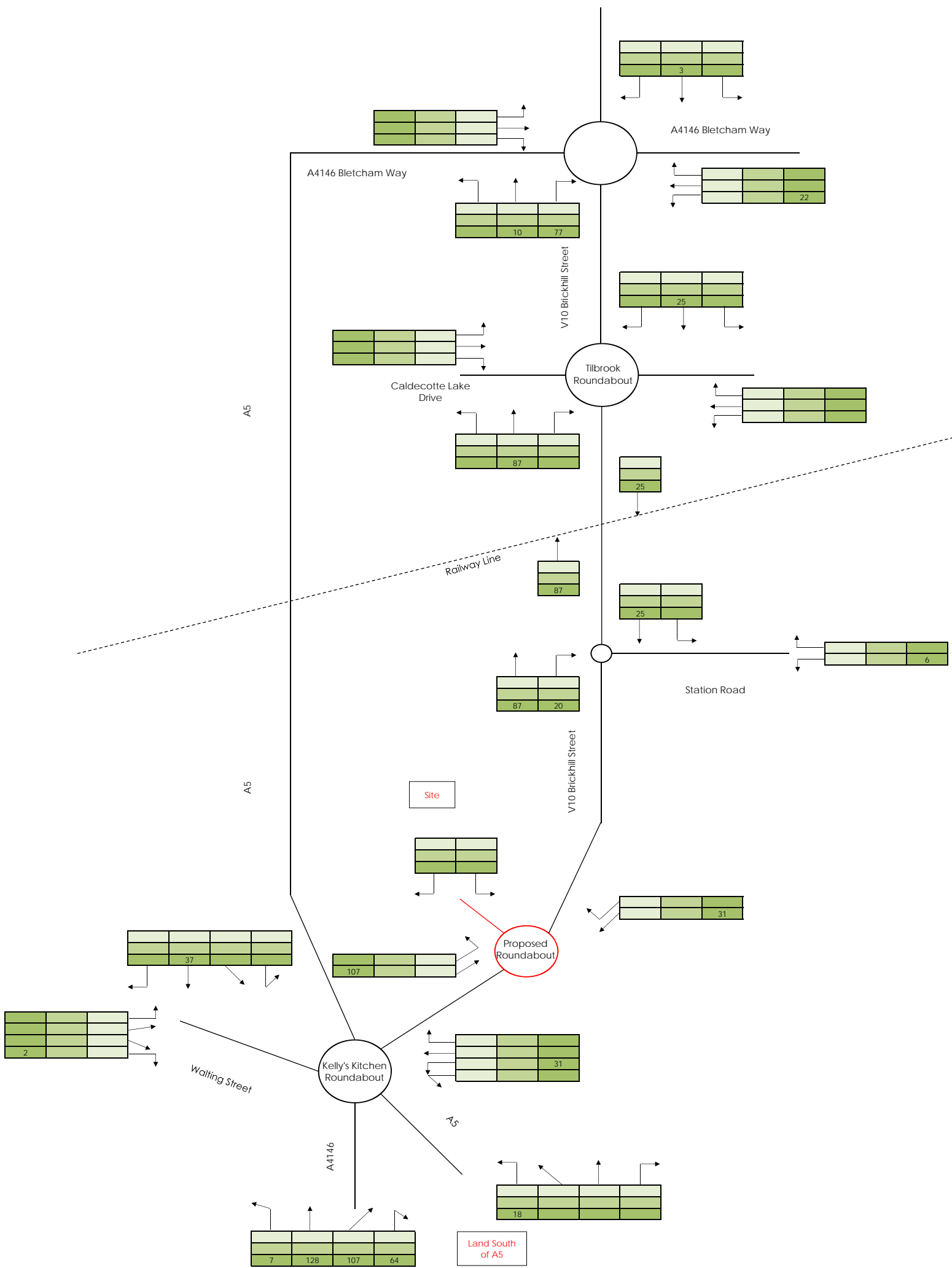
Committed Development	Trip Generation - Without 9% mode split reduction		
	Arr.	Dep.	2-way
Eaton Leys (Ref# 15/01533/OUTEIS)			
600 Units + Primary School	164	358	522

Key	
VEHs	[Green Box]
HGVs	[Light Green Box]
TOTAL (PCUs)*	[Green Box]

Note 1: Eaton Leys site was for up to 1800 units, however only 600 units are committed. Therefore trip generation results were divided by 3
 Note 2: Committed development trips were assigned to the network based on the identified trip assignments in each Transport Assessment

*Assumed PCU Value for HGVs = 2.3

 <p>BWB CONSULTANCY ENVIRONMENT INFRASTRUCTURE BUILDINGS</p> <p>Birmingham Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB T: 0121 233 3322</p> <p>Leeds Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH T: 0113 233 8000</p> <p>London 11 Borough High Street London, SE1 9SE T: 020 7407 3879</p> <p>Manchester 4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG T: 0161 233 4260</p> <p>Nottingham Waterfront House, Station Street, Nottingham NG2 3DQ T: 0115 924 1100</p>	<p>Project</p> <p>Land West of Brickhill Street South Caldecotte, Milton Keynes</p>			<p>Drawing Title</p> <p>Diagram 8</p> <p>Eaton Leys Committed Development Traffic Flows: Morning Peak (08:00-09:00)</p>	
	<p>Drawn</p> <p>AH</p>	<p>Approved</p> <p>CH</p>	<p>Project Number</p> <p>NTS2682</p>		
	<p>Checked</p> <p>MA</p>	<p>Date</p> <p>06.06.2018</p>			



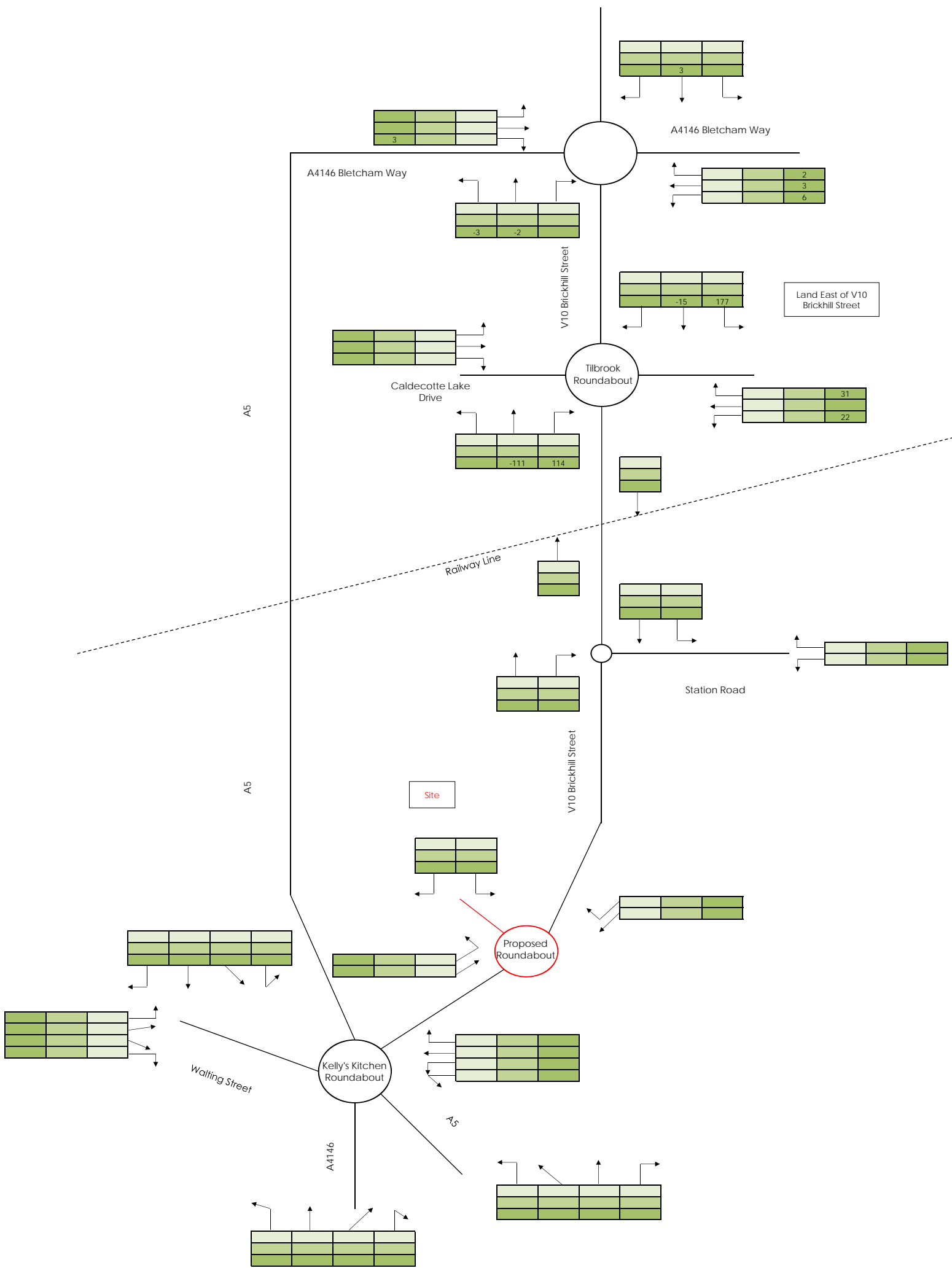
Committed Development	Trip Generation - Based on 540 units		
	Arr.	Dep.	2-way
Land South of A5 (Ref# 17/03233/OUT)	94	327	421
500 Units			

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

Note 1: The submitted application is for 500 units, however the Transport Assessment and trip generation are based on impact of 540 units
 Note 2: Committed development trips were assigned to the network based on the identified trip assignments in each Transport Assessment

*Assumed PCU Value for HGVs = 2.3

	Birmingham Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB T: 0121 233 3322			Project Land West of Brickhill Street South Caldecotte, Milton Keynes	Drawing Title Diagram 9 Land South of A5 Committed Development Traffic Flows: Morning Peak (08:00-09:00)		
	Leeds Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH T: 0113 233 8000				Drawn AH	Approved CH	Project Number NTS2682
	London 11 Borough High Street London, SE1 9SE T: 020 7407 3879				Checked MA	Date 06.06.2018	
Manchester 4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG T: 0161 233 4260							
Nottingham Waterfront House, Station Street, Nottingham NG2 3DQ T: 0115 924 1100							



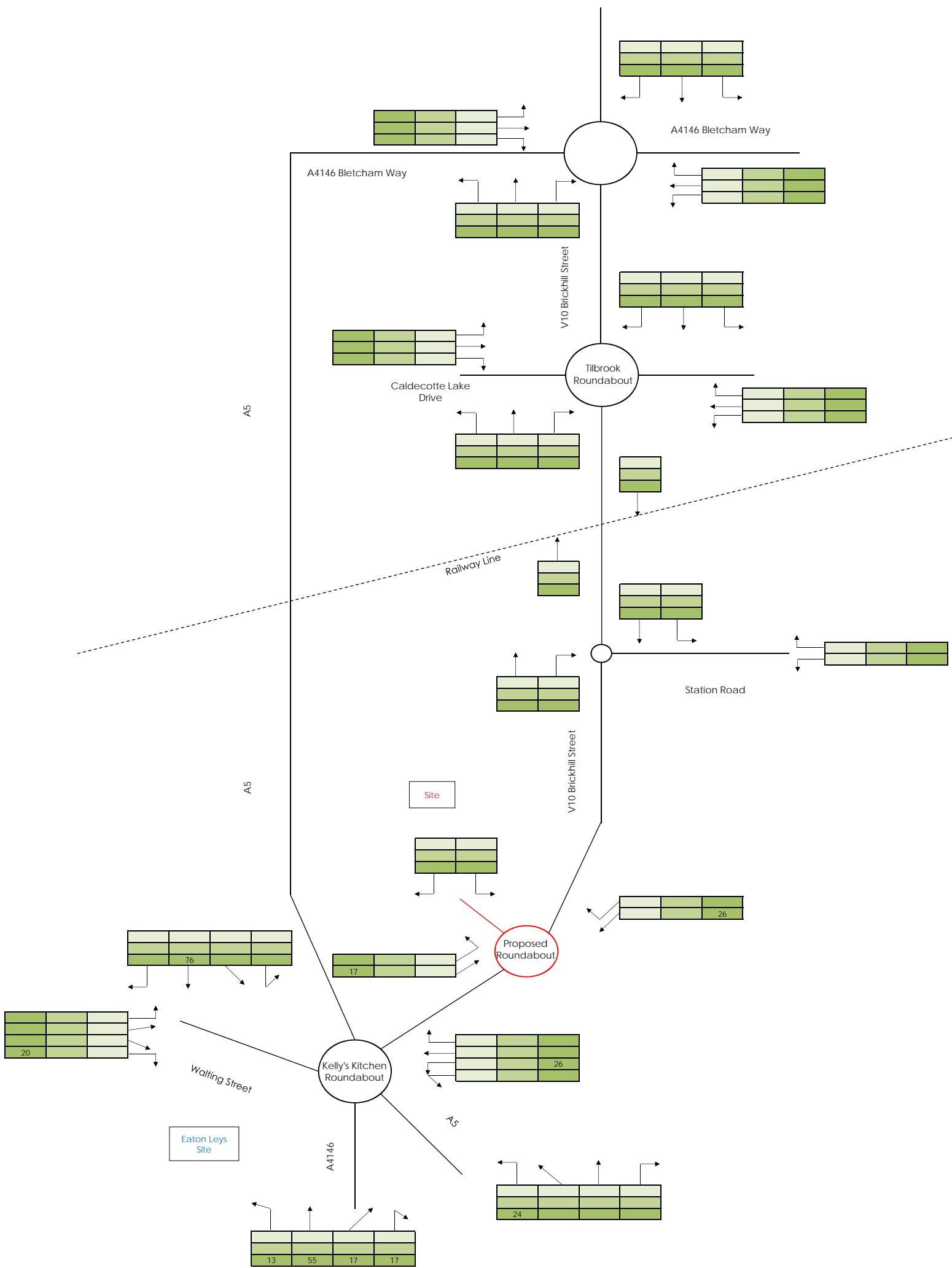
Committed Development	Trip Generation - AM
Land East of V10 Brickhill Street (Ref# 17/03361/FUL) - Red Bull Technology Campus	See Figure 7.9 in consented TA: AM Peak Reassignment

Key	
VEHs	[Green Box]
HGVs	[White Box]
TOTAL (PCUs)*	[Green Box]

*Assumed PCU Value for HGVs = 2.3

Note 1: Red Bull Technology Campus development would redistribute traffic between Tilbrook Roundabout and the A4146 Bletcham Way
 Note 2: Committed development trips were assigned to the network based on the identified trip assignments in each Transport Assessment

	Birmingham Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB T: 0121 233 3322				Project Land West of Brickhill Street South Caldecotte, Milton Keynes	Drawing Title Diagram 10 Land East of V10 Brickhill Street Committed Development Traffic Flows: Morning Peak (08:00-09:00)	
	Leeds Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH T: 0113 233 8000					Drawn AH	Approved CH
	London 11 Borough High Street London, SE1 9SE T: 020 7407 3879				Checked MA	Date 06.06.2018	
	Manchester 4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG T: 0161 233 4260						
Nottingham Waterfront House, Station Street, Nottingham NG2 3DQ T: 0115 924 1100							



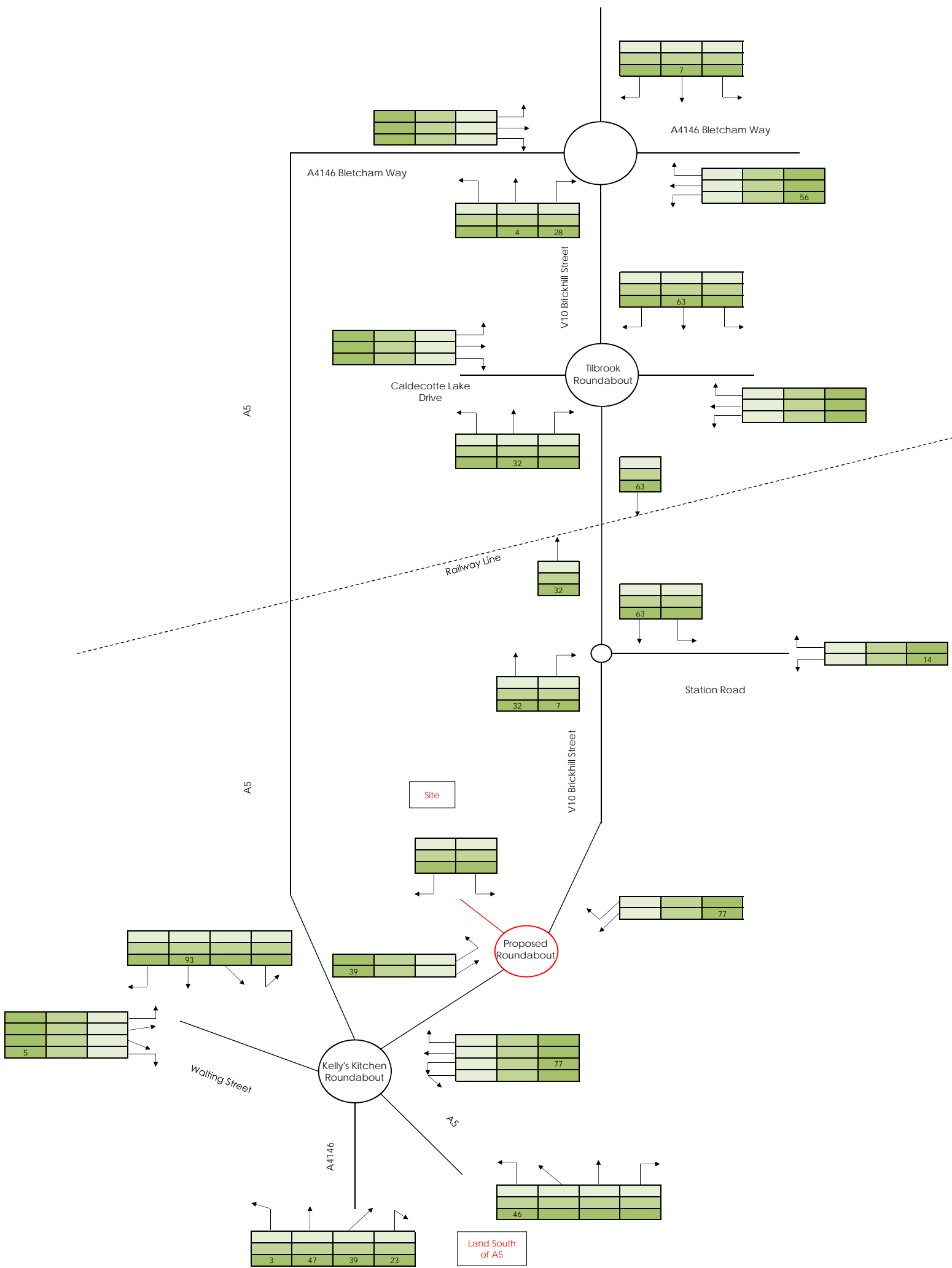
Committed Development	Trip Generation - Without 9% mode split reduction		
	Arr.	Dep.	2-way
Eaton Leys (Ref# 15/01533/OUTEIS)			
600 Units + Primary School	214	145	359

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

Note 1: Eaton Leys site was for up to 1800 units, however only 600 units are committed. Therefore trip generation results were divided by 3
 Note 2: Committed development trips were assigned to the network based on the identified trip assignments in each Transport Assessment

*Assumed PCU Value for HGVs = 2.3

	Birmingham Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB T: 0121 233 3322 Leeds Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH T: 0113 233 8000 London 11 Borough High Street London, SE1 9SE T: 020 7407 3879 Manchester 4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG T: 0161 233 4260 Nottingham Waterfront House, Station Street, Nottingham NG2 3DQ T: 0115 924 1100	Project Land West of Brickhill Street South Caldecotte, Milton Keynes	Drawing Title Diagram 11 Eaton Leys Committed Development Traffic Flows: Evening Peak (17:00-18:00)
	Drawn AH Approved CH	Project Number NTS2682	
	Checked MA Date 06.06.2018		



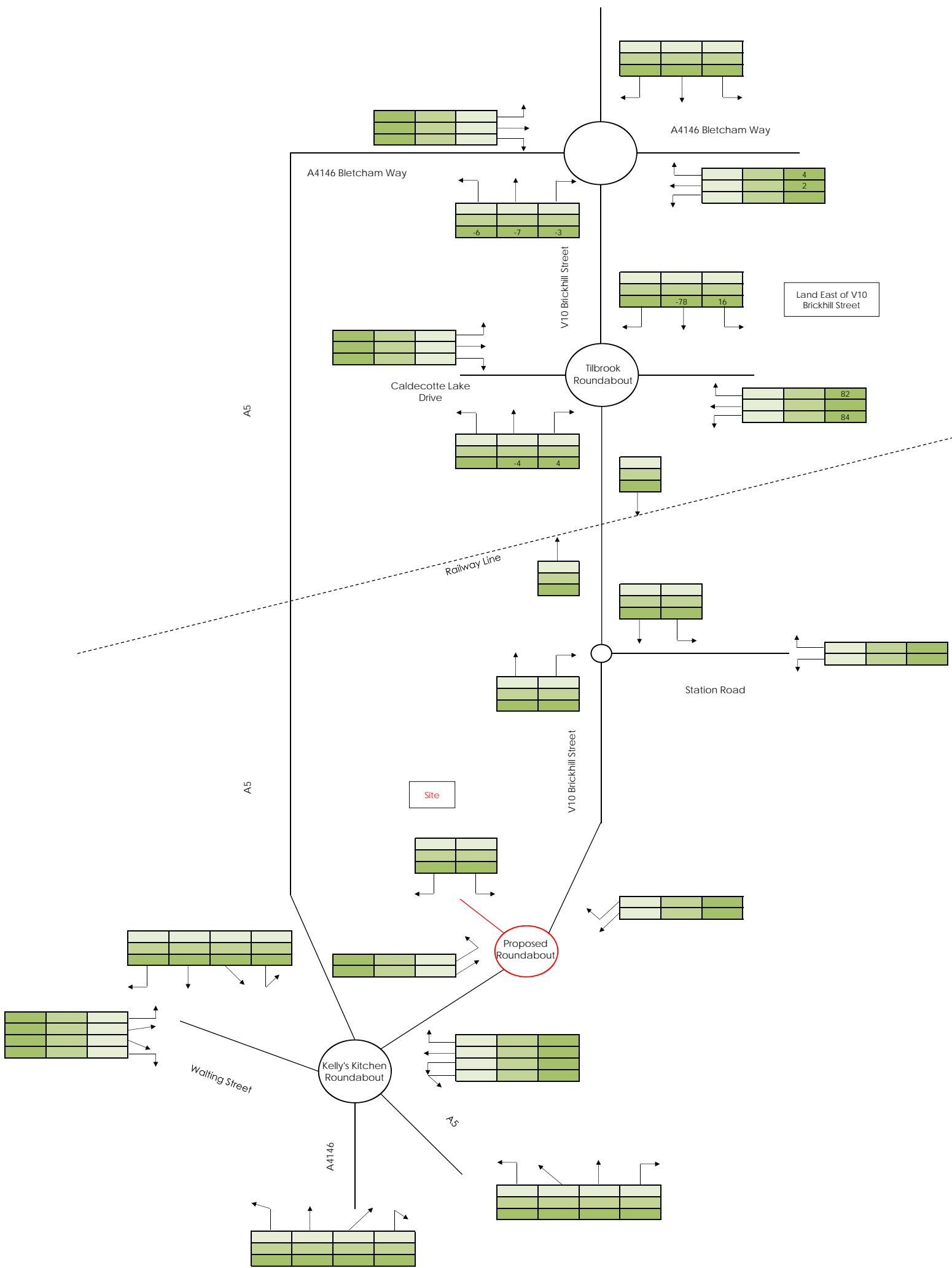
Committed Development	Trip Generation - Based on 540 units		
	Arr.	Dep.	2-way
Land South of A5 (Ref# 17/03233/OUT)	236	119	355
500 Units			

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

Note 1: The submitted application is for 500 units, however the Transport Assessment and trip generation are based on allowance for 540 units
 Note 2: Committed development trips were assigned to the network based on the identified trip assignments in each Transport Assessment

*Assumed PCU Value for HGVs = 2.3

	Birmingham Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB T: 0121 233 3322		Leeds Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH T: 0113 233 8000		London 11 Borough High Street, London, SE1 9SE T: 020 7407 3879		Manchester 4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG T: 0161 233 4260		Nottingham Waterfront House, Station Street, Nottingham NG2 3DQ T: 0115 924 1100	
	Project Land West of Brickhill Street South Caldecotte, Milton Keynes						Drawing Title Diagram 12 Land South of A5 Committed Development Traffic Flows: Evening Peak (17:00-18:00)			
	Drawn AH		Approved CH		Project Number NTS2682					
Checked MA		Date 06.06.2018								



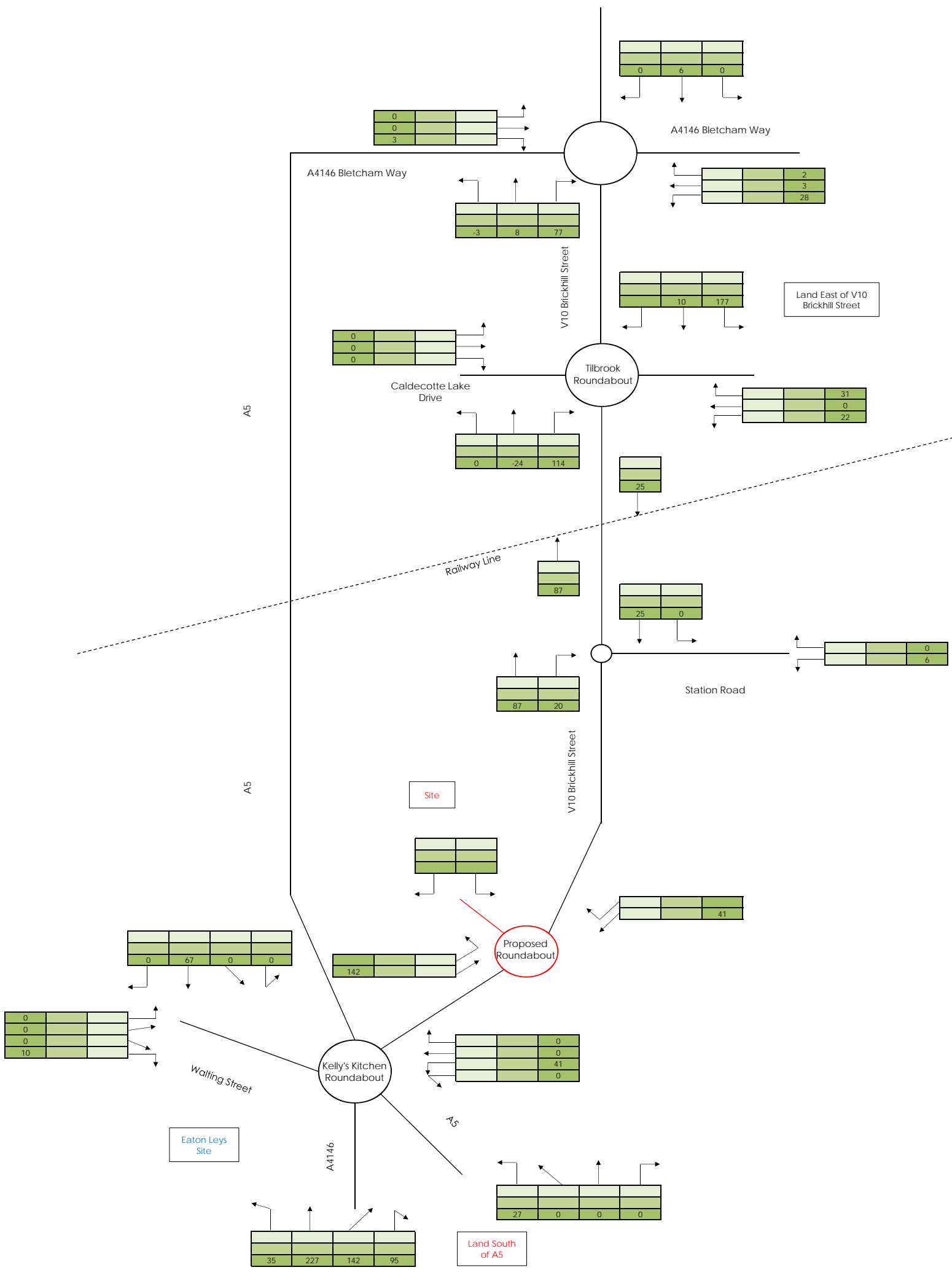
Committed Development	Trip Generation - PM
Land East of V10 Brickhill Street (Ref# 17/03361/FUL) - Red Bull Technology Campus	See Figure 7.10 in consented TA: PM Peak Reassignment

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3

Note 1: Red Bull Technology Campus development would redistribute traffic between Tilbrook Roundabout and the A4146 Bletcham Way
 Note 2: Committed development trips were assigned to the network based on the identified trip assignments in each Transport Assessment

	Birmingham Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB T: 0121 233 3322 Leeds Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH T: 0113 233 8000 London 11 Borough High Street London, SE1 9SE T: 020 7407 3879 Manchester 4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG T: 0161 233 4260 Nottingham Waterfront House, Station Street, Nottingham NG2 3DQ T: 0115 924 1100	Project Land West of Brickhill Street South Caldecotte, Milton Keynes	Drawing Title Diagram 13 Land South of A5 Committed Development Traffic Flows: Evening Peak (17:00-18:00)
	Drawn AH Approved CH	Project Number NTS2682	
	Checked MA Date 06.06.2018		



Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



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T: 0121 233 3322

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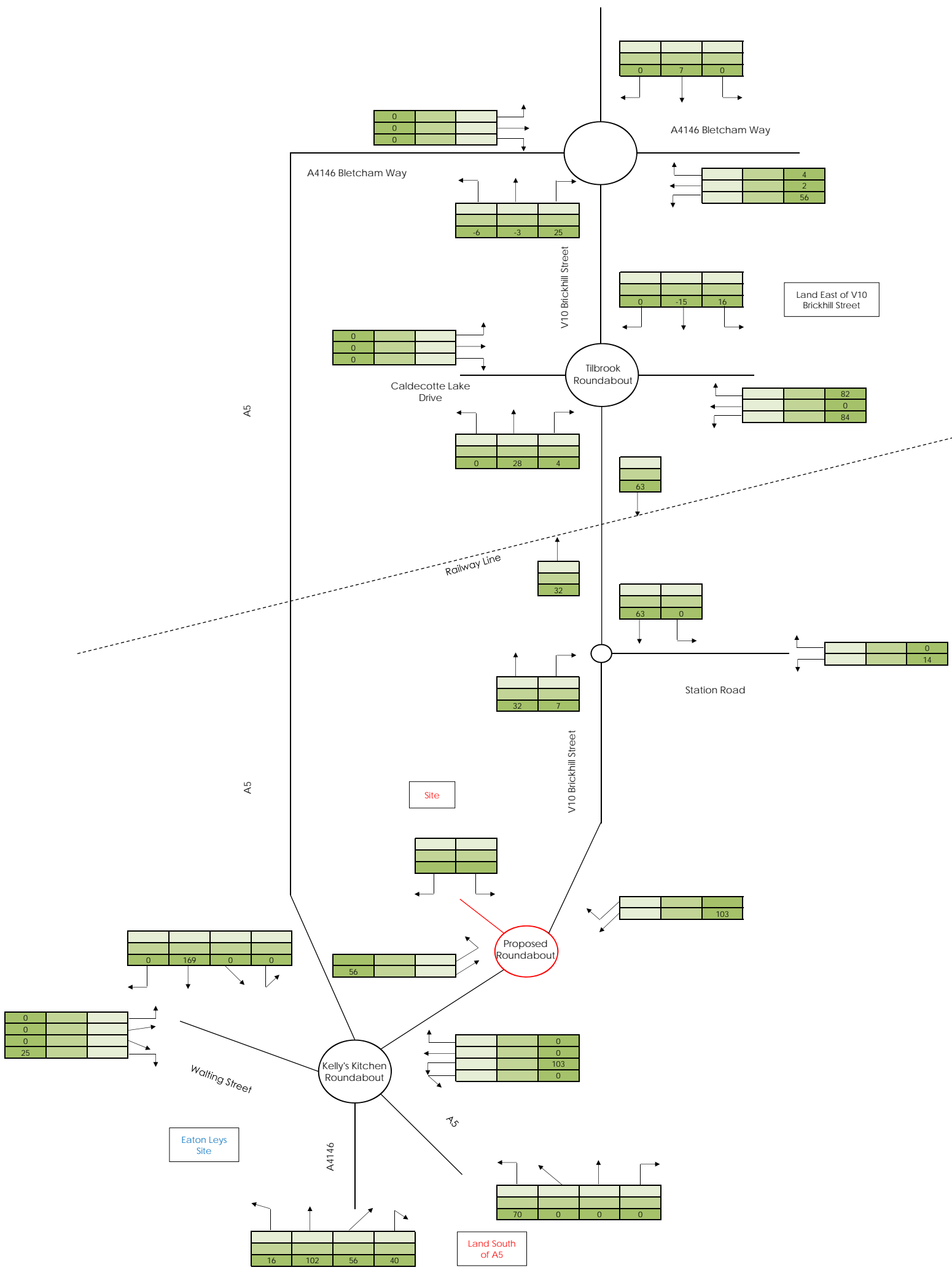
London
11 Borough High Street London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	Diagram 14 All Committed Development Traffic Flows: Morning Peak (08:00-09:00)
Project Number	NTS2682



Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



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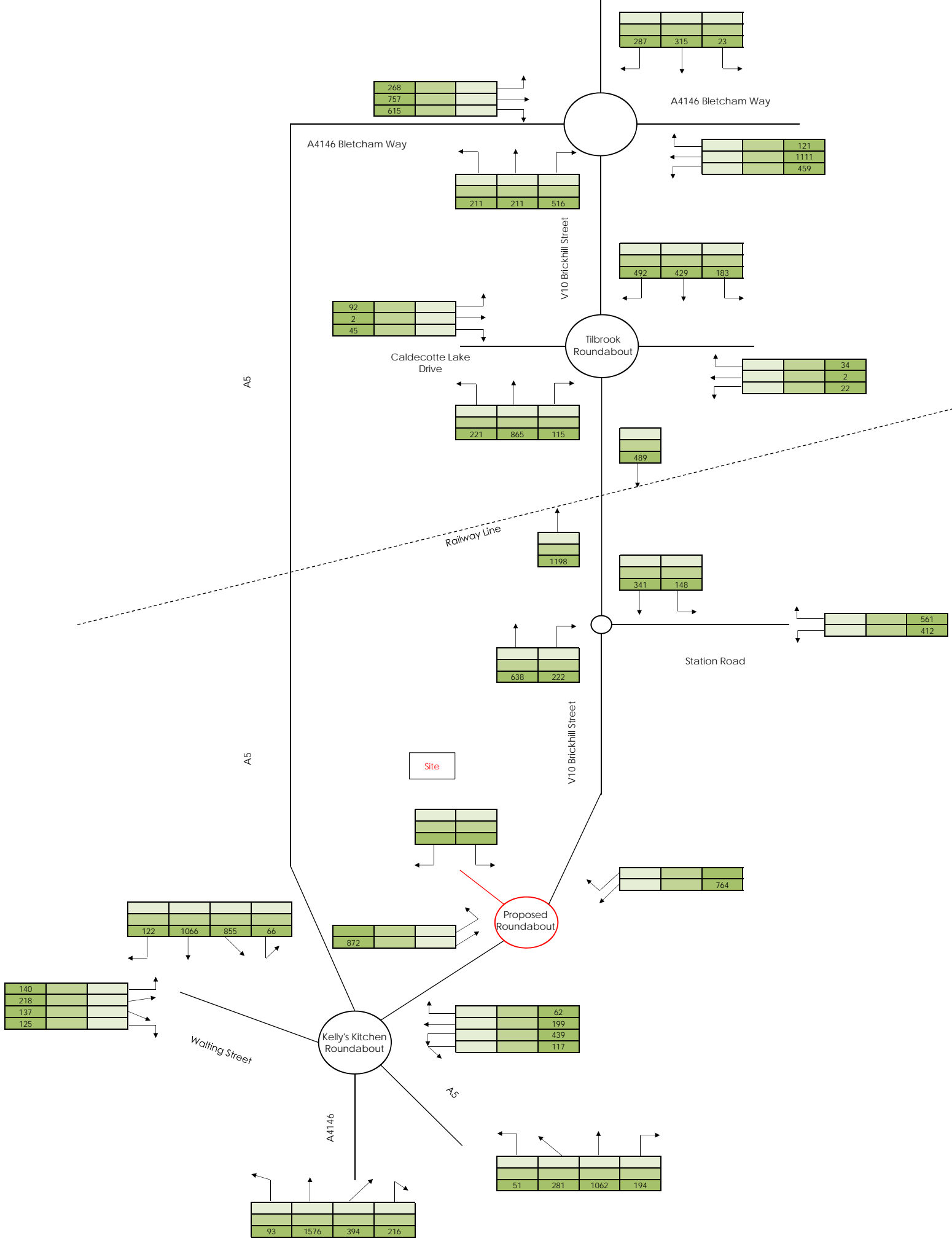
London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	
Diagram 15 All Committed Development Traffic Flows: Evening Peak (17:00-18:00)	
Project Number	
NTS2682	



Traffic Growth Factor: 2018-2023 AM
1.0833

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH
T: 0113 233 8000

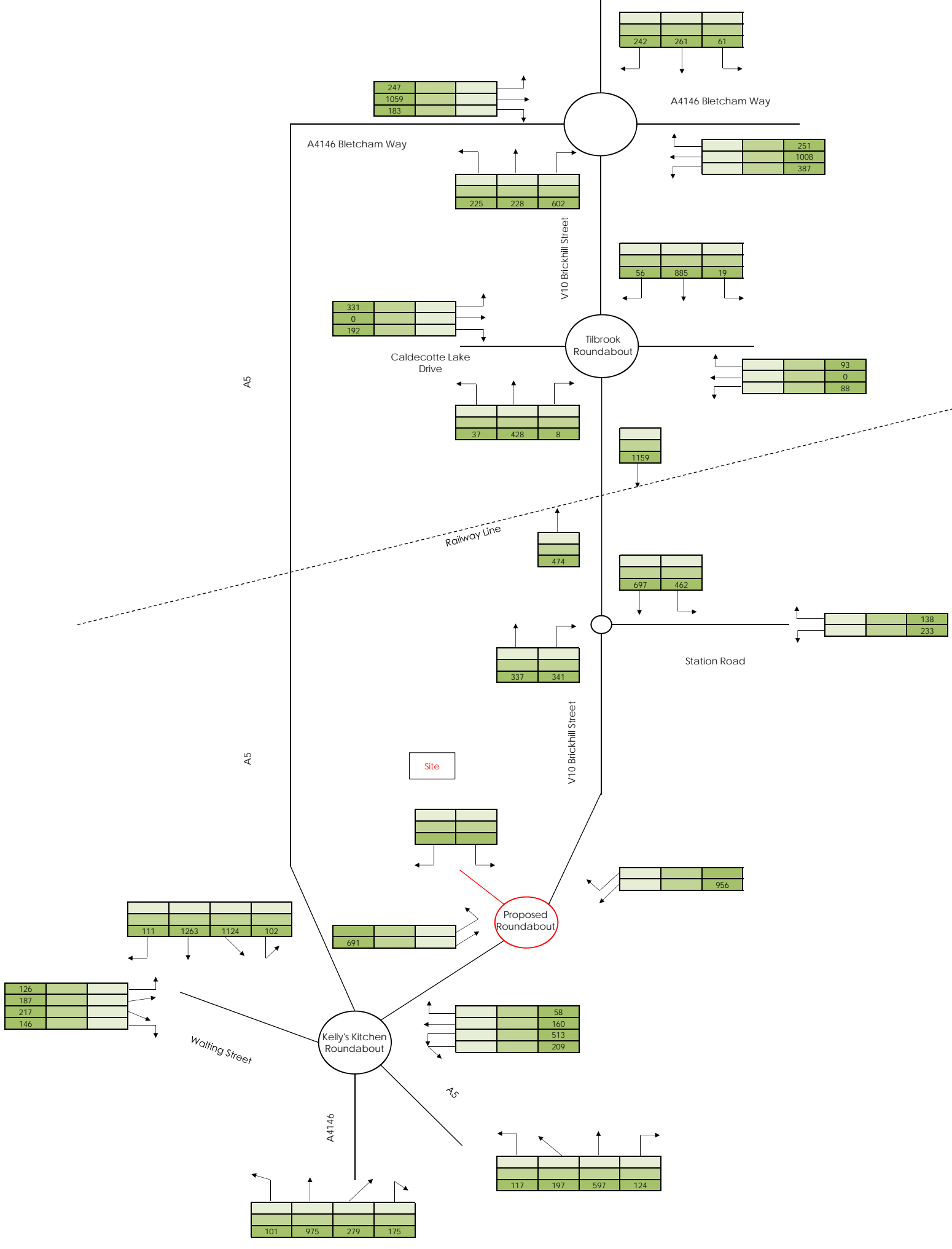
London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	
Diagram 16 2023 Baseline + Committed Development Traffic: Morning Peak (08:00-09:00)	
Project Number	
NTS2682	



Traffic Growth Factor: 2018-2023 PM
1.0838

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

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T: 0113 233 8000

London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

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T: 0161 233 4260

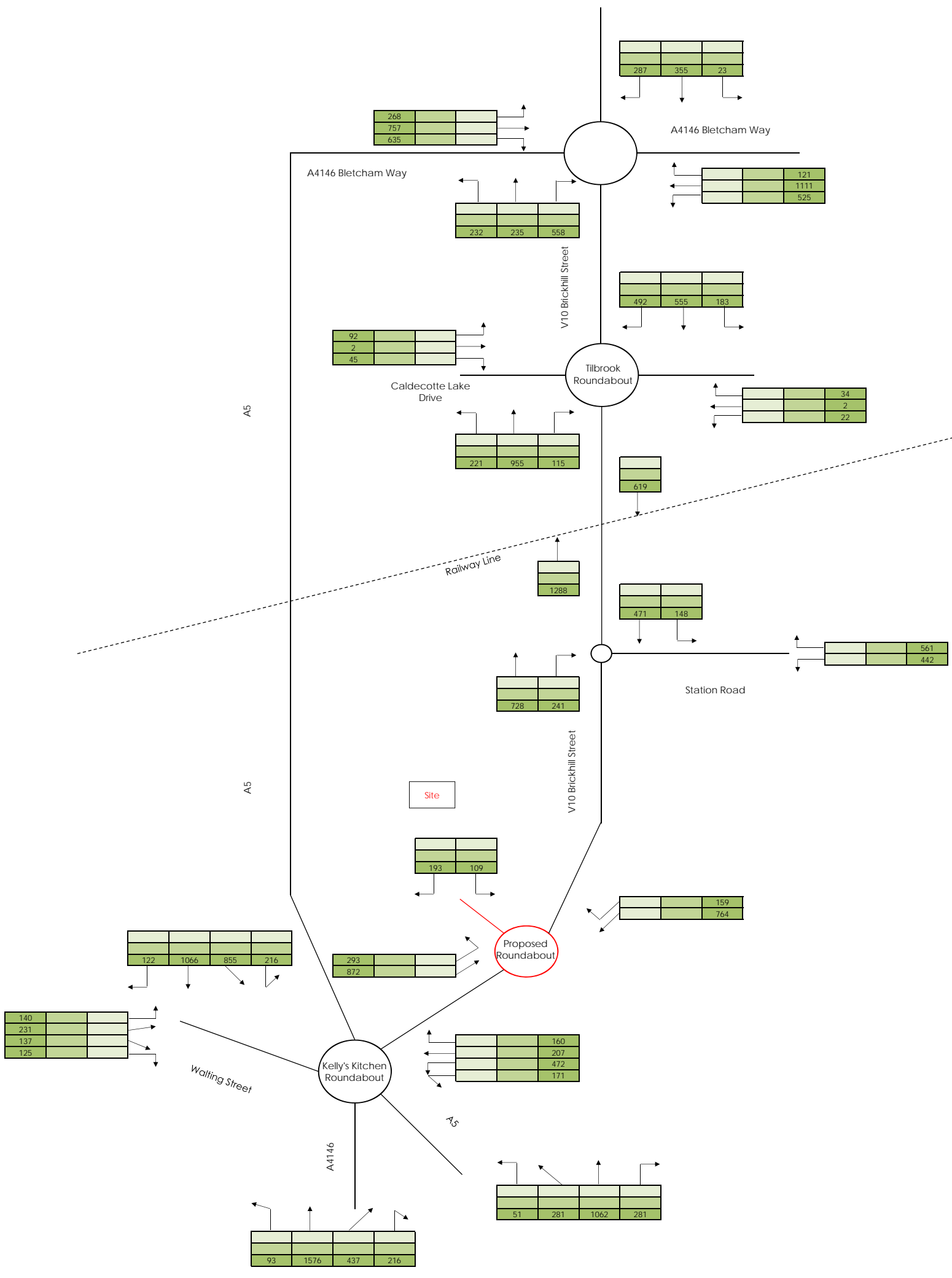
Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project
Land West of Brickhill Street
South Caldecotte, Milton Keynes

Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title
Diagram 17
2023 Baseline + Committed
Development Traffic: Evening Peak
(17:00-18:00)

Project Number
NTS2682



Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH
T: 0113 233 8000

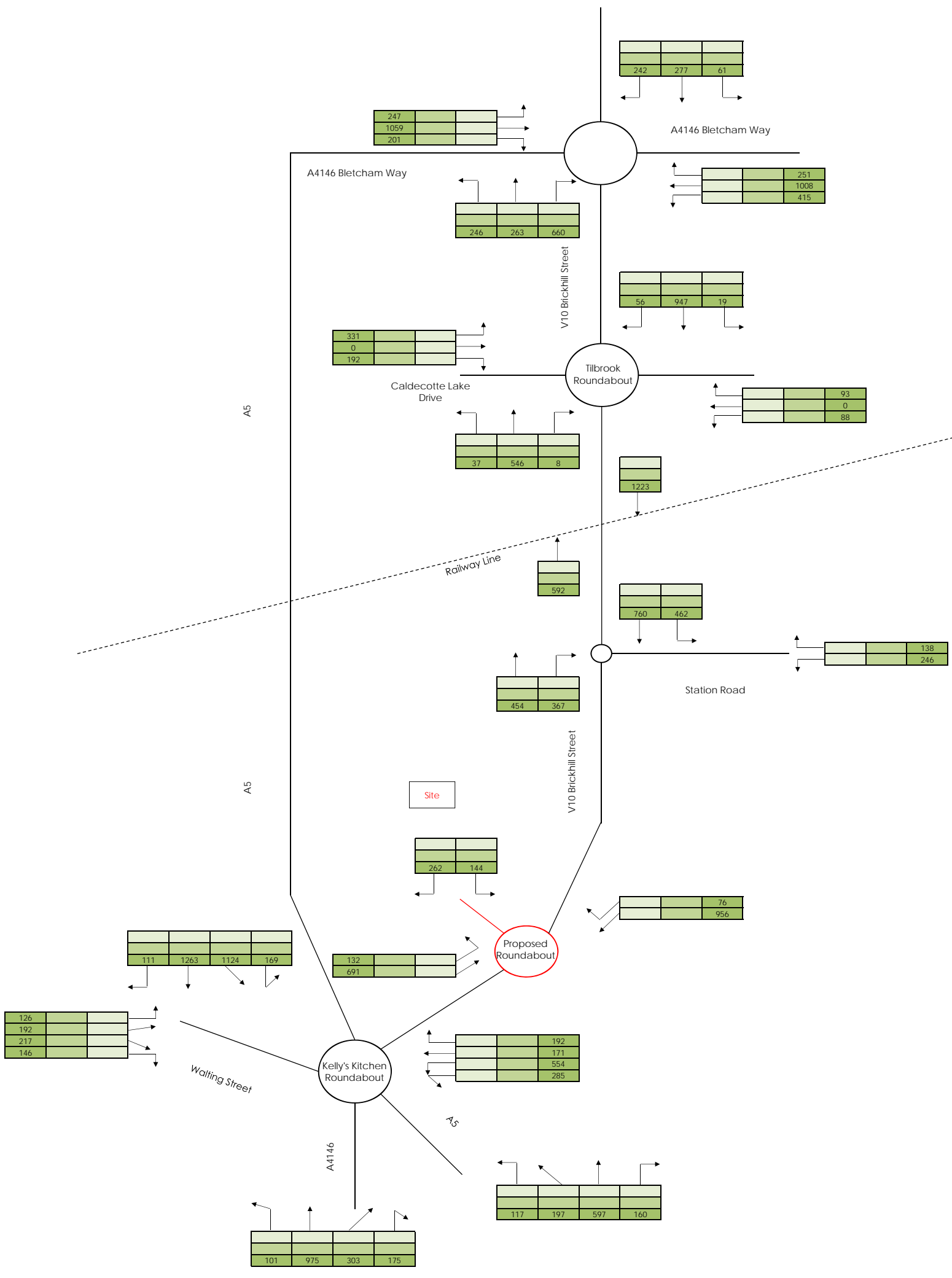
London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	Diagram 18
	2023 Baseline + Committed + Proposed Development Traffic: Morning Peak (08:00-09:00)
Project Number	NTS2682



Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH
T: 0113 233 8000

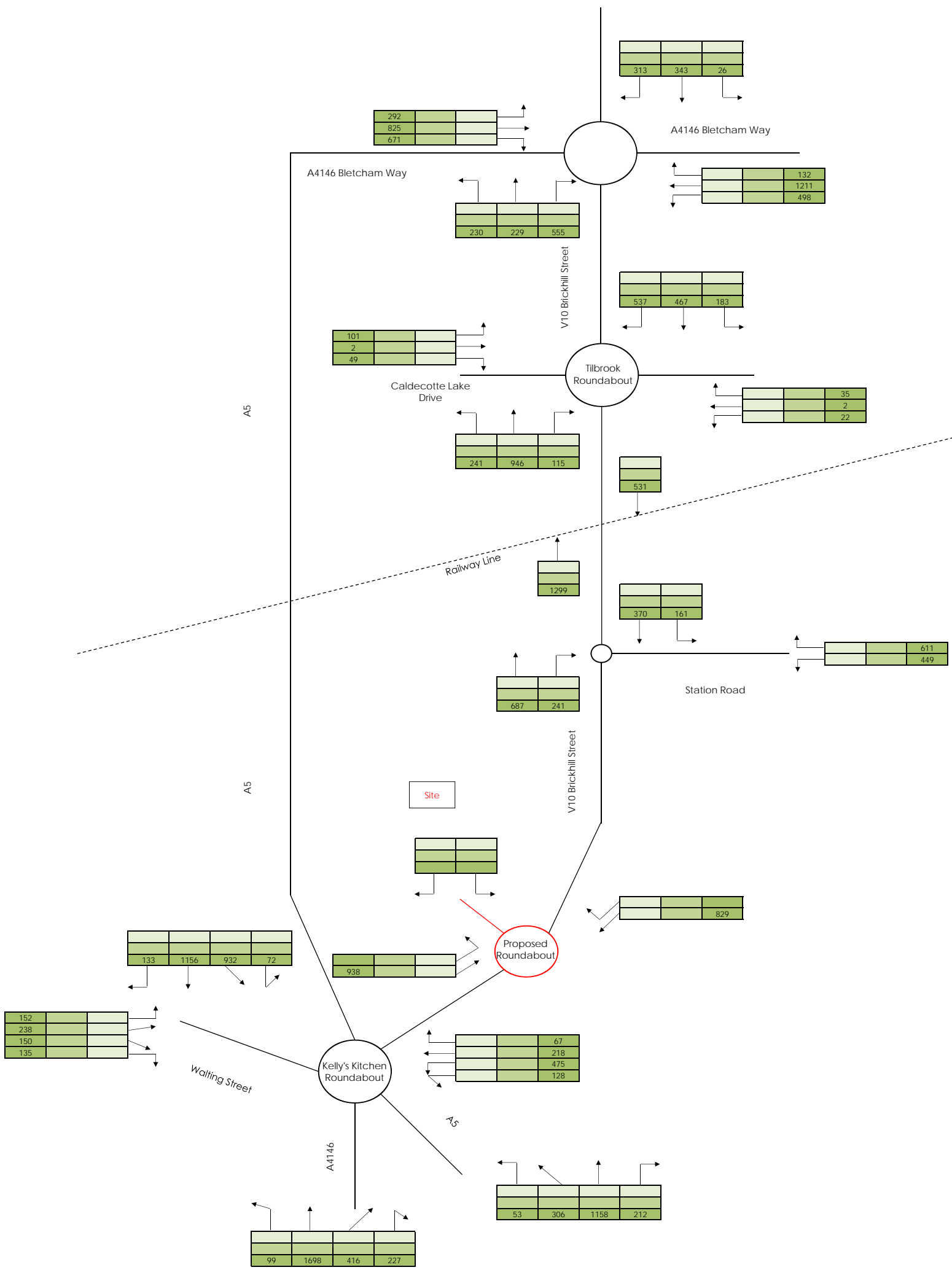
London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	Diagram 19 2023 Baseline + Committed + Proposed Development Traffic: Evening Peak (17:00-18:00)
Project Number	NTS2682



Traffic Growth Factor: 2018-2031 AM
1.1813

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH
T: 0113 233 8000

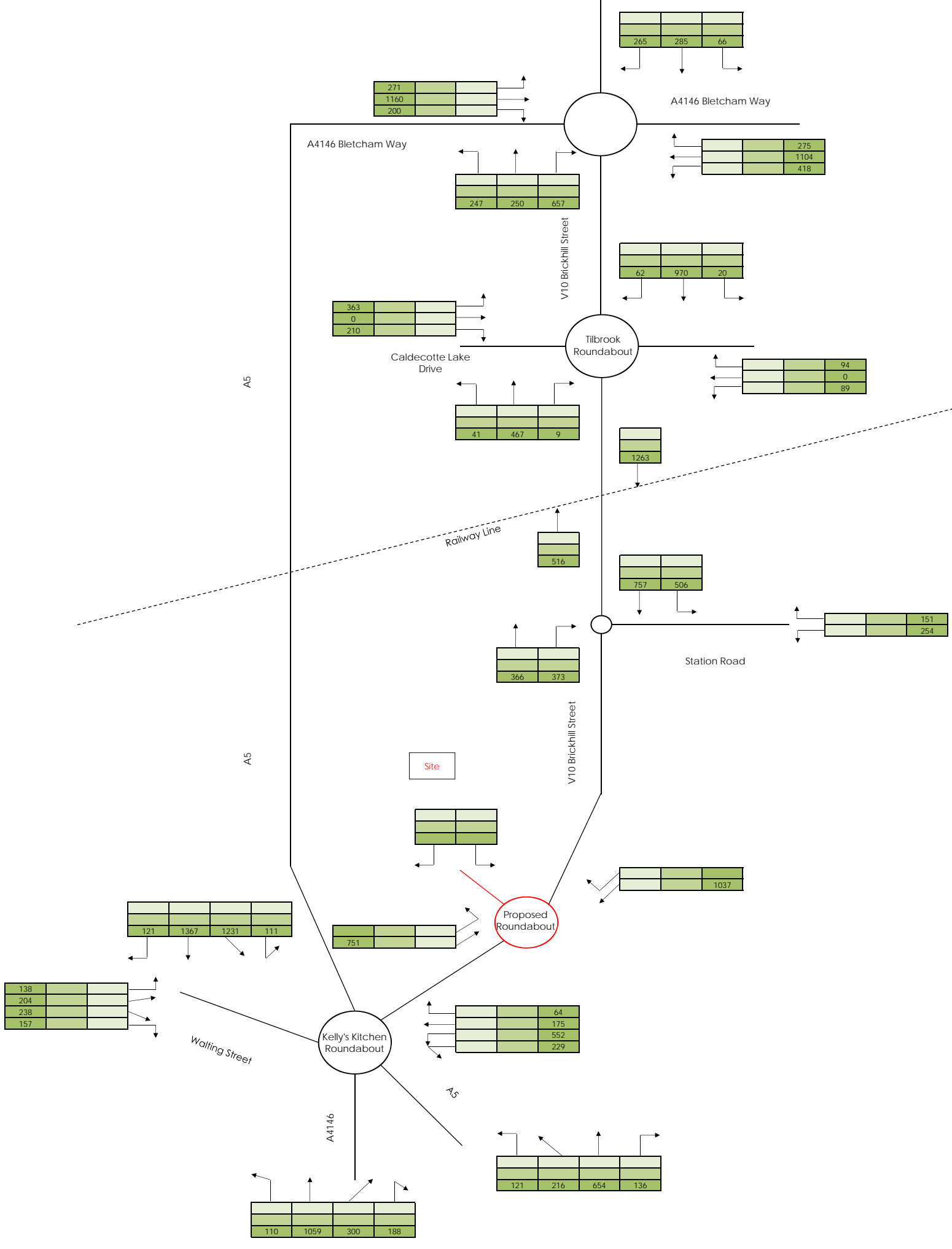
London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
T: 0161 233 4260

Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	
Diagram 20 2031 Baseline + Committed Development Traffic: Morning Peak (08:00-09:00)	
Project Number	
NTS2682	



Traffic Growth Factor: 2018-2031 PM
1.1871

Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
Whitehall Waterfront, 2 Riverside Way, Leeds LS1 4EH
T: 0113 233 8000

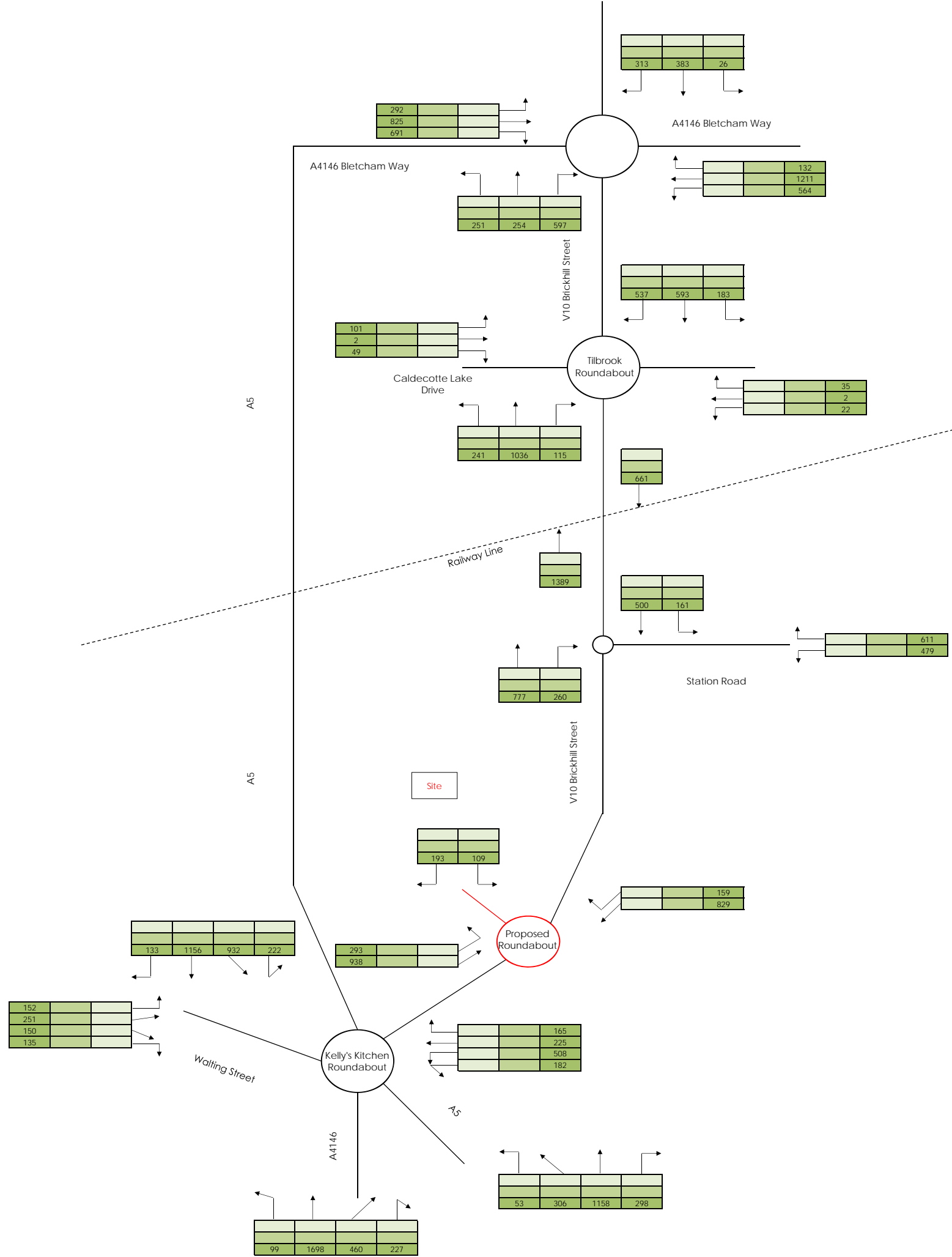
London
11 Borough High Street
London, SE1 9SE
T: 020 7407 3879

Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
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Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	
Diagram 21 2031 Baseline + Committed Development Traffic: Evening Peak (17:00-18:00)	
Project Number	
NTS2682	



Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
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T: 0113 233 8000

London
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London, SE1 9SE
T: 020 7407 3879

Manchester
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T: 0161 233 4260

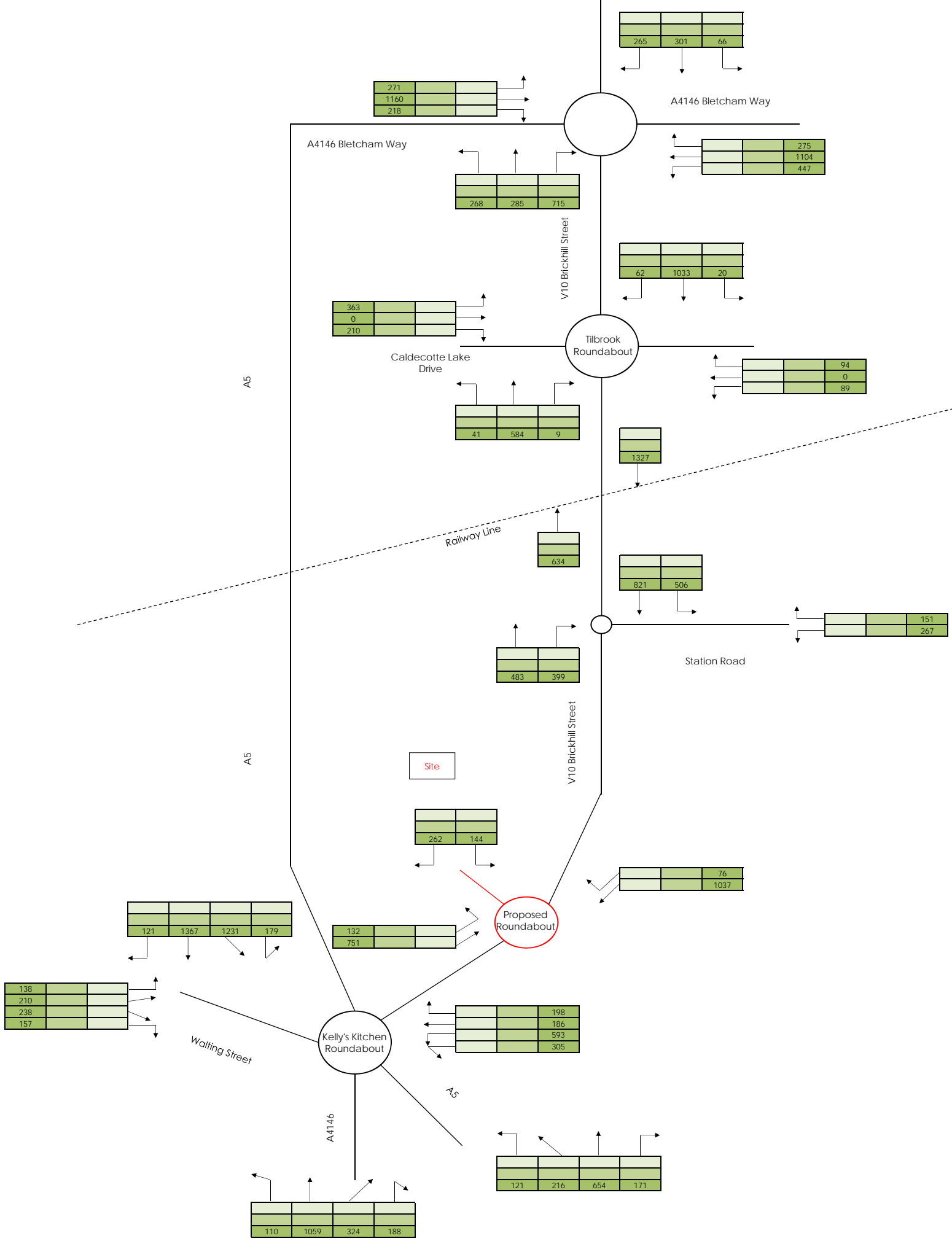
Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project
Land West of Brickhill Street
South Caldecotte, Milton Keynes

Drawing Title
Diagram 22
2031 Baseline + Committed
Development Traffic: Morning Peak
(08:00-09:00)

Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Project Number
NTS2682



Key	
VEHs	
HGVs	
TOTAL (PCUs)*	

*Assumed PCU Value for HGVs = 2.3



Birmingham
Livery Place, 35 Livery Street, Colmore Business District, Birmingham, B3 2PB
T: 0121 233 3322

Leeds
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London
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Manchester
4th Floor Carvers Warehouse, 77 Dale Street, Manchester, M1 2HG
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Nottingham
Waterfront House, Station Street, Nottingham NG2 3DQ
T: 0115 924 1100

Project			
Land West of Brickhill Street South Caldecotte, Milton Keynes			
Drawn	AH	Approved	CH
Checked	MA	Date	06.06.2018

Drawing Title	Diagram 23 2031 Baseline + Committed Development Traffic: Evening Peak (17:00-18:00)
Project Number	NTS2682

APPENDICES

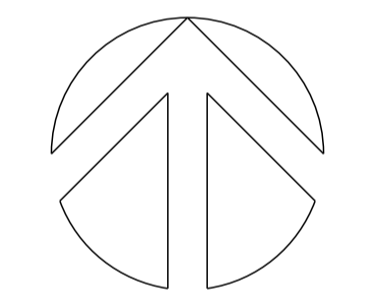
Appendix A

Indicative Site Layout Plan

- P1: 07/06/19 kbl Masterplan updated, drawing number P005 updated to PAS 1192 standard.
- P2: 24/06/19 kbl Client / team comments.
- P3: 27/06/19 kbl Client comments.
- P4: 02/07/19 kbl Redline updated.
- P5: 04/07/19 kbl Redline updated.



Site	GIA (ft ²)	NDA (ac)	Plot Density (%)
Unit 1	473,200	27.13	51.2
Unit 2	615,400	21.2	52.1
Unit 3	369,708	15.87	53.5
Unit 4	254,200	10.68	54.7
Unit 5	61,400	3.47	40.7
Unit 6 (office)	10,400	1.22	19.7
Unit 7	53,700	4.33	28.5
Unit 8	49,800	2.87	39.9
Unit 9	164,800	8.39	45.2
Unit 10	278,500	12.24	52.3
Total	2,331,108	107.40	49.9



Waterfront House
 2a Smith Way
 Grove Park
 Enderby
 Leicester LE19 1SX
 t: +44 (0)116 247 0557
www.stephengeorge.co.uk

South Caldecotte

Drawing Name:
 Indicative Masterplan 23

Drawing Status: PLANNING
 Suitability: S2
 Rev: P5
 SGP Project: 16-048
 Drawn: KBL
 Team: JY
 Date: 13/11/2018
 Scale: 1:2500 @ A1
 Drawing Number:

16-048-01-SGP-XX-00-DR-A-1006-P5

Appendix B

Milton Keynes Council & Highways England Scoping Discussions



HIGHWAY OBSERVATIONS FOR: 18/00352/PRELAR

DATE: 3 Sept 2018
CONTACT: SMT
TEL: 01908 690463

PRE-APPLICATION FOR: Proposed mixed employment development (B1/B2/B8) on land to the west of Brickhill Street, Bow Brickhill, Milton Keynes.

These comments provide a review of the pre-application information relating to transport and highway matters, namely; The Transport Assessment (TA), the Illustrative Masterplan and the Proposed Access Plan. It is assumed that the Transport Policy team will provide feedback on the Travel Plan.

General

The proposal is for a mixed employment development comprising 240,000m² of floorspaces; approximately 220,000m² of B8 in 6 large warehouse units and approximately 20,000m² of B2 in 6 smaller 'Blocks'.

The site is covered specifically (but not exclusively) by policy SD16 of Plan:MK. In relation to transport and highway issues, SD16 states:

- *Access to be taken from Brickhill Street, which will be upgraded to grid road standard.*
- *The development will be subject to a Transport Assessment, which will investigate the development's impact in the local highway network, including the A5/Watling Street roundabout. The development will contribute to any necessary improvements as agreed by Milton Keynes Council and the Highway Agency. The Transport Assessment will also set out the basis for effective public connections to and from the site to be implemented prior to completion of the development.*
- *Direct footpath connections to Bow Brickhill railway station and the existing Public Right of Way running along the site's northern boundary will be effectively integrated into the development.*

Access & Upgrading to Grid Road

It is noted that the access strategy is biased towards the A5, with a new roundabout junction located around 250m from the A5. The linking section of Brickhill Street, between the A5 and the site access roundabout is to be upgraded to a dual carriageway. As discussed in the TA traffic impact review in Annex A, the bias towards the A5 as the primary access / egress route is not necessarily accepted.

Furthermore, the proximity of the junction to the A5 is a potential concern because queuing to the A5 junction is known to frequently stretch beyond the proposed point of access. It is not clear why a more central point of access for the site has not been proposed; this requires careful consideration once the traffic impact and junction assessments have been agreed.

The TA refers to the Grid Road requirement and states:

“It should be noted that there is no defined standard for ‘grid road’ as there are single and dual carriageway grid roads within Milton Keynes. The key design parameters for grid roads are the provision of wide highway verges and Redways. Such provisions are therefore incorporated into the masterplan.”

Having reviewed the Masterplan, it is clear that the proposals do not meet the requirements of SD16. There are no proposals to upgrade Brickhill Street north of the proposed site access roundabout and the future use and ownership of the “landscape buffer” are unclear. There also appears to be some sort of Anglian Water compound with this area that would prevent any enhancement / widening of Brickhill Street.

The TA includes a review of road safety in the vicinity of the site and it notes that there are at least 3 Personal Injury Accidents (PIAs) on this section of Brickhill Street, one of which involved a fatality. The descriptions of the accidents in the TA fail to acknowledge that these occurred at, or in close proximity to, the bend / crest in Brickhill Street that severely restricts forward visibility and where the overall highway width (carriageway and verges) is narrow.

Furthermore, despite the TA recognising Redways as a defining feature, there is no Redway provision proposed on this section of Brickhill Street. This is an essential piece of infrastructure that the development must be required to provide. A key part of grid road Redways is their contribution to the promotion of cycling through the provision of faster, less interrupted and more legible routes.

The Redway provision within the site is welcomed for access to individual parts of the development, but it is not an acceptable part of the grid road based Redway network in Milton Keynes; there are too many road crossings, a lack of direct routing and poor legibility for through movements.

Consequently, it is considered that:

- Access to the site is potentially too close to the A5;
- Brickhill Street has not been adequately addressed in terms of width, alignment, road safety and upgrading to grid road standard;
- The lack of Redway along the full length of Brickhill Street is not acceptable.

Transport Assessment

Annex A, attached, provides a review of the traffic impact assessment within the TA. In summary, the methodology and scope are accepted; however, the figures used for the junction assessments require further discussion and agreement. Therefore, the junction assessments are not accepted at this time.

The TA has included a brief review of the operation of the Level Crossing at Bow Brickhill, but the review does not provide any detailed analysis of the interaction between the level crossing and the Brickhill Street / Station Road mini-roundabout.

Nor does it look at the impacts of 'platoons' of vehicles arriving at nearby junctions. Users of this section of highway will attest to the fact that northbound queues on the V10 to Walton Park Roundabout in the PM peak are often in excess of those observed on the sole survey day in October 2017. Southbound queues at the Kelly's Kitchen junction also reach past the proposed site access for the same reason.

The TA estimates that additional traffic using the Level Crossing will be around 4-20% depending on direction of travel and time of day. This is a significant increase and clearly this level of increase is also present at the adjoining Brickhill Street / Station Road mini-roundabout.

The TA offers no mitigation for this and suggests that traffic travelling to/from the development will simply travel via the A5 to avoid queuing. This is not acceptable and the TA needs to address this issue in more detail.

Accessibility

The TA has reviewed the accessibility of the site by non-car modes and acknowledges the requirements for the PROW. The site is in a potentially accessible location, close to the train station at Bow Brickhill; however, the provision of an improved connection across the level crossing and connections north of the level crossing into the Redway network are required to make the site adequately accessible by foot / cycle.

Furthermore, the TA states that discussions regarding bus services are ongoing with the Passenger Transport team. It is essential that a frequent service, from early morning to late evening, including weekends, is provided to this site given its likely round-the-clock operation.

Internal Layout & Parking

The TA provides some commentary on the proposed internal layout, which, access location aside, seems to be generally acceptable. An emergency access link between Brickhill Street and the northern end of the site should be provided due to a single access point for the entire site being proposed.

The required parking provision quoted in the TA appears correct. Cycle parking should be located adjacent to building entrances where passive surveillance is available and should be secure and covered.

Given that the eventual application will be Outline and the details of the proposed development are likely to change, no further comments are offered at this stage.

Summary

The key highway / transport issues to address are:

- The proximity of the site access to the A5 junction;
- Upgrading of the full length of Brickhill Street to grid road standard is not part of the current proposals;
- The current width / alignment of Brickhill Street has not been reviewed and not considered in relation to PIAs. The bend / crest north of the proposed site access roundabout requires mitigation;
- A Redway is required along the full length of Brickhill Street (in addition to the internal Redway);
- Connections across and north of the level crossing must be included within the proposals;
- Assessment of junctions using revised traffic figures is required;
- Recognition of the interaction between the level crossing and the surrounding network needs to be made in the TA with appropriate mitigation discussions to deal with the development impact;
- Frequent, 7-day early morning to late evening, bus service provision needs to be ensured;

Stirling Maynard Transportation
for

Milton Keynes Council – Transport Development Management

ANNEX A
TRAFFIC ASSESSMENT REVIEW

18/00352/PRELAR TA Traffic Assessment Review

Introduction

BWB Consulting Ltd (BWB) has produced a Transport Assessment for the South Caldecotte development which comprises a mix of smaller B2 and larger B8 units. This review assesses the traffic impact analysis that has been carried out.

Table 10, page 33 details the assessment assumptions. Although the proposed development is intended to comprise 19,695m² (8%) B2 and 221,514m² (92%) B8, the TA has assessed a split of 20% B2 (48,310m²) and 80% B8 (193,238m²). This issue is related to the acceptability, or otherwise, of the trip rates discussed later.

The TA assessment includes the junctions listed below. These were agreed during the scoping exercise.

1. A5 / A4146 / Watling Street / V10 Brickhill Street (Kelly's Kitchen Roundabout)
2. V10 Brickhill Street / Station Road mini-roundabout
3. V10 Brickhill Street / Caldecotte Lake Drive (Tilbrook Roundabout)
4. A4146 Bletcham Way / V10 Brickhill Street (Walton Park Roundabout)
5. Proposed Site Access / Brickhill Street roundabout

Turning counts and queue length surveys were carried out for junctions 1-4 in October 2017. The evening peak hour was the standard 17.00-18.00.

The standard morning peak hour (08.00-09.00) was used to assess junctions 2-4; however, paragraph 3.45 of the TA states that 08.30-09.30 was used for junction 1, despite paragraph 3.44 stating that 07.30-08.30am was the peak. This needs clarification.

Trip Rates

BWB has used the TRICS database establish trip rates for the B2 and B8 land uses. The B2 trip rates are acceptable; however, the B8 trip rates are quite low. It is not clear from the TA whether a specific trip rate was agreed at the scoping stage (it is implied that AECOM suggested a trip rate which MKC agreed to).

With only a few survey sites available, BWB have been quite rigid in their selection. Using only sites in England, expanding the GFA range and limiting the location to 'Suburban' & 'Edge of Town' significantly higher trip rates are derived. The tables below show the comparison.

B8 Warehousing – Trip Rates Comparison

	AM Peak (08.00-09.00)		PM Peak (17.00-18.00)	
	Arrive	Depart	Arrive	Depart
BWB	0.064	0.037	0.027	0.049
SMT	0.107	0.060	0.036	0.089

B8 Warehousing – Trips Comparison

	AM Peak (08.00-09.00)		PM Peak (17.00-18.00)	
	Arrive	Depart	Arrive	Depart
BWB	124	71	52	95
SMT	207	116	70	172

Added to the fact that this is based on 80% B8, whereas the development is intended to be 92% B8, the difference could be even higher. However, the calculation of total trips does use 20% B2 and 80% B8, which will give a similar level of trips to an 8% / 92% split using the higher B8 trip rates.

In other words, the over-assessment of B2 is counterbalanced by the under-assessment of the B8 trip rate (which may have been agreed). Consequently, based on an actual development split of 8% / 92%, the TA figures are acceptable, but a condition limiting the amount of B2 to no more than 10% (of a total development of 240,000m²) should be imposed on any consent issued.

Alternatively, the TA could be revised to consider more appropriate B8 trip rates, with the attendant re-assessment of junctions.

The HGV trip rates and trip calculations appear to be acceptable.

Distribution

For distributing non-HGV development trips, 2011 journey-to-work census data has been used. The site is located in MK024 MSOA, which has been used to calculate the percentage split between routes. This is acceptable.

Distribution of HGV development trips has been based on Dft local traffic data; however, this is less than ideal as it is based on estimated counts, not actual data and excludes traffic using Station Road or Watling Street. It is also potentially double, or even triple, counting some HGV movements. No account has been taken of the ATC undertaken on Brickhill Street which show 4-5% HGVs on that route.

Using the DfT traffic data results in a split of 22% of HGVs heading north on Brickhill Street in to MK and 78% heading south to the Kelly's Kitchen junction. A check survey at Tilbrook should have been conducted to determine the actual split of HGV traffic from a very close site. A snapshot survey of Tilbrook showed a split nearer to 50/50 for traffic heading north / to the M1 versus that heading south. Consequently, the HGV distribution requires further, more robust validation.

Growth and Committed Development

For the purposes of the assessment, the following local, major committed developments were taken into account:

1. Eaton Leys;
2. Levante Gate;
3. Red Bull.

Junction analyses with and without development have been carried out for 2023 for the MKC junctions and 2031 for Kelly's Kitchen.

The observed 2017 traffic flows have been factored to a 2018 base year and then growthed to 2023 and 2031 using TEMPRO ('all roads' in MK authority with alternative planning assumptions). Housing numbers for 2023 and 2031 have been reduced by 1100 to take account of the committed development and thus avoid double counting.

This is the standard procedure; however, BWB has used version 7.0 data sets which were superseded by version 7.2 in March 2017. The table below compares the growth factors with the different data sets.

From	To	Time	Version 7.0	Version 7.2
2017	2018	AM	1.0133	1.0167
		PM	1.0126	1.0166
2018	2023	AM	1.0733	1.0833
		PM	1.0748	1.0838
2018	2031	AM	1.1683	1.1813
		PM	1.1754	1.1871

Whilst this will have negligible effect for 2018, the junction analyses for 2023 should be rerun using the correct growth factors. For Kelly's Kitchen Highways England will no doubt comment separately.

Junction Analysis

Because of issues regarding trip rates, HGV distribution and growth factors, the junctions have only been checked for input geometry and parameters, pending agreement of the other issues.

Kelly's Kitchen roundabout

This junction has been assessed using a VISSIM microsimulation model developed by BWB. A 'Local Model Validation Report' has been included. For future development, a mitigation scheme has been prepared.

It is assumed that HE will validate the modelling and testing of this junction and will assess it against the proposed improvement scheme.

V10 Brickhill Street/Station Road Min-Roundabout

The input geometry is acceptable. ARCADY modelling of mini-roundabouts with a 'T' shape can exaggerate the queues, therefore it is accepted that (based on observed queues) intercept correction factors can be used. It is noted that the revised 2018 mini-roundabout results for maximum queue closely match the observed average queues.

Tilbrook Roundabout

The roundabout geometry in ARCADY is acceptable.

Walton Park Roundabout

The roundabout geometry in ARCADY is acceptable; however, the queues in ARCADY are much greater than those observed in the evening peak period. The TA states that intercept corrections were applied to the roundabout to reflect the observed queues; however, there are no details of this in section 7.

The mitigation scheme has been modelled with the correct parameters in ARCADY; however, it is suggested that traffic flows are input directly by 15-minute segments rather than OD hourly to ascertain if more realistic queues can be obtained.

Proposed Site Access Roundabout

The roundabout geometry input in ARCADY correlates with the drawing in the report.

Summary

Once the issues raised above have been clarified or revised, further junction assessments based on revised traffic flow data should be prepared. Therefore, at present, the traffic assessment is not fully accepted.

Ahmad Huneidi

Subject: FW: South Caldecotte - Transport Scoping

From: Swannell, Andy
Sent: 01 November 2017 12:37
To: Chris Holloway
Subject: RE: South Caldecotte - Transport Scoping

Chris,

I need to seek an assessment of the TRICS rates from our consultants and have instructed them to examine those and respond.

I'm not sure I understand why you think there should be specific linked trips between Eaton Leys and South Caldecotte. The proposed 5% reduction as a result of linked trips cannot be accepted without further evidence. I consider that Eaton Leys is no different than any other residential development in terms of its close relation to South Caldecotte (consider Caldecotte residential area to the immediate north for instance).

Can you please the background information derived to separately consider the light vehicle trips and the HGV trips.

Scope of Junction Assessments

I agree with the junction assessment but you've referred to what I think you mean as V10 Brickhill Street using V11 instead.

You will be aware that as part of the Eaton Leys development, Gallagher Estates carried out a microsimulation exercise on the South A5 roundabout junction and I advise that you seek a copy of that from Gallagher Estates or Highways England. I presume you have carried out the junction counts?

You will need to liaise with our Planning support Team to gather committed developments. In the first instance speak with Debbie Hardy (01908 252355).

Forecast Assessment years

Transport assessments are required to provide a minimum of two assessment years; year of opening (completion) and year of opening + 5 years. This being the case the use of 2108 will require re-assessment.

I agree your TA and Framework Travel Plan Structure bullet points.

Kind regards,

Andy

Andy Swannell
Senior Engineer – (Transport Development Management)
Web <http://www.milton-keynes.gov.uk>
Milton Keynes Council | Public Realm Services Group | Synergy Park | Chesney Wold | Milton Keynes MK9 3EJ

From: Chris Holloway
Sent: 13 October 2017 15:20
To: Swannell, Andy
Cc: Mark Harris; Booi, Justin; Sharon Kelly; Lewis Thomas
Subject: [EXT] South Caldecotte - Transport Scoping

Andy,

I am writing to agree the scope of transport assessment work required regarding the development site at south Caldecotte, Milton Keynes, site boundary plan attached. The proposed development will comprise approximately c2.1 mill sqft (195,000 sqm) B2/B8 employment space split between a number of buildings. Access will be taken from Brickhill Street on the eastern edge of the proposed development through the implementation of a new roundabout junction. Scope of works is detailed below.

Forecast Trip Rates

To establish the forecast trip generation of the proposed development, an interrogation of the TRICS database (version 7.4.2) was undertaken of comparable development sites. All sites located in Greater London and outside of England were deselected. A summary of the average total vehicle rates and resulting flows are provided below in **Table 1**. A 20/80 split between B2 use and B8 use has been assumed for robustness.

Table 1: Trip Rates.

Land use and weekday peak periods		Total Vehicle Trip Rates			HGV Trip Rates (OGV's)		
		Arrive	Depart	Two-way	Arrive	Depart	Two-way
B2 Industrial Unit (per 100sqm)	08:00-09:00	0.323	0.099	0.422	0.037	0.037	0.074
	17:00-18:00	0.037	0.335	0.372	0.000	0.000	0.000
	07:00-19:00	1.676	1.762	3.438	0.160	0.172	0.332
B8 Storage or Distribution (per 100 sqm)	08:00-09:00	0.082	0.023	0.105	0.009	0.009	0.018
	17:00-18:00	0.009	0.040	0.049	0.006	0.011	0.017
	07:00-19:00	0.425	0.428	0.853	0.117	0.098	0.215

Table 2 trip generation.

Land use and weekday peak periods		Total Vehicle Trips			HGV Trips (OGV's)		
		Arrive	Depart	Two-way	Arrive	Depart	Two-way
B2 Industrial Unit (20%)	08:00-09:00	126	39	165	14	14	28
	17:00-18:00	14	131	145	0	0	0
	07:00-19:00	654	687	1,341	62	67	129
B8 Storage or Distribution (80%)	08:00-09:00	128	36	164	14	14	28
	17:00-18:00	14	62	76	9	17	26
	07:00-19:00	663	668	1,331	183	153	336
Total	08:00-09:00	254	75	329	28	28	56
	17:00-18:00	28	193	221	9	17	26
	07:00-19:00	1,317	1,355	2,672	245	220	465

Copies of the TRICS output reports are attached to this email for reference.

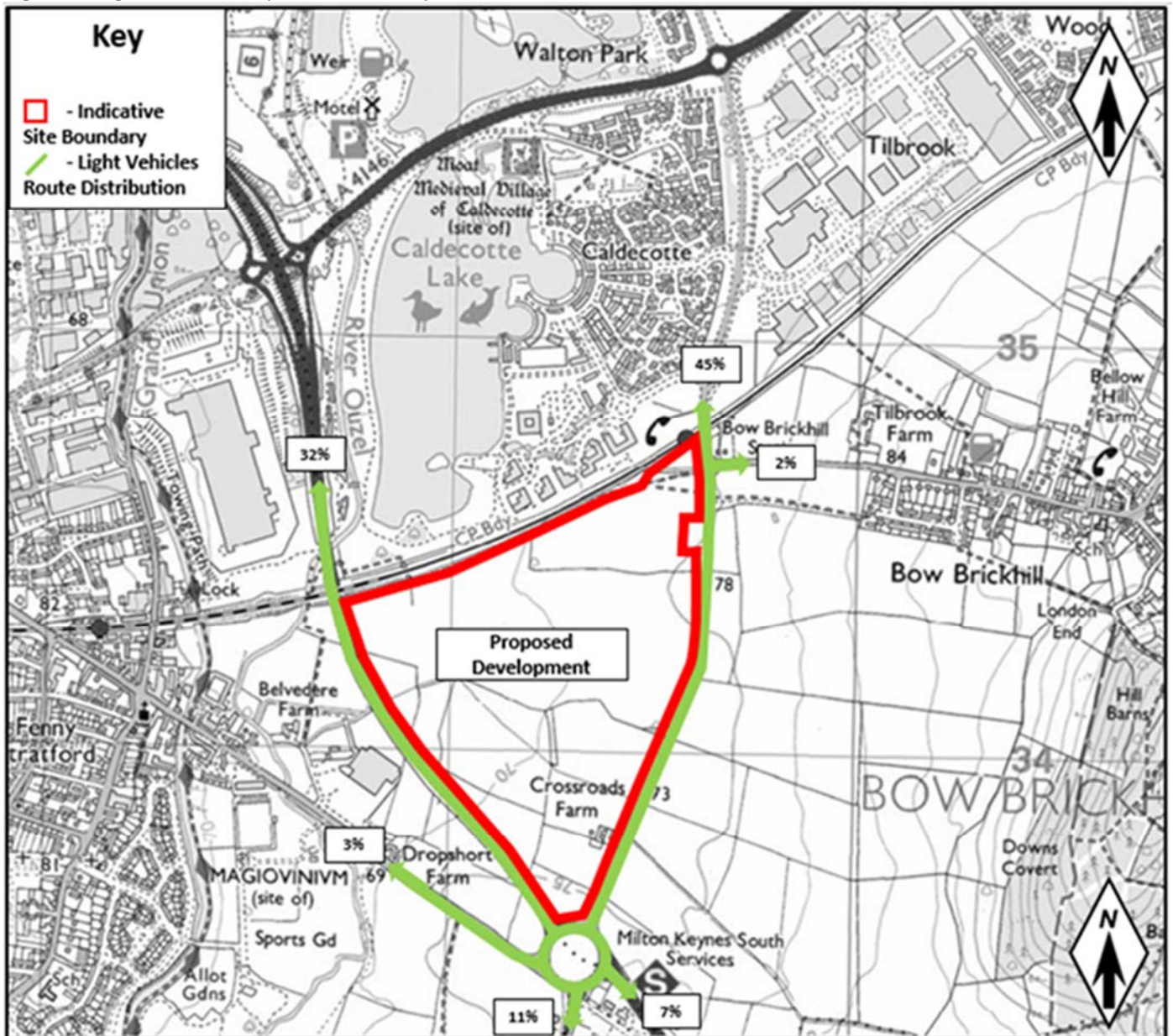
We note the large consented residential development of Eaton Leys to the south of the proposed development, with consent for 600 dwellings. Given the proximity of the two proposed developments and the sustainable transport connections between the two sites a 5% reduction in light vehicle trips from the proposed development is proposed to account for the linked trips to the Eaton Leys development.

Forecast Trip Distribution

The trip distribution pattern for light vehicles has been based on the 2011 Census 'Location of usual residence and place of work by method of travel to work' data MSOA Milton Keynes 022. The origins for all light vehicle trips to the area were separated from the data and a percentage demand was derived for all of the destinations for light vehicle

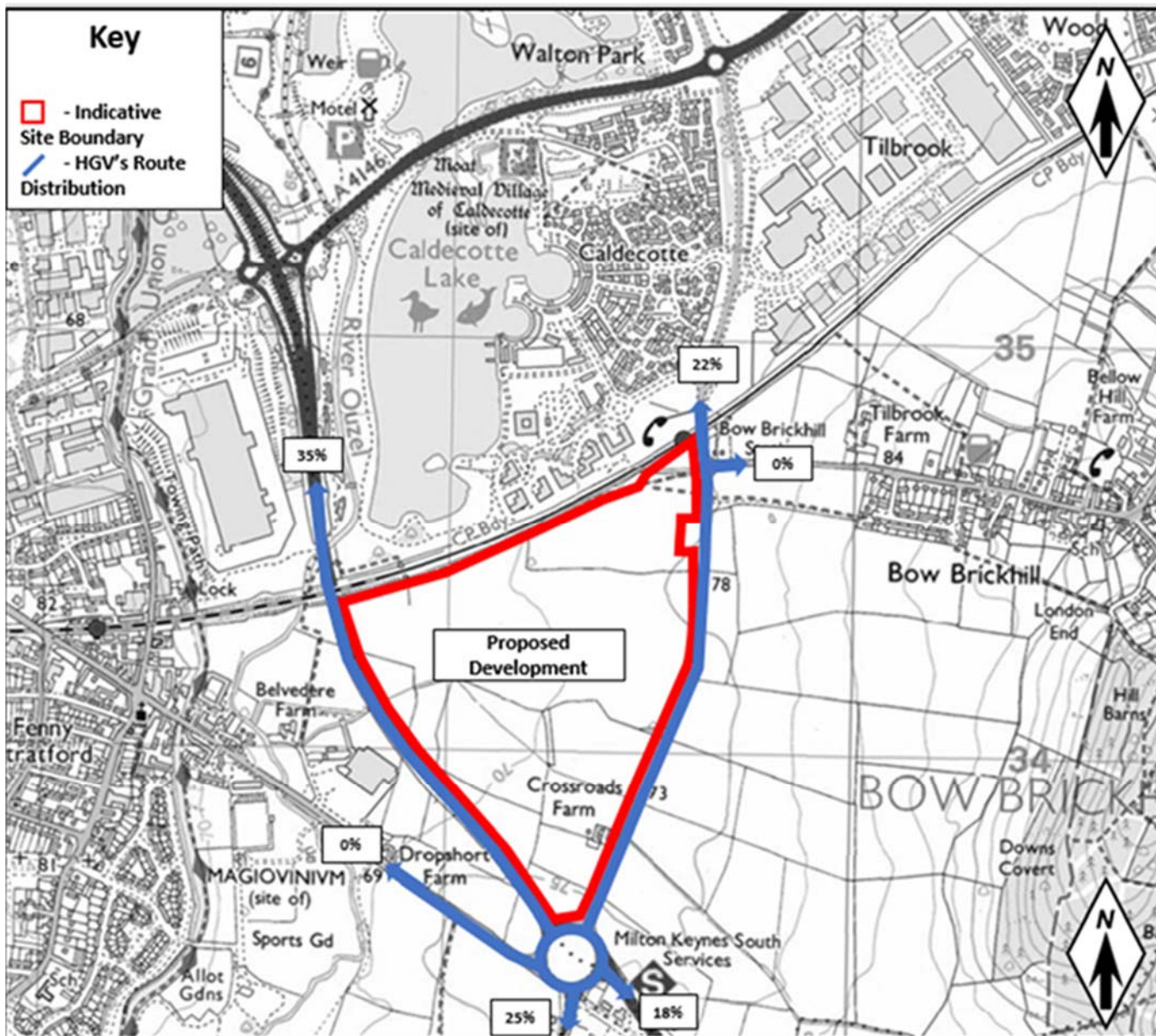
driver trips using the most appropriate routes from each zone. **Figure 2** (below) details the resultant light vehicles local highway network distribution.

Figure 2: Light Vehicles Trip Distribution by Census 2011 Travel to Work Data.



HGV's would not be expected to follow the same travel patterns as commuting trips and are anticipated to predominantly use principle roads to and from the proposed development. Therefore a second distribution has been calculated for these vehicles separately. The proportion of HGV's currently using the local principle roads has been calculated using traffic count data obtained from Department for Transport (DfT), using this HGV's trip generation of the proposed development and is set out in **Figure 3** below.

Figure 3: HGV Vehicles Trip Distribution by DfT ATC Count Data.



Scope of Junction Assessments

In order to assess the highways impact of the proposed development, it is proposed that operational assessments of the following junctions are undertaken:

- Site Access from V11 Brickhill Street
- V11 Brickhill Street / Station Road;
- V11 Brickhill Street / Caldecotte Lake Drive;
- V11 Brickhill Street / H10 Bletcham Way; and
- V11 Brickhill Street / A5

These assessments will consider the peak hour capacity of these junctions using baseline multi modal traffic flows and utilise forecast growth factors and proposed development trips for future assessment years.

Given the approaching school holidays I would be grateful if you could confirm the proposed study area as soon as possible so that traffic surveys can be organised.

Traffic Data

Please advise if MKC have existing recent traffic count data available on the local highway network which can be provided, and the associated costs.

Committed Development

Any committed developments which should be considered, including major highway improvements, are requested as part of this scoping email.

Forecast Assessment Years

It has been assumed that the base year of the application will be 2018, with the assessment year being assumed to be five years subsequent, i.e. 2023. The most recent version of TEMPro (7.2), in conjunction middle super output Census (2011) area Milton Keynes 024 will be utilised to provide the relevant growth factors for the future year assessment. A summary of the resulting growth factors is provided below in **Table 5**.

Table 5. Proposed TEMPro Growth Factors.

	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
2017-2018	1.0150	1.0149
2017-2023	1.0910	1.0919

Transport Assessment and Framework Travel Plan Structure

It is proposed that the following elements of the assessment included within the Transport Assessment:

- Review of site allocation policy;
- Summarise the development proposals for the site;
- Undertake a desktop study of the surrounding highway network and examine the opportunities to access the site by sustainable modes of transport;
- Review the local highway network and examine the opportunities to access the site by car and HGV;
- Develop an access strategy, which is submitted to MKC for approval
- Obtain and analyse Personal Injury Accident (PIA) data for the local highway network;
- Provide a review of the proposed site access and internal layout including undertaking swept path analysis to ensure suitable access and circulation within the site;
- Summarise trip rates of the proposed development agreed during scoping;
- Summarise the sites trip generation of the proposed development;
- Summarise the trip distribution of the proposed development agreed during scoping;
- Assess the impact of the proposed development on the surrounding highway network and transport infrastructure;
- Summarise potential mitigation measures proposed;
- Conclude on the sites overall suitability for development.

I would be grateful if you could respond as soon as possible with regards to the scope of junctions to assess such that we can ensure that traffic surveys can be implemented in a timely fashion.

I look forward to receiving your response regarding the above scope of assessment. If you have any comments or queries, please do not hesitate to contact me.

Kind regards,

Chris

Chris Holloway

Director – Transport and Infrastructure Planning | BWB Consulting Limited



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From: Mould, Penny
Sent: 09 November 2017 16:11
To: Lewis Thomas
Subject: RE: South Caldecotte - Transport Scoping - HE

Hi
Thanks for the Transport Scoping information – the Eaton Leys Roundabout and the A5 will be of interest to HE. With regards to the forecast year please refer to para 25 of Circular 2/2013.

Regards
Penny

Penny Mould, Asset Manager (Planning) Herts and Beds
Highways England | Woodlands | Manton Lane | Bedford | MK41 7LW
Web: <http://www.highways.gov.uk>

From: Planning EE
Sent: 01 November 2017 10:57
To: Mould, Penny
Subject: FW: South Caldecotte - Transport Scoping - HE

From: Lewis Thomas
Sent: 01 November 2017 08:34
To: Allsopp, Nigel
Cc: Chris Holloway; Sharon Kelly; Planning EE
Subject: South Caldecotte - Transport Scoping - HE

Nigel

I hope you are well. Please accept my apologies if you need to forward this to a colleague for their consideration. I am writing to agree the scope of transport assessment work required regarding the development site adjacent to the A5 at south Caldecotte, Milton Keynes, site boundary plan attached.

The proposed development will comprise approximately c2.1 mill sqft (195,000 sqm) B2/B8 employment space split between a number of buildings. Access will be taken from Brickhill Street on the eastern edge of the proposed development through the implementation of a new roundabout junction. Scope of works is detailed below.

Forecast Trip Rates

To establish the forecast trip generation of the proposed development, an interrogation of the TRICS database (version 7.4.2) was undertaken of comparable development sites. All sites located in Greater London and outside of England were deselected. A summary of the average total vehicle rates and resulting flows are provided below in **Table 1**. A 20/80 split between B2 use and B8 use has been assumed for robustness.

Table 1: Trip Rates.

Land use and weekday peak periods		Total Vehicle Trip Rates			HGV Trip Rates (OGV's)		
		Arrive	Depart	Two-way	Arrive	Depart	Two-way
B2 Industrial Unit (per 100sqm)	08:00-09:00	0.323	0.099	0.422	0.037	0.037	0.074
	17:00-18:00	0.037	0.335	0.372	0.000	0.000	0.000
	07:00-19:00	1.676	1.762	3.438	0.160	0.172	0.332
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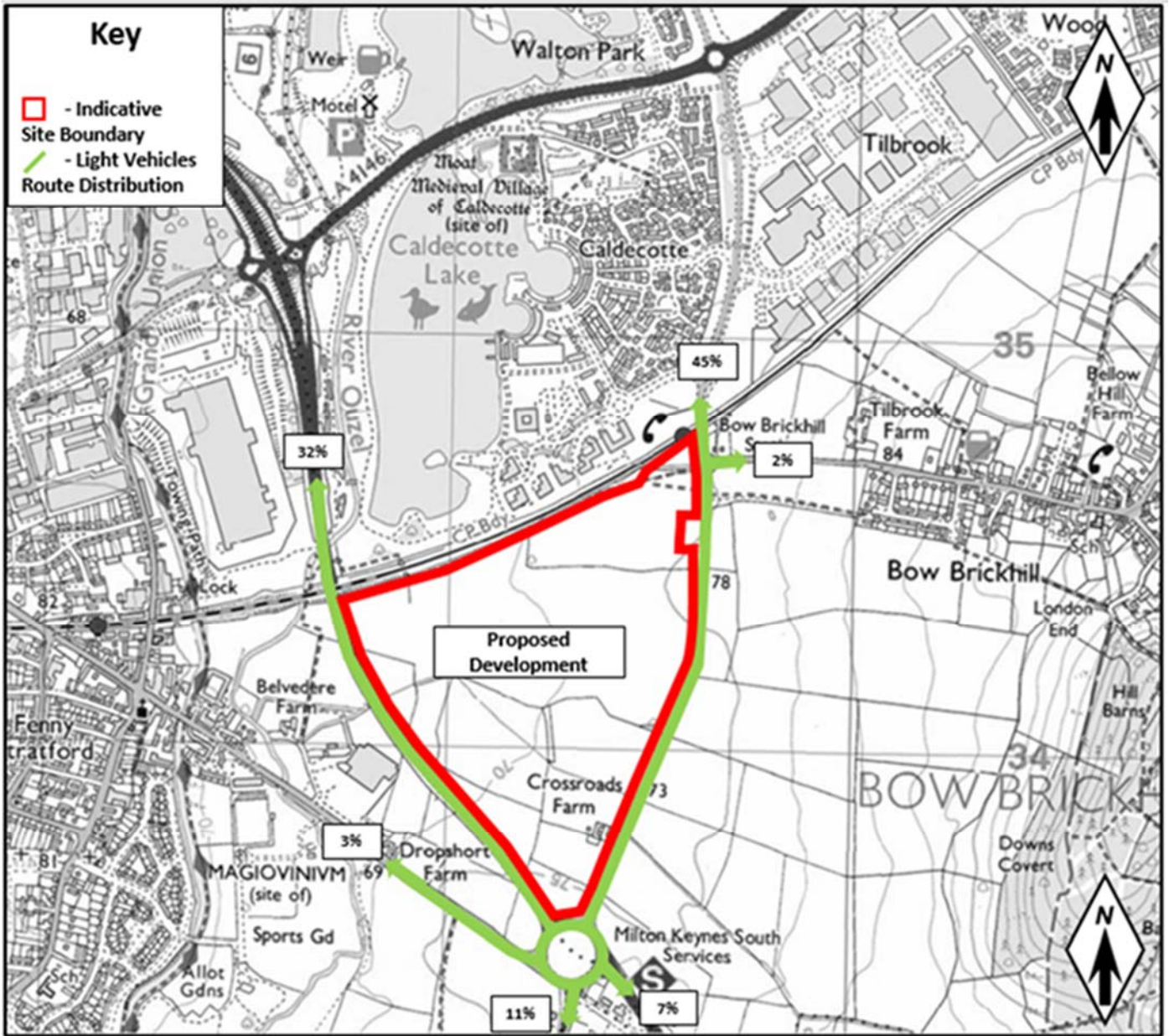
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Forecast Trip Distribution

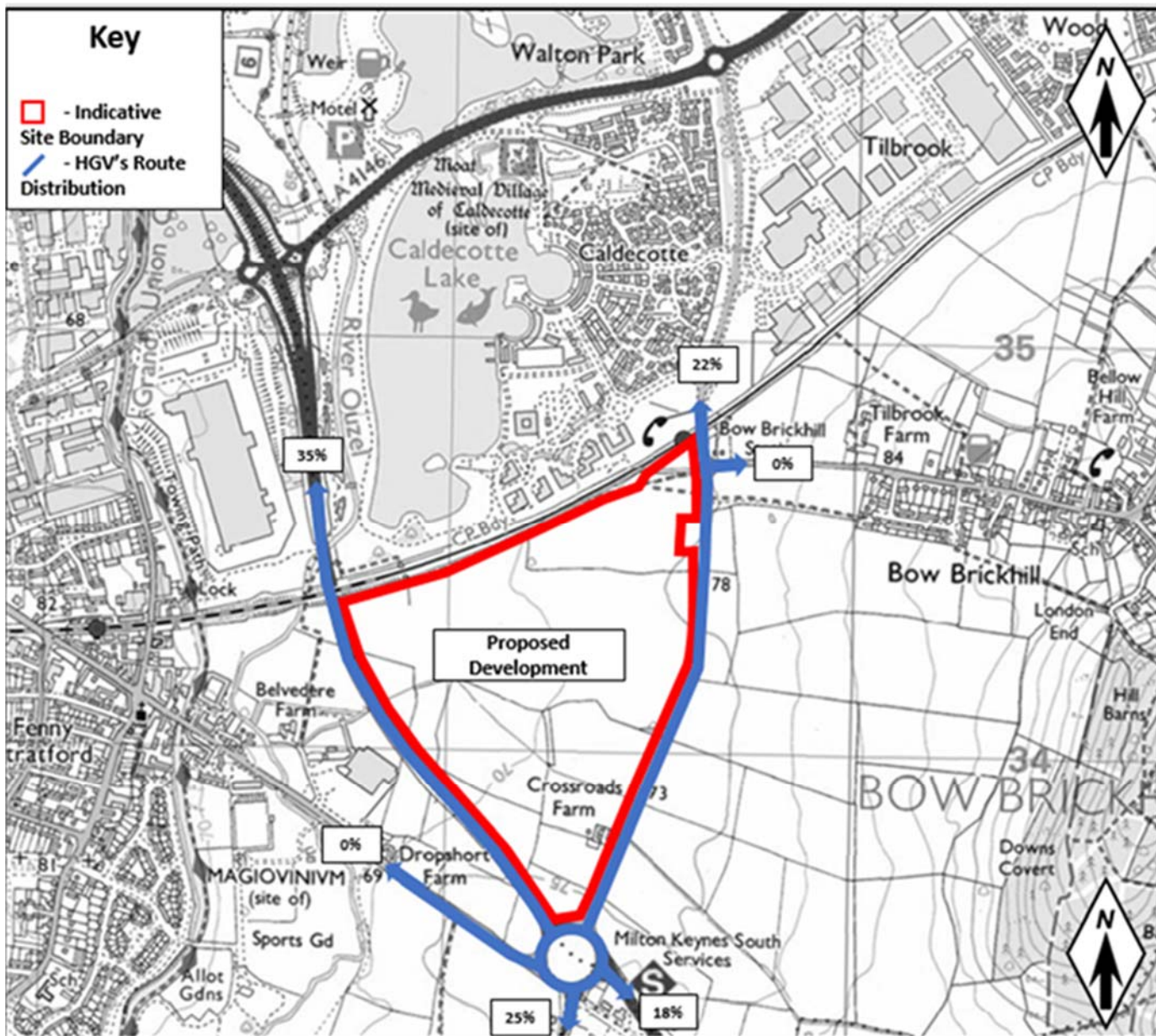
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Figure 2: Light Vehicles Trip Distribution by Census 2011 Travel to Work Data.



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- Summarise the sites trip generation of the proposed development;
- Summarise the trip distribution of the proposed development agreed during scoping;
- Assess the impact of the proposed development on the surrounding highway network and transport infrastructure;
- Summarise potential mitigation measures proposed;
- Conclude on the sites overall suitability for development.

In terms of the proposed development itself, the TA will provide details of the vehicular and pedestrian accesses, servicing and the level of parking with reference to MKC's standards.

In order to encourage a modal shift away from private car usage and towards more sustainable modes, a Framework Travel Plan will accompany the application. It is proposed that the following elements are addressed within the FTP:

- Summarise aims, objectives and methodology of the FTP;
- Summarise overall targets proposed to minimise the number of vehicular trips and increase the proportion travelling by sustainable modes of transport;
- Summarise indicative travel plan measures to encourage staff and visitors to travel by walking, cycling, public transport and car sharing; and
- Identify the administration process for monitoring and reviewing the travel plan;

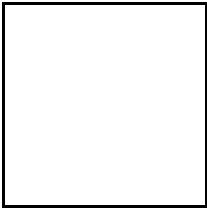
I look forward to receiving your comments regarding the above scope of assessment. If you have any comments or queries, please do not hesitate to contact me.

Kind regards,

Lewis

Lewis Thomas

Engineer | BWB Consulting Limited



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Project:	Highways England Spatial Planning Arrangement 2016-2020	Job No:	60506522 DM014.001
Subject:	South Caldecotte Scoping Material Review		
Prepared by:	Chris Denton	Date:	10th January 2018
Checked by:	Liz Judson	Date:	12th January 2018
Verified & Approved by:	John Alderman	Date:	19th January 2018

1 Introduction

- 1.1.1 BWB Consulting (BWB) have been appointed to provide transportation advice in support of a proposed B2/B8 employment development at South Caldecotte in Milton Keynes. The site is bordered by the A5 to the southwest, the Bletchley-Bedford branch railway line to the north and Brickhill Street to the East. The proposed development includes 195,000m² B2/B8 employment space across multiple buildings. A new roundabout junction on Brickhill Street will provide access.
- 1.1.2 This Technical Note (TN) has been prepared by AECOM, on behalf of Highways England (HE), as a response to scoping material prepared by BWB for a forthcoming Transport Assessment (TA), relating to the proposed development. The scoping material was provided to HE via an email dated 1st November 2017. AECOM are not aware of a formal planning application being submitted for the proposed development at time of writing this TN.
- 1.1.3 The purpose of this TN is to conduct a review of the scoping material to determine whether the potential impact of the proposed development on the strategic road network (SRN) will be reasonably assessed within the TA.
- 1.1.4 HE is responsible for the monitoring, management and maintenance of the strategic road network (SRN). The nearest point of access to the existing SRN is the A5/A4146/Brickhill Street roundabout, also known as the Kelly's Kitchen roundabout. This junction is located on the southern edge of the proposed development, approximately 1km from the site access junction on Brickhill Street.
- 1.1.5 The A5 runs adjacent to the southwest edge of the site and is part of the SRN, running northwest-southeast through the west of Milton Keynes with four junctions providing access, of which the Kelly's Kitchen roundabout is one. Also of interest to HE may be the A5 Bletcham, Little Brickhill and Redmoor grade separated junctions, located approximately 1km, 2.5km and 3km from the proposed development respectively.
- 1.1.6 In addition, the M1 is a strategic north-south route, linking London, the Midlands and the north of England and passes Milton Keynes to the northeast. M1 Junctions 13 and 14 are both located approximately 7km respectively from the proposed development via the local highway network and have the potential to provide access to the SRN for strategic, long distance trips to the west and north respectively. For trips to/from the south, the A5, via Sheep Lane Roundabout, Hockcliffe and the recently opened A5 – M1 Link to Junction 11a may provide the quickest and most attractive route.

This document has been prepared by AECOM Limited for the sole use of our clients ("Highways England") and in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM Limited and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM Limited, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM Limited.

2 Policy Context

2.1.1 AECOM notes that no policy material has been discussed by BWB in the scoping material reviewed. To ensure that the forthcoming TA meets the appropriate national, regional and local criteria, AECOM recommends that the following policy documents are referred to in the context of the proposed development.

- The National Planning Policy Framework (NPPF);
- National Planning Practice Guidance;
- Milton Keynes Core Strategy (2013);
- Milton Keynes Proposed Submission Local Plan (2017);
- Local Transport Plan 3 for Milton Keynes;
- Milton Keynes Residential Development Design Guide;
- Manual for Streets;
- DfT Circular 02/13 The Strategic Road Network and the Delivery of Sustainable Development; and
- The Strategic Road Network. Planning for the Future. A guide to working with Highways England on planning matters.

2.1.2 This list is not intended to be exhaustive and it is encouraged that the TA also refers to further policy documents if deemed appropriate.

2.1.3 The Plan:MK Proposed Submission document identifies land south of Milton Keynes (South Caldecotte) for 195,000m² of employment development (policy SD16), which is consistent with the proposals for this site. Therefore if the Proposed Submission document is adopted as currently drafted the proposed development will have a solid standing within local planning policy.

3 Baseline Conditions

3.1 Overview

3.1.1 Limited information has been provided in the scoping material regarding a summary of the existing conditions of the local and strategic road networks surrounding the proposed development, as well as the existing provision of public transport and walk/cycle facilities. AECOM recommend that the TA includes a general summary of the site's location in relation to the Milton Keynes urban area, including Brickhill Street, the A5 and Kelly's Kitchen roundabout.

3.1.2 AECOM also recommend, dependent upon the trip generation, distribution and assignment adopted, consideration be given to the potential impact upon the strategic road network, identifying those junctions and links which will suffer a material impact and require assessment.

3.1.3 Furthermore, if junction assessments are to be undertaken then observed turning counts at the junctions in combination with ATC counts covering the same time period but over a longer duration should be obtained within a neutral month and referenced within the TA. Observed queue data should also be obtained and utilised to determine whether base models of the junctions are reasonably reflecting the existing junction operation.

3.2 Walking, Cycling and Public Transport

- 3.2.1 The scoping material suggests the TA will study opportunities to access the site using sustainable modes of transport.
- 3.2.2 In doing so, the TA should refer to existing walking and cycling provision and public rights of way in the vicinity of the proposed development. Existing public transport services, including details on distances, frequencies and routes of services should be included, along with exploring opportunities to extend existing services to serve the site. AECOM would welcome the commitment to maximise the sustainable transport options made available for future employees, especially with a rail station in close proximity.
- 3.2.3 Because of the location of the site, on the outer edge of the built-up area and accessible to strategic routes, it will be important to ensure that the sustainable mode offer is attractive and well-promoted if the development is to avoid high levels of car-dependency.
- 3.2.4 AECOM note that a Travel Plan is mentioned within the scoping material. The DfT Circular 02/2013 states that “ *The preparation and implementation of a robust travel plan that promotes use of sustainable transport modes such as walking, cycling and public transport is an effective means of managing the impact of development on the road network, and reducing the need for major transport infrastructure*”.
- 3.2.5 Further discussion regarding the contents of a forthcoming travel plan will take place later within this TN.

3.3 Road Safety

- 3.3.1 The scoping material states that Personal Injury Accident (PIA) data for the local highway network will be analysed. AECOM recommend that data covering at least the last five years available is reviewed. It is also recommended that the area intended to be assessed includes the A5 Kelly’s Kitchen roundabout, in addition to any other junctions on the SRN where there is expected to be a material impact with regards to development trips.

3.4 Committed Developments

- 3.4.1 The scoping material does not mention any developments as committed regarding background flows. The TA makes reference to a consented development within their scoping material. AECOM therefore recommend that the TA considers the following development in the vicinity of the proposed development as committed for the purpose of traffic flows.
 - *Land at Eaton Leys Reference 15/0533/OUTEIS*
This is a planning application for a residential led development of up to 1,800 homes distributed between Aylesbury Vale and Milton Keynes. The application has been permitted and it is expected that Conditions will be attached that require significant alterations to be made to the A5/A4146 Kelly’s Kitchen Roundabout.
- 3.4.2 In addition to the additional background flows arising from the proposed development consideration should be given to whether improvements to the A5/A4146 roundabout have been secured and hence can also be considered to be committed. Consideration however should also be given to the potential scenarios that could arise in the event if these improvements are considered to be committed and reliance placed upon them by the proposed South Caldecotte development, but they are not delivered by others in advance of being required by the South Caldecotte development.
- 3.4.3 In addition to the site identified above by AECOM, it is recommended that BWB identify any other committed developments that could have a point impact at junctions in the vicinity of the proposed

development and include these within any future year traffic impact assessments. Details of these committed developments and the flows associated with them should be included within the TA.

- 3.4.4 It is recommended that BWB check whether any infrastructure changes on the SRN have been identified to support the committed developments and include these within any junction assessments that are undertaken.

3.5 Study Area

- 3.5.1 The scoping material provides details regarding the study area and the junctions for which operational assessments will be undertaken. These are summarised below:

- Site Access from V10 Brickhill Street;
- V10 Brickhill Street / Station Road;
- V10 Brickhill Street / Caldecotte Lake Drive;
- V10 Brickhill Street / H10 Bletcham Way; and
- V10 Brickhill Street / A5 (Kelly's Kitchen roundabout).

- 3.5.2 AECOM consider that due to the size and nature of the proposed development and the likelihood that the site will generate significant numbers of light vehicle and HGV trips, consideration should be given to widening the study area to include any junctions of the SRN that are expected to experience a material increase in trip numbers as a result of the development, including other junctions on the A5 and the M1. Evidence should be provided which demonstrates the scope of the material impact assumed.

- 3.5.3 AECOM will conduct a high level impact analysis later in this review, following consideration of the proposed trip generation and distribution and may provide further commentary on the proposed study area at that time.

4 Development Proposals

- 4.1.1 Vehicular access to and from the development will be solely via a roundabout on Brickhill Street, between Bletcham Way and the A5. The scoping material states that the development proposals will be summarised within the TA, which will also provide details of the vehicular and pedestrian accesses, servicing and the level of parking with reference to Milton Keynes Council's standards.

- 4.1.2 AECOM notes that the proposed development is separated from the rest of the Milton Keynes urban area by the Bedford-Bletchley branch rail line. This could isolate the site from the residential areas to the north and encourage single occupancy car trips. Provision of improved pedestrian and cyclist connections between the site and the Milton Keynes urban area and Bow Brickhill station for future employees is encouraged by AECOM and HE.

- 4.1.3 AECOM note that the site may be subject to additional constraints with reference to the East West Rail and potential aspirations for an Oxford to Cambridge Expressway.

5 Trip Generation, Distribution and Assignment

5.1 Trip Generation

5.1.1 The TRICS database (version 7.4.2) was used by BWB to extract employment trip rates for the B2 (industrial estate) and B8 (storage and distribution centre) employment land uses, for overall vehicles and HGVs. These trip rates were per 100m² floorspace. BWB state that an assumption has been made of a 20/80 split between B2 and B8 use for robustness. Whilst this may be considered reasonable at this stage, it is important that when an application is made that the application is consistent with this 20/80 split, to ensure that the trip generation associated with the site is reasonable. If the ratio of the land uses changes then the trip generation and impact of development trips on the highway network should be reassessed.

5.1.2 AECOM has undertaken checks on the vehicle trip rates presented by BWB for the proposed development using TRICS (version 7.4.4). A comparison of the resulting total trip generation is summarised in the table below.

Table 1: Comparison between scoping material and AECOM total vehicle trips generated.

Land Use	Time Period	TA			AECOM			Difference		
		In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
B2	AM	126	39	165	124	64	188	-2	25	23
	PM	14	131	145	38	108	145	23	-23	0
B8	AM	128	36	164	95	58	153	-33	22	-11
	PM	14	62	76	42	76	119	28	14	42

5.1.3 The comparison shows that AECOM's trip generation generally resulted in slightly more trips generated for the B2 land use and significantly more trips generated for the B8 land use in the PM peak. The table below compares the TA and AECOM trip generation predicted for HGVs only.

Table 2: Comparison between scoping material and AECOM HGV trips generated.

Land Use	Time Period	TA			AECOM			Difference		
		In	Out	2-Way	In	Out	2-Way	In	Out	2-Way
B2	AM	14	14	29	6	8	14	-8	-6	-14
	PM	0	0	0	3	4	7	3	4	7
B8	AM	14	14	28	27	30	56	12	16	28
	PM	9	17	27	30	31	61	20	14	34

5.1.4 The HGV comparison shows that AECOM's figures generated similar trip numbers for the B2 land use. However, the comparison indicates that the BWB trip rates may be underestimating the HGV trip rates for the B8 land use.

5.1.5 AECOM consider that the trip rates and subsequent trip totals presented in the scoping material could potentially underestimate the overall impact of the proposed development on the SRN, which could carry the risk that the mitigation proposed may not be adequate for future levels of traffic. Therefore, AECOM recommends that the TA updates the trip generation to better reflect the average number of vehicle trips anticipated to be generated by the proposed development.

5.1.6 The scoping material notes the Eaton Leys residential development to the south, consisting of 600 dwellings. A 5% reduction in light vehicle trips has been proposed to account for the linked trips in close proximity to the proposed development. Whilst AECOM acknowledge the reference by BWB to the proposed sustainable transport connections between the two sites, there is

concern that the 5% reduction could underestimate the total number of trips that could route through the A5/A4146 junction.

- 5.1.7 The TRICs sites selected by AECOM to calculate their trip rates were broadly located within or on the edge of a town, in order to use sites in similar types of locations to the proposed development. These sites have substantial residential areas within close proximity to the employment site and therefore already include the potential for linked trips. AECOM do not consider that the additional Eaton Leys site would increase the possibility of linked trips and therefore AECOM do not consider this 5% reduction to be reasonable.

5.2 Distribution and Assignment

- 5.2.1 The scoping material has used 2011 Census Journey to Work (JTW) Data for the MSOA Milton Keynes 022 to distribute the employment light vehicle trips, an approach AECOM agrees with in principle. The proportional splits of residential origins for those driving to Milton Keynes 022 for work were obtained to be applied to the vehicle trips generated by the proposed development.
- 5.2.2 AECOM note that the development is located within MSOA Milton Keynes 024. However this encompasses a predominately rural zone outside of the Milton Keynes urban area. MSOA Milton Keynes 022 is located directly to the north of the development and covers an area more suburban in nature. AECOM consider MSOA 022 is likely to reflect the distribution of the proposed development better than the rural area covered by the Milton Keynes MSOA 024 and therefore accept this approach.
- 5.2.3 AECOM have checked the light vehicle trip distribution analysis using the same Census JTW dataset. The route distribution splits from Figure 2 of the scoping material have been checked and confirmed as broadly in line with AECOM's estimates.
- 5.2.4 However, the details of the wider distribution of trips is limited and AECOM therefore recommend that this is provided to determine whether a wider scope of junction assessments is required.
- 5.2.5 The scoping material reasons that HGVs would not be expected to follow the same travel patterns as commuting trips and are anticipated to use principle roads to and from the proposed development. A HGV only assignment has been provided based off DfT traffic count data.
- 5.2.6 Whilst AECOM agree that using a separate assignment for HGVs is a reasonable approach, the DfT data has not been included within the scoping material. AECOM recommend that this data is provided so that the HGV distribution can be reviewed. Furthermore, AECOM recommend that a wider distribution across the A5 and M1 is provided as HGV trips are likely to be more strategic and therefore have a wider impact on the SRN junctions.

6 Traffic Impact

6.1 Study Area Assessment

- 6.1.1 The scoping material proposes the TA will conduct an operational assessment of the links and junctions within the study area outlined in Section 3.5 of this review.
- 6.1.2 As discussed in the previous section, in order to provide an independent estimate, AECOM has conducted a separate trip distribution analysis using Census Journey to Work data. Trip destinations were grouped according to which junctions could be used to enter or exit the SRN. The proportions of trips routing via SRN junctions were applied to the vehicle trips to calculate the potential impact on the SRN.
- 6.1.3 The A5/A4146 Kelly's Kitchen roundabout shows the highest peak hour impact from commuting trips, with over half of trips to and from the proposed development using this junction.

- 6.1.4 The AECOM trip distribution also predicted that there could be a material impact at a number of other junctions, including the A5 Redmoor roundabout, A5/Sheep Lane roundabout and M1 Junction 14. AECOM recommend that consideration be given to the need for assessment of these junctions and other junctions within the TA. If it is agreed that a traffic capacity assessment is not to be undertaken, increases in traffic flows at these junctions as a result of development should at least be calculated so that so that the impact to these junctions can be identified.
- 6.1.5 Where is it agreed that individual junction capacity assessments should be undertaken these assessments should be used to establish whether the junction is predicted to operate over capacity in the identified forecast year and whether the additional development traffic is predicted to have a severe impact and worsen this operation. If this situation arises then it is recommended that measures are identified to mitigate the impact of the development and enable the junction to operate within capacity. Reference should be made to DfT Circular 02/2013 for further guidance on this process.

6.2 Growth Factors and Assessment Years

- 6.2.1 The scoping material states a base year of 2018 and an assessment year of 2023 have been assumed for the proposed development.
- 6.2.2 AECOM note that the DfT Circular 02/13 states *“Where insufficient capacity exists to provide for overall forecast demand at the time of opening, the impact of the development will be mitigated to ensure that at that time, the strategic road network is able to accommodate existing and development generated traffic”*. It is considered unclear by AECOM if 2023 is intended to represent the opening year for the full build out of the proposed development and it is recommended that confirmation regarding this is provided. If an alternative opening year is identified this should be included within the forthcoming TA.
- 6.2.3 The scoping material did not provide details regarding any other proposed future assessment years. DfT Circular 02/13 also states that *“The overall forecast demand should be compared to the ability of the existing network to accommodate traffic over a period up to ten years after the date of registration of a planning application or the end of the relevant Local Plan whichever is the greater.”*
- 6.2.4 The adopted Milton Keynes Local Plan covers a period running to 2031. Therefore AECOM consider that 2031 as a minimum could be used for a future assessment year in addition to the opening year. The relevant Local Plan is however considered to be the forthcoming Plan:MK document, which is intended to be submitted for Examination in Public shortly. Whilst not yet adopted Plan:MK specifically identifies the proposed site, giving an assessment year of 2035 as the end year Local Plan period.
- 6.2.5 BWB indicate that TEMPro version 7.2 growth factors for 2017-2018 and 2017-2023 will be used. AECOM considers that the factors presented within the scoping material are reasonable, however HE will need to review any additional factors that are presented within the TA for alternative forecast years.
- 6.2.6 AECOM reiterate the point made in Section 3.4 regarding the inclusion of committed development traffic flows.
- 6.2.7 The scoping material does not indicate whether adjustments will be made to the TEMPro growth factors to take into account committed developments. If these adjustments are not made then the factors may be considered to be reasonable, however if any adjustments are made, details of this should be provided within the TA for checking purposes.

7 Framework Travel Plan

- 7.1.1 The scoping material provides limited details of the contents of a forthcoming Framework Travel Plan (FTP), which are summarised below:
- Summarise the aims, objectives and methodology of the FTP;
 - Summarise overall targets proposed to minimise the number of vehicular trips and increase the proportion travelling by sustainable modes of transport;
 - Summarise indicative travel plan measures to encourage staff and visitors to travel by walking, cycling, public transport and car sharing; and
 - Identify the administration process for monitoring and reviewing the travel plan.
- 7.1.2 AECOM broadly consider these elements to be reasonable for inclusion within the FTP and welcome any attempts to reduce the single occupancy car use at the site. Further details regarding the potential measures that could be implemented have not been provided within the TA. It is recommended that a combination of 'carrot' and 'stick' measures are considered, with some financial benefits included, to encourage as many people and possible to make use of sustainable transport.
- 7.1.3 AECOM consider that public transport use and car sharing are likely to be the measures that most likely encourage the largest shift away from long distance car trips that make use of the SRN. AECOM therefore welcome a focus on these measures within the FTP, however due to the proximity of the A5 to the proposed development site, walking and cycling could also remove car trips from the SRN and therefore the need to identify these types of measures is also welcomed by AECOM.
- 7.1.4 The scoping material does not indicate whether a reduction in the proposed trip generation will be undertaken to take into account the FTP measures. Whilst AECOM consider that if this reduction is not applied then a robust assessment will be undertaken, if a reduction is applied then the measures identified need to be comprehensive enough to justify the reduction.

8 Conclusion

- 8.1.1 This TN has documented AECOM's review, on behalf of Highways England (HE) of the scoping material relating to the proposed development of South Caldecotte. The scoping material, dated November 2017, has been prepared by BWB Consulting in support of a forthcoming Transport Assessment (TA).
- 8.1.2 The purpose of this note was to conduct a review of the relevant sections of the scoping material and associated documents to determine whether the potential impact of the proposed development on the strategic road network (SRN) will be reasonably assessed within the forthcoming TA.
- 8.1.3 AECOM has made a number of further comments and recommendations throughout this note, which should be addressed in order to ensure the impact of the proposed development on the SRN is fully assessed. These comments and recommendations have been identified by use of underlined text for ease of reference and are summarised below.
- The TA should be guided by and make reference to the list of policy documents provided in Section 2.

- The TA should include a general summary of the site's location in relation to the Milton Keynes urban area, including Brickhill Street, the A5 and Kelly's Kitchen roundabout.
- Where junction assessments are to be undertaken then observed turning counts at the junctions in combination with ATC counts covering the same time period but over a longer duration should be obtained, within a neutral month and referenced within the TA to demonstrate the turning counts obtained are typical. Observed queue data should also be obtained and utilised to determine whether base models of the junctions are reasonably reflecting the existing junction operation.
- The TA should refer to existing walking and cycling provision and public rights of way in the vicinity of the proposed development. Existing public transport services, including details on distances, frequencies and routes of services should be included, along with exploring opportunities to extend existing services to serve the site. AECOM would welcome the commitment to maximise the sustainable transport options made available for future employees, especially with a rail station in close proximity.
- Personal Injury Accident (PIA) data should be reviewed for the A5 Kelly's Kitchen. Other junctions on the SRN that are identified as having a material impact from the development then the PIA data at those junctions should also be reviewed.
- A summary of AECOM's understanding of committed developments in the vicinity of the proposed development is included in Section 3.4 as no details were provided within the scoping material. This information should be considered by BWB when preparing the TA, in addition to any other committed developments that BWB are aware of in the area. Committed infrastructure to support the committed development should also be considered and included in the assessments if considered relevant.
- The internal site layout design should be in accordance with the Manual for Streets and in line with the general principles set out in the Milton Keynes Residential Development Design Guide, in order to encourage sustainable travel where possible.
- AECOM considered that the trip rates and trip totals presented by the scoping material were an underestimation of the proposed development's potential traffic impact.
- Whilst AECOM broadly consider the light vehicle distribution presented within the scoping material to be reasonable, it is considered limited in its scope and AECOM therefore recommend that this is provided to determine whether a wider scope of junction assessments is required.
- Whilst AECOM accept the approach of using a separate trip distribution and assignment for HGVs, the traffic count data this was based on was not included within the scoping material. It was recommended that this was provided so use of this separate distribution can be checked fully. Furthermore, a wider scope of impact should be considered and presented within the TA.
- AECOM consider that due to the size and nature of the proposed development and the likelihood that the site will generate significant numbers of light vehicle and HGV trips, consideration should be given to widening the study area to include any junctions of the SRN that are expected to experience a material increase in trip numbers as a result of the development, including other junctions on the A5 and M1. Evidence should be provided which demonstrates the scope of the material impact assumed.
- Should the predicted increase in traffic be expected to have a material impact on the operation of a junction within the study area, AECOM recommend that a detailed operational assessment involving local junction modelling is carried out within the TA.

-
- These assessments should be used to establish whether the junction is predicted to operate over capacity in the identified forecast year and whether the additional development traffic is predicted to have a severe impact and worsen this operation. If this situation arises then it is recommended that measures are identified to mitigate the impact of the development and enable the junction to operate within capacity.
 - It is recommended that the TA make clear what the opening year is and that an appropriate 'review year' future year is used in line with guidance from DfT Circular 02/2013.
 - AECOM consider that as a minimum the 2031 could be used as future assessment year in addition to the opening year, in line with the adopted Local Plan. Consideration should also be given to assessing 2035 as this is the end year of the forthcoming Plan:MK document, which is intended to be submitted for Examination in Public shortly.
 - The scoping material does not indicate whether adjustments will be made to the TEMPro growth factors to take into account committed developments. If these adjustments are not made then the factors may be considered to be robust, however if any adjustments are made, details of this should be provided within the TA for checking purposes.
-

Appendix C

Personal Injury Collision Data

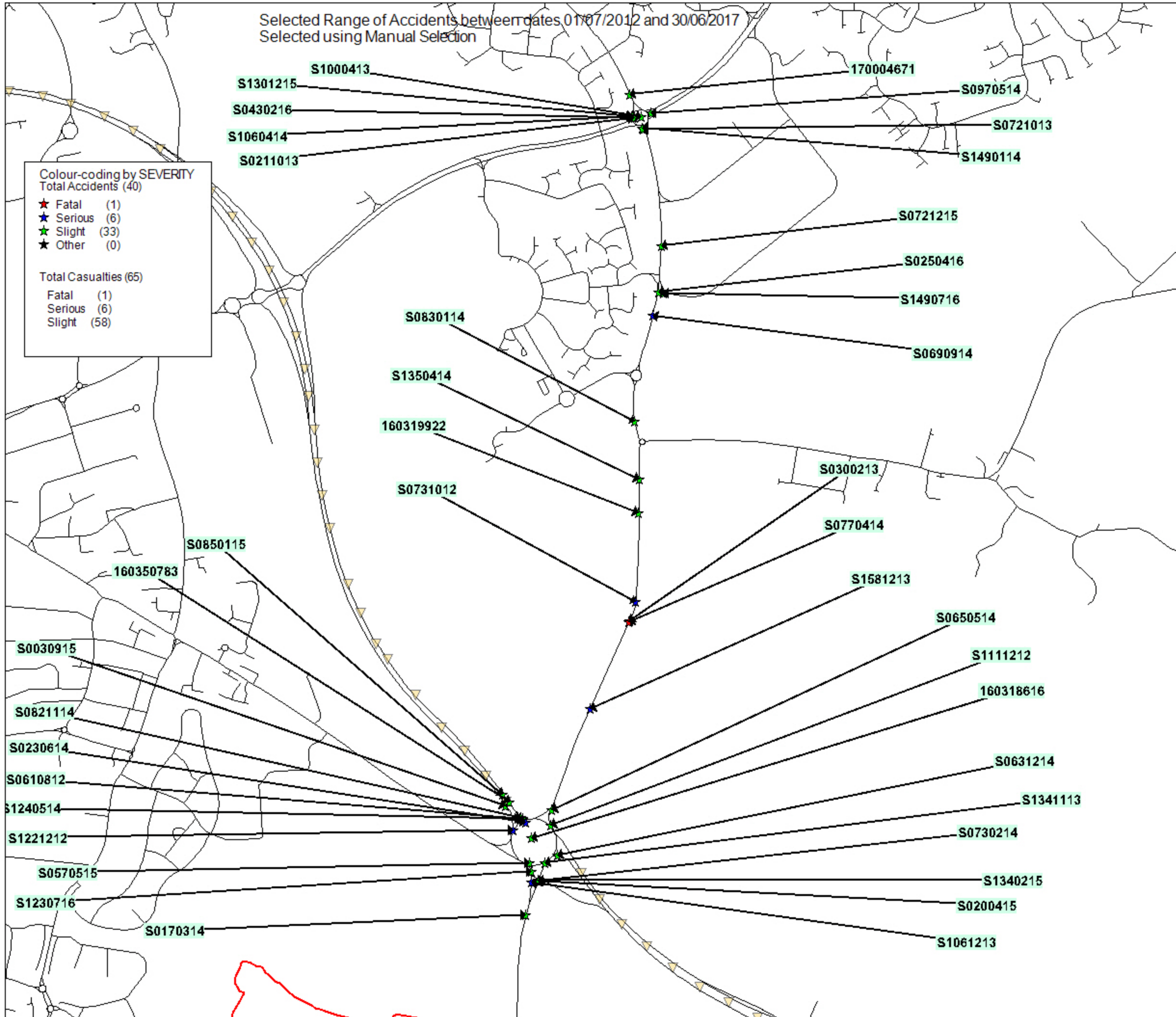
Selected Range of Accidents between dates 01/07/2012 and 30/06/2017
 Selected using Manual Selection

Colour-coding by SEVERITY
 Total Accidents (40)

- ★ Fatal (1)
- ★ Serious (6)
- ★ Slight (33)
- ★ Other (0)

Total Casualties (65)

- Fatal (1)
- Serious (6)
- Slight (58)



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DRAWING TITLE	
Brickhill Road, jnc H10 to jnc A5D	
SCALE	1 : 10000
DATE	25/10/2017
DRAWING No.	
DRAWN BY	

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 16/08/2012 Time 1000 Slight at A5 JNC A4146 'KELLYS KITCHEN' ROUNDABOUT, BLETCHLEY, MILTON KEYNES
 E: N: Junction Detail: 1 Control 4
 Fine without high winds Road surface Dry Daylight:street lights present
 C2 TRAV SOUTH ON A5 STOPPED AT ENTRY TO RBT, C1 TRAV BEHIND C2, C1 HIT REAR C2.
 Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S0610812 Speed limit 70
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) NB

Causation

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

Vehicle Reference 1 Car Moving from N to SE Stopping
 Not foreign registered vehicle
 On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Female Breath test Driver not contacted

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to SE Going ahead but held up
Not foreign registered vehicle
On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 43 Sex of Driver Male Breath test Driver not contacted
Casualty Reference: 1 Age: 43 Male Driver/rider Severity: Slight Injured by vehicle: 2
Ped. Location Ped. Movement Cycle helmet Not a cyclist
Ped. Direction Ped. Injury 0 School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 18/10/2012 Time 2148 Serious at BRICKHILL ROAD, 450METRES SOUTH OF JNC STATION ROAD, BOW BRICKHILL, MILTON KEYNES
 E: N: Junction Detail: 0 Control
 Fine without high winds Road surface Wet/Damp Darkness: no street lighting
 C1 TRAV NORTH APPR L/H BEND, C2 TRAV SOUTH APPR R/H BEND, C1 HITS ANIMAL (DEER?) IN ROAD CAUSING IT TO SWERVE INTO OPPOSING LANE, C1 & C2 COLL HEAD ON.
 Road Type Single carriageway Vehicles 2 Casualties 3 Police Ref. S0731012 Speed limit 60
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 16 Accident Type(s) NN

Causation		
Factor:	Participant:	Confidence:
1st: Animal or object in carriageway	Vehicle 1	Very Likely
2nd: Swerved	Vehicle 1	Possible
3rd: Loss of control	Vehicle 1	
4th:		
5th:		
6th:		

Vehicle Reference 1 Car Moving from S to N Going ahead left bend
 Not foreign registered vehicle
 On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 20 Sex of Driver Female Breath test Not requested
 Casualty Reference: 1 Age: 20 Female Driver/rider Severity: Serious Injured by vehicle: 1
 Cycle helmet Not a cyclist
 Ped. Location Ped. Movement Ped. Direction Ped. Injury 0 School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	N	to	S	Going ahead right bend
Not foreign registered vehicle								
On main carriageway								
First point of impact	Front	Parts damaged:	0 0 0	Age of Driver	69	Sex of Driver	Female	No skidding, jack-knifing or overturning Breath test Not requested
Casualty Reference:	2	Age:	69	Female	Driver/rider	Severity:	Slight	Injured by vehicle: 2
Ped. Location		Ped. Movement		Cycle helmet	Not a cyclist	Ped. Direction		Ped. Injury 0
								School pupil: 0
Casualty Reference:	3	Age:	46	Female	Passenger	Severity:	Slight	Injured by vehicle: 2
Ped. Location		Ped. Movement		Cycle helmet	Not a cyclist	Ped. Direction		Ped. Injury 0
								School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 08/12/2012 Time 1350 Slight at A5(D) & C174, KELLY'S KITCHEN ROUNDABOUT, BLETCHLEY, MK

E: N: Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight:street lights present

MC1 TRAV S ON C174 APP RBT JCN WITH A5(D). MC1 ACELERATES AS ENTERS RBT. RIDER MC1 LOST CONTROL OF BIKE AND FELL OFF.

Road Type Roundabout Vehicles 1 Casualties 1 Police Ref. S1111212 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) SG

Causation

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

Vehicle Reference 1 Motorcycle over 500cc Moving from N to S Going ahead other
Not foreign registered vehicle
On main carriageway Skidded and overturned
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 46 Sex of Driver Male Breath test Negative
Casualty Reference: 1 Age: 46 Male Driver/rider Severity: Slight Injured by vehicle: 1
Cycle helmet Not a cyclist
Ped. Location Ped. Movement Ped. Direction Ped. Injury 0 School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 23/12/2012 Time 1710 Serious at KELLIES KITCHEN ROUNDABOUT, A5(D) JCN WATLING STREET, FENNY STRATFORD, MK

E: N: Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Darkness: street lights present and lit

C2 CIRC RBT IN LANE 1, APP A5 N/B EXIT INT TO GO AHED. C1 ALSO CIRC RB INT TURN L ONTO A5 N/B. FOR REASONS UNKNWN C1 ASSUME C2 ALSO TURN L. C1 PULLED ACROSS PATH C2 TO EXIT RBT. N/S C1 COLL O/S C2. C1 LEFT C/WAY TO N/S & HIT L/C.

Road Type Roundabout Vehicles 2 Casualties 1 Police Ref. S1221212 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) CN

Causation

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

Vehicle Reference 1 Car Moving from S to N Turning left Left hand drive: No

Not foreign registered vehicle

On main carriageway No skidding, jack-knifing or overturning

First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 19 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 18 Male Passenger Severity: Serious Injured by vehicle: 1

Seatbelt: Not Applicable Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	S	to	NE	Going ahead other	Left hand drive: No			
Not foreign registered vehicle												
On main carriageway												
First point of impact	Offside	Parts damaged:	0	0	0	Age of Driver	53	Sex of Driver	Male	No skidding, jack-knifing or overturning	Breath test	Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 09/02/2013 Time 0820 Slight at C174 BOW BRICKHILL ROAD (APPROX 600 METRES NORTH OF KELLYS KITCHEN RBT), BOW BRICKHILL,
E: N: Junction Detail: 0 Control
Fine without high winds Road surface Wet/Damp Daylight
C2 TRAV S ON C174 TWDS KELLIES KITCH RBT. C1 TRAV N ON C174 TWDS BOW BRICKHILL. FOR REASONS UNKNOWN,
C1 HAS VEERED INTO OPP C/WAY & COLL C2. C1 LEFT C/WAY TO O/S.
Road Type Single carriageway Vehicles 2 Casualties 2 Police Ref. S0300213 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 17 Accident Type(s) NN

Causation

	Factor:	Participant:	Confidence:
1st:	Fatigue	Vehicle 1	Very Likely
2nd:	Swerved	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 28 Sex of Driver Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car	Moving from	N	to	S	Going ahead other	Left hand drive: No			
On main carriageway							No skidding, jack-knifing or overturning				
First point of impact	Offside	Parts damaged:	0	0	0	Age of Driver	59	Sex of Driver	Female	Breath test	Negative
Casualty Reference:	1	Age:	59	Female	Driver/rider	Severity:	Slight	Injured by vehicle:	2		
Seatbelt:	Not Applicable		Cycle helmet	Not a cyclist							
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0		
Casualty Reference:	2	Age:	59	Male	Passenger	Severity:	Slight	Injured by vehicle:	2		
Seatbelt:	Not Applicable		Cycle helmet	Not a cyclist							
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0		

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 22/04/2013 Time 1745 Slight at WALTON PARK ROUNDABOUT, V10 BRICKHILL STREET JCN H10 BLETCHAM WAY, WALTON PARK, MK

E: N: Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C2 AT ENTRY TO WALTON PARK ROUNDABOUT GIVING WAY TO CIRC TRAFF. C1 FOLLOWING C2. FOR REASONS UNKWN, C1 COLL REAR C2. C1 LEFT SCENE. REPORTED AT POL STA. EXACT LOC AND DIR OF TRAVEL NOT KNOWN. DETAILS VAGUE.

Road Type Roundabout Vehicles 2 Casualties 1 Police Ref. S1000413 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 581 Accident Type(s) NB

Causation

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

Vehicle Reference 1 Car Moving from Un to Un Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Unknown Breath test Driver not contacted

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from Un to Un Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 54 Sex of Driver Female Breath test Driver not contacted

Casualty Reference: 1 Age: 54 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 06/10/2013 Time 1010 Slight at H10 JNC V10 WALTON PARK ROUNDABOUT, WALTON PARK, MK

E: N: Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C1 TRAV N/EAST ON H10 APPR RBT, GV2 NEG RBT TO EXIT N/EAST ONTO H10, DRVR C1 FAIL TO SLOW IN TIME & BRAKED, C1 SKIDDED (FOR 30METRES) ONTO RBT & COLL WITH GV2.

Road Type Dual carriageway Vehicles 2 Casualties 3 Police Ref. S0211013 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 581 Accident Type(s) CO

Causation

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

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 1 Car Moving from S to NE Stopping Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 32 Sex of Driver Male Skidded Male Breath test Negative

Casualty Reference: 1 Age: 32 Male Driver/rider Severity: Slight Injured by vehicle: 1
Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Casualty Reference: 2 Age: 42 Male Passenger Severity: Slight Injured by vehicle: 1
Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Casualty Reference: 3 Age: 36 Male Passenger Severity: Slight Injured by vehicle: 1
Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Vehicle Reference 2 Goods 7.5 tonnes mgw and over Moving from SE to N Going ahead other Left hand drive: No

On main carriageway
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 36 Sex of Driver Male No skidding, jack-knifing or overturning Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 15/10/2013 Time 0840 Slight at V10 JNC H10 WALTON PARK ROUNDABOUT, CALDECOTTE, MK

E: N: Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C2 TRAV N ON V10 STAT AT ENTRY TO RBT, C1 STAT BEHIND C2, DRVR C1 THOUGHT C2 WOULD MOVE OFF AS RBT WAS CLEAR SO C1 MOVED OFF & HIT REAR C2. C2 STILL STAT.

Road Type Roundabout Vehicles 2 Casualties 1 Police Ref. S0721013 Speed limit 70
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 581 Accident Type(s) NB

Causation

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

Vehicle Reference 1 Car Moving from S to N Starting Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 52 Sex of Driver Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:

Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead but held up Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 27 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 27 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn but not independently

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 27/11/2013 Time 1655 Slight at A5D JNC A4146 KELLYS KITCHEN ROUNDABOUT, BLETCHLEY, MK

E: N: Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Darkness: street lights present and lit

C1 NEG RBT TO EXIT S ONTO A4146, C2, C3 & C4 NEG RBT BEHIND C1, AT LAST SECOND C1 CHANGE DIR & CONTNUED ON RBT CAUSING C2 TO BRAKE & SWERVE, C2 HIT REAR C1, C3 HIT REAR C2, C4 HIT REAR C3. C1 DID NOT STOP.

Road Type Roundabout Vehicles 4 Casualties 1 Police Ref. S1341113 Speed limit 70
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) CO

Causation

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

Vehicle Reference 1 Car Moving from NE to W Changing lane to right Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver Sex of Driver No skidding, jack-knifing or overturning
Not traced Breath test Driver not contacted

Vehicle Reference 2 Car Moving from NE to W Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 34 Sex of Driver Male Skidded
Breath test Driver not contacted

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 3 Car Moving from NE to W Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 50 Sex of Driver Female Skidded
Breath test Negative

Casualty Reference: 1 Age: 50 Female Driver/rider Severity: Slight Injured by vehicle: 3

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Vehicle Reference 4 Car Moving from NE to W Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 49 Sex of Driver Male Skidded
Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 16/12/2013 Time 0525 Serious at A4146, APPRX 45METRES SOUTH OF JNC A5D, KELLYS KITCHEN RBT, FENNY STRATFORD, MK
 E: N: Junction Detail: 0 Control
 Raining without high winds Road surface Wet/Damp Darkness: no street lighting
 C1 TRAV N ON A4146 TWDS RBT, PC2 TRAV SAME DIR, FRONT C1 COLL WITH O/SIDE PC2. PC2 NO LIGHTS & RIDER WEARING DARK CLOTHING.
 Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S1061213 Speed limit 60
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1043 Road Section: 561 Accident Type(s) ZZ

Causation

	Factor:	Participant:	Confidence:
1st:	Cyclist wearing dark clothing at night	Vehicle 2	Very Likely
2nd:	Not displaying lights at night or in poor visibility	Vehicle 2	Very Likely
3rd:	Failed to look properly	Vehicle 2	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 22 Sex of Driver Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Pedal Cycle Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 21 Sex of Driver Male Breath test Not requested

Casualty Reference: 1 Age: 21 Male Driver/rider Severity: Serious Injured by vehicle: 2

Seatbelt: Not Applicable Cycle helmet No

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 28/12/2013 Time 1342 Serious at BRICKHILL ROAD NEAR CROSSROADS FARM, FENNY STRATFORD, MK

E: N: Junction Detail: 0 Control

Fine without high winds Road surface Wet/Damp Daylight

C1 TRAV S ON BRICKHLL RD IN QUEUING TRAFFIC FOR A5D RBT, MC2 TRAV OPP DIR, C1 PERFORM U-TURN CAUSING RIDER MC2 TO BRAKE, MC2 & RIDER FELL, RIDER SLID INTO SIDE C1.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S1581213 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 19 Accident Type(s) UU

Causation

	Factor:	Participant:	Confidence:
1st:	Slippery road (due to weather)	Vehicle 2	Possible
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:	Failed to judge other persons path or speed	Vehicle 1	Possible
4th:	Sudden braking	Vehicle 2	Possible
5th:	Dazzling sun	Vehicle 1	Possible
6th:			

Vehicle Reference 1 Car Moving from NE to NE U-turn Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver 57 Sex of Driver Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Motorcycle over 500cc Moving from S to NE Going ahead other Left hand drive: No

On main carriageway Skidded
First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver 46 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 46 Male Driver/rider Severity: Serious Injured by vehicle: 2

Seatbelt: Not Applicable

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 20/01/2014 Time 0735 Slight at BRICKHILL STREET, JUST SOUTH OF RAILWAY LEVEL CROSSING, CALDECOTTE, MK

E: N: Junction Detail: 0 Control

Fine without high winds Road surface Frost/Ice Darkness: street lights present but unlit

C1 & MC2 ENTERD BRICKHLL ST TRAV N FROM RBT, LEVEL XING BARRIER DOWN SO C1 PERFORM U-TURN IN FRONT
MC2, MC2 BRAKED TO AVOID C1, MC2 SLID & FELL.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S0830114 Speed limit 40

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 15 Accident Type(s) UU

Causation

	Factor:	Participant:	Confidence:
1st:	Slippery road (due to weather)	Vehicle 2	Possible
2nd:	Failed to look properly	Vehicle 1	Possible
3rd:	Poor turn or manoevre	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to S U-turn Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver 51 Sex of Driver Female Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Motorcycle over 500cc Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 57 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 57 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 20/01/2014 Time 0650 Slight at V10 JNC H10 WALTON PARK ROUNDABOUT, CALDECOTTE, MK

E: N: Junction Detail: 1 Control 4

Other Road surface Frost/Ice Darkness: street lights present and lit

C2 TRAV N ON V10 STAT AT ENTRY TO RBT, C1 TRAV SAME DIR HIT REAR C2.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S1490114 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 581 Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Slippery road (due to weather)	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to W Turning left Left hand drive: Yes

On main carriageway Skidded
First point of impact Front Parts damaged: 0 0 0 Age of Driver 24 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 24 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 70 Sex of Driver Male Breath test Driver not contacted

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 16/02/2014 Time 1539 Slight at A4146 JNC SERVICE AREA ACCESS AT A5D KELLYS KITCHEN ROUNDABOUT, FENNY STRATFORD, MK
 E: N: Junction Detail: 3 Control 4
 Fine without high winds Road surface Dry Daylight
 C1 AT EXIT FROM SERVICE AREA ONTO A4146 TO REJOIN A5 RBT, C2 TRAV S/WEST FROM RBT ONTO A4146, C1 TURNS
 RIGHT ONTO A4146 INTO PATH C2, C2 COLL WITH C1. DRVR C1 LOOKING INTO LOW SUN.
 Road Type Single carriageway Vehicles 2 Casualties 3 Police Ref. S0730214 Speed limit 60
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) RD

Causation

	Factor:	Participant:	Confidence:
1st:	Dazzling sun	Vehicle 1	Very Likely
2nd:	Dazzling sun	Vehicle 2	Very Likely
3rd:	Temporary road layout (eg contraflow)	Vehicle 1	
4th:			
5th:			
6th:			

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 1 Car Moving from SE to NE Turning right Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 33 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 33 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Casualty Reference: 3 Age: 12 Female Passenger Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Vehicle Reference 2 Car Moving from NE to S Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 59 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 2 Age: 59 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 03/03/2014 Time 1230 Slight at A4146, 150METRES S OF JNC A5D KELLYS KITCHEN RBT, FENNY STRATFORD, MK

E: N: Junction Detail: 0 Control

Fine without high winds Road surface Wet/Damp Daylight

GV3, C2 & GV1 TRAV N ON A4146 APPR RBT, GV3 & C2 BRAKED, GV1 FAIL TO REACT IN TIME & BRAKED LATE HITTING REAR C2, C2 PUSHED INTO REAR GV3.

Road Type Single carriageway Vehicles 3 Casualties 2 Police Ref. S0170314 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1043 Road Section: 561 Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Following too close	Vehicle 1	Very Likely
2nd:	Rain, sleet, snow, or fog	Vehicle 1	Possible
3rd:	Failed to look properly	Vehicle 1	Possible
4th:	Failed to judge other persons path or speed	Vehicle 1	Possible
5th:			
6th:			

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 68 Sex of Driver Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Stopping Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 21 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 22 Female Passenger Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Casualty Reference: 2 Age: 1 Female Passenger Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Vehicle Reference 3 Goods 7.5 tonnes mgw and over Moving from S to N Stopping Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 34 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 08/04/2014 Time 0940 Slight at BRICKHILL ROAD, 100METRES SOUTH OF JNC STATION ROAD, BOW BRICKHILL, MK

E: N: Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C1 & C2 TRAV S ON BRICKHILL RD, C1 PERFORMS U-TURN IN C/WAY AS C2 APPROACHES, COLL OCC, C2 LEAVES C/WAY

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S1350414 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 15 Accident Type(s) UU

Causation

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

Vehicle Reference 1 Car Moving from N to N U-turn Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 70 Sex of Driver Female Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Taxi/Private hire car Moving from N to S Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 46 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 46 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 16/04/2014 Time 1147 Fatal at BRICKHILL ROAD, FIELD ACCESS 600METRES NORTH OF JNC A5D, BOW BRICKHILL, MK

E: N: Junction Detail: 8 Control 4

Fine without high winds Road surface Dry Daylight

C2 TRAV N ON BRICKHILL RD, C1 TRAV BEHIND C2, DRVR C2 REALISES THEY ARE GOING WRONG WAY SO BRAKES TO TURN RIGHT INTO FIELD ACCESS IN ORDER TO TURN ROUND, C1 FAILS TO REACT IN TIME & COLL WITH REAR C2.

Road Type Single carriageway Vehicles 2 Casualties 3 Police Ref. S0770414 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 17 Accident Type(s) NB

Causation

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

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 92 Sex of Driver Male Skidded
Breath test Negative
Casualty Reference: 1 Age: 92 Male Driver/rider Severity: Slight Injured by vehicle: 1
Seatbelt: Unknown Cycle helmet Not a cyclist
Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0
Casualty Reference: 2 Age: 87 Female Passenger Severity: Fatal Injured by vehicle: 1
Seatbelt: Unknown Cycle helmet Not a cyclist
Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Vehicle Reference 2 Car Moving from S to N Waiting to turn right Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 49 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative
Casualty Reference: 3 Age: 82 Female Passenger Severity: Slight Injured by vehicle: 2
Seatbelt: Unknown Cycle helmet Not a cyclist
Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 27/04/2014 Time 0715 Slight at H10 JNC V10 WALTON PARK ROUNDABOUT, WALTON PARK, MK

E: N: Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C1 TRAV E ON H10 IN LN 1 APPR RBT, OTHER VEH IN LN 2, PC2 TRAV N ON V10 NEG RBT, OTHER VEH STOPPED FOR PC2,
C1 DID NOT SEE PC2 & ENTERED RBT COLL WITH PC2.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S1060414 Speed limit 70
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 581 Accident Type(s) CM

Causation

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

Vehicle Reference 1 Car Moving from S to NE Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 39 Sex of Driver Female Breath test Not requested

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Pedal Cycle Moving from SE to N Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 65 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Not requested

Casualty Reference: 1 Age: 65 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable Cycle helmet Yes

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 17/05/2014 Time 2301 Slight at BRICKHILL ROAD, APPR TO KELLYS KITCHEN RBT, FENNY STRATFORD, MK

E: N: Junction Detail: 0 Control

Fine without high winds Road surface Dry Darkness: street lights present and lit

C2 TRAV S ON BRICKHLL RD SLOWING ON APPR TO RBT, C1 FOLL AT SPEED, C1 COLL WITH REAR O/SIDE C2. C1 FAIL TO STOP. C1 DRVR ALCOHOL IMPAIRMENT?

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S0650514 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 19 Accident Type(s) NB

Causation

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

Vehicle Reference 1 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Unknown Breath test Driver not contacted

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to S Stopping Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 40 Sex of Driver Male Breath test Driver not contacted

Casualty Reference: 1 Age: 40 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 22/05/2014 Time 2222 Slight at V10 JNC H10, WALTON PARK ROUNDABOUT, WALNUT TREE, MK
 E: N: Junction Detail: 1 Control 4
 Fine without high winds Road surface Dry Darkness: street lights present and lit
 C1 TRAV S ON V10 APPR RBT, C2 TRAV W ON H10 APPR RBT, DRVR C1 SUFFERED MEDICAL EPISODE, C1 FAIL TO NEG
 RBT & LEFT C/WAY CROSSING H10 CENTRL RES & COLL WITH C2.
 Road Type Dual carriageway Vehicles 2 Casualties 2 Police Ref. S0970514 Speed limit 70
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 581 Accident Type(s) ZZ

Causation		Participant:	Confidence:
Factor:			
1st:	Illness or disability, mental or physical	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 63 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 63 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 56 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 2 Age: 56 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn but not independently

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 31/05/2014 Time 0010 Slight at A5D JNC A4146, KELLYS KITCHEN ROUNDABOUT, FENNY STRATFORD, MK
 E: N: Junction Detail: 1 Control 2
 Fine without high winds Road surface Dry Darkness: street lights present and lit
 C2 TRAV S ON A5 STAT IN LN 3 AT RED ATS, C1 TRAV BEHIND COLL WITH REAR C2.
 Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S1240514 Speed limit 70
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) NB

Causation

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

Vehicle Reference 1 Car Moving from N to SE Stopping Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 25 Sex of Driver Female Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to SE Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 44 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 44 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn but not independently

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 07/06/2014 Time 2147 Serious at A5D JNC A4146 KELLYS KITCHEN ROUNDABOUT, FENNY STRATFORD, MK
 E: N: Junction Detail: 1 Control 2
 Fine without high winds Road surface Dry Darkness: street lights present and lit
 C1 TRAV S IN O/SIDE LN, DRVR FAIL TO NEG RBT, C1 CROSSED THRU CENTRL ISLAND FENCING, C1 THEN ROLLED &
 ENTERED DITCH ON CENTRL ISLAND. DRVR C1 ALCOHOL IMPAIRMENT.
 Road Type Dual carriageway Vehicles 1 Casualties 1 Police Ref. S0230614 Speed limit 70
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) SG

Causation		
Factor:	Participant:	Confidence:
1st: Disobeyed automatic traffic signal	Vehicle 1	Very Likely
2nd: Loss of control	Vehicle 1	Very Likely
3rd: Impaired by alcohol	Vehicle 1	
4th:		
5th:		
6th:		

Vehicle Reference 1 Car Moving from N to SE Going ahead other Left hand drive: No

On main carriageway Skidded and overturned
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 38 Sex of Driver Male Breath test Not provided (medical reasons)
 Casualty Reference: 1 Age: 38 Male Driver/rider Severity: Serious Injured by vehicle: 1
 Seatbelt: Unknown Cycle helmet Not a cyclist
 Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 13/09/2014 Time 2045 Serious at V10 BRICKHILL STREET, 60METRES SOUTH OF BRADBOURNE DRIVE JNC, TILBROOK, MK
 E: N: Junction Detail: 0 Control
 Fine without high winds Road surface Dry Darkness: street lights present and lit
 PC1 TRAV S ON V10, PSV2 TRAV SAME DIR BEHIND PC1 MOVES OUT TO PASS PC1, PC1 SWERVES TO THE RIGHT & COLL WITH N/SIDE PSV2. RIDER PC1 POS ALCOHOL / DRUGS IMPRMNT.
 Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S0690914 Speed limit 60
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 20 Accident Type(s) OO

Causation

	Factor:	Participant:	Confidence:
1st:	Impaired by alcohol	Vehicle 1	Possible
2nd:	Impaired by drugs (illicit or medicinal)	Vehicle 1	Possible
3rd:	Poor turn or manoeuvre	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Pedal Cycle Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Offside Parts damaged: 0 0 0 Age of Driver 18 Sex of Driver Male Breath test Not requested

Casualty Reference: 1 Age: 18 Male Driver/rider Severity: Serious Injured by vehicle: 1
 Seatbelt: Not Applicable Cycle helmet Not known
 Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Bus or coach Moving from N to S Overtaking moving vehicle ~~Yes~~ hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 51 Sex of Driver Female Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 04/11/2014 Time 2230 Slight at A5D JNC BOW BRICKHILL RD, KELLYS KITCHEN ROUNDABOUT, FENNY STRATFORD, MK
 E: N: Junction Detail: 1 Control 2
 Fine without high winds Road surface Wet/Damp Darkness: street lights present and lit
 TX2 TRAV S ON A5 STAT AT RBT ON RED ATS, C1 TRAV SAME DIR FAIL TO SEE TX2 & COLL INTO REAR TX2. C1 FAIL TO STOP. DRVR C1 POS B.TEST.
 Road Type Dual carriageway Vehicles 2 Casualties 3 Police Ref. S0821114 Speed limit 70
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1043 Road Section: 521 Accident Type(s) JS

Causation		Participant:	Confidence:
Factor:			
1st:	Impaired by alcohol	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to SE Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 44 Sex of Driver Male Breath test Positive

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Taxi/Private hire car Moving from N to SE Going ahead but held up Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 47 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference:	1	Age:	47	Male	Driver/rider	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Unknown				Cycle helmet	Not a cyclist			
Ped. Location		Ped. Movement			Ped. Direction	Ped. Injury		School pupil:	0
Casualty Reference:	2	Age:	26	Female	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Unknown				Cycle helmet	Not a cyclist			
Ped. Location		Ped. Movement			Ped. Direction	Ped. Injury		School pupil:	0
Casualty Reference:	3	Age:	25	Male	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Unknown				Cycle helmet	Not a cyclist			
Ped. Location		Ped. Movement			Ped. Direction	Ped. Injury		School pupil:	0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 14/12/2014 Time 1216 Slight at A5D JNC A4146 KELLYS KITCHEN RBT, FENNY STRATFORD, MILTON KEYNES

E: N: Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

C1 (POLICE VEH ON CALL) NEG RBT S TWDS A4146 EXIT, C3 & C2 TRAV N ON A5 STAT AT RBT, C3 MOVED OFF BUT STOPPED DUE TO POL VEH, C2 MOVED OFF & HIT REAR C3.

Road Type Dual carriageway Vehicles 3 Casualties 3 Police Ref. S0631214 Speed limit 70
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) NB

Causation

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

Vehicle Reference 1 Car Moving from NE to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver Sex of Driver Male Breath test Not requested

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from SE to N Starting Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 40 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Not requested

Casualty Reference: 2 Age: 10 Female Passenger Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Vehicle Reference 3 Car Moving from SE to N Stopping Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 47 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Not requested

Casualty Reference: 1 Age: 47 Female Passenger Severity: Slight Injured by vehicle: 3

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Casualty Reference: 3 Age: 47 Female Driver/rider Severity: Slight Injured by vehicle: 3

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 22/01/2015 Time 1655 Slight at A5D, 100 METRES NORTH OF JNC A4146 RBT, FENNY STRATFORD, MK
 E: N: Junction Detail: 0 Control
 Fine without high winds Road surface Dry Darkness: no street lighting
 C2 & C1 TRAV S IN LN 2 IN SLOW MOVING TRAFFIC, C2 STOPS, C1 FAILS TO STOP & HITS REAR C2.
 Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S0850115 Speed limit 70
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 522 Accident Type(s) NB

Causation

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

Vehicle Reference 1 Car Moving from N to SE Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 51 Sex of Driver Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to SE Stopping Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 21 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 21 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 26/02/2015 Time 0957 Slight at A4146 F. STRATFORD BYPASS, JNC EXIT FROM A5D SERVICE AREA, FENNY STRATFORD, MK
E: N: Junction Detail: 3 Control 2
Raining with high winds Road surface Wet/Damp Daylight

C1 TRAV W EXITING SERVICE AREA ONTO A4146, C2 TRAV S ON A4146, COLL OCC. BOTH DRVRS CLAIM GREEN TRAFF SIGNAL.

Road Type Single carriageway Vehicles 2 Casualties 2 Police Ref. S1340215 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1043 Road Section: 521 Accident Type(s) JS

Causation

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

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 46 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 46 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn and independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 50 Sex of Driver Female Breath test Negative

Casualty Reference: 2 Age: 50 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn and independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 10/04/2015 Time 1759 Slight at A4146 JNC SERVICE AREA ACCESS ROAD, KELLYS KITCHEN RBT, BLETCHLEY, MK
E: N: Junction Detail: 6 Control 2
Fine without high winds Road surface Dry Daylight

C2 TRAV S ON A4146 STAT AT RED ATS, C2 MOVED OFF ON GREEN ATS AT SAME TIME AS C1 ENTERD MAIN RD FROM SERVICE AREA, C2 COLL WITH O/SIDE C1. C1 WENT THRU RED ATS.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S0200415 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1043 Road Section: 561 Accident Type(s) JS

Causation

	Factor:	Participant:	Confidence:
1st:	Disobeyed automatic traffic signal	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from SE to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 42 Sex of Driver Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from NE to S Starting Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 60 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 60 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 12/05/2015 Time 1309 Slight at A5D JNC A4146 KELLYS KITCHEN ROUNDABOUT, FENNY STRATFORD, MK
 E: N: Junction Detail: 1 Control 2
 Fine without high winds Road surface Dry Daylight
 C2 TRAV N ON A4146 ENTERD RBT ON GREEN ATS, C1 (POLICE ON CALL) NEG RBT ON RED ATS TO EXIT ONTO WATLNG
 ST, C1 COLL WITH O/SIDE C2. C2 ROLLED ONTO O/SIDE.
 Road Type Single carriageway Vehicles 2 Casualties 2 Police Ref. S0570515 Speed limit 60
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Emergency vehicle on call	Vehicle 1	Very Likely
2nd:	Disobeyed automatic traffic signal	Vehicle 1	Very Likely
3rd:	Failed to judge other persons path or speed	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from E to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 40 Sex of Driver Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway				Skidded and overturned					
First point of impact	Offside	Parts damaged:	0 0 0	Age of Driver	25	Sex of Driver	Female	Breath test	Negative
Casualty Reference:	1	Age:	25	Female	Driver/rider	Severity:	Slight	Injured by vehicle:	2
Seatbelt: Worn but not independently				Cycle helmet Not a cyclist					
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0
Casualty Reference:	2	Age:	30	Female	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt: Worn but not independently				Cycle helmet Not a cyclist					
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 01/09/2015 Time 1049 Slight at A5D, APPRX 100METRES NORTH OF KELLYS KITCHEN RBT, FENNY STRATFORD, MK

E: N: Junction Detail: 0 Control

Fine without high winds Road surface Wet/Damp Daylight

C1 TRAV N FROM RBT, DRVR LOST CONTRL & C1 LEFT C/WAY TO N/SIDE HITTING L/COL & ENTERING DITCH.

Road Type Dual carriageway Vehicles 1 Casualties 1 Police Ref. S0030915 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 522 Accident Type(s) SG

Causation

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

Vehicle Reference 1 Car Moving from SE to N Going ahead other Left hand drive: No

On main carriageway Overturned
First point of impact Front Parts damaged: 0 0 0 Age of Driver 59 Sex of Driver Male Breath test Not requested

Casualty Reference: 1 Age: 59 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 03/12/2015 Time 1645 Slight at V10 BRICKHILL STREET, 80METRES SOUTH OF JNC HEYBRIDGE CRESCENT, CALDECOTTE, MK

E: N: Junction Detail: 0 Control

Fine without high winds Road surface Wet/Damp Darkness: street lights present and lit

C2 & C1 TRAV S, C2 SLOWED FOR TRAFFIC AHEAD, C1 FAILS TO SLOW & COLL WITH REAR C2. DRVR C1 POSSIBLE ALCOHOL, IMPRMNT.

Road Type Single carriageway Vehicles 2 Casualties 5 Police Ref. S0721215 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 21 Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Impaired by alcohol	Vehicle 1	Possible
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 1 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 35 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 35 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Casualty Reference: 3 Age: 5 Female Passenger Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	N	to	S	Stopping		Left hand drive: No
On main carriageway										
First point of impact	Back	Parts damaged:	0 0 0	Age of Driver	27	Sex of Driver	Male	No skidding, jack-knifing or overturning		
								Breath test	Driver not contacted	
Casualty Reference:	2	Age:	27	Male	Driver/rider			Severity: Slight	Injured by vehicle: 2	
Seatbelt: Worn but not independently										
Ped. Location		Ped. Movement		Ped. Direction	Ped. Injury			School pupil: 0		
Casualty Reference:	4	Age:	32	Female	Passenger			Severity: Slight	Injured by vehicle: 2	
Seatbelt: Worn but not independently										
Ped. Location		Ped. Movement		Ped. Direction	Ped. Injury			School pupil: 0		
Casualty Reference:	5	Age:	32	Female	Passenger			Severity: Slight	Injured by vehicle: 2	
Seatbelt: Worn but not independently										
Ped. Location		Ped. Movement		Ped. Direction	Ped. Injury			School pupil: 0		

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 23/12/2015 Time 2020 Slight at H10 JNC V10 WALTON PARK ROUNDABOUT, WALTON PARK, MK
 E: N: Junction Detail: 1 Control 4
 Fine without high winds Road surface Dry Darkness: street lights present but unlit
 GV2 (VAN) NEG RBT TWDS H10 E/BND EXIT, C1 TRAV E ON H10 FAILS TO STOP AT RBT ENTRY, C1 SKIDS & ENTERS RBT
 COLL WITH N/SIDE GV2.
 Road Type Dual carriageway Vehicles 2 Casualties 2 Police Ref. S1301215 Speed limit 70
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 581 Accident Type(s) CM

Causation

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

POWER CUT, STREET LIGHTS NOT WORKING.

Vehicle Reference 1 Car Moving from W to E Going ahead other Left hand drive: No
 On main carriageway Skidded
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 47 Sex of Driver Male Breath test Negative
 Casualty Reference: 1 Age: 47 Male Driver/rider Severity: Slight Injured by vehicle: 1
 Seatbelt: Unknown Cycle helmet Not a cyclist
 Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Moving from S to E Turning right Left hand drive: No

On main carriageway
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 49 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 2 Age: 49 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 07/02/2016 Time 1207 Slight at H10 JNC V10 WALTON PARK ROUNDABOUT, WALTON PARK, MK

E: N: Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C1 TRAV E ON H10 APPR JNC, DRVR SUFFERED SNEEZING FIT, C1 LEFT C/WAY ONTO CENT ISLAND & SPUN ONTO CIRC C/WAY.

Road Type Dual carriageway Vehicles 1 Casualties 1 Police Ref. S0430216 Speed limit 70
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 581 Accident Type(s) SG

Causation

	Factor:	Participant:	Confidence:
1st:	Loss of control	Vehicle 1	Very Likely
2nd:	Distraction in vehicle	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from W to E Going ahead other Left hand drive: No

On main carriageway Skidded
First point of impact Front Parts damaged: 0 0 0 Age of Driver 82 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 82 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 08/04/2016 Time 1355 Slight at V10 BRICKHILL STREET JNC BRADBOURNE DRIVE, TILLBROOK, MK

E: N: Junction Detail: 3 Control 4

Fine without high winds Road surface Dry Daylight

C2 TRAV S ON V10 APPR JNC, C1 TRAV OPP DIR TURNED RIGHT TWDS BRADBRNE DR & INTO PATH C2, COLL OCC CAUSING VEHS TO SPIN.

Road Type Single carriageway Vehicles 2 Casualties 2 Police Ref. S0250416 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 20 Accident Type(s) ID

Causation

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

Vehicle Reference 1 Car Moving from S to E Turning right Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 25 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 25 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn and independently confirmed Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 27 Sex of Driver Female Breath test Not requested

Casualty Reference: 2 Age: 27 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn and independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 26/07/2016 Time 1645 Slight at A4146 JNC A5 KELLYS KITCVHEN ROUNDABOUT, FENNY STRATFORD, MK
 E: N: Junction Detail: 1 Control 2
 Fine without high winds Road surface Dry Daylight
 C2 & GV1 (VAN) IN STAT TRAFFIC N/BND ON A4146 AT RED ATS, LIGHTS CHANGED TO GREEN BUT VEHS AHEAD DID NOT MOVE, GV1 MOVED OFF & HIT REAR C2.
 Road Type Single carriageway Vehicles 2 Casualties 3 Police Ref. S1230716 Speed limit 60
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1043 Road Section: 561 Accident Type(s) NB

Causation

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

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from S to N Starting Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Male Breath test Driver not contacted

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	S	to	N	Going ahead but held up	Left hand drive: No
On main carriageway									
First point of impact	Back	Parts damaged:	0 0 0	Age of Driver	52	Sex of Driver	Male	No skidding, jack-knifing or overturning	Breath test Driver not contacted
Casualty Reference:	1	Age:	52	Male	Driver/rider	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Unknown				Cycle helmet Not a cyclist				
Ped. Location		Ped. Movement			Ped. Direction	Ped. Injury		School pupil:	0
Casualty Reference:	2	Age:	44	Female	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Unknown				Cycle helmet Not a cyclist				
Ped. Location		Ped. Movement			Ped. Direction	Ped. Injury		School pupil:	0
Casualty Reference:	3	Age:	16	Female	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Unknown				Cycle helmet Not a cyclist				
Ped. Location		Ped. Movement			Ped. Direction	Ped. Injury		School pupil:	0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 27/07/2016 Time 1644 Slight at V10 BRICKHILL STREET JNC BRADBOURNE DRIVE, TILBROOK, MK

E: N: Junction Detail: 3 Control 4

Fine without high winds Road surface Dry Daylight

MC2 TRAV W ON BRDDBRNE DR STAT WAITING TO TURN LEFT ONTO V10, C1 TRAV SAME DIR COLL WITH REAR MC2.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S1490716 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) LN

Causation

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

Vehicle Reference 1 Car Moving from E to W Stopping Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 41 Sex of Driver Female Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Motor Cycle over 50 cc and up to 125cc Moving from E to S Waiting to turn left Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 43 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 43 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 28/10/2016 Time 1732 Slight at BOW BRICKHILL ROAD, 190M SOUTH OF JNC STATION ROAD, BOW BRICKHILL, MK

E: N: Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C2, GV3 (VAN) & C1 ALL TRAV NORTH TWDS BOW BRICKHILL, C2 STOPPED FOR STAT TRAFFIC AHEAD, GV3 MANAGED TO STOP, C1 FAILS TO STOP & COLLS WITH REAR GV3, GV3 THEN HITS REAR C2.

Road Type Single carriageway Vehicles 3 Casualties 1 Police Ref. 160319922 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: Accident Type(s) NB

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:	Distraction in vehicle	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning

First point of impact Front Parts damaged: 0 0 0 Age of Driver 25 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 25 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Stopping Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 33 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative

Vehicle Reference 3 Van or Goods 3.5 tonnes mgw and under Moving from S to N Stopping Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 28 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 08/11/2016 Time 0838 Slight at A5D JNC WATLING STREET KELLYS KITCHEN ROUNDABOUT, FENNY STRATFORD, MK
E: N: Junction Detail: 1 Control 2
Other Road surface Frost/Ice Daylight

COLL INVOLVING GV1 & C2, NO DETAILS.

Road Type Roundabout Vehicles 2 Casualties 1 Police Ref. 160318616 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 521 Accident Type(s) ZZ

Causation

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

Vehicle Reference 1 Goods vehicle - unknown weight Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Male Breath test Driver not contacted

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 45 Sex of Driver Female Breath test Not requested

Casualty Reference: 1 Age: 8 Male Passenger Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 02/12/2016 Time 1740 Slight at A5D, SOUTHBN D APPROACH TO JNC A4146 KELLYS KITCHEN RBT, FENNY STRATFORD, MK
 E: N: Junction Detail: 0 Control
 Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit
 C2 TRAV S ON A5 SLOWING FOR RBT AHEAD, C1 FOLL FAILS TO NOTICE C2 AHEAD, C1 BRAKES & SKIDS COLL WITH REAR C2. DRVR C1 PROV LICENCE, NO INSURANCE.
 Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 160350783 Speed limit 70
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1030 Road Section: 522 Accident Type(s) NB

Causation		Participant:	Confidence:
Factor:			
1st:	Following too close	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to SE Going ahead other Left hand drive: No
 On main carriageway Skidded
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 31 Sex of Driver Male Breath test Not requested

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to SE Stopping Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 45 Sex of Driver Female Breath test Not requested

Casualty Reference: 1 Age: 45 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 20/12/2016 Time 1230 Slight at V10 BRICKHILL STREET, 50M NORTH OF JNC H10 RBT, WALTON PARK, MK
 E: N: Junction Detail: 0 Control
 Fine without high winds Road surface Dry Daylight
 C2 TRAV N/W ON V10 FOLL BY C1, C1 COLL WITH REAR C2.
 Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. 170004671 Speed limit 40
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

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

Vehicle Reference 1 Car Moving from SE to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 36 Sex of Driver Male Breath test Negative

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection: Notes:
Selected using Pre-defined Query : Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from SE to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 40 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 40 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/07/2012 and 30/06/2017 (60) months

Selection:
Selected using Pre-defined Query :

Notes:
Brickhill Road, jnc H10 to jnc A5D.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	1	3	29	33
2-wheeled motor vehicles	0	1	3	4
Pedal cycles	0	2	1	3
Horses & other	0	0	0	0
Total	1	6	33	40

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	2	35	37
Passenger	1	1	19	21
Motorcycle rider	0	1	3	4
Cyclist	0	2	1	3
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	1	6	58	65

Number of casualties meeting the criteria: 65

Appendix D

Traffic Survey Data



Junction Turning Counts Data

Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (4) Brickhill Street / A5 / A4146 / Watling Street

Approach: Brickhill Street

TIME	Left to A5 (South)								Ahead to A4146						Right to Watling Street						Last Right to A5 (North)										
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS
0700 - 0715	0	0	19	1	0	0	0	20	0	1	51	13	2	1	1	69	0	0	13	5	2	0	0	20	0	0	5	1	0	0	6
0715 - 0730	0	0	24	5	2	0	0	31	0	0	72	21	1	0	2	96	0	0	14	5	1	0	0	20	0	0	4	1	1	0	6
0730 - 0745	0	0	29	1	0	0	0	30	0	0	46	8	7	1	0	62	0	0	21	5	1	1	0	28	0	0	7	3	0	0	10
0745 - 0800	0	0	23	3	0	3	0	29	0	0	101	18	4	3	0	126	0	0	19	3	2	1	0	25	0	0	8	1	1	1	11
Hourly Total	0	0	95	10	2	3	0	110	0	1	270	60	14	5	3	353	0	0	67	18	6	2	0	93	0	0	24	6	2	1	33
0800 - 0815	0	0	21	3	0	0	0	24	0	0	62	24	1	1	0	88	0	0	56	4	0	0	0	60	0	0	14	2	0	0	16
0815 - 0830	0	0	14	1	0	2	0	17	0	0	53	6	0	1	1	61	0	0	53	4	2	0	0	59	0	0	12	2	1	0	15
0830 - 0845	0	0	18	3	0	1	0	22	0	0	54	4	1	1	0	60	0	0	41	6	0	1	0	48	0	0	12	1	0	0	13
0845 - 0900	0	0	20	3	0	0	0	23	0	1	46	7	3	0	0	57	0	0	50	7	0	0	0	57	0	0	11	0	0	0	11
Hourly Total	0	0	73	10	0	3	0	86	0	1	215	41	5	3	1	266	0	0	200	21	2	1	0	224	0	0	49	5	1	0	55
0900 - 0915	0	0	14	3	1	1	0	19	0	0	35	9	4	0	0	48	0	0	39	5	1	1	0	46	0	0	14	2	0	0	16
0915 - 0930	0	0	12	3	2	1	0	18	0	0	45	15	3	2	0	65	0	0	21	3	2	1	0	27	0	0	13	2	1	0	16
0930 - 0945	0	0	13	1	0	1	0	15	0	0	39	6	4	3	0	55	0	0	18	4	1	1	0	24	0	0	5	3	0	0	8
0945 - 1000	0	1	10	3	0	0	0	14	1	0	30	6	5	0	0	42	0	0	18	4	2	0	0	24	0	0	13	2	0	0	15
Hourly Total	0	1	49	10	3	3	0	66	1	0	149	39	16	5	0	210	0	0	96	16	6	3	0	121	0	0	45	9	1	0	55
Session Total	0	1	217	30	5	9	0	262	1	2	634	140	35	13	4	829	0	0	363	55	14	6	0	438	0	0	118	20	4	1	143
1600 - 1615	0	0	34	2	0	0	0	36	1	0	89	12	2	1	0	105	0	0	12	2	2	1	0	17	0	0	5	2	0	0	7
1615 - 1630	0	0	20	7	1	0	0	28	0	0	63	9	1	0	0	73	0	0	16	2	1	0	0	19	0	1	9	2	0	0	12
1630 - 1645	0	2	40	1	0	0	0	43	0	0	76	9	1	0	0	86	0	0	17	3	1	0	0	21	0	0	10	2	0	0	12
1645 - 1700	0	0	33	2	0	0	0	35	0	0	74	15	3	0	1	93	0	0	22	6	1	1	0	30	0	0	10	3	0	0	13
Hourly Total	0	2	127	12	1	0	0	142	1	0	302	45	7	1	1	357	0	0	67	13	5	2	0	87	0	1	34	9	0	0	44
1700 - 1715	0	2	60	3	1	0	0	66	0	1	98	4	1	0	0	104	0	0	25	3	0	0	0	28	0	0	12	1	0	0	13
1715 - 1730	0	0	40	3	0	0	0	43	0	0	70	9	1	0	0	80	0	0	23	1	1	0	0	25	0	0	11	2	0	0	13
1730 - 1745	0	0	35	2	1	0	0	38	1	0	92	10	1	0	0	104	0	0	26	5	0	0	0	31	0	0	9	2	0	0	11
1745 - 1800	0	0	38	0	1	0	0	39	0	0	73	5	1	0	0	79	0	0	52	3	2	0	0	57	0	0	14	2	0	0	16
Hourly Total	0	2	173	8	3	0	0	186	1	1	333	28	4	0	0	367	0	0	126	12	3	0	0	141	0	0	46	7	0	0	53
1800 - 1815	1	0	44	1	0	0	0	46	0	0	74	2	2	0	1	79	0	0	36	2	1	0	0	39	0	0	12	1	0	0	13
1815 - 1830	0	0	31	2	0	0	0	33	0	1	70	2	0	2	0	75	0	0	13	1	0	0	0	14	0	0	6	1	0	0	7
1830 - 1845	0	0	22	1	0	0	0	23	0	0	69	3	1	1	0	74	0	0	22	1	0	0	0	23	0	0	12	2	0	0	14
1845 - 1900	0	0	24	2	0	0	0	26	0	0	53	4	0	0	0	57	0	0	18	3	0	0	0	21	0	0	13	2	0	0	15
Hourly Total	1	0	121	6	0	0	0	128	0	1	266	11	3	3	1	285	0	0	89	7	1	0	0	97	0	0	43	6	0	0	49
Session Total	1	4	421	26	4	0	0	456	2	2	901	84	14	4	2	1009	0	0	282	32	9	2	0	325	0	1	123	22	0	0	146

Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (4) Brickhill Street / A5 / A4146 / Watling Street

Approach: A5 (South)

TIME	Left to A4146								Ahead to Watling Street								Right to A5 (North)								Last Right to Brickhill Street							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	6	1	1	2	1	11	0	0	22	7	0	0	0	29	0	0	118	22	4	4	1	149	0	0	32	3	1	0	0	36
0715 - 0730	0	0	5	1	1	2	0	9	0	0	68	11	1	2	0	82	0	1	174	21	2	11	0	209	0	0	41	2	1	3	0	47
0730 - 0745	0	0	5	1	1	1	0	8	0	0	56	10	0	0	0	66	0	0	182	25	1	5	0	213	0	0	55	8	2	0	0	65
0745 - 0800	0	0	4	0	0	0	0	4	0	0	67	19	0	2	1	89	0	1	194	15	2	2	0	214	0	0	33	2	1	0	0	36
Hourly Total	0	0	20	3	3	5	1	32	0	0	213	47	1	4	1	266	0	2	668	83	9	22	1	785	0	0	161	15	5	3	0	184
0800 - 0815	0	0	4	1	0	0	0	5	0	0	40	14	1	0	0	55	0	0	220	15	4	2	0	241	0	0	36	3	1	0	0	40
0815 - 0830	0	0	0	2	0	0	0	2	0	0	31	2	1	2	0	36	0	0	227	16	5	9	0	257	1	1	26	2	0	0	0	30
0830 - 0845	0	0	1	0	2	0	0	3	0	0	46	5	2	0	0	53	0	1	202	16	3	6	1	229	0	1	24	6	1	1	0	33
0845 - 0900	0	0	2	0	0	1	0	3	0	0	38	5	0	0	0	43	0	0	196	17	5	2	0	220	0	0	43	2	0	2	0	47
Hourly Total	0	0	7	3	2	1	0	13	0	0	155	26	4	2	0	187	0	1	845	64	17	19	1	947	1	2	129	13	2	3	0	150
0900 - 0915	0	0	2	3	0	1	0	6	0	0	30	15	0	1	0	46	0	3	131	20	7	6	1	168	0	0	30	5	1	3	0	39
0915 - 0930	0	0	5	0	0	1	0	6	0	1	57	9	1	0	0	68	0	0	85	6	6	6	0	103	0	0	17	1	2	0	0	20
0930 - 0945	0	0	3	3	0	0	0	6	0	0	55	3	0	0	0	58	0	2	105	11	4	8	0	130	0	0	19	3	1	0	0	23
0945 - 1000	0	0	3	1	0	1	0	5	0	0	36	2	0	0	1	39	0	0	80	9	2	8	1	100	0	0	18	4	2	0	1	25
Hourly Total	0	0	13	7	0	3	0	23	0	1	178	29	1	1	1	211	0	5	401	46	19	28	2	501	0	0	84	13	6	3	1	107
Session Total	0	0	40	13	5	9	1	68	0	1	546	102	6	7	2	664	0	8	1914	193	45	69	4	2233	1	2	374	41	13	9	1	441
1600 - 1615	0	0	8	0	0	0	0	8	0	1	41	7	0	0	0	49	0	0	62	21	7	3	0	93	0	0	17	2	2	0	0	21
1615 - 1630	0	0	8	1	0	0	0	9	0	0	65	9	0	2	0	76	0	0	66	14	4	2	0	86	0	0	19	3	2	0	0	24
1630 - 1645	0	0	15	3	0	0	0	18	0	0	63	8	0	0	0	71	0	1	81	25	5	6	1	119	0	0	25	2	0	0	0	27
1645 - 1700	0	0	10	4	1	0	0	15	0	0	33	7	0	0	0	40	0	0	90	13	1	3	0	107	0	0	21	7	3	0	0	31
Hourly Total	0	0	41	8	1	0	0	50	0	1	202	31	0	2	0	236	0	1	299	73	17	14	1	405	0	0	82	14	7	0	0	103
1700 - 1715	0	1	5	2	0	0	0	8	0	0	40	11	0	0	0	51	0	3	104	17	4	3	0	131	0	0	24	2	1	0	0	27
1715 - 1730	0	0	10	1	0	0	0	11	0	2	45	9	0	0	0	56	0	1	94	15	4	0	0	114	0	0	22	2	0	0	0	24
1730 - 1745	0	0	12	1	0	0	1	14	0	0	42	3	0	0	0	45	0	0	100	19	2	2	0	123	0	0	29	4	1	0	0	34
1745 - 1800	0	0	7	1	0	0	0	8	0	0	25	2	0	0	0	27	0	0	130	6	4	3	1	144	0	1	21	3	0	0	0	25
Hourly Total	0	1	34	5	0	0	1	41	0	2	152	25	0	0	0	179	0	4	428	57	14	8	1	512	0	1	96	11	2	0	0	110
1800 - 1815	0	0	13	1	0	0	0	14	0	0	39	2	0	0	0	41	0	0	105	16	3	1	0	125	0	0	23	1	2	0	0	26
1815 - 1830	0	0	6	1	0	0	0	7	0	0	50	6	0	0	0	56	0	0	97	11	2	0	0	110	0	0	19	2	1	0	0	22
1830 - 1845	0	0	12	0	0	0	0	12	0	0	45	2	0	0	0	47	0	0	84	6	0	0	0	90	0	0	12	1	0	0	0	13
1845 - 1900	0	0	4	2	0	0	0	6	0	0	20	3	0	0	0	23	0	1	30	7	1	0	0	39	0	0	13	0	0	0	0	13
Hourly Total	0	0	35	4	0	0	0	39	0	0	154	13	0	0	0	167	0	1	316	40	6	1	0	364	0	0	67	4	3	0	0	74
Session Total	0	1	110	17	1	0	1	130	0	3	508	69	0	2	0	582	0	6	1043	170	37	23	2	1281	0	1	245	29	12	0	0	287

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Produced by Road Data Services Ltd.

Junction: (4) Brickhill Street / A5 / A4146 / Watling Street

Approach: A4146

TIME	First Left to Watling Street								Second Left to A5 (North)							Ahead to Brickhill Street						Right to A5 (South)										
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	8	1	0	0	1	10	0	0	121	26	2	5	7	161	0	0	25	3	1	2	1	32	0	0	19	1	0	0	0	20
0715 - 0730	0	0	14	2	0	0	0	16	0	1	170	30	3	5	3	212	0	0	34	4	2	1	0	41	0	0	23	0	1	1	0	25
0730 - 0745	0	0	5	6	0	1	0	12	0	0	230	26	1	9	0	266	0	1	50	6	3	4	0	64	0	0	21	2	0	0	0	23
0745 - 0800	0	0	7	3	0	1	0	11	0	1	271	33	4	12	1	322	0	0	42	1	1	1	1	46	0	0	25	3	0	1	1	30
Hourly Total	0	0	34	12	0	2	1	49	0	2	792	115	10	31	11	961	0	1	151	14	7	8	2	183	0	0	88	6	1	2	1	98
0800 - 0815	0	1	10	5	0	0	0	16	0	1	250	23	4	8	0	286	0	0	45	6	2	1	1	55	0	0	22	2	1	1	0	26
0815 - 0830	0	0	7	2	1	0	0	10	0	0	253	26	2	7	0	288	1	1	39	2	0	1	0	44	0	0	24	2	0	0	0	26
0830 - 0845	0	0	18	1	1	0	0	20	0	1	247	10	6	5	2	271	1	1	45	7	3	3	0	60	0	1	23	1	1	2	0	28
0845 - 0900	0	0	18	5	0	0	0	23	0	0	232	16	11	6	1	266	0	0	68	2	6	1	0	77	0	1	28	2	0	0	0	31
Hourly Total	0	1	53	13	2	0	0	69	0	2	982	75	23	26	3	1111	2	2	197	17	11	6	1	236	0	2	97	7	2	3	0	111
0900 - 0915	0	0	18	6	1	0	0	25	0	0	225	23	7	4	1	260	0	0	48	5	2	1	0	56	0	0	22	1	1	2	0	26
0915 - 0930	0	0	23	5	0	0	0	28	0	0	177	32	6	15	1	231	0	1	35	3	3	1	1	44	0	0	21	1	1	0	0	23
0930 - 0945	0	0	18	5	0	0	0	23	0	0	157	17	6	10	1	191	0	1	25	6	2	0	0	34	0	0	13	2	0	0	0	15
0945 - 1000	0	0	20	3	2	0	0	25	0	0	137	15	8	11	0	171	0	0	31	9	5	0	0	45	0	0	13	2	0	0	0	15
Hourly Total	0	0	79	19	3	0	0	101	0	0	696	87	27	40	3	853	0	2	139	23	12	2	1	179	0	0	69	6	2	2	0	79
Session Total	0	1	166	44	5	2	1	219	0	4	2470	277	60	97	17	2925	2	5	487	54	30	16	4	598	0	2	254	19	5	7	1	288
1600 - 1615	0	0	25	2	0	0	0	27	0	1	105	35	8	3	0	152	0	1	36	12	1	1	0	51	0	0	19	8	4	0	0	31
1615 - 1630	0	0	15	6	0	0	0	21	0	0	124	43	6	4	0	177	0	0	24	11	5	0	1	41	0	0	18	10	1	2	0	31
1630 - 1645	0	0	14	5	1	0	0	20	0	0	122	48	6	3	2	181	0	0	60	12	2	0	0	74	0	0	21	8	0	3	0	32
1645 - 1700	0	0	23	1	1	0	0	25	0	0	156	32	1	4	0	193	0	0	56	10	2	0	1	69	0	0	23	9	1	0	0	33
Hourly Total	0	0	77	14	2	0	0	93	0	1	507	158	21	14	2	703	0	1	176	45	10	1	2	235	0	0	81	35	6	5	0	127
1700 - 1715	0	0	21	4	0	0	0	25	0	1	168	28	3	4	0	204	0	0	32	5	1	1	0	39	0	0	21	5	1	0	0	27
1715 - 1730	0	0	13	1	0	0	0	14	0	2	143	32	4	5	0	186	0	1	42	7	3	0	0	53	0	0	15	7	2	0	0	24
1730 - 1745	0	0	17	0	1	0	0	18	0	0	149	18	5	4	0	176	0	0	42	7	1	0	0	50	0	0	21	7	1	2	0	31
1745 - 1800	0	0	14	3	1	0	0	18	0	1	156	21	4	3	0	185	0	0	45	5	1	0	0	51	0	0	28	5	0	0	0	33
Hourly Total	0	0	65	8	2	0	0	75	0	4	616	99	16	16	0	751	0	1	161	24	6	1	0	193	0	0	85	24	4	2	0	115
1800 - 1815	0	0	17	2	1	0	0	20	0	0	165	23	2	3	0	193	0	0	49	1	0	0	0	50	0	0	22	3	1	0	0	26
1815 - 1830	0	0	26	0	0	0	0	26	0	0	169	20	3	0	1	193	1	1	45	2	1	1	0	51	0	0	26	4	1	0	0	31
1830 - 1845	0	0	18	2	0	0	0	20	0	1	138	19	3	2	1	164	1	0	42	4	1	1	0	49	0	0	23	1	0	1	0	25
1845 - 1900	0	0	23	1	0	0	0	24	0	0	131	18	4	1	1	155	0	0	50	3	3	1	0	57	0	0	22	0	1	0	0	23
Hourly Total	0	0	84	5	1	0	0	90	0	1	603	80	12	6	3	705	2	1	186	10	5	3	0	207	0	0	93	8	3	1	0	105
Session Total	0	0	226	27	5	0	0	258	0	6	1726	337	49	36	5	2159	2	3	523	79	21	5	2	635	0	0	259	67	13	8	0	347

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Produced by Road Data Services Ltd.

Junction: (4) Brickhill Street / A5 / A4146 / Watling Street

Approach: Watling Street

TIME	First Left to A5 (North)								Second Left to Brickhill Street							Ahead to A5 (South)						Right to A4146										
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	6	0	0	0	0	6	0	0	17	6	0	0	0	23	0	0	21	1	1	0	0	23	0	0	19	4	1	0	0	24
0715 - 0730	0	0	8	3	1	0	0	12	0	1	19	5	0	0	0	25	0	0	27	1	0	0	0	28	0	2	17	2	0	1	0	22
0730 - 0745	0	0	19	4	1	0	0	24	0	0	27	3	0	0	0	30	0	0	24	3	0	0	0	27	0	0	18	8	2	0	0	28
0745 - 0800	0	0	21	4	0	0	0	25	0	0	56	9	1	0	0	66	0	2	22	2	1	2	0	29	0	0	11	8	2	2	1	24
Hourly Total	0	0	54	11	2	0	0	67	0	1	119	23	1	0	0	144	0	2	94	7	2	2	0	107	0	2	65	22	5	3	1	98
0800 - 0815	0	0	20	5	0	1	0	26	0	0	43	6	0	0	0	49	0	0	28	4	1	1	0	34	0	0	8	9	2	1	0	20
0815 - 0830	0	0	45	2	1	0	0	48	0	0	44	8	0	0	0	52	0	0	19	7	1	0	0	27	0	0	14	5	0	0	0	19
0830 - 0845	0	1	26	2	0	0	0	29	0	0	46	9	0	0	0	55	0	0	22	2	0	1	0	25	0	0	13	7	2	1	0	23
0845 - 0900	0	0	26	6	2	0	0	34	0	0	45	2	0	0	0	47	0	0	26	4	0	0	0	30	0	0	11	7	0	0	0	18
Hourly Total	0	1	117	15	3	1	0	137	0	0	178	25	0	0	0	203	0	0	95	17	2	2	0	116	0	0	46	28	4	2	0	80
0900 - 0915	0	0	5	1	1	1	0	8	0	0	36	4	1	0	0	41	0	0	21	3	1	1	0	26	0	0	10	9	2	1	0	22
0915 - 0930	0	0	11	4	0	0	0	15	0	0	29	6	0	0	0	35	0	0	20	2	1	0	0	23	0	0	12	6	1	1	0	20
0930 - 0945	0	0	6	1	1	1	0	10	0	0	31	4	1	0	0	36	0	2	25	2	1	0	0	30	0	0	10	12	2	0	0	24
0945 - 1000	0	0	15	2	2	1	0	20	0	0	29	5	0	0	0	37	0	0	28	1	0	0	0	27	0	0	14	7	0	0	0	21
Hourly Total	0	0	33	13	4	3	0	53	0	0	125	22	2	0	0	149	0	2	92	8	3	1	0	106	0	0	46	34	5	2	0	87
Session Total	0	1	204	39	9	4	0	257	0	1	422	70	3	0	0	496	0	4	281	32	7	5	0	329	0	2	157	84	14	7	1	265
1600 - 1615	0	0	15	4	1	0	0	20	0	0	28	9	0	0	0	37	0	0	40	6	1	0	0	47	0	0	21	6	1	0	0	28
1615 - 1630	0	0	17	1	0	1	0	19	0	0	20	9	0	0	0	29	0	0	31	9	0	1	0	41	0	0	22	2	0	1	0	25
1630 - 1645	0	0	28	1	1	0	0	30	0	0	25	5	0	0	0	30	0	0	48	4	0	0	0	52	0	0	28	4	0	0	0	32
1645 - 1700	0	0	33	10	0	0	0	43	0	0	20	5	0	0	0	25	0	0	48	6	0	0	0	54	0	0	22	2	0	0	0	24
Hourly Total	0	0	93	16	2	1	0	112	0	0	93	28	0	0	0	121	0	0	167	25	1	1	0	194	0	0	93	14	1	1	0	109
1700 - 1715	0	0	35	4	0	0	0	39	0	0	49	4	0	0	1	54	0	0	41	7	0	0	0	48	0	0	27	3	1	0	0	31
1715 - 1730	0	1	18	2	0	0	0	21	0	0	30	5	0	0	0	35	0	0	45	5	0	0	0	50	0	0	26	1	0	0	0	27
1730 - 1745	0	0	27	4	0	0	0	31	0	0	40	5	0	0	0	45	0	0	47	4	0	0	0	51	0	0	21	2	1	0	0	24
1745 - 1800	0	0	16	5	1	0	0	22	0	0	33	1	0	0	0	34	0	0	45	3	0	0	0	48	0	0	23	2	0	0	0	25
Hourly Total	0	1	96	15	1	0	0	113	0	0	152	15	0	0	1	168	0	0	178	19	0	0	0	197	0	0	97	8	2	0	0	107
1800 - 1815	0	0	21	4	0	0	0	25	0	0	37	5	0	0	0	42	0	2	30	1	1	0	0	34	0	0	22	1	1	0	0	24
1815 - 1830	0	0	16	1	0	0	0	17	0	0	31	7	0	0	0	38	0	0	27	1	0	0	0	28	0	0	19	2	0	0	0	21
1830 - 1845	0	0	12	0	0	0	0	12	0	0	17	2	0	0	0	19	0	0	21	1	0	0	0	22	0	0	12	1	0	0	0	13
1845 - 1900	0	0	14	2	0	0	0	16	0	0	24	2	0	0	0	26	0	0	20	0	0	0	0	20	0	0	15	0	0	0	0	15
Hourly Total	0	0	63	7	0	0	0	70	0	0	109	16	0	0	0	125	0	2	98	3	1	0	0	104	0	0	68	4	1	0	0	73
Session Total	0	1	252	38	3	1	0	295	0	0	354	59	0	0	1	414	0	2	443	47	2	1	0	495	0	0	258	26	4	1	0	289

Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (4) Brickhill Street / A5 / A4146 / Watling Street

Approach: A5 (North)

TIME	First Left to Brickhill Street							Second Left to A5 (South)							Right to A4146						Last Right to Watling Street											
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	9	3	1	0	0	13	0	2	114	19	3	3	0	141	0	2	166	34	9	6	0	217	0	0	9	2	1	0	0	12
0715 - 0730	0	0	6	2	0	0	0	8	0	0	144	36	5	3	0	188	0	1	161	36	5	4	0	207	0	0	4	6	2	1	0	13
0730 - 0745	0	0	7	2	0	0	0	9	0	4	140	30	3	8	1	186	0	2	191	35	12	8	3	251	0	2	17	7	0	1	0	27
0745 - 0800	0	0	8	7	0	0	0	15	0	1	149	31	6	2	0	189	0	0	170	33	6	5	0	214	0	1	11	2	1	1	0	16
Hourly Total	0	0	30	14	1	0	0	45	0	7	547	116	17	16	1	704	0	5	688	138	32	23	3	889	0	3	41	17	4	3	0	68
0800 - 0815	0	0	17	6	0	0	0	23	0	0	138	21	6	3	2	170	0	0	147	29	10	6	1	193	0	0	20	5	2	0	0	27
0815 - 0830	0	0	11	2	0	0	0	13	0	0	141	20	7	6	0	174	0	0	136	21	5	6	0	168	0	0	22	3	2	2	0	29
0830 - 0845	0	0	16	3	0	0	0	19	0	0	147	19	2	2	0	170	0	0	143	26	12	5	0	186	0	0	17	6	4	0	0	27
0845 - 0900	0	0	13	3	0	0	0	16	0	0	113	21	13	2	0	149	0	0	122	34	8	8	0	172	0	0	33	10	0	0	0	43
Hourly Total	0	0	57	14	0	0	0	71	0	0	539	81	28	13	2	663	0	0	548	110	35	25	1	719	0	0	92	24	8	2	0	126
0900 - 0915	0	0	17	2	2	0	0	21	0	0	113	20	6	14	1	154	0	0	101	27	12	10	1	151	0	0	23	5	1	1	0	30
0915 - 0930	0	0	10	1	0	0	0	11	0	0	90	32	12	6	0	140	0	0	106	22	9	13	0	150	0	0	19	5	2	0	0	26
0930 - 0945	0	0	11	0	0	0	0	11	0	0	85	12	3	9	0	109	0	0	119	24	10	8	0	161	0	0	12	5	1	0	0	18
0945 - 1000	0	0	9	3	3	0	0	15	0	1	68	15	6	9	0	99	0	0	95	21	16	7	1	140	0	0	26	6	2	0	0	34
Hourly Total	0	0	47	6	5	0	0	58	0	1	356	79	27	38	1	502	0	0	421	94	47	38	2	602	0	0	80	21	6	1	0	108
Session Total	0	0	134	34	6	0	0	174	0	8	1442	276	72	67	4	1869	0	5	1657	342	114	86	6	2210	0	3	213	62	18	6	0	302
1600 - 1615	0	0	18	3	0	0	0	21	0	0	166	25	3	2	0	196	0	0	158	27	6	4	1	196	0	0	9	6	0	1	0	16
1615 - 1630	0	0	14	2	0	0	0	16	0	0	196	25	1	0	0	222	0	0	195	23	9	1	3	231	0	0	11	2	0	0	0	13
1630 - 1645	0	0	27	5	0	0	0	32	0	0	166	28	9	2	1	206	0	2	197	16	7	3	3	228	0	0	12	4	1	0	0	17
1645 - 1700	0	0	22	3	0	0	0	25	0	1	199	16	4	2	0	222	0	0	186	16	6	2	1	211	0	0	23	5	2	1	0	31
Hourly Total	0	0	81	13	0	0	0	94	0	1	727	94	17	6	1	846	0	2	736	82	28	10	8	866	0	0	55	17	3	2	0	77
1700 - 1715	0	0	32	2	1	0	0	35	0	0	257	32	2	0	2	293	0	0	217	17	8	1	2	245	0	0	22	4	0	0	0	26
1715 - 1730	0	0	17	2	0	0	0	19	0	0	200	17	1	1	1	220	0	0	218	12	3	6	4	243	0	0	19	2	0	0	0	21
1730 - 1745	0	0	24	2	0	0	0	26	0	0	232	8	2	1	0	243	0	0	193	10	2	3	1	209	0	0	24	2	0	0	0	26
1745 - 1800	0	0	9	2	0	0	0	11	0	2	223	19	1	0	2	247	0	1	217	9	8	3	2	240	0	0	22	3	1	0	0	26
Hourly Total	0	0	82	8	1	0	0	91	0	2	912	76	6	2	5	1003	0	1	845	48	21	13	9	937	0	0	87	11	1	0	0	99
1800 - 1815	0	0	25	2	0	0	0	27	0	2	204	21	4	1	0	232	0	0	201	13	4	3	2	223	0	1	22	2	0	0	0	25
1815 - 1830	0	0	6	1	0	0	0	7	0	1	205	11	1	2	0	220	0	1	229	11	2	2	2	247	0	0	16	1	0	0	0	17
1830 - 1845	0	0	13	1	0	0	0	14	0	0	114	9	3	1	0	127	0	0	126	6	2	1	0	135	0	0	16	2	0	0	0	18
1845 - 1900	0	0	17	1	0	0	0	18	0	0	113	9	0	0	0	122	0	0	145	10	1	0	0	156	0	0	12	2	1	0	0	15
Hourly Total	0	0	61	5	0	0	0	66	0	3	636	50	8	4	0	701	0	1	701	40	9	6	4	761	0	1	66	7	1	0	0	75
Session Total	0	0	224	26	1	0	0	251	0	6	2275	220	31	12	6	2550	0	4	2282	170	58	29	21	2564	0	1	208	35	5	2	0	251

Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (3) Brickhill Street / Station Road

Approach: Brickhill Street (North)

TIME	Left to Station Road								Ahead to Brickhill Street (South)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	6	1	0	0	0	7	0	0	58	15	3	1	0	77
0715 - 0730	0	0	12	2	0	0	0	14	0	0	70	19	5	0	2	96
0730 - 0745	1	0	11	3	1	0	0	16	0	0	78	4	6	2	0	90
0745 - 0800	0	0	15	2	1	0	0	18	0	0	78	14	2	7	0	101
Hourly Total	1	0	44	8	2	0	0	55	0	0	284	52	16	10	2	364
0800 - 0815	0	1	22	2	1	0	0	26	0	0	58	17	1	1	0	77
0815 - 0830	0	0	20	2	0	0	0	22	0	0	45	5	1	3	0	54
0830 - 0845	0	0	45	7	0	0	0	52	0	0	72	8	2	3	0	85
0845 - 0900	0	0	30	3	0	0	0	33	0	0	46	11	0	0	0	57
Hourly Total	0	1	117	14	1	0	0	133	0	0	221	41	4	7	0	273
0900 - 0915	0	0	17	3	2	0	0	22	0	0	39	12	4	2	0	57
0915 - 0930	0	0	15	2	0	0	1	18	0	0	41	10	3	4	0	58
0930 - 0945	0	0	13	3	2	0	0	18	0	0	46	9	0	6	0	61
0945 - 1000	0	0	16	5	1	0	0	22	1	1	49	11	6	0	0	68
Hourly Total	0	0	61	13	5	0	1	80	1	1	175	42	13	12	0	244

Session Total	1	1	222	35	8	0	1	268	1	1	680	135	33	29	2	881
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1600 - 1615	0	0	33	2	1	0	0	36	0	0	106	14	3	2	0	125
1615 - 1630	0	0	26	4	0	0	0	30	0	0	66	9	1	0	0	76
1630 - 1645	0	0	72	3	0	0	0	75	0	2	140	11	1	1	0	155
1645 - 1700	0	1	41	7	2	0	0	51	0	0	88	9	2	0	0	99
Hourly Total	0	1	172	16	3	0	0	192	0	2	400	43	7	3	0	455
1700 - 1715	0	1	75	6	0	0	0	82	0	3	138	5	1	0	0	147
1715 - 1730	1	0	100	7	0	0	0	108	0	0	157	10	3	0	0	170
1730 - 1745	1	0	91	8	1	0	0	101	1	0	106	9	1	0	0	117
1745 - 1800	1	0	118	6	1	0	0	126	0	0	122	8	2	0	0	132
Hourly Total	3	1	384	27	2	0	0	417	1	3	523	32	7	0	0	566
1800 - 1815	0	0	64	2	1	0	0	67	1	0	98	1	2	0	1	103
1815 - 1830	0	0	56	0	0	0	0	56	0	1	93	4	0	2	0	100
1830 - 1845	0	0	30	2	0	0	0	32	0	0	80	5	0	1	0	86
1845 - 1900	0	0	26	0	0	0	0	26	0	0	56	8	0	0	0	64
Hourly Total	0	0	176	4	1	0	0	181	1	1	327	18	2	3	1	353

Session Total	3	2	732	47	6	0	0	790	2	6	1250	93	16	6	1	1374
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Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (3) Brickhill Street / Station Road

Approach: Station Road

TIME	Left to Brickhill Street (South)								Right to Brickhill Street (North)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	23	3	1	0	1	28	0	0	34	2	1	0	0	37
0715 - 0730	0	0	38	15	3	0	0	56	0	0	29	4	0	0	0	33
0730 - 0745	0	0	49	14	1	0	0	64	0	0	35	3	0	0	0	38
0745 - 0800	0	0	63	9	2	1	0	75	0	1	59	4	0	0	0	64
Hourly Total	0	0	173	41	7	1	1	223	0	1	157	13	1	0	0	172
0800 - 0815	0	1	93	15	0	0	1	110	0	0	99	3	2	0	1	105
0815 - 0830	0	0	66	8	3	0	0	77	0	0	104	3	0	0	1	108
0830 - 0845	0	0	75	7	0	0	0	82	2	0	123	10	1	0	0	136
0845 - 0900	0	1	77	12	2	0	0	92	0	0	146	3	2	0	0	151
Hourly Total	0	2	311	42	5	0	1	361	2	0	472	19	5	0	2	500
0900 - 0915	0	0	61	10	2	0	0	73	0	0	75	2	1	0	1	79
0915 - 0930	0	0	43	9	4	0	0	56	0	0	37	3	1	0	0	41
0930 - 0945	0	0	29	8	4	0	0	41	2	0	35	1	1	0	0	39
0945 - 1000	0	0	21	5	2	0	0	28	0	0	21	3	1	0	1	26
Hourly Total	0	0	154	32	12	0	0	198	2	0	168	9	4	0	2	185

Session Total	0	2	638	115	24	1	2	782	4	1	797	41	10	0	4	857
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1600 - 1615	0	0	35	5	2	0	0	42	0	0	27	5	0	0	0	32
1615 - 1630	0	1	39	8	1	0	0	49	0	0	30	1	0	0	0	31
1630 - 1645	0	0	28	7	1	0	0	36	0	0	30	1	2	0	1	34
1645 - 1700	0	0	45	13	2	0	1	61	1	0	19	2	1	0	0	23
Hourly Total	0	1	147	33	6	0	1	188	1	0	106	9	3	0	1	120
1700 - 1715	0	0	43	5	1	0	0	49	0	1	21	4	0	0	0	26
1715 - 1730	0	0	33	10	0	0	0	43	0	0	30	4	0	0	0	34
1730 - 1745	0	0	46	6	1	0	0	53	0	0	22	2	0	0	0	24
1745 - 1800	0	0	44	3	2	0	0	49	0	0	38	3	0	0	0	41
Hourly Total	0	0	166	24	4	0	0	194	0	1	111	13	0	0	0	125
1800 - 1815	0	0	41	1	0	0	0	42	0	1	29	1	0	0	0	31
1815 - 1830	0	0	30	2	0	0	0	32	0	0	21	1	0	0	0	22
1830 - 1845	0	0	35	4	1	0	0	40	0	0	15	3	0	0	0	18
1845 - 1900	0	0	32	2	0	0	0	34	0	0	31	2	0	0	0	33
Hourly Total	0	0	138	9	1	0	0	148	0	1	96	7	0	0	0	104

Session Total	0	1	451	66	11	0	1	530	1	2	313	29	3	0	1	349
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Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (3) Brickhill Street / Station Road

Approach: Brickhill Street (South)

TIME	Ahead to Brickhill Street (North)								Right to Station Road							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	58	9	2	2	1	72	0	0	15	8	0	0	0	23
0715 - 0730	0	0	88	6	0	4	0	98	0	1	20	8	2	1	0	32
0730 - 0745	0	1	110	18	4	3	0	136	0	0	21	7	1	0	0	29
0745 - 0800	0	0	122	9	2	1	0	134	0	0	25	12	2	0	1	40
Hourly Total	0	1	378	42	8	10	1	440	0	1	81	35	5	1	1	124
0800 - 0815	0	0	110	9	1	1	0	121	0	0	33	10	2	0	1	46
0815 - 0830	1	2	78	9	1	0	0	91	1	0	36	4	0	1	0	42
0830 - 0845	1	1	116	13	1	3	0	135	0	0	25	13	3	0	0	41
0845 - 0900	0	1	125	4	2	4	0	136	0	0	35	6	2	0	0	43
Hourly Total	2	4	429	35	5	8	0	483	1	0	129	33	7	1	1	172
0900 - 0915	0	0	109	11	3	3	0	126	0	0	38	5	3	1	0	47
0915 - 0930	0	1	63	7	3	1	1	76	0	0	26	4	2	0	0	32
0930 - 0945	0	1	66	8	3	0	0	78	0	0	32	6	1	0	0	39
0945 - 1000	0	0	54	11	3	0	1	69	0	0	24	12	6	0	0	42
Hourly Total	0	2	292	37	12	4	2	349	0	0	120	27	12	1	0	160

Session Total	2	7	1099	114	25	22	3	1272	1	1	330	95	24	3	2	456
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1600 - 1615	0	1	68	11	4	1	0	85	0	0	44	14	1	0	0	59
1615 - 1630	0	0	37	8	5	0	0	50	0	0	39	16	2	0	0	57
1630 - 1645	0	0	59	16	1	0	1	77	0	0	65	15	1	0	0	81
1645 - 1700	0	0	55	11	3	0	1	70	0	0	75	12	1	0	0	88
Hourly Total	0	1	219	46	13	1	2	282	0	0	223	57	5	0	0	285
1700 - 1715	0	0	58	9	2	1	0	70	0	0	72	7	2	0	0	81
1715 - 1730	0	1	50	3	3	0	0	57	0	0	71	11	0	0	1	83
1730 - 1745	0	0	61	8	2	0	0	71	0	0	65	8	0	0	0	73
1745 - 1800	0	0	64	4	0	0	0	68	0	1	54	7	0	0	0	62
Hourly Total	0	1	233	24	7	1	0	266	0	1	262	33	2	0	1	299
1800 - 1815	0	0	60	4	1	0	0	65	1	0	62	5	2	0	0	70
1815 - 1830	1	0	70	9	2	1	0	83	0	0	31	2	0	0	0	33
1830 - 1845	1	0	53	4	0	1	0	59	1	0	33	5	0	0	0	39
1845 - 1900	0	0	56	3	4	1	0	64	0	0	42	2	0	0	0	44
Hourly Total	2	0	239	20	7	3	0	271	2	0	168	14	2	0	0	186

Session Total	2	2	691	90	27	5	2	819	2	1	653	104	9	0	1	770
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Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (2) Brickhill Street / Car Park / Caldecotte Lake Drive

Approach: Brickhill Street (North)

TIME	Left to Car Park								Ahead to Brickhill Street (South)								Right to Caldecotte Lake Drive								U-Turn							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	0	1	0	0	0	1	0	0	63	16	3	1	0	83	0	0	9	1	0	0	0	10	0	0	0	0	0	0	1	1
0715 - 0730	0	0	1	1	0	0	0	2	0	0	74	21	5	0	2	102	0	0	25	1	1	0	0	27	0	0	1	0	0	0	0	1
0730 - 0745	0	0	0	0	0	0	0	0	1	0	84	6	7	2	0	100	0	2	51	1	0	0	0	54	0	0	0	0	0	1	0	1
0745 - 0800	0	0	1	0	0	0	0	1	0	0	86	15	3	7	0	111	0	0	73	1	0	0	0	74	0	0	1	1	0	0	0	2
Hourly Total	0	0	2	2	0	0	0	4	1	0	307	58	18	10	2	396	0	2	158	4	1	0	0	165	0	0	2	1	0	1	1	5
0800 - 0815	0	0	0	0	0	0	0	0	0	0	68	17	2	1	0	88	0	0	77	3	1	0	0	81	0	0	7	0	0	0	0	7
0815 - 0830	0	0	2	1	0	0	0	3	0	0	55	7	1	3	0	66	0	1	85	2	0	0	0	88	0	0	1	1	0	0	0	2
0830 - 0845	0	0	1	0	0	0	0	1	0	0	109	14	2	3	0	128	0	0	103	1	1	0	0	105	0	0	2	0	1	0	0	3
0845 - 0900	0	0	1	0	0	0	0	1	0	0	69	14	0	0	0	83	0	1	151	3	0	0	0	155	0	0	2	0	0	0	0	2
Hourly Total	0	0	4	1	0	0	0	5	0	0	301	52	5	7	0	365	0	2	416	9	2	0	0	429	0	0	12	1	1	0	0	14
0900 - 0915	0	0	0	0	0	0	0	0	0	0	52	15	6	2	0	75	0	0	68	2	0	0	0	70	0	0	0	1	0	0	0	1
0915 - 0930	0	0	1	0	0	0	0	1	0	0	51	12	3	4	1	71	0	0	49	3	1	0	0	53	0	0	0	1	0	0	0	1
0930 - 0945	0	0	2	0	0	0	0	2	0	0	53	11	1	6	0	71	0	0	27	0	0	0	0	27	0	0	0	0	0	1	0	1
0945 - 1000	0	0	0	0	0	0	0	0	1	1	60	16	7	0	0	85	0	0	32	2	0	0	0	34	0	0	4	1	0	0	0	5
Hourly Total	0	0	3	0	0	0	0	3	1	1	216	54	17	12	1	302	0	0	176	7	1	0	0	184	0	0	4	3	0	1	0	8
Session Total	0	0	9	3	0	0	0	12	2	1	824	164	40	29	3	1063	0	4	750	20	4	0	0	778	0	0	18	5	1	2	1	27
1600 - 1615	0	0	0	0	0	0	0	0	0	0	120	16	3	2	0	141	0	0	7	1	0	0	0	8	0	0	0	1	0	0	0	1
1615 - 1630	0	0	2	0	0	0	0	2	0	0	82	12	1	0	0	95	0	0	8	1	0	0	0	9	0	0	1	0	0	0	0	1
1630 - 1645	0	0	0	0	0	0	0	0	0	2	182	14	1	1	0	200	0	0	12	1	0	0	0	13	0	0	3	0	0	0	0	3
1645 - 1700	0	0	0	0	0	0	0	0	0	1	116	14	4	0	0	135	0	0	14	2	0	0	0	16	0	0	1	0	0	0	0	1
Hourly Total	0	0	2	0	0	0	0	2	0	3	500	56	9	3	0	571	0	0	41	5	0	0	0	46	0	0	5	1	0	0	0	6
1700 - 1715	0	0	0	0	0	0	0	0	0	3	167	11	1	0	0	182	0	1	11	0	0	0	0	12	0	0	0	1	0	0	0	1
1715 - 1730	0	0	2	0	0	0	0	2	0	0	220	17	2	0	0	239	0	0	11	1	0	0	0	12	0	0	0	1	0	0	0	1
1730 - 1745	0	0	0	0	0	0	0	0	2	0	142	17	2	0	0	163	0	0	15	0	0	0	0	15	0	0	3	0	0	0	0	3
1745 - 1800	0	0	1	0	0	0	0	1	1	0	204	14	3	0	0	222	0	0	6	0	0	0	0	6	0	0	1	0	0	0	0	1
Hourly Total	0	0	3	0	0	0	0	3	3	3	733	59	8	0	0	806	0	1	43	1	0	0	0	45	0	0	4	2	0	0	0	6
1800 - 1815	0	0	1	0	0	0	0	1	1	0	136	2	3	0	1	143	0	0	11	1	0	0	0	12	0	0	3	1	0	0	0	4
1815 - 1830	0	0	1	0	0	0	0	1	0	1	136	4	0	2	0	143	0	0	5	0	0	0	0	5	0	0	1	0	0	0	0	1
1830 - 1845	0	0	0	0	0	0	0	0	0	0	102	7	0	1	0	110	0	0	5	0	0	0	0	5	0	0	2	0	0	0	0	2
1845 - 1900	0	0	1	0	0	0	0	1	0	0	78	7	0	0	0	85	0	0	6	0	0	0	0	6	0	0	4	1	0	0	0	5
Hourly Total	0	0	3	0	0	0	0	3	1	1	452	20	3	3	1	481	0	0	27	1	0	0	0	28	0	0	10	2	0	0	0	12
Session Total	0	0	8	0	0	0	0	8	4	7	1685	135	20	6	1	1858	0	1	111	7	0	0	0	119	0	0	19	5	0	0	0	24

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Produced by Road Data Services Ltd.

Junction: (2) Brickhill Street / Car Park / Caldecotte Lake Drive

Approach: Car Park

TIME	Left to Brickhill Street (South)								Ahead to Caldecotte Lake Drive								Right to Brickhill Street (North)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
0715 - 0730	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
0730 - 0745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0745 - 0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Hourly Total	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	1	0	0	0	5	
0800 - 0815	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
0815 - 0830	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0830 - 0845	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1
0845 - 0900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Hourly Total	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	2	1	0	0	0	3	
0900 - 0915	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0915 - 0930	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0930 - 0945	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	2	0	0	0	0	2
0945 - 1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	1	0	0	0	0	1	0	0	1	0	0	0	1	0	0	3	0	0	0	0	3	
Session Total	0	0	2	0	0	0	0	2	0	0	3	0	0	0	3	0	0	9	2	0	0	0	11	
1600 - 1615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1615 - 1630	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1630 - 1645	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4	
1645 - 1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6	
1700 - 1715	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
1715 - 1730	0	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	5	0	0	0	0	5	
1730 - 1745	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	
1745 - 1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3	
Hourly Total	0	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10	
1800 - 1815	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	1	0	0	0	2
1815 - 1830	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1830 - 1845	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1845 - 1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	3	0	0	0	0	3	0	0	1	0	0	0	1	0	0	1	1	0	0	0	2	
Session Total	0	0	7	0	0	0	0	7	0	0	1	0	0	0	1	0	0	17	1	0	0	0	18	

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Produced by Road Data Services Ltd.

Junction: (2) Brickhill Street / Car Park / Caldecotte Lake Drive

Approach: Brickhill Street (South)

TIME	Left to Caldecotte Lake Drive								Ahead to Brickhill Street (North)								Right to Car Park							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	9	2	0	0	0	11	0	0	83	9	3	2	1	98	0	0	0	0	0	0	0	0
0715 - 0730	0	0	7	1	0	0	0	8	0	0	110	9	0	4	0	123	0	0	0	0	0	0	0	0
0730 - 0745	0	1	12	2	1	0	0	16	0	0	133	19	3	3	0	158	0	0	0	0	0	0	0	0
0745 - 0800	0	0	32	2	0	0	0	34	0	1	148	11	2	1	0	163	0	0	1	0	0	0	0	1
Hourly Total	0	1	60	7	1	0	0	69	0	1	474	48	8	10	1	542	0	0	1	0	0	0	0	1
0800 - 0815	0	0	32	0	0	0	0	32	0	0	177	12	3	1	1	194	0	0	0	0	0	0	0	0
0815 - 0830	0	0	31	0	0	0	0	31	1	2	151	12	1	0	1	168	0	0	0	0	0	0	0	0
0830 - 0845	1	0	57	2	0	0	0	60	2	1	181	21	2	3	0	210	0	0	1	0	0	0	0	1
0845 - 0900	0	0	73	0	2	0	0	75	0	1	198	7	2	4	0	212	0	0	0	0	0	0	0	0
Hourly Total	1	0	193	2	2	0	0	198	3	4	707	52	8	8	2	784	0	0	1	0	0	0	0	1
0900 - 0915	0	0	38	1	0	0	0	39	0	0	145	12	4	3	1	165	0	0	1	0	0	0	0	1
0915 - 0930	0	0	15	1	0	0	0	16	0	1	85	9	4	1	1	101	0	0	0	0	0	0	0	0
0930 - 0945	0	0	12	0	1	0	0	13	2	1	88	9	3	0	0	103	0	0	1	0	0	0	0	1
0945 - 1000	0	0	7	0	0	0	0	7	0	0	68	14	4	0	2	88	0	0	0	0	0	0	0	0
Hourly Total	0	0	72	2	1	0	0	75	2	2	386	44	15	4	4	457	0	0	2	0	0	0	0	2
Session Total	1	1	325	11	4	0	0	342	5	7	1567	144	31	22	7	1783	0	0	4	0	0	0	0	4
1600 - 1615	0	0	5	1	0	0	0	6	0	1	90	15	4	1	0	111	0	0	0	0	0	0	0	0
1615 - 1630	0	0	6	0	1	0	0	7	0	0	60	9	4	0	0	73	0	0	1	0	0	0	0	1
1630 - 1645	0	0	7	0	0	0	0	7	0	0	82	17	3	0	2	104	0	0	0	0	0	0	0	0
1645 - 1700	1	0	3	1	1	0	0	6	0	0	71	12	3	0	1	87	0	0	0	0	0	0	0	0
Hourly Total	1	0	21	2	2	0	0	26	0	1	303	53	14	1	3	375	0	0	1	0	0	0	0	1
1700 - 1715	0	0	6	0	0	0	0	6	0	1	72	13	2	1	0	89	0	0	1	0	0	0	0	1
1715 - 1730	0	0	9	1	0	0	0	10	0	1	69	6	3	0	0	79	0	0	2	0	0	0	0	2
1730 - 1745	0	0	5	0	0	0	0	5	0	0	78	10	2	0	0	90	0	0	0	0	0	0	0	0
1745 - 1800	0	0	13	0	0	0	0	13	0	0	89	6	0	0	0	95	0	0	0	1	0	0	0	1
Hourly Total	0	0	33	1	0	0	0	34	0	2	308	35	7	1	0	353	0	0	3	1	0	0	4	
1800 - 1815	0	0	1	1	0	0	0	2	0	1	88	4	1	0	0	94	0	0	0	0	0	0	0	0
1815 - 1830	0	0	9	0	0	0	0	9	1	0	82	10	2	1	0	96	0	0	0	0	0	0	0	0
1830 - 1845	0	0	4	1	0	0	0	5	1	0	64	6	0	1	0	72	0	0	0	0	0	0	0	0
1845 - 1900	0	0	6	0	0	0	0	6	0	0	81	5	4	1	0	91	0	0	0	0	0	0	0	0
Hourly Total	0	0	20	2	0	0	0	22	2	1	315	25	7	3	0	353	0	0	0	0	0	0	0	0
Session Total	1	0	74	5	2	0	0	82	2	4	926	113	28	5	3	1081	0	0	4	1	0	0	0	5

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Produced by Road Data Services Ltd.

Junction: (2) Brickhill Street / Car Park / Caldecotte Lake Drive

Approach: Caldecotte Lake Drive

TIME	Left to Brickhill Street (North)								Ahead to Car Park								Right to Brickhill Street (South)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
0715 - 0730	0	0	2	1	0	0	0	3	0	0	1	0	0	0	0	1	0	0	7	0	0	0	0	7
0730 - 0745	0	0	4	4	1	0	1	10	0	0	1	0	0	0	0	1	0	0	5	1	0	0	0	6
0745 - 0800	0	0	15	1	0	0	0	16	0	0	1	0	0	0	0	1	0	0	7	1	0	0	0	8
Hourly Total	0	0	21	7	1	0	2	31	0	0	3	0	0	0	3	0	0	20	2	0	0	0	0	22
0800 - 0815	0	0	17	0	1	0	0	18	0	0	0	0	0	0	0	0	0	1	12	2	0	0	0	15
0815 - 0830	0	0	14	1	1	0	0	16	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10
0830 - 0845	0	0	17	2	0	0	1	20	0	0	1	0	0	0	0	1	0	0	8	1	0	0	0	9
0845 - 0900	0	0	24	2	0	0	0	26	0	0	1	0	0	0	0	1	0	0	7	0	0	0	0	7
Hourly Total	0	0	72	5	2	0	1	80	0	0	2	0	0	0	2	0	1	37	3	0	0	0	0	41
0900 - 0915	0	0	19	0	0	0	1	20	0	0	1	0	0	0	0	1	0	0	4	0	0	0	0	4
0915 - 0930	0	0	14	1	0	0	0	15	0	0	4	0	0	0	0	4	0	0	5	0	0	0	0	5
0930 - 0945	0	0	6	1	1	0	1	9	0	0	1	0	0	0	0	1	0	0	5	1	1	0	0	7
0945 - 1000	0	0	8	1	0	0	0	9	0	0	1	0	0	0	0	1	0	0	5	0	0	0	0	5
Hourly Total	0	0	47	3	1	0	2	53	0	0	7	0	0	0	7	0	0	19	1	1	0	0	0	21
Session Total	0	0	140	15	4	0	5	164	0	0	12	0	0	0	12	0	1	76	6	1	0	0	0	84
1600 - 1615	0	0	42	1	0	0	1	44	0	0	0	0	0	0	0	0	0	0	19	0	1	0	0	20
1615 - 1630	0	1	27	0	0	0	0	28	0	0	0	0	0	0	0	0	0	10	1	0	0	0	0	11
1630 - 1645	0	0	42	0	0	0	1	43	0	0	1	0	0	0	0	1	0	0	30	0	0	0	0	30
1645 - 1700	0	0	40	1	1	0	0	42	0	0	0	0	0	0	0	0	0	13	2	0	0	0	0	15
Hourly Total	0	1	151	2	1	0	2	157	0	0	1	0	0	0	1	0	0	72	3	1	0	0	0	76
1700 - 1715	0	1	86	2	0	0	1	90	0	0	0	0	0	0	0	0	1	45	0	0	0	0	0	46
1715 - 1730	0	0	49	0	0	0	0	49	0	0	0	0	0	0	0	0	1	0	34	0	1	0	0	36
1730 - 1745	0	1	104	1	0	0	0	106	0	0	0	0	0	0	0	0	0	55	0	0	0	0	0	55
1745 - 1800	0	0	52	0	0	0	1	53	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0	36
Hourly Total	0	2	291	3	0	0	2	298	0	0	0	0	0	0	0	1	1	170	0	1	0	0	0	173
1800 - 1815	0	0	52	1	0	0	0	53	0	0	0	0	0	0	0	0	0	25	1	0	0	0	0	26
1815 - 1830	0	0	21	3	0	0	1	25	0	0	0	0	0	0	0	0	0	12	0	0	0	0	0	12
1830 - 1845	0	0	16	0	0	0	0	16	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	7
1845 - 1900	0	0	19	1	0	0	0	20	0	0	0	0	0	0	0	0	0	4	1	0	0	0	0	5
Hourly Total	0	0	108	5	0	0	1	114	0	0	0	0	0	0	0	0	0	48	2	0	0	0	0	50
Session Total	0	3	550	10	1	0	5	569	0	0	1	0	0	0	1	1	1	290	5	2	0	0	0	299

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Produced by Road Data Services Ltd.

Junction: (1) Brickhill Street / A4146

Approach: Brickhill Street (North)

TIME	Left to A4146 (East)								Ahead to Brickhill Street (South)								Right to A4146 (West)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	2	0	0	0	0	2	0	0	36	6	1	0	0	43	0	0	23	6	0	0	0	29
0715 - 0730	0	0	4	0	0	0	0	4	1	0	46	7	0	0	0	54	0	0	27	9	0	0	2	38
0730 - 0745	0	0	3	0	0	0	0	3	0	0	54	2	0	0	0	56	0	3	44	8	0	0	1	56
0745 - 0800	0	0	0	1	0	0	0	1	0	2	78	7	1	1	0	89	0	0	57	4	1	0	1	63
Hourly Total	0	0	9	1	0	0	0	10	1	2	214	22	2	1	0	242	0	3	151	27	1	0	4	186
0800 - 0815	0	0	2	1	0	0	0	3	0	0	54	6	1	0	0	61	0	0	47	7	1	0	0	55
0815 - 0830	0	0	5	0	0	0	0	5	0	0	61	2	0	0	0	63	0	0	63	4	1	0	0	68
0830 - 0845	0	0	8	0	1	0	0	9	0	0	69	3	0	0	0	72	0	0	60	6	1	0	1	68
0845 - 0900	0	0	3	0	0	0	0	3	0	0	79	4	0	0	0	83	0	0	59	3	0	0	1	63
Hourly Total	0	0	18	1	1	0	0	20	0	0	263	15	1	0	0	279	0	0	229	20	3	0	2	254
0900 - 0915	0	0	11	1	0	0	1	13	0	0	41	6	4	1	0	52	0	0	42	3	0	0	2	47
0915 - 0930	0	0	7	1	0	0	0	8	0	1	33	2	1	1	0	38	0	0	33	7	1	0	1	42
0930 - 0945	0	0	4	0	1	0	0	5	0	0	21	3	1	0	0	25	0	0	33	4	0	0	0	37
0945 - 1000	0	0	6	0	0	0	0	6	1	0	20	7	0	0	0	28	0	0	34	3	2	0	2	41
Hourly Total	0	0	28	2	1	0	1	32	1	1	115	18	6	2	0	143	0	0	142	17	3	0	5	167
Session Total	0	0	55	4	2	0	1	62	2	3	592	55	9	3	0	664	0	3	522	64	7	0	11	607
1600 - 1615	0	0	5	2	0	0	0	7	0	0	51	5	0	0	0	56	0	0	50	3	0	1	0	54
1615 - 1630	0	0	12	0	0	0	0	12	0	0	50	1	0	0	0	51	0	0	45	5	0	0	3	53
1630 - 1645	0	0	10	1	0	0	0	11	0	2	57	4	1	0	0	64	0	0	42	5	1	0	0	48
1645 - 1700	0	0	14	0	0	0	1	15	0	0	50	0	0	0	0	50	0	0	53	4	1	0	2	60
Hourly Total	0	0	41	3	0	0	1	45	0	2	208	10	1	0	0	221	0	0	190	17	2	1	5	215
1700 - 1715	0	0	13	0	0	0	0	13	0	1	55	3	0	0	0	59	0	0	54	7	0	0	2	63
1715 - 1730	0	0	14	1	0	0	0	15	0	0	52	5	0	0	0	57	0	0	47	1	2	0	0	50
1730 - 1745	0	0	16	0	0	0	0	16	1	0	43	8	0	0	0	52	0	0	36	6	0	0	2	44
1745 - 1800	0	0	9	2	0	0	0	11	0	0	56	4	1	0	0	61	0	0	52	3	0	0	0	55
Hourly Total	0	0	52	3	0	0	0	55	1	1	206	20	1	0	0	229	0	0	189	17	2	0	4	212
1800 - 1815	0	0	9	0	1	0	0	10	0	0	53	0	2	0	0	55	0	0	46	2	0	0	1	49
1815 - 1830	0	0	10	2	0	0	0	12	0	1	40	0	0	0	0	41	0	0	33	3	0	0	1	37
1830 - 1845	0	0	9	0	0	0	0	9	0	0	36	2	0	0	0	38	0	0	39	2	1	0	0	42
1845 - 1900	0	0	17	0	0	0	0	17	0	0	33	4	0	0	0	37	0	0	41	1	0	0	0	42
Hourly Total	0	0	45	2	1	0	0	48	0	1	162	6	2	0	0	171	0	0	159	8	1	0	2	170
Session Total	0	0	138	8	1	0	1	148	1	4	576	36	4	0	0	621	0	0	538	42	5	1	11	597

Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (1) Brickhill Street / A4146

Approach: A4146 (East)

TIME	Left to Brickhill Street (South)								Ahead to A4146 (West)								Right to Brickhill Street (North)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	50	14	1	0	1	66	0	0	98	33	6	6	0	143	0	0	9	1	2	0	0	12
0715 - 0730	0	0	76	17	3	0	2	98	0	1	129	30	8	7	0	175	0	0	4	1	1	0	2	8
0730 - 0745	0	1	76	5	5	4	0	91	0	2	165	31	5	11	1	215	0	0	7	2	1	0	0	10
0745 - 0800	0	0	62	11	5	2	0	80	0	0	173	23	6	7	0	209	0	0	20	0	0	1	0	21
Hourly Total	0	1	264	47	14	6	3	335	0	3	565	117	25	31	1	742	0	0	40	4	4	1	2	51
0800 - 0815	0	0	79	11	1	1	0	92	0	1	176	27	8	7	0	219	0	0	20	2	2	1	0	25
0815 - 0830	0	0	84	6	2	3	0	95	0	0	183	25	8	4	0	220	0	0	27	5	0	2	0	34
0830 - 0845	0	0	89	8	2	0	0	99	0	2	178	29	8	6	0	223	0	0	24	3	1	0	0	28
0845 - 0900	0	0	83	11	0	0	0	94	0	0	224	30	9	7	0	270	0	0	7	2	2	0	0	11
Hourly Total	0	0	335	36	5	4	0	380	0	3	761	111	33	24	0	932	0	0	78	12	5	3	0	98
0900 - 0915	0	0	62	9	3	1	0	75	0	0	127	27	11	12	0	177	0	0	8	1	1	1	0	11
0915 - 0930	0	0	48	9	3	3	0	63	0	0	125	18	7	13	0	163	0	0	13	2	1	2	0	18
0930 - 0945	0	0	56	8	1	3	0	68	0	0	133	14	5	6	0	158	0	0	7	1	0	0	0	8
0945 - 1000	0	1	48	10	4	0	0	63	0	0	102	31	12	6	0	151	0	0	3	2	0	0	0	5
Hourly Total	0	1	214	36	11	7	0	269	0	0	487	90	35	37	0	649	0	0	31	6	2	3	0	42
Session Total	0	2	813	119	30	17	3	984	0	6	1813	318	93	92	1	2323	0	0	149	22	11	7	2	191
1600 - 1615	0	0	49	13	2	0	0	64	0	1	150	21	6	1	1	180	0	0	30	3	1	2	0	36
1615 - 1630	0	0	55	9	0	1	0	65	0	2	114	20	5	2	0	143	0	0	8	1	0	0	0	9
1630 - 1645	0	0	76	4	2	1	0	83	0	0	178	19	6	4	0	207	0	0	39	1	0	0	0	40
1645 - 1700	0	0	61	11	1	0	0	73	0	0	161	23	5	3	0	192	0	0	17	2	1	4	0	24
Hourly Total	0	0	241	37	5	2	0	285	0	3	603	83	22	10	1	722	0	0	94	7	2	6	0	109
1700 - 1715	0	3	65	6	0	1	0	75	0	2	208	18	6	2	0	236	0	0	84	1	2	0	0	87
1715 - 1730	0	0	81	5	2	0	0	88	0	2	186	19	2	6	1	216	0	0	19	1	0	0	0	20
1730 - 1745	0	0	65	3	1	0	0	69	0	1	201	14	2	2	0	220	0	0	62	1	3	1	0	67
1745 - 1800	0	0	59	4	0	0	0	63	0	0	182	16	5	1	1	205	0	1	37	0	2	0	0	40
Hourly Total	0	3	270	18	3	1	0	295	0	5	777	67	15	11	2	877	0	1	202	3	7	1	0	214
1800 - 1815	0	0	70	3	1	0	0	74	0	1	167	11	2	2	1	184	0	0	28	1	0	0	0	29
1815 - 1830	0	0	60	1	0	2	0	63	0	1	113	19	3	3	0	139	0	0	21	1	0	1	0	23
1830 - 1845	0	0	48	3	0	1	0	52	0	1	122	11	1	4	0	139	0	0	21	0	0	1	0	22
1845 - 1900	0	0	54	5	1	1	0	61	0	0	132	12	4	1	0	149	0	0	16	1	0	0	0	17
Hourly Total	0	0	232	12	2	4	0	250	0	3	534	53	10	10	1	611	0	0	86	3	0	2	0	91
Session Total	0	3	743	67	10	7	0	830	0	11	1914	203	47	31	4	2210	0	1	382	13	9	9	0	414

Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (1) Brickhill Street / A4146

Approach: Brickhill Street (South)

TIME	Left to A4146 (West)								Ahead to Brickhill Street (North)								Right to A4146 (East)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	19	3	1	0	0	23	0	0	18	0	0	0	1	19	0	1	45	5	4	2	0	57
0715 - 0730	0	0	20	2	0	0	0	22	0	0	41	4	0	2	1	48	0	0	65	4	3	2	0	74
0730 - 0745	0	0	24	6	0	0	0	30	0	0	23	4	2	0	1	30	0	0	68	8	1	4	0	81
0745 - 0800	0	0	38	4	0	1	0	43	0	0	40	3	0	0	0	43	0	0	95	10	3	1	0	109
Hourly Total	0	0	101	15	1	1	0	118	0	0	122	11	2	2	3	140	0	1	273	27	11	9	0	321
0800 - 0815	0	0	41	3	1	0	2	47	0	0	41	1	0	0	0	42	0	0	84	4	4	2	0	94
0815 - 0830	0	0	42	6	1	1	0	50	0	0	33	1	1	0	1	36	0	1	81	12	1	2	0	97
0830 - 0845	0	0	38	7	2	0	0	47	0	1	53	4	0	0	1	59	0	0	65	7	2	3	0	77
0845 - 0900	0	0	37	4	0	0	0	41	0	0	43	0	0	0	0	43	0	2	86	8	3	4	0	103
Hourly Total	0	0	158	20	4	1	2	185	0	1	170	6	1	0	2	180	0	3	316	31	10	11	0	371
0900 - 0915	0	0	28	8	2	0	0	38	0	0	45	6	0	0	1	52	0	0	65	5	3	3	0	76
0915 - 0930	0	1	20	8	2	0	0	31	0	0	50	2	0	0	0	52	0	0	40	8	5	5	2	60
0930 - 0945	0	0	23	1	1	0	0	25	0	0	20	2	0	0	1	23	0	1	53	3	3	1	0	61
0945 - 1000	0	0	14	5	1	0	0	20	0	0	29	1	0	0	1	31	0	0	40	9	3	0	0	52
Hourly Total	0	1	85	22	6	0	0	114	0	0	144	11	0	0	3	158	0	1	198	25	14	9	2	249
Session Total	0	1	344	57	11	2	2	417	0	1	436	28	3	2	8	478	0	5	787	83	35	29	2	941
1600 - 1615	0	0	38	4	2	0	0	44	0	0	23	5	0	0	1	29	0	0	103	18	3	3	0	127
1615 - 1630	0	0	43	2	1	0	0	46	0	0	38	2	0	0	1	41	0	2	52	8	4	0	0	66
1630 - 1645	0	0	34	1	1	0	0	36	0	0	25	1	1	0	0	27	0	0	96	17	1	1	1	116
1645 - 1700	0	1	22	3	1	0	0	27	0	0	28	4	0	0	0	32	0	0	73	8	1	2	1	85
Hourly Total	0	1	137	10	5	0	0	153	0	0	114	12	1	0	2	129	0	2	324	51	9	6	2	394
1700 - 1715	0	0	50	2	0	0	0	52	0	1	22	4	0	0	0	27	0	0	107	7	3	0	0	117
1715 - 1730	0	0	46	3	2	0	0	51	0	1	44	5	0	0	1	51	0	0	107	7	1	2	0	117
1730 - 1745	0	0	52	2	0	0	0	54	0	0	55	4	0	0	0	59	0	1	141	5	3	1	0	151
1745 - 1800	0	1	47	2	0	0	0	50	0	0	65	4	0	0	1	70	0	1	113	7	1	1	0	123
Hourly Total	0	1	195	9	2	0	0	207	0	2	186	17	0	0	2	207	0	2	468	26	8	4	0	508
1800 - 1815	0	0	51	7	0	0	0	58	0	1	52	3	0	0	0	56	0	0	85	3	1	1	0	90
1815 - 1830	0	1	42	0	0	0	0	43	0	0	25	5	0	0	1	31	0	0	99	5	1	1	0	106
1830 - 1845	0	0	39	1	0	0	0	40	0	0	28	3	0	0	0	31	0	0	61	4	1	2	1	69
1845 - 1900	0	0	37	2	0	0	0	39	0	1	24	4	0	0	0	29	0	0	70	3	2	2	0	77
Hourly Total	0	1	169	10	0	0	0	180	0	2	129	15	0	0	1	147	0	0	315	15	5	6	1	342
Session Total	0	3	501	29	7	0	0	540	0	4	429	44	1	0	5	483	0	4	1107	92	22	16	3	1244

Milton Keynes - Manual Traffic Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Junction: (1) Brickhill Street / A4146

Approach: A4146 (West)

TIME	Left to Brickhill Street (North)								Ahead to A4146 (East)								Right to Brickhill Street (South)							
	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL	P/CYCLE	M/CYCLE	CAR	LGV	OGV1	OGV2	BUS	TOTAL
0700 - 0715	0	0	19	0	0	0	1	20	0	0	82	15	6	3	0	106	0	0	22	3	1	0	0	26
0715 - 0730	0	0	28	0	1	0	0	29	0	2	88	15	3	6	1	115	0	0	51	7	0	0	0	58
0730 - 0745	0	0	37	3	0	1	0	41	0	0	108	16	4	3	2	133	0	1	71	6	0	1	0	79
0745 - 0800	0	0	42	1	3	1	0	47	0	1	116	11	1	8	0	137	0	0	100	5	2	1	0	108
Hourly Total	0	0	126	4	4	2	1	137	0	3	394	57	14	20	3	491	0	1	244	21	3	2	0	271
0800 - 0815	0	0	48	3	0	0	2	53	0	0	132	20	5	6	1	164	0	0	132	3	1	0	0	136
0815 - 0830	0	0	36	69	0	0	0	105	0	0	152	16	6	3	0	177	1	1	143	6	0	1	0	152
0830 - 0845	0	1	29	4	1	0	0	35	0	0	130	15	5	5	0	155	0	0	125	8	1	0	0	134
0845 - 0900	0	0	39	7	0	0	0	46	0	2	109	12	4	8	0	135	0	0	124	6	0	0	0	130
Hourly Total	0	1	152	83	1	0	2	239	0	2	523	63	20	22	1	631	1	1	524	23	2	1	0	552
0900 - 0915	0	0	45	4	1	0	1	51	0	0	110	16	12	4	0	142	0	0	68	4	1	1	0	74
0915 - 0930	0	0	35	1	1	0	0	37	0	0	101	16	4	6	1	128	0	0	56	5	2	0	1	64
0930 - 0945	0	0	24	5	1	0	0	30	0	1	75	13	5	8	2	104	0	0	36	6	0	1	0	43
0945 - 1000	0	0	17	2	1	0	0	20	0	0	82	17	10	7	0	116	0	0	30	3	3	0	0	36
Hourly Total	0	0	121	12	4	0	1	138	0	1	368	62	31	25	3	490	0	0	190	18	6	2	1	217
Session Total	0	1	399	99	9	2	4	514	0	6	1285	182	65	67	7	1612	1	2	958	62	11	5	1	1040
1600 - 1615	0	0	42	5	1	0	1	49	0	0	116	28	7	5	0	156	0	0	27	3	0	0	0	30
1615 - 1630	0	1	38	1	1	0	0	41	0	0	115	22	3	7	0	147	0	0	25	5	2	0	0	32
1630 - 1645	0	1	35	4	0	0	0	40	0	1	144	14	3	5	0	167	0	0	31	6	1	0	0	38
1645 - 1700	0	0	54	4	1	0	0	59	0	0	178	26	5	6	1	216	0	1	26	7	1	0	0	35
Hourly Total	0	2	169	14	3	0	1	189	0	1	553	90	18	23	1	686	0	1	109	21	4	0	0	135
1700 - 1715	0	0	43	6	0	0	0	49	0	1	175	16	3	5	0	200	0	0	30	5	1	1	0	37
1715 - 1730	0	0	58	5	1	0	1	65	0	0	193	13	4	3	0	213	0	0	35	6	1	1	0	43
1730 - 1745	0	1	54	5	0	0	0	60	0	2	224	13	5	3	1	248	0	0	34	6	1	1	0	42
1745 - 1800	0	0	47	1	0	0	0	48	0	0	225	19	4	7	0	255	0	0	27	7	0	1	0	35
Hourly Total	0	1	202	17	1	0	1	222	0	3	817	61	16	18	1	916	0	0	126	24	3	4	0	157
1800 - 1815	0	1	54	2	0	0	0	57	0	0	157	15	2	1	0	175	0	0	36	0	0	0	1	37
1815 - 1830	0	0	41	1	0	0	1	43	0	0	152	9	3	1	0	165	0	0	25	0	0	0	0	25
1830 - 1845	0	0	33	2	0	0	0	35	0	1	137	8	1	0	1	148	0	0	24	0	1	0	0	25
1845 - 1900	0	0	35	1	1	0	0	37	0	0	114	6	2	3	0	125	0	0	18	1	2	0	0	21
Hourly Total	0	1	163	6	1	0	1	172	0	1	560	38	8	5	1	613	0	0	103	1	3	0	1	108
Session Total	0	4	534	37	5	0	3	583	0	5	1930	189	42	46	3	2215	0	1	338	46	10	4	1	400

Channel 1 - Northbound
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Channel 2 - Southbound
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Channel 1 - Northbound
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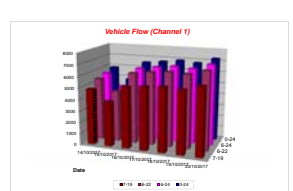
Channel 2 - Southbound
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Channel 1 - Northbound
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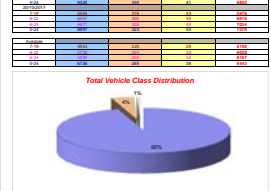
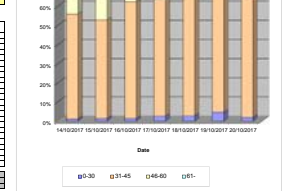
Channel 2 - Southbound
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Channel 1 - Northbound
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Channel 2 - Southbound
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Channel 1 - Northbound
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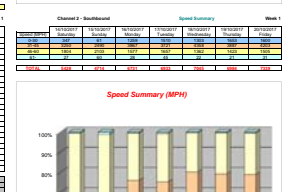


Channel 1 - Northbound
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Channel 2 - Southbound
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Channel 1 - Northbound
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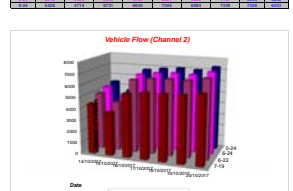
Channel 2 - Southbound
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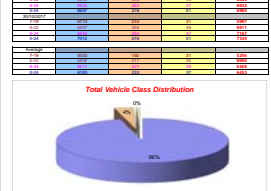
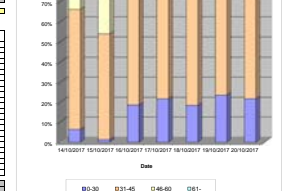
Channel 1 - Northbound
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Channel 1 - Northbound
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Channel 2 - Southbound
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Channel 1 - Northbound
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Channel 1 - Northbound
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Channel 1 - Northbound
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Channel 2 - Southbound
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Queue Lengths Data

Date: Thursday 19th October 2017
 Junction: 4: V10 Brickhill St/Station Road

Arm: V10 Brickhill St(North Arm)

Time	Left Lane	Right Lane	Total
07:00	0	0	0
07:05	0	0	0
07:10	0	0	0
07:15	0	0	0
07:20	1	2	3
07:25	0	0	0
07:30	0	0	0
07:35	0	0	0
07:40	0	0	0
07:45	0	0	0
07:50	0	0	0
07:55	0	0	0
08:00	0	0	0
08:05	0	0	0
08:10	0	0	0
08:15	0	0	0
08:20	0	0	0
08:25	0	0	0
08:30	0	0	0
08:35	0	1	1
08:40	0	2	2
08:45	0	0	0
08:50	0	0	0
08:55	0	0	0
09:00	0	0	0
09:05	0	0	0
09:10	1	1	2
09:15	0	0	0
09:20	0	0	0
09:25	0	0	0
09:30	0	0	0
09:35	0	0	0
09:40	0	0	0
09:45	0	0	0
09:50	0	0	0
09:55	0	0	0
AM Average	0.1	0.2	0.2
16:00	0	0	0
16:05	0	0	0
16:10	0	0	0
16:15	0	0	0
16:20	0	1	1
16:25	0	0	0
16:30	0	3	3
16:35	0	0	0
16:40	0	0	0
16:45	0	0	0
16:50	0	0	0
16:55	0	1	1
17:00	0	0	0
17:05	0	1	1
17:10	0	0	0
17:15	0	0	0
17:20	0	0	0
17:25	1	0	1
17:30	0	0	0
17:35	0	0	0
17:40	0	0	0
17:45	0	0	0
17:50	0	0	0
17:55	0	1	1
18:00	0	0	0
18:05	0	2	2
18:10	0	0	0
18:15	0	0	0
18:20	0	0	0
18:25	0	1	1
18:30	0	0	0
18:35	0	0	0
18:40	0	5	5
18:45	0	0	0
18:50	0	0	0
18:55	0	0	0
PM Average	0.0	0.4	0.4
Day Average	0.0	0.3	0.3

Arm: Station Road

Time	Left Lane	Right Lane	Total
07:00	0	0	0
07:05	0	0	0
07:10	0	0	0
07:15	0	0	0
07:20	0	0	0
07:25	0	0	0
07:30	0	0	0
07:35	0	0	0
07:40	4	2	6
07:45	1	1	2
07:50	0	0	0
07:55	3	0	3
08:00	0	0	0
08:05	0	0	0
08:10	15	2	17
08:15	0	0	0
08:20	0	0	0
08:25	0	0	0
08:30	0	0	0
08:35	0	1	1
08:40	3	0	3
08:45	0	0	0
08:50	0	1	1
08:55	0	0	0
09:00	0	0	0
09:05	0	0	0
09:10	1	2	3
09:15	0	0	0
09:20	0	0	0
09:25	0	0	0
09:30	0	0	0
09:35	0	0	0
09:40	0	0	0
09:45	0	0	0
09:50	0	0	0
09:55	0	0	0
AM Average	0.8	0.3	1.0
16:00	1	1	2
16:05	0	0	0
16:10	0	0	0
16:15	0	0	0
16:20	0	0	0
16:25	0	0	0
16:30	0	0	0
16:35	0	0	0
16:40	0	0	0
16:45	0	0	0
16:50	0	0	0
16:55	0	0	0
17:00	0	2	2
17:05	0	0	0
17:10	1	0	1
17:15	0	2	2
17:20	0	0	0
17:25	0	0	0
17:30	0	0	0
17:35	0	0	0
17:40	0	0	0
17:45	0	0	0
17:50	0	0	0
17:55	0	0	0
18:00	0	0	0
18:05	0	0	0
18:10	0	0	0
18:15	0	2	2
18:20	0	0	0
18:25	0	0	0
18:30	2	0	2
18:35	0	0	0
18:40	1	1	2
18:45	0	0	0
18:50	0	0	0
18:55	0	0	0
PM Average	0.1	0.2	0.4
Day Average	0.4	0.2	0.7

Arm: V10 Brickhill St(South Arm)

Time	Queue Length
07:00	0
07:05	0
07:10	0
07:15	0
07:20	0
07:25	0
07:30	0
07:35	0
07:40	3
07:45	4
07:50	0
07:55	0
08:00	0
08:05	1
08:10	2
08:15	4
08:20	0
08:25	0
08:30	5
08:35	0
08:40	2
08:45	0
08:50	0
08:55	0
09:00	0
09:05	5
09:10	0
09:15	0
09:20	0
09:25	0
09:30	0
09:35	0
09:40	0
09:45	0
09:50	0
09:55	0
AM Average	0.7
16:00	0
16:05	0
16:10	0
16:15	0
16:20	0
16:25	0
16:30	0
16:35	0
16:40	0
16:45	0
16:50	0
16:55	0
17:00	0
17:05	0
17:10	0
17:15	8
17:20	2
17:25	0
17:30	0
17:35	0
17:40	5
17:45	0
17:50	0
17:55	0
18:00	0
18:05	0
18:10	0
18:15	7
18:20	0
18:25	0
18:30	0
18:35	8
18:40	0
18:45	0
18:50	8
18:55	0
PM Average	1.1
Day Average	0.9

Milton Keynes - Queue Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Queue to next site **

Time	Brickhill St (North)		A4146 (East)			Brickhill St (South)		A4147 (West)		
	Lane 1	Lane 2	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 1	Lane 2	Lane 3
	Vehicles									
7:00 - 7:05	4	1	3	5	3	3	3	0	2	2
7:05 - 7:10	3	1	6	2	3	2	1	1	2	0
7:10 - 7:15	3	2	2	2	4	1	3	1	4	2
7:15 - 7:20	2	2	7	4	5	2	2	3	3	1
7:20 - 7:25	3	1	5	2	4	2	3	1	2	1
7:25 - 7:30	6	4	5	3	3	2	7	1	4	1
7:30 - 7:35	4	3	9	3	6	3	5	1	3	4
7:35 - 7:40	4	4	10	3	2	2	7	1	3	2
7:40 - 7:45	5	8	10	4	6	4	10	3	5	4
7:45 - 7:50	10	3	6	4	8	3	9	2	5	5
7:50 - 7:55	9	9	12	4	4	3	6	1	3	5
7:55 - 8:00	6	8	13	4	12	4	4	2	3	4
8:00 - 8:05	4	2	7	3	6	4	10	2	4	5
8:05 - 8:10	5	7	3	3	3	3	8	3	5	3
8:10 - 8:15	9	8	8	6	6	3	9	2	5	5
8:15 - 8:20	6	7	8	5	5	4	15	2	4	4
8:20 - 8:25	9	7	9	6	6	4	6	3	5	6
8:25 - 8:30	10	6	6	12	11	3	5	1	4	7
8:30 - 8:35	4	3	24	14	12	8	4	1	2	4
8:35 - 8:40	8	6	5	5	14	6	4	2	5	3
8:40 - 8:45	3	2	5	20	18	12	4	1	2	6
8:45 - 8:50	4	5	4	20	16	1	4	3	5	4
8:50 - 8:55	9	4	5	18	14	4	12	1	3	5
8:55 - 9:00	11	6	3	14	12	4	8	3	4	2
9:00 - 9:05	7	5	3	8	6	12	4	4	3	4
9:05 - 9:10	4	6	3	8	4	8	2	4	3	3
9:10 - 9:15	6	2	3	2	3	6	3	2	4	2
9:15 - 9:20	3	3	3	6	3	4	6	2	4	2
9:20 - 9:25	1	2	3	7	1	3	3	1	2	3
9:25 - 9:30	3	5	3	7	5	2	2	3	3	1
9:30 - 9:35	2	3	4	4	4	3	2	1	2	3
9:35 - 9:40	2	2	4	3	2	4	2	3	3	1
9:40 - 9:45	2	2	2	3	1	1	2	1	2	3
9:45 - 9:50	1	3	6	6	4	3	2	1	4	2
9:50 - 9:55	2	6	1	3	2	2	3	2	3	3
9:55 - 10:00	1	2	2	6	3	3	1	0	4	2
16:00 - 16:05	8	5	9	8	3	3	12	3	7	3
16:05 - 16:10	8	2	3	9	4	7	4	2	6	3
16:10 - 16:15	8	2	11	5	2	12	2	1	4	2
16:15 - 16:20	2	3	1	4	3	2	2	1	4	2
16:20 - 16:25	4	6	2	5	5	4	4	2	2	4
16:25 - 16:30	2	3	3	2	2	1	1	2	2	2
16:30 - 16:35	3	1	2	6	3	3	6	2	4	3
16:35 - 16:40	4	6	3	8	6	12	3	1	5	4
16:40 - 16:45	3	5	2	8	5	8	4	2	6	4
16:45 - 16:50	7	5	4	8	3	4	3	2	8	3
16:50 - 16:55	5	4	6	4	4	4	2	2	5	4
16:55 - 17:00	4	2	2	3	3	6	3	2	3	4
17:00 - 17:05	6	5	3	9	2	4	9	2	6	3
17:05 - 17:10	6	5	4	9	4	4	15	3	5	3
17:10 - 17:15	4	5	3	11	9	13	3	2	7	5
17:15 - 17:20	8	8	4	7	5	4	10	3	6	3
17:20 - 17:25	8	3	3	12	4	12	4	3	6	5
17:25 - 17:30	12	6	5	7	9	4	8	4	4	6
17:30 - 17:35	10	4	4	7	4	4	25	3	6	6
17:35 - 17:40	8	7	4	9	12	4	125 **	3	8	5
17:40 - 17:45	8	4	8	8	9	4	125 **	3	5	5
17:45 - 17:50	10	5	4	12	4	2	125 **	3	7	4
17:50 - 17:55	9	5	6	11	5	3	125 **	2	4	3
17:55 - 18:00	8	6	2	10	4	4	125 **	2	5	3
18:00 - 18:05	7	7	3	9	4	4	14	3	6	2
18:05 - 18:10	5	2	2	7	2	15	2	2	5	4
18:10 - 18:15	4	2	2	5	3	6	4	1	4	3
18:15 - 18:20	2	3	2	5	4	2	2	2	5	2
18:20 - 18:25	4	2	2	4	2	8	3	2	3	3
18:25 - 18:30	4	2	4	4	2	3	2	4	2	2
18:30 - 18:35	3	3	3	4	1	3	6	2	5	2
18:35 - 18:40	2	1	2	4	3	2	4	1	4	3
18:40 - 18:45	3	4	1	8	2	1	6	1	6	2
18:45 - 18:50	5	2	4	4	2	3	4	2	4	3
18:50 - 18:55	3	2	2	4	4	4	6	1	3	2
18:55 - 19:00	2	2	1	3	2	2	6	1	3	1

Queues are maximum vehicle length every 5 minutes

Milton Keynes - Queue Survey, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Time	Brickhill Street			A5 (South)			A4146		Watling Street			A5 (North)			
	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 1	Lane 2	Lane 3	Lane 1	Lane 2	Lane 3	Lane 4
	Vehicles														
7:00 - 7:05	2	4	1	4	5	8	3		2	3	3	1	7	8	6
7:05 - 7:10	4	4	3	5	4	4	7	6	2	4	1	2	11	12	6
7:10 - 7:15	1	11	3	5	8	6	5	6	1	3	5	4	18	14	7
7:15 - 7:20	3	7	2	2	8	6	7	6	1	3	1	1	20	13	4
7:20 - 7:25	3	7	3	2	8	5	9	6	1	4	4	1	15	13	7
7:25 - 7:30	3	7	4	4	9	7	16	18	3	3	2	1	17	22	8
7:30 - 7:35	3	8	2	5	10	10	20	16	1	4	3	1	17	16	6
7:35 - 7:40	3	4	3	3	12	10	13	10	3	3	2	0	14	9	5
7:40 - 7:45	3	13	4	5	15	12	12	8	5	5	1	0	13	18	8
7:45 - 7:50	4	13	4	6	18	16	14	12	5	4	4	3	8	16	7
7:50 - 7:55	6	9	5	3	15	18	12	10	4	4	2	0	10	17	9
7:55 - 8:00	3	14	4	5	12	18	17	13	4	4	5	0	11	14	6
8:00 - 8:05	2	10	4	5	16	20	23	17	5	4	3	3	11	13	5
8:05 - 8:10	3	12	5	5	15	15	15	10	4	3	2	3	8	12	7
8:10 - 8:15	2	10	3	2	15	20	33	29	3	5	3	1	7	9	8
8:15 - 8:20	2	12	4	3	19	20	18	22	4	5	3	2	7	11	7
8:20 - 8:25	4	8	4	4	18	20	22	19	3	3	3	2	7	8	8
8:25 - 8:30	3	4	3	3	15	20	23	22	5	4	1	0	7	12	9
8:30 - 8:35	2	16	3	2	14	18	12	9	5	3	2	3	9	12	4
8:35 - 8:40	3	7	3	5	16	20	13	9	5	3	1	1	6	6	7
8:40 - 8:45	3	5	3	4	12	18	15	12	5	4	4	2	8	8	8
8:45 - 8:50	3	5	3	4	15	20	16	14	3	2	1	1	5	5	7
8:50 - 8:55	4	9	3	5	15	20	15	12	4	3	2	2	7	9	7
8:55 - 9:00	0	7	3	4	15	18	16	12	4	3	3	3	5	7	6
9:00 - 9:05	0	3	3	5	12	15	13	7	3	3	2	3	7	7	6
9:05 - 9:10	4	8	3	4	8	12	7	5	2	4	2	1	7	7	6
9:10 - 9:15	4	15	3	5	11	12	11	7	1	4	2	3	7	6	9
9:15 - 9:20	4	11	3	5	4	6	8	3	3	2	3	0	6	4	8
9:20 - 9:25	5	7	2	4	5	4	10	6	7	2	3	1	9	7	8
9:25 - 9:30	1	8	3	7	3	4	11	8	3	5	2	1	9	11	12
9:30 - 9:35	1	5	1	4	8	4	11	7	3	4	2	1	5	5	9
9:35 - 9:40	3	7	2	5	5	5	4	4	3	4	4	0	6	3	7
9:40 - 9:45	2	6	3	5	2	5	14	9	3	4	2	1	8	3	9
9:45 - 9:50	0	4	1	2	5	4	7	5	2	2	3	2	5	4	7
9:50 - 9:55	1	4	1	2	5	2	6	3	3	5	3	0	4	8	11
9:55 - 10:00	2	5	2	2	6	6	11	7	4	3	3	1	5	4	8
16:00 - 16:05	2	8	3	1	6	3	10	7	4	7	2	3	7	7	5
16:05 - 16:10	2	9	2	4	6	4	8	5	3	6	2	2	8	9	4
16:10 - 16:15	2	13	4	4	6	4	9	5	4	6	4	1	12	12	5
16:15 - 16:20	3	9	2	4	7	4	12	4	3	5	2	2	11	12	6
16:20 - 16:25	2	6	2	6	6	2	12	5	4	6	3	1	13	10	7
16:25 - 16:30	3	5	2	2	10	5	12	4	4	6	3	3	9	12	6
16:30 - 16:35	3	9	3	6	8	6	9	5	3	5	3	3	6	10	8
16:35 - 16:40	3	11	3	5	7	4	14	6	5	5	3	2	14	13	6
16:40 - 16:45	3	9	4	5	6	5	12	7	2	7	6	3	18	23	8
16:45 - 16:50	3	12	4	2	7	9	14	7	5	5	3	1	20	19	10
16:50 - 16:55	4	10	4	4	7	7	15	7	4	6	2	1	23	17	8
16:55 - 17:00	3	11	3	6	9	5	11	3	5	6	3	4	17	21	8
17:00 - 17:05	2	10	2	4	9	4	11	5	4	6	4	3	15	17	6
17:05 - 17:10	5	12	4	1	6	2	12	7	4	5	2	3	16	19	8
17:10 - 17:15	3	12	3	1	8	3	12	5	4	7	5	1	16	15	9
17:15 - 17:20	3	7	4	7	4	5	10	2	4	6	5	2	15	19	5
17:20 - 17:25	3	10	5	2	6	7	12	5	3	7	2	1	22	25	7
17:25 - 17:30	3	8	3	7	8	6	8	1	3	6	2	1	25	28	7
17:30 - 17:35	4	11	3	7	8	5	9	2	4	7	3	4	22	27	9
17:35 - 17:40	4	11	5	6	5	8	11	4	4	5	2	1	27	30	9
17:40 - 17:45	5	12	5	3	6	8	12	5	5	7	3	3	28	26	9
17:45 - 17:50	2	7	4	4	6	8	12	3	5	8	1	2	20	23	7
17:50 - 17:55	4	6	4	2	8	9	15	6	3	7	3	1	22	27	10
17:55 - 18:00	1	10	3	3	10	8	10	6	4	5	2	1	32	26	11
18:00 - 18:05	3	9	4	6	11	8	11	3	6	5	2	5	21	20	6
18:05 - 18:10	2	11	2	4	4	7	8	4	3	6	4	2	23	23	9
18:10 - 18:15	3	8	3	6	12	10	10	4	5	5	2	2	24	26	8
18:15 - 18:20	3	3	1	6	6	7	11	9	3	5	1	1	22	29	8
18:20 - 18:25	3	9	3	5	8	6	9	5	4	4	1	1	15	19	8
18:25 - 18:30	4	9	4	6	9	6	4	2	4	5	2	1	15	15	6
18:30 - 18:35	3	8	2	2	9	6	4	5	4	4	2	2	7	5	4
18:35 - 18:40	3	6	1	1	8	2	6	3	2	6	2	2	16	15	5
18:40 - 18:45	1	6	3	4	4	5	6	2	3	5	2	6	1	15	6
18:45 - 18:50	2	7	2	5	8	3	8	3	3	2	3	2	12	9	7
18:50 - 18:55	5	5	2	3	6	5	10	3	3	5	2	0	8	6	4
18:55 - 19:00	2	8	3	3	3	2	8	4	3	5	2	0	7	6	4

Queues are maximum vehicle length every 5 minutes

Level Crossing Survey Data

Milton Keynes - Level Crossing, Wednesday 18th October 2017

Produced by Road Data Services Ltd.

Barrier			No. of Trains	Queue		
Time Down	Time Up	Duration (mm:ss)		NB Lane 1	NB Lane 2	Southbound
07:34:13	07:37:45	03:32	1	37	1	47
08:03:00	08:05:36	02:36	1	45	3	34
08:27:05	08:30:25	03:20	1	29	1	27
09:04:06	09:07:22	03:16	1	46	1	18
10:00:49	10:07:49	07:00	2	40	0	29
10:14:26	10:20:01	05:35	1	26	1	26
11:04:14	11:07:29	03:15	1	13	2	19
11:26:08	11:29:21	03:13	1	9	4	22
11:36:25	11:39:54	03:29	1	16	0	18
11:41:10	11:44:43	03:33	1	19	0	30
12:03:57	12:07:46	03:49	1	19	2	25
12:26:15	12:29:27	03:12	1	13	0	27
13:04:32	13:08:16	03:44	1	16	0	20
13:26:15	13:29:35	03:20	1	16	4	19
14:04:00	14:07:27	03:27	1	16	1	23
14:28:35	14:31:46	03:11	1	17	3	12
15:03:55	15:07:19	03:24	1	27	0	48
15:26:54	15:30:12	03:18	1	16	0	38
15:53:45	15:57:00	03:15	1	42	2	31
16:27:22	16:30:38	03:16	1	17	0	49
16:54:04	16:57:47	03:43	1	16	3	58
17:12:09	17:15:21	03:12	1	23	2	131
17:38:51	17:42:10	03:19	1	6	3	85
17:48:59	17:50:06	01:07	1	27	1	136
18:14:31	18:18:28	03:57	1	8	2	52
Average		03:31				

Appendix E

TRICS Outputs

B2 Trip Rates

Calculation Reference: AUDIT-204601-180116-0123

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST	
	KC KENT	1 days
03	SOUTH WEST	
	BR BRISTOL CITY	2 days
	WL WILTSHIRE	1 days
05	EAST MIDLANDS	
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	2 days
10	WALES	
	VG VALE OF GLAMORGAN	1 days
11	SCOTLAND	
	FA FALKIRK	1 days

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

Secondary Filtering selection:

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

Parameter: Gross floor area
 Actual Range: 10000 to 24980 (units: sqm)
 Range Selected by User: 10000 to 100000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 08/05/17

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

Selected survey days:

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

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

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	5

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

Selected Location Sub Categories:

Industrial Zone	5
Residential Zone	4
No Sub Category	1

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

Secondary Filtering selection:

Use Class:

B1	2 days
B2	6 days
B8	1 days

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

Population within 1 mile:

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

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

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
100,001 to 125,000	2 days
125,001 to 250,000	2 days
250,001 to 500,000	1 days
500,001 or More	2 days

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

Car ownership within 5 miles:

0.6 to 1.0	5 days
1.1 to 1.5	5 days

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

Travel Plan:

No	10 days
----	---------

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

PTAL Rating:

No PTAL Present	10 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

- | | | |
|---|--|---|
| 1 | BR-02-D-04 INDUSTRIAL ESTATE
CROFTS END ROAD
SPEEDWELL
BRISTOL
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 18018 sqm
<i>Survey date: FRIDAY 29/11/13</i> | BRISTOL CITY

<i>Survey Type: MANUAL</i> |
| 2 | BR-02-D-05 INDUSTRIAL ESTATE
NOVERS HILL
BEDMINSTER
BRISTOL
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 18128 sqm
<i>Survey date: FRIDAY 29/11/13</i> | BRISTOL CITY

<i>Survey Type: MANUAL</i> |
| 3 | FA-02-D-02 INDUSTRIAL ESTATE
MAIN STREET
GRAHAMSTON
FALKIRK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 21250 sqm
<i>Survey date: THURSDAY 30/05/13</i> | FALKIRK

<i>Survey Type: MANUAL</i> |
| 4 | KC-02-D-02 INDUSTRIAL ESTATE
SOUTHWELL ROAD

DEAL
Edge of Town
Residential Zone
Total Gross floor area: 10715 sqm
<i>Survey date: WEDNESDAY 28/11/12</i> | KENT

<i>Survey Type: MANUAL</i> |
| 5 | NR-02-D-01 INDUSTRIAL ESTATE
ROBINSON WAY

KETTERING
Edge of Town
Industrial Zone
Total Gross floor area: 12900 sqm
<i>Survey date: THURSDAY 23/10/14</i> | NORTHAMPTONSHIRE

<i>Survey Type: MANUAL</i> |
| 6 | VG-02-D-01 INDUSTRIAL ESTATE
ARTHUR STREET

BARRY
Edge of Town
No Sub Category
Total Gross floor area: 13091 sqm
<i>Survey date: MONDAY 08/05/17</i> | VALE OF GLAMORGAN

<i>Survey Type: MANUAL</i> |
| 7 | WL-02-D-02 INDUSTRIAL ESTATE
HEADLANDS GROVE

SWINDON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 10000 sqm
<i>Survey date: TUESDAY 20/09/16</i> | WILTSHIRE

<i>Survey Type: MANUAL</i> |
| 8 | WM-02-D-02 INDUSTRIAL ESTATE
DUNLOP WAY

BIRMINGHAM
Edge of Town
Residential Zone
Total Gross floor area: 23480 sqm
<i>Survey date: WEDNESDAY 07/11/12</i> | WEST MIDLANDS

<i>Survey Type: MANUAL</i> |
| 9 | WY-02-D-03 INDUSTRIAL ESTATE
ARMLEY ROAD

LEEDS
Suburban Area (PPS6 Out of Centre)
Industrial Zone
Total Gross floor area: 24980 sqm
<i>Survey date: FRIDAY 20/09/13</i> | WEST YORKSHIRE

<i>Survey Type: MANUAL</i> |

LIST OF SITES relevant to selection parameters (Cont.)

10 WY-02-D-04 INDUSTRIAL ESTATE WEST YORKSHIRE
LAW STREET

CLECKHEATON
Edge of Town
Industrial Zone
Total Gross floor area: 23226 sqm
Survey date: THURSDAY 15/09/16 Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AG-02-D-01	x
AR-02-D-01	x
CB-02-D-04	x
CW-02-D-03	x
DC-02-D-20	x
DL-02-D-04	x
HD-02-D-02	x
HI-02-D-03	x
HV-02-D-01	x
TI-02-D-01	x

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

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	10	17579	0.102	10	17579	0.023	10	17579	0.125
07:30 - 08:00	10	17579	0.189	10	17579	0.053	10	17579	0.242
08:00 - 08:30	10	17579	0.166	10	17579	0.088	10	17579	0.254
08:30 - 09:00	10	17579	0.152	10	17579	0.076	10	17579	0.228
09:00 - 09:30	10	17579	0.115	10	17579	0.100	10	17579	0.215
09:30 - 10:00	10	17579	0.104	10	17579	0.080	10	17579	0.184
10:00 - 10:30	10	17579	0.117	10	17579	0.105	10	17579	0.222
10:30 - 11:00	10	17579	0.087	10	17579	0.081	10	17579	0.168
11:00 - 11:30	10	17579	0.088	10	17579	0.085	10	17579	0.173
11:30 - 12:00	10	17579	0.098	10	17579	0.088	10	17579	0.186
12:00 - 12:30	10	17579	0.122	10	17579	0.105	10	17579	0.227
12:30 - 13:00	10	17579	0.101	10	17579	0.111	10	17579	0.212
13:00 - 13:30	10	17579	0.113	10	17579	0.126	10	17579	0.239
13:30 - 14:00	10	17579	0.118	10	17579	0.096	10	17579	0.214
14:00 - 14:30	10	17579	0.100	10	17579	0.109	10	17579	0.209
14:30 - 15:00	10	17579	0.103	10	17579	0.095	10	17579	0.198
15:00 - 15:30	10	17579	0.087	10	17579	0.126	10	17579	0.213
15:30 - 16:00	10	17579	0.072	10	17579	0.130	10	17579	0.202
16:00 - 16:30	10	17579	0.076	10	17579	0.155	10	17579	0.231
16:30 - 17:00	10	17579	0.060	10	17579	0.127	10	17579	0.187
17:00 - 17:30	10	17579	0.053	10	17579	0.161	10	17579	0.214
17:30 - 18:00	10	17579	0.044	10	17579	0.115	10	17579	0.159
18:00 - 18:30	10	17579	0.033	10	17579	0.063	10	17579	0.096
18:30 - 19:00	10	17579	0.020	10	17579	0.028	10	17579	0.048
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			2.320			2.326			4.646

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

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

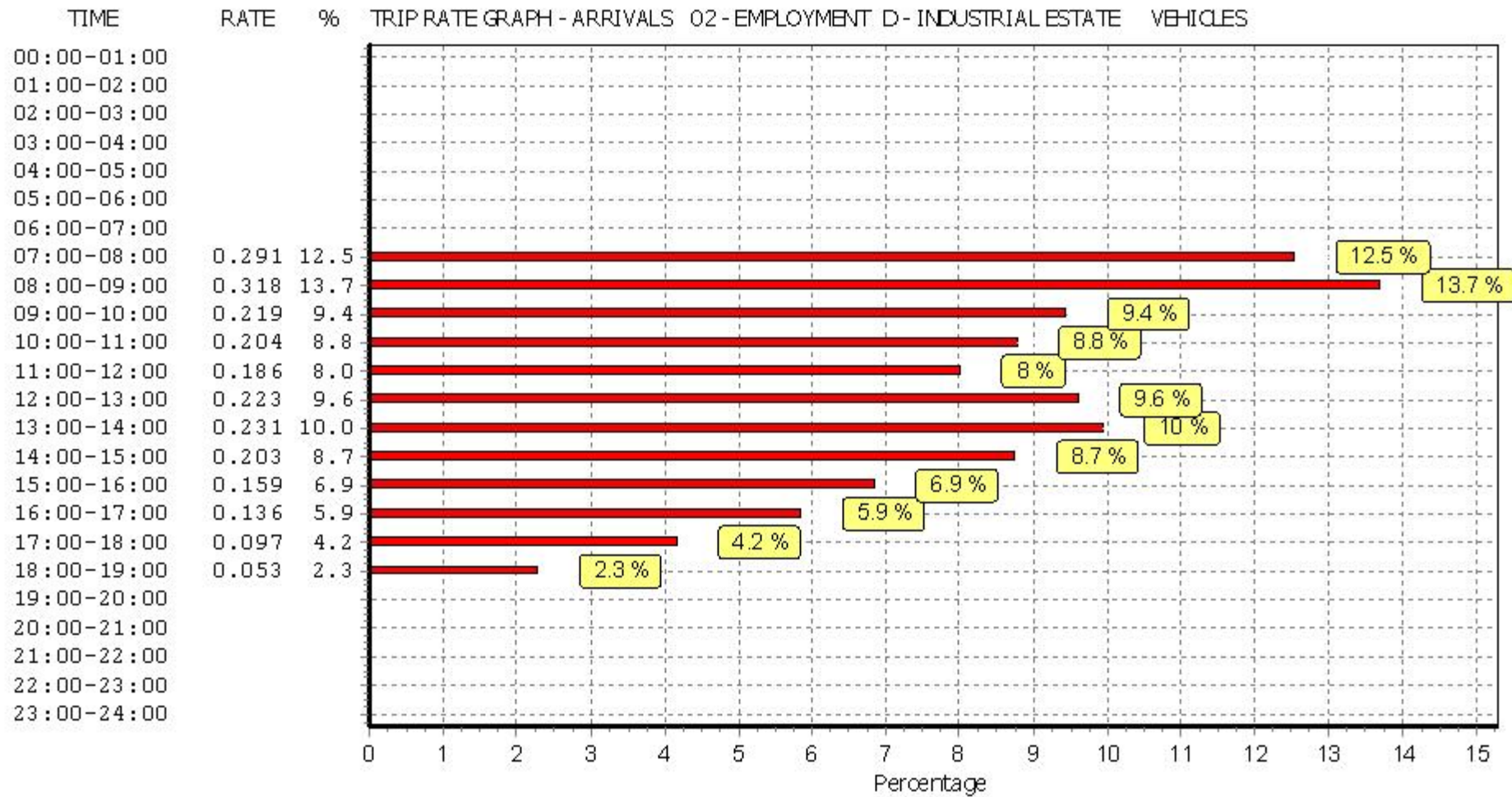
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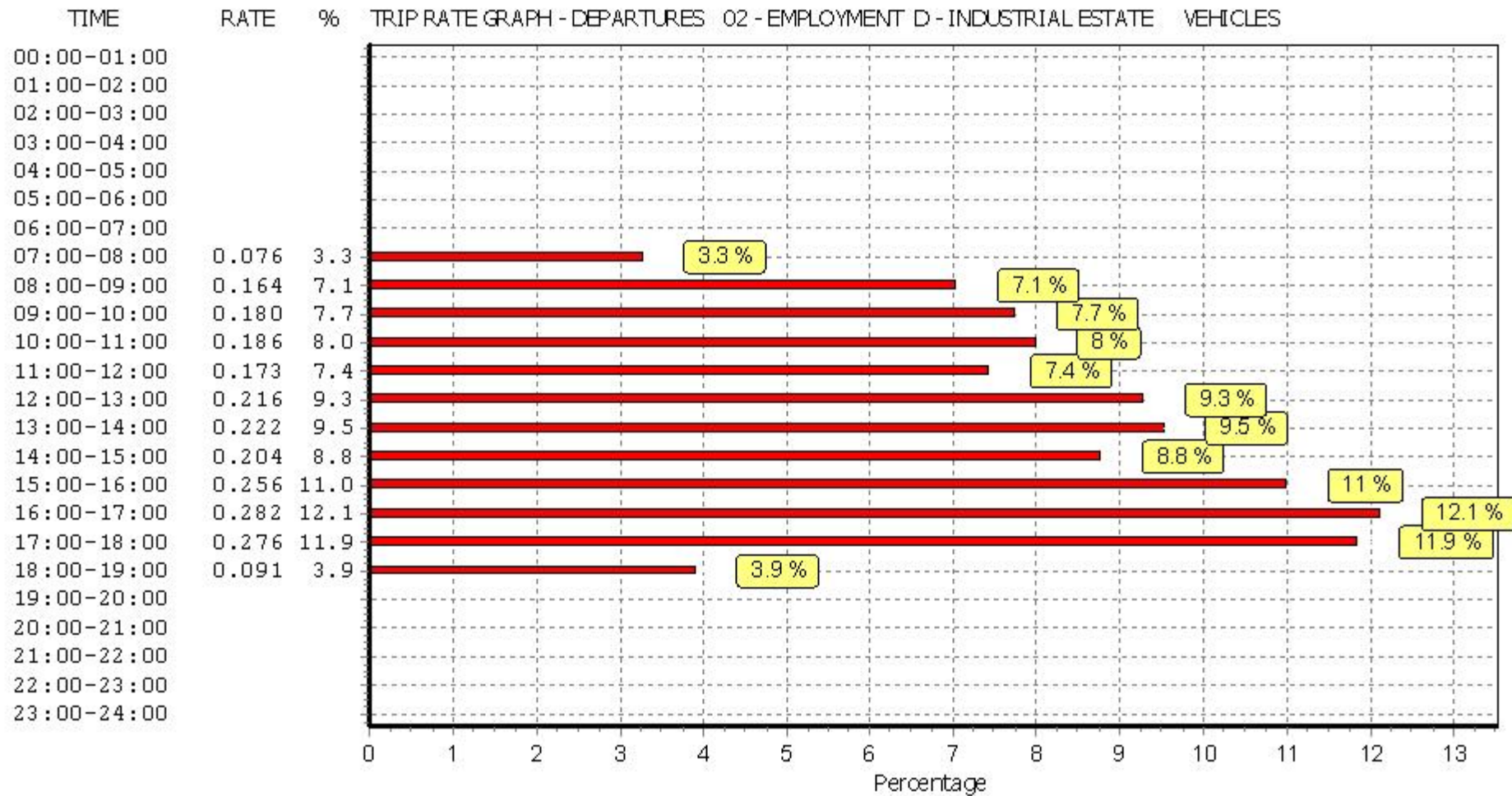
Parameter summary

Trip rate parameter range selected:	10000 - 24980 (units: sqm)
Survey date date range:	01/01/09 - 08/05/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	10

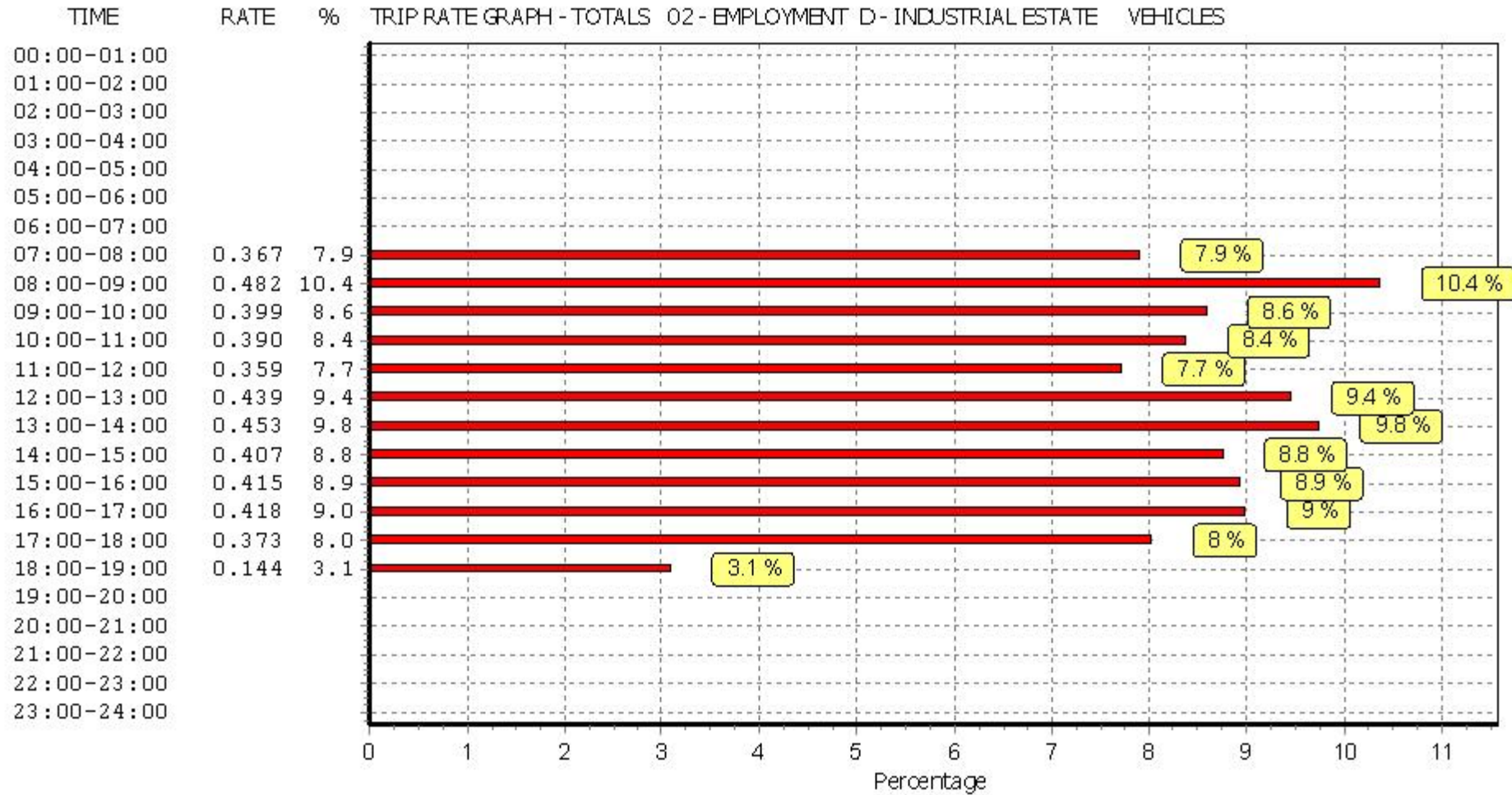
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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

TAXI S

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	10	17579	0.000	10	17579	0.000	10	17579	0.000
07:30 - 08:00	10	17579	0.000	10	17579	0.000	10	17579	0.000
08:00 - 08:30	10	17579	0.000	10	17579	0.000	10	17579	0.000
08:30 - 09:00	10	17579	0.001	10	17579	0.001	10	17579	0.002
09:00 - 09:30	10	17579	0.001	10	17579	0.001	10	17579	0.002
09:30 - 10:00	10	17579	0.002	10	17579	0.001	10	17579	0.003
10:00 - 10:30	10	17579	0.001	10	17579	0.001	10	17579	0.002
10:30 - 11:00	10	17579	0.000	10	17579	0.001	10	17579	0.001
11:00 - 11:30	10	17579	0.000	10	17579	0.001	10	17579	0.001
11:30 - 12:00	10	17579	0.002	10	17579	0.001	10	17579	0.003
12:00 - 12:30	10	17579	0.001	10	17579	0.001	10	17579	0.002
12:30 - 13:00	10	17579	0.000	10	17579	0.000	10	17579	0.000
13:00 - 13:30	10	17579	0.000	10	17579	0.000	10	17579	0.000
13:30 - 14:00	10	17579	0.002	10	17579	0.001	10	17579	0.003
14:00 - 14:30	10	17579	0.000	10	17579	0.001	10	17579	0.001
14:30 - 15:00	10	17579	0.001	10	17579	0.001	10	17579	0.002
15:00 - 15:30	10	17579	0.001	10	17579	0.001	10	17579	0.002
15:30 - 16:00	10	17579	0.000	10	17579	0.000	10	17579	0.000
16:00 - 16:30	10	17579	0.000	10	17579	0.001	10	17579	0.001
16:30 - 17:00	10	17579	0.000	10	17579	0.000	10	17579	0.000
17:00 - 17:30	10	17579	0.001	10	17579	0.000	10	17579	0.001
17:30 - 18:00	10	17579	0.000	10	17579	0.001	10	17579	0.001
18:00 - 18:30	10	17579	0.000	10	17579	0.000	10	17579	0.000
18:30 - 19:00	10	17579	0.000	10	17579	0.000	10	17579	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.013			0.014			0.027

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

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

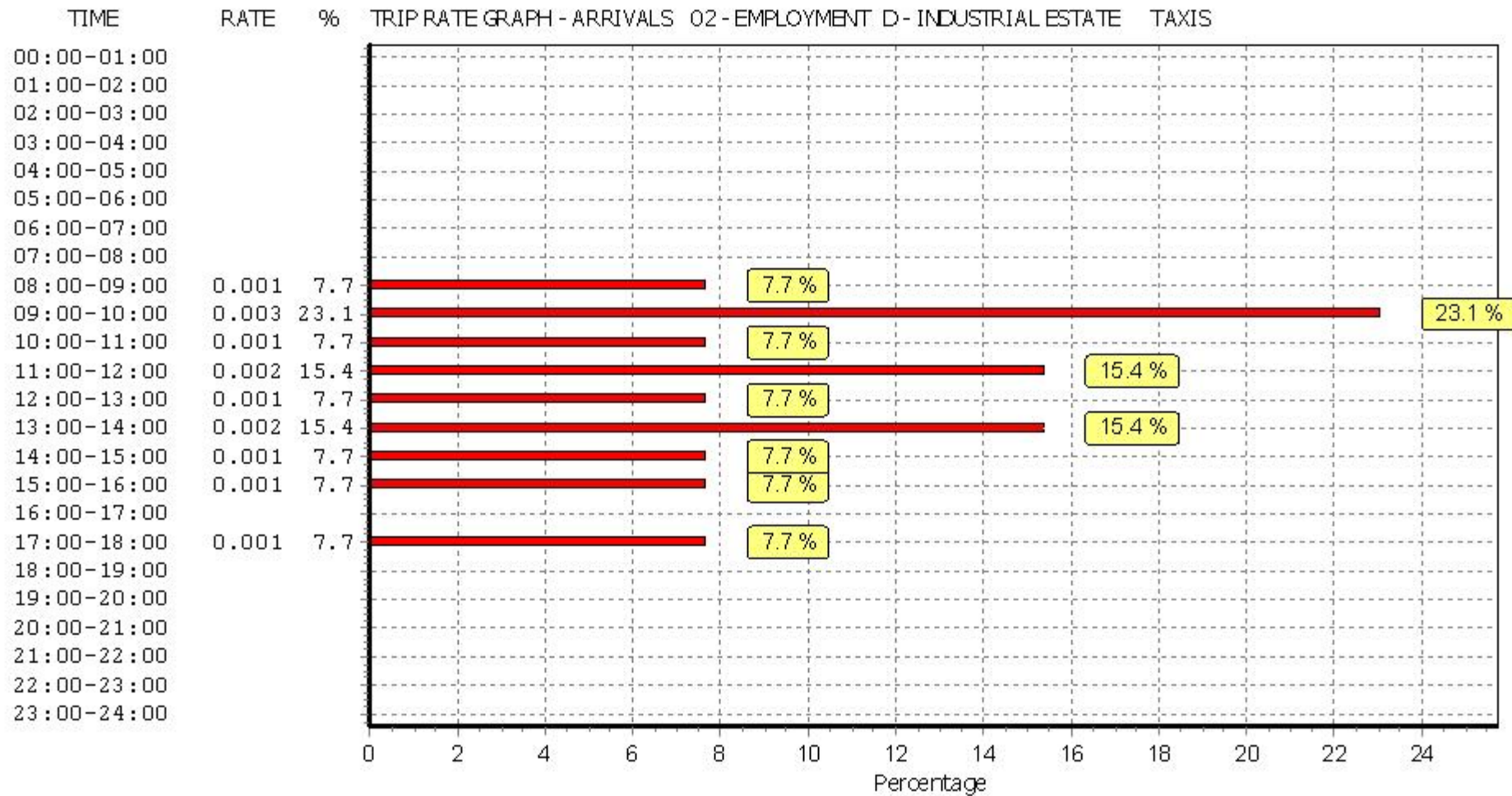
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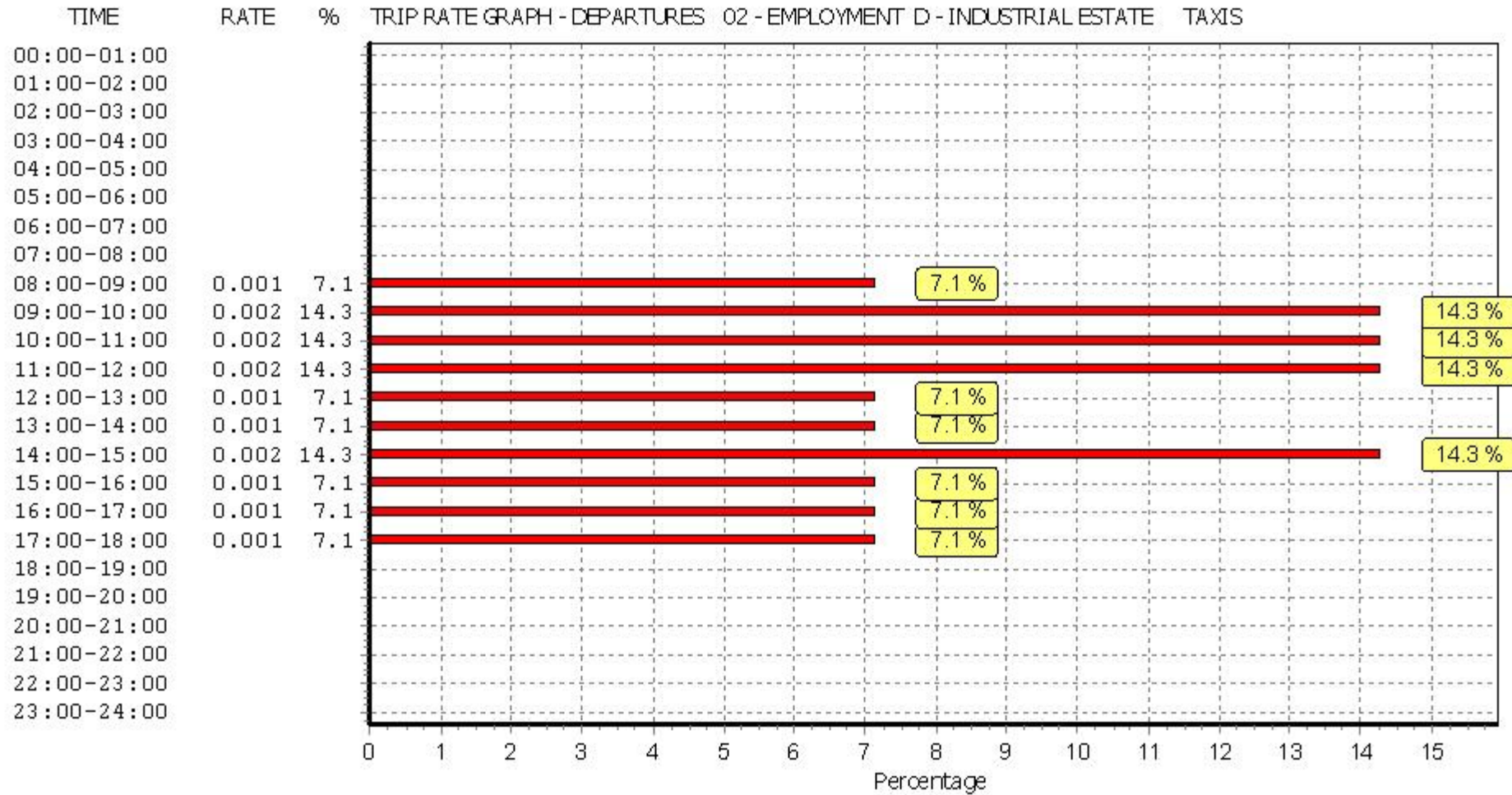
Parameter summary

Trip rate parameter range selected:	10000 - 24980 (units: sqm)
Survey date date range:	01/01/09 - 08/05/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	10

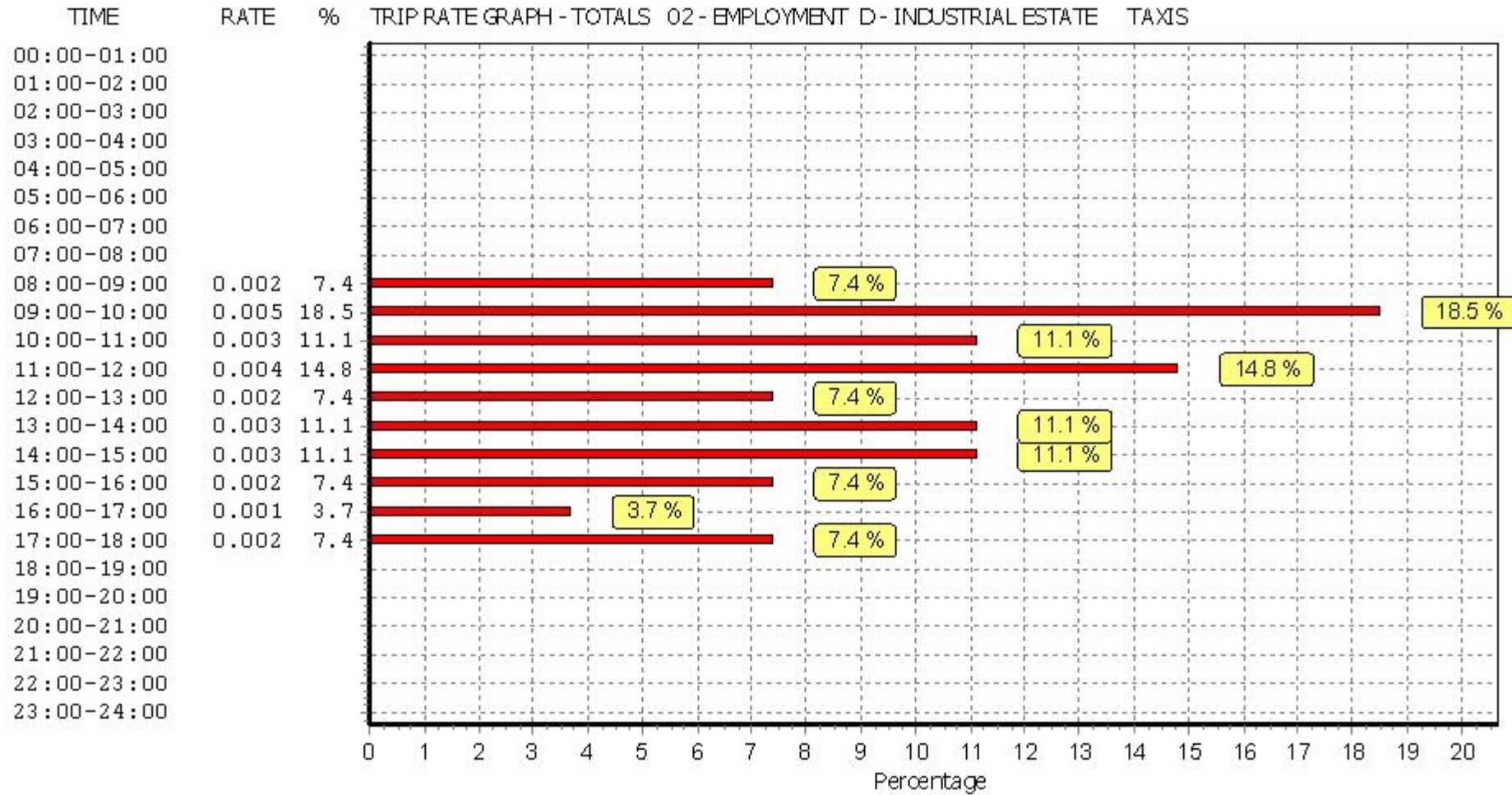
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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



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This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	10	17579	0.003	10	17579	0.004	10	17579	0.007
07:30 - 08:00	10	17579	0.009	10	17579	0.005	10	17579	0.014
08:00 - 08:30	10	17579	0.006	10	17579	0.011	10	17579	0.017
08:30 - 09:00	10	17579	0.009	10	17579	0.009	10	17579	0.018
09:00 - 09:30	10	17579	0.011	10	17579	0.013	10	17579	0.024
09:30 - 10:00	10	17579	0.008	10	17579	0.010	10	17579	0.018
10:00 - 10:30	10	17579	0.011	10	17579	0.011	10	17579	0.022
10:30 - 11:00	10	17579	0.013	10	17579	0.011	10	17579	0.024
11:00 - 11:30	10	17579	0.009	10	17579	0.011	10	17579	0.020
11:30 - 12:00	10	17579	0.009	10	17579	0.006	10	17579	0.015
12:00 - 12:30	10	17579	0.012	10	17579	0.008	10	17579	0.020
12:30 - 13:00	10	17579	0.015	10	17579	0.013	10	17579	0.028
13:00 - 13:30	10	17579	0.011	10	17579	0.011	10	17579	0.022
13:30 - 14:00	10	17579	0.014	10	17579	0.009	10	17579	0.023
14:00 - 14:30	10	17579	0.004	10	17579	0.009	10	17579	0.013
14:30 - 15:00	10	17579	0.008	10	17579	0.006	10	17579	0.014
15:00 - 15:30	10	17579	0.007	10	17579	0.006	10	17579	0.013
15:30 - 16:00	10	17579	0.010	10	17579	0.010	10	17579	0.020
16:00 - 16:30	10	17579	0.007	10	17579	0.009	10	17579	0.016
16:30 - 17:00	10	17579	0.003	10	17579	0.006	10	17579	0.009
17:00 - 17:30	10	17579	0.002	10	17579	0.007	10	17579	0.009
17:30 - 18:00	10	17579	0.005	10	17579	0.003	10	17579	0.008
18:00 - 18:30	10	17579	0.001	10	17579	0.001	10	17579	0.002
18:30 - 19:00	10	17579	0.003	10	17579	0.003	10	17579	0.006
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.190			0.192			0.382

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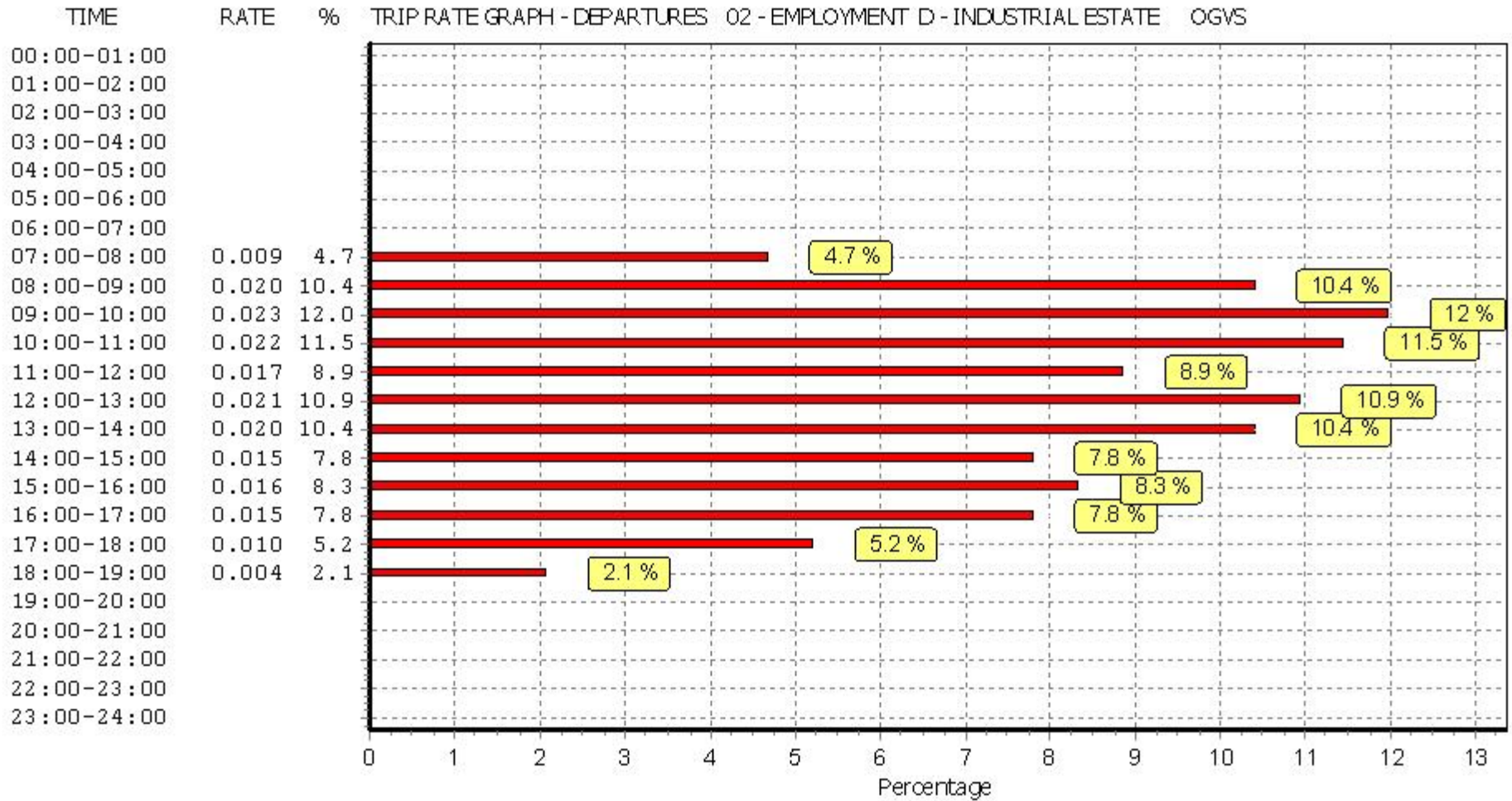
Parameter summary

Trip rate parameter range selected:	10000 - 24980 (units: sqm)
Survey date date range:	01/01/09 - 08/05/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	10

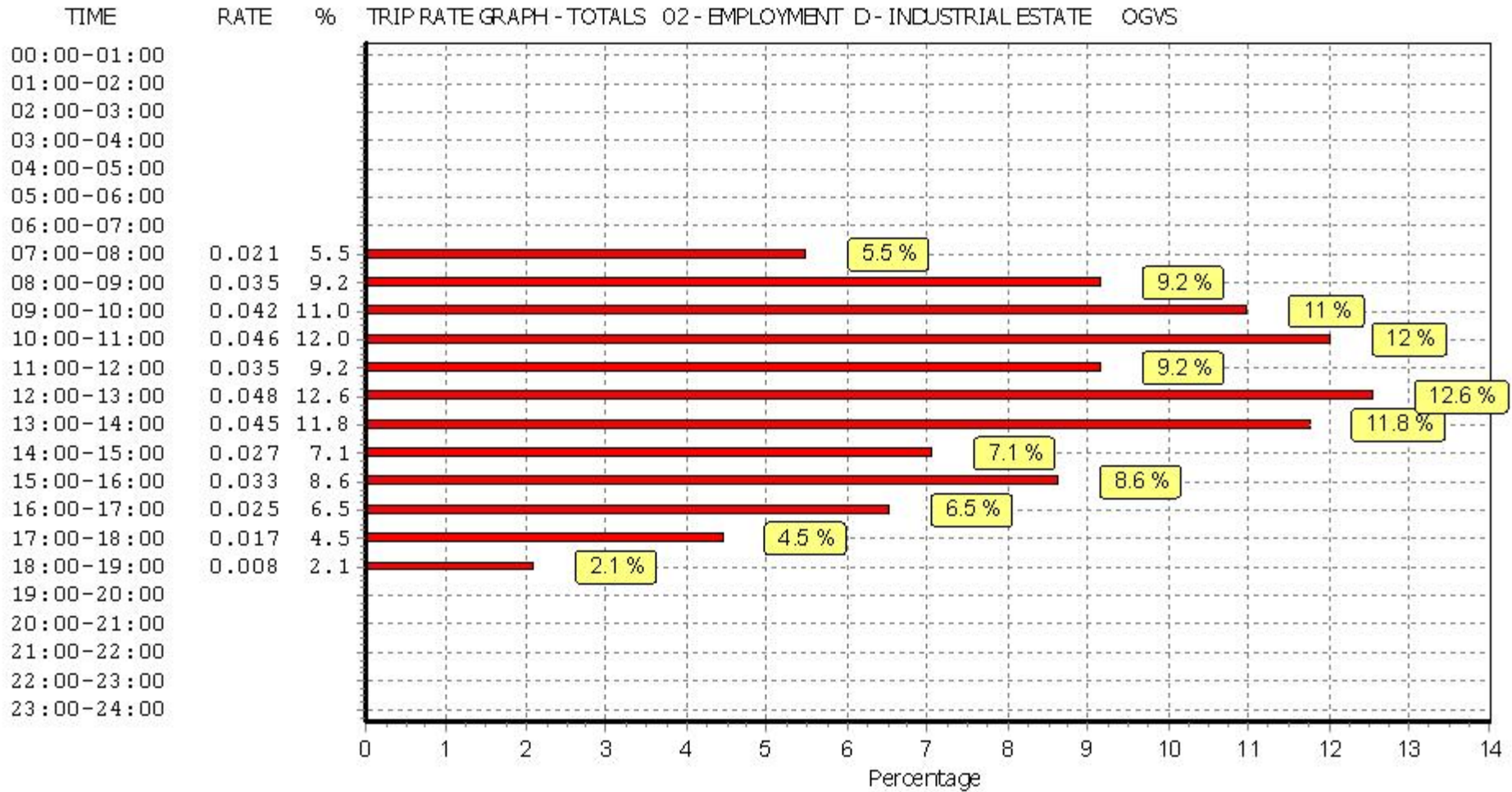
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TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	10	17579	0.000	10	17579	0.002	10	17579	0.002
07:30 - 08:00	10	17579	0.001	10	17579	0.002	10	17579	0.003
08:00 - 08:30	10	17579	0.002	10	17579	0.000	10	17579	0.002
08:30 - 09:00	10	17579	0.000	10	17579	0.001	10	17579	0.001
09:00 - 09:30	10	17579	0.002	10	17579	0.001	10	17579	0.003
09:30 - 10:00	10	17579	0.001	10	17579	0.000	10	17579	0.001
10:00 - 10:30	10	17579	0.001	10	17579	0.001	10	17579	0.002
10:30 - 11:00	10	17579	0.001	10	17579	0.000	10	17579	0.001
11:00 - 11:30	10	17579	0.000	10	17579	0.001	10	17579	0.001
11:30 - 12:00	10	17579	0.001	10	17579	0.000	10	17579	0.001
12:00 - 12:30	10	17579	0.000	10	17579	0.000	10	17579	0.000
12:30 - 13:00	10	17579	0.000	10	17579	0.000	10	17579	0.000
13:00 - 13:30	10	17579	0.000	10	17579	0.000	10	17579	0.000
13:30 - 14:00	10	17579	0.000	10	17579	0.000	10	17579	0.000
14:00 - 14:30	10	17579	0.000	10	17579	0.001	10	17579	0.001
14:30 - 15:00	10	17579	0.000	10	17579	0.001	10	17579	0.001
15:00 - 15:30	10	17579	0.001	10	17579	0.001	10	17579	0.002
15:30 - 16:00	10	17579	0.001	10	17579	0.000	10	17579	0.001
16:00 - 16:30	10	17579	0.001	10	17579	0.000	10	17579	0.001
16:30 - 17:00	10	17579	0.000	10	17579	0.000	10	17579	0.000
17:00 - 17:30	10	17579	0.000	10	17579	0.000	10	17579	0.000
17:30 - 18:00	10	17579	0.001	10	17579	0.001	10	17579	0.002
18:00 - 18:30	10	17579	0.001	10	17579	0.000	10	17579	0.001
18:30 - 19:00	10	17579	0.001	10	17579	0.000	10	17579	0.001
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.015			0.012			0.027

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

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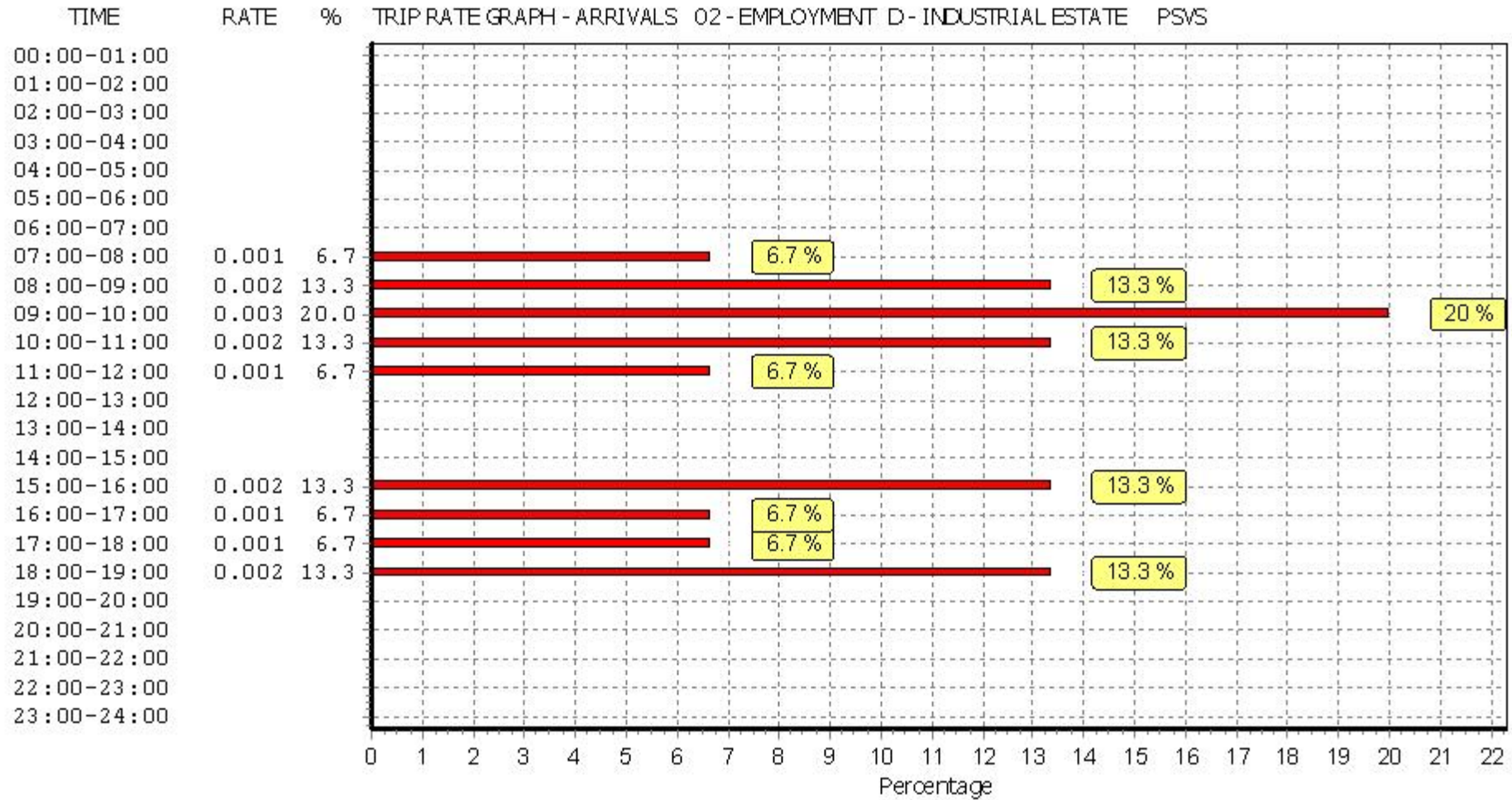
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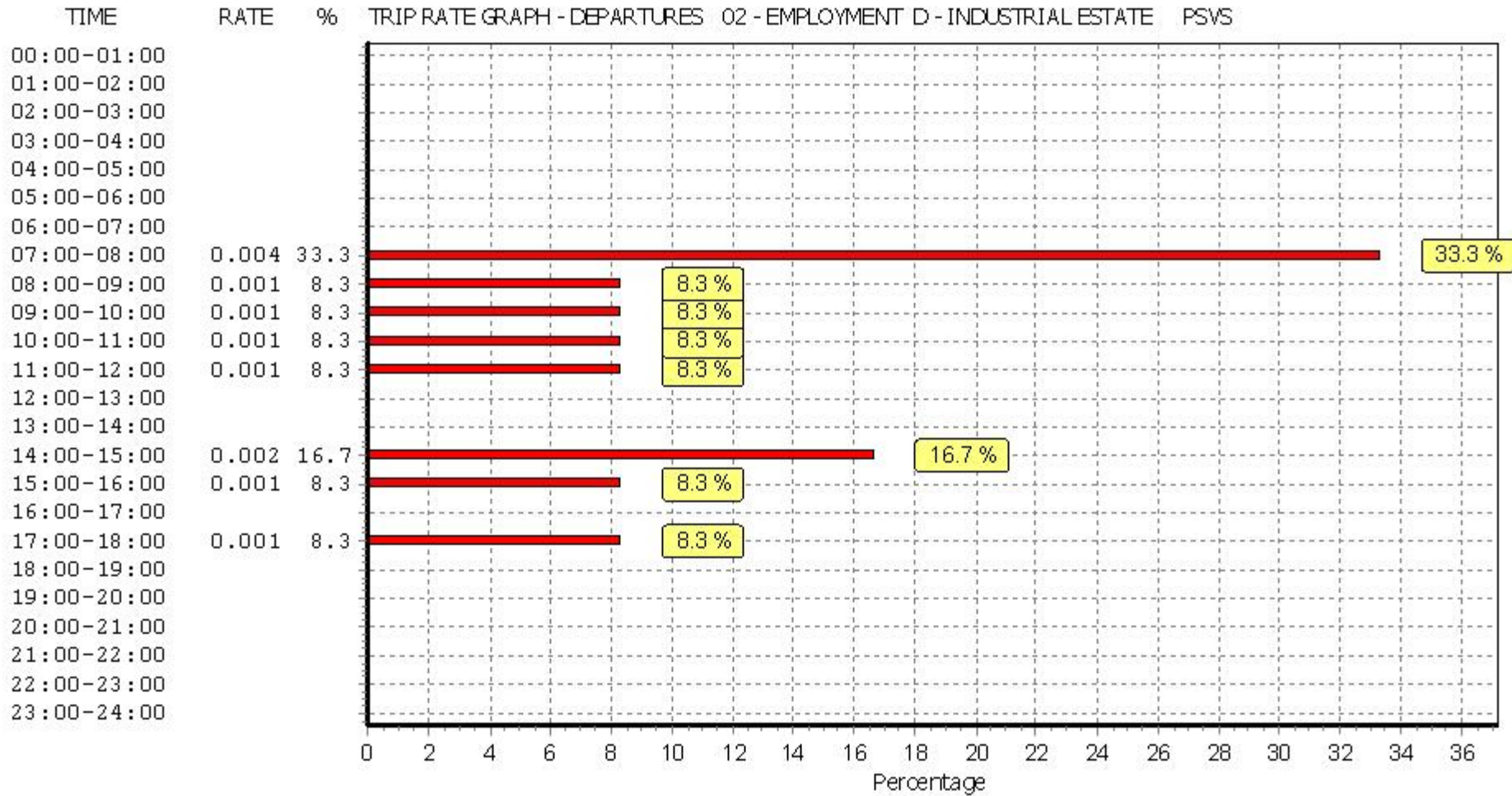
Parameter summary

Trip rate parameter range selected:	10000 - 24980 (units: sqm)
Survey date date range:	01/01/09 - 08/05/17
Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	10

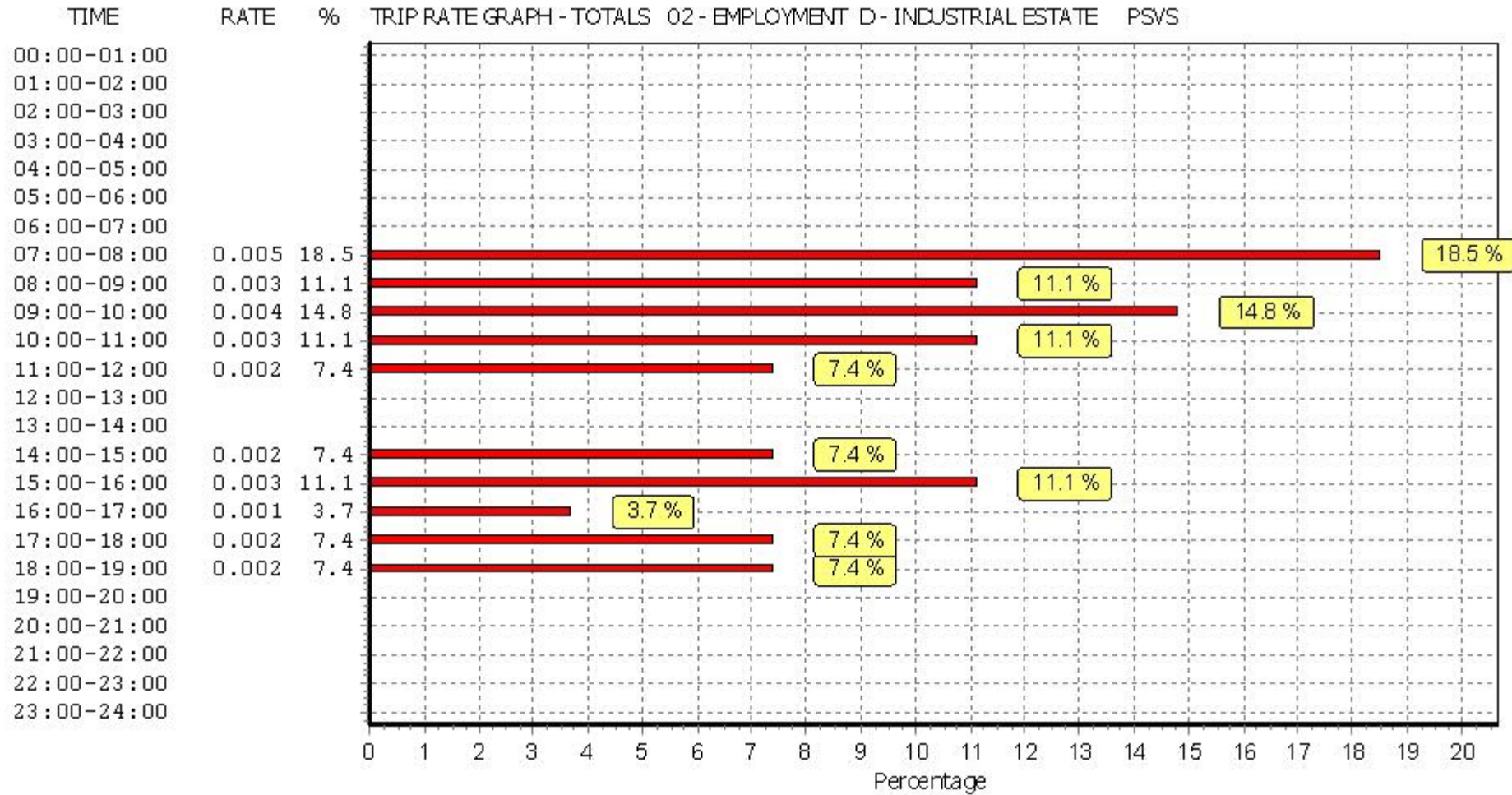
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TRIP RATE for Land Use 02 - EMPLOYMENT/D - INDUSTRIAL ESTATE
CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	10	17579	0.003	10	17579	0.000	10	17579	0.003
07:30 - 08:00	10	17579	0.006	10	17579	0.001	10	17579	0.007
08:00 - 08:30	10	17579	0.005	10	17579	0.001	10	17579	0.006
08:30 - 09:00	10	17579	0.004	10	17579	0.001	10	17579	0.005
09:00 - 09:30	10	17579	0.003	10	17579	0.000	10	17579	0.003
09:30 - 10:00	10	17579	0.002	10	17579	0.001	10	17579	0.003
10:00 - 10:30	10	17579	0.001	10	17579	0.001	10	17579	0.002
10:30 - 11:00	10	17579	0.002	10	17579	0.001	10	17579	0.003
11:00 - 11:30	10	17579	0.000	10	17579	0.000	10	17579	0.000
11:30 - 12:00	10	17579	0.000	10	17579	0.000	10	17579	0.000
12:00 - 12:30	10	17579	0.000	10	17579	0.000	10	17579	0.000
12:30 - 13:00	10	17579	0.000	10	17579	0.002	10	17579	0.002
13:00 - 13:30	10	17579	0.001	10	17579	0.001	10	17579	0.002
13:30 - 14:00	10	17579	0.001	10	17579	0.000	10	17579	0.001
14:00 - 14:30	10	17579	0.002	10	17579	0.000	10	17579	0.002
14:30 - 15:00	10	17579	0.001	10	17579	0.001	10	17579	0.002
15:00 - 15:30	10	17579	0.002	10	17579	0.001	10	17579	0.003
15:30 - 16:00	10	17579	0.001	10	17579	0.005	10	17579	0.006
16:00 - 16:30	10	17579	0.000	10	17579	0.006	10	17579	0.006
16:30 - 17:00	10	17579	0.000	10	17579	0.003	10	17579	0.003
17:00 - 17:30	10	17579	0.001	10	17579	0.005	10	17579	0.006
17:30 - 18:00	10	17579	0.000	10	17579	0.005	10	17579	0.005
18:00 - 18:30	10	17579	0.000	10	17579	0.002	10	17579	0.002
18:30 - 19:00	10	17579	0.001	10	17579	0.001	10	17579	0.002
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.036			0.038			0.074

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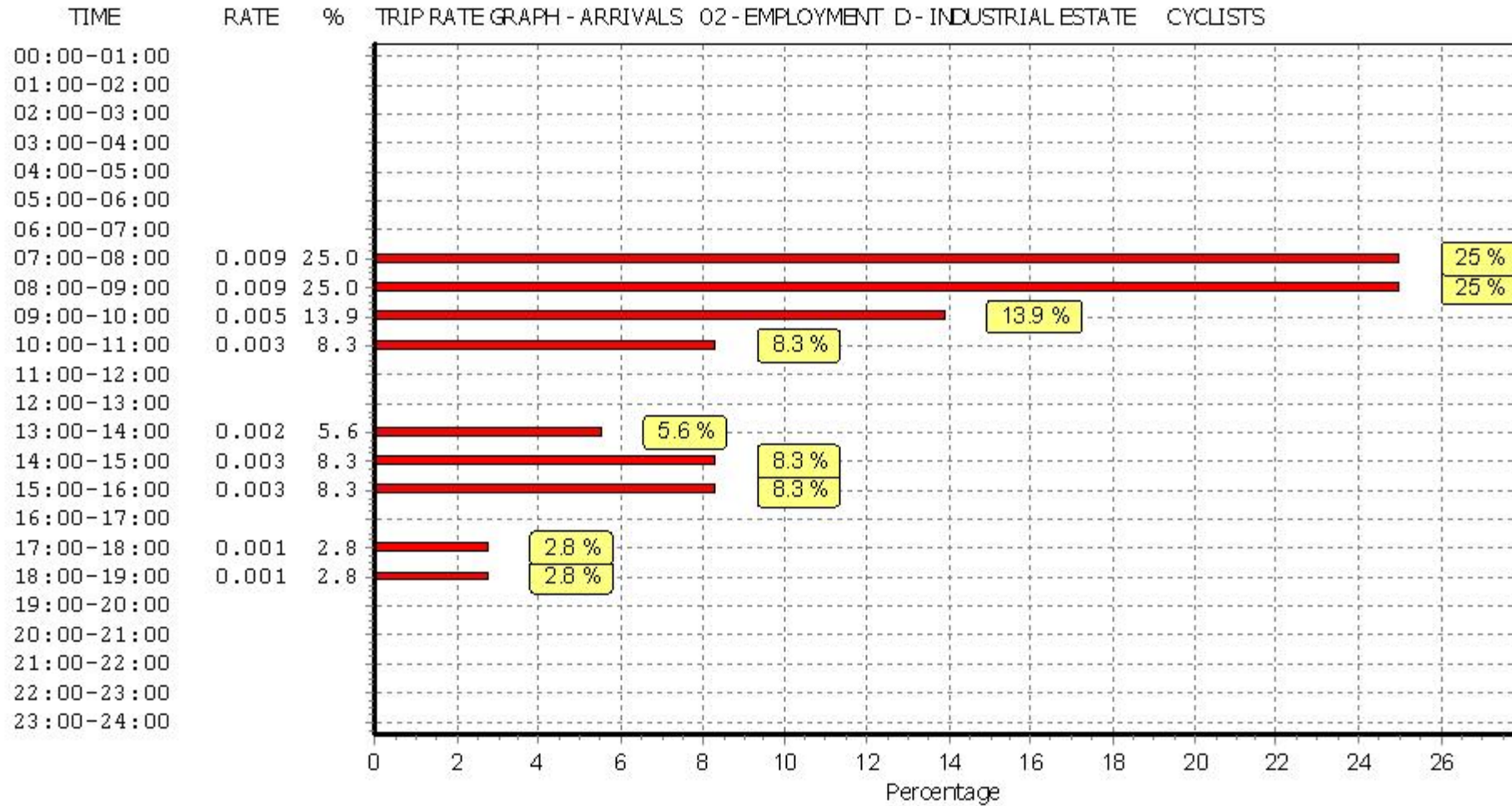
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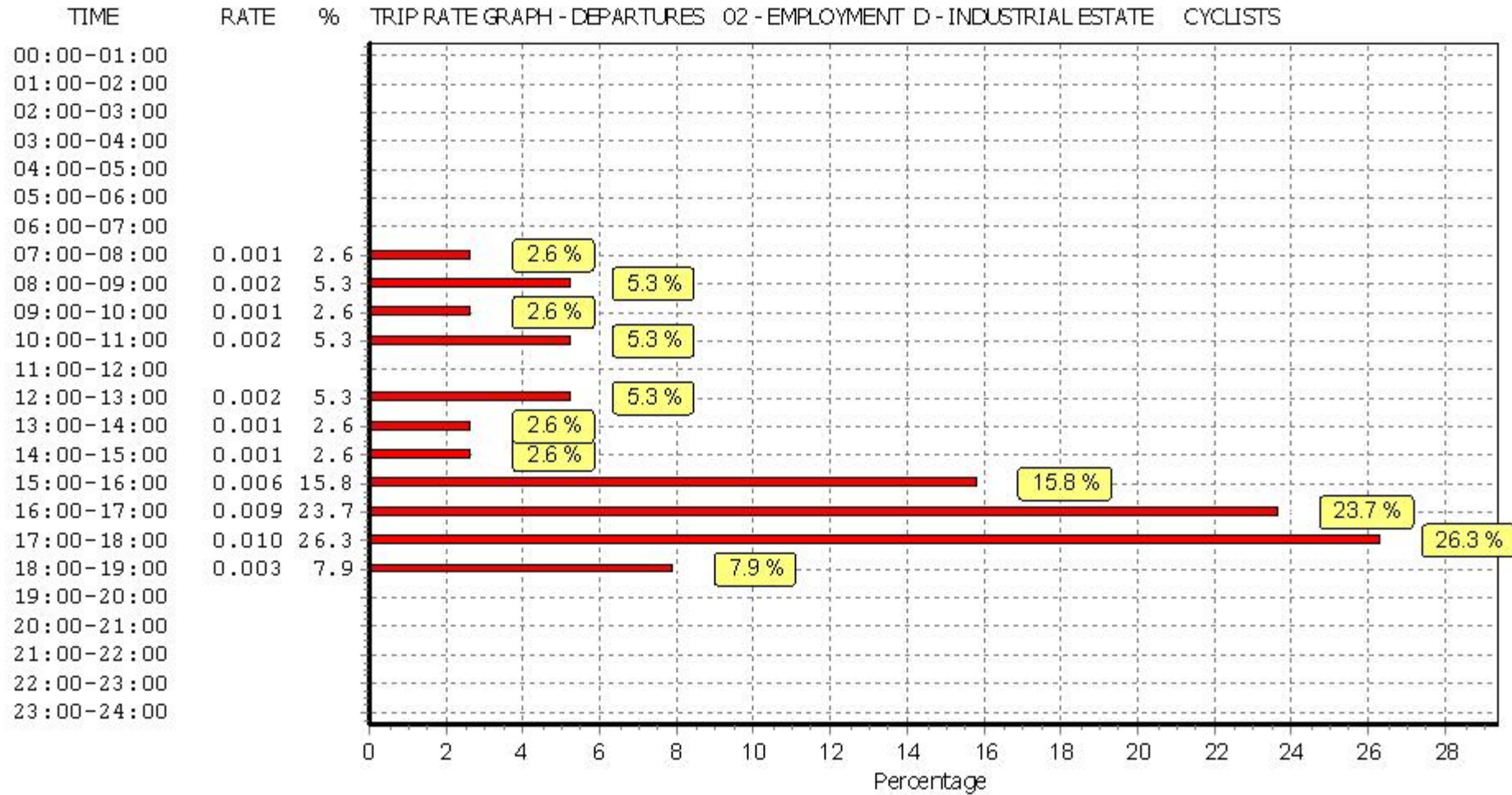
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Number of weekdays (Monday-Friday):	10
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	10

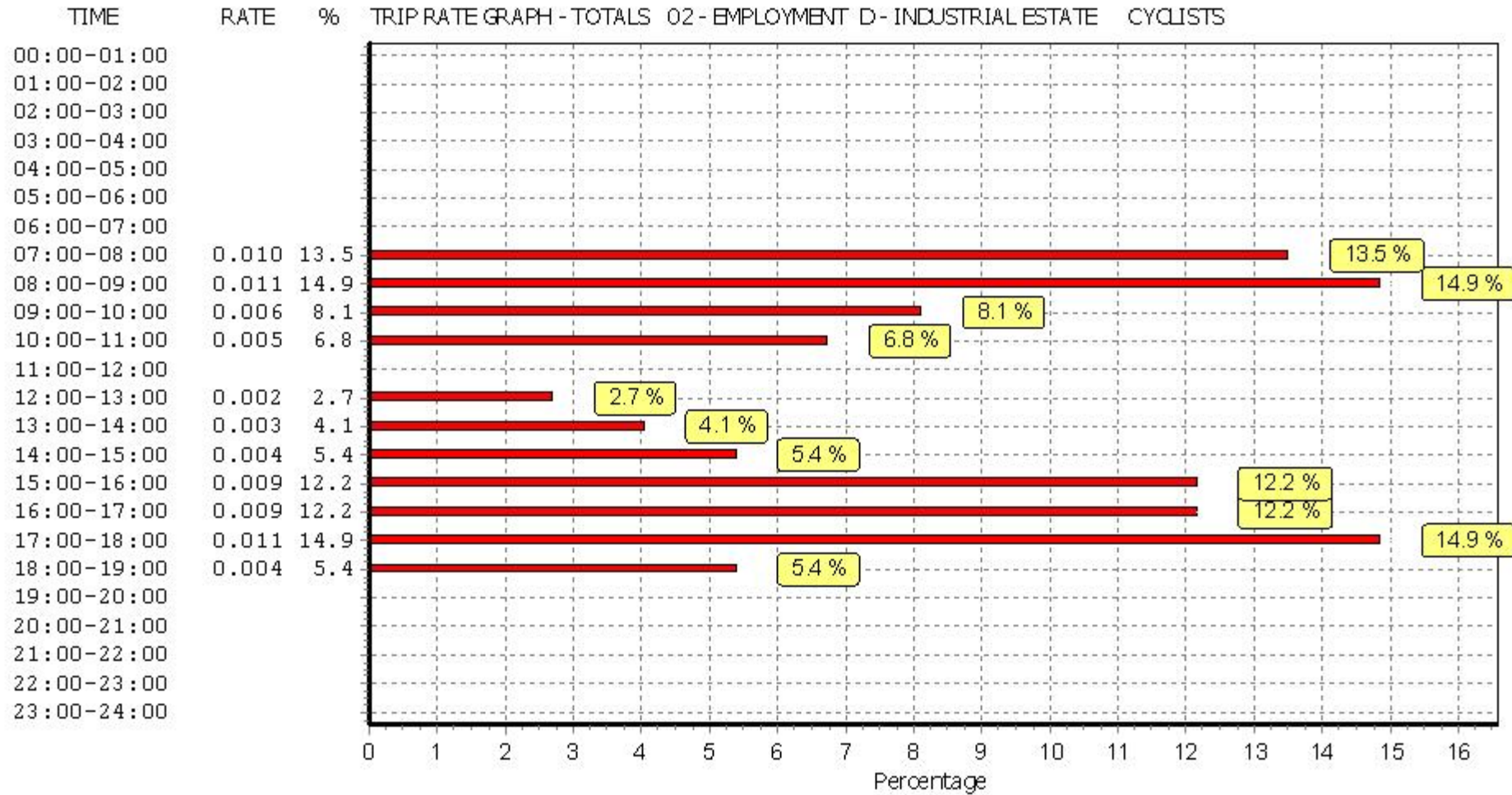
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B8 Trip Rates

Calculation Reference: AUDIT-204601-180116-0141

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : F - WAREHOUSING (COMMERCIAL)
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	HC HAMPSHIRE	1 days
04	EAST ANGLIA	
	SF SUFFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
09	NORTH	
	TW TYNE & WEAR	1 days
10	WALES	
	WR WREXHAM	1 days

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

Secondary Filtering selection:

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

Parameter: Gross floor area
 Actual Range: 9000 to 32300 (units: sqm)
 Range Selected by User: 5000 to 80066 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 23/11/16

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

Selected survey days:

Monday	1 days
Tuesday	1 days
Thursday	2 days
Friday	1 days

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	2
Free Standing (PPS6 Out of Town)	1

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

Selected Location Sub Categories:

Industrial Zone	3
Commercial Zone	1
No Sub Category	1

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

Secondary Filtering selection:

Use Class:

B8 5 days

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

Population within 1 mile:

1,000 or Less	1 days
1,001 to 5,000	2 days
10,001 to 15,000	1 days
20,001 to 25,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	4 days

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

Travel Plan:

No 5 days

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

PTAL Rating:

No PTAL Present 5 days

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

LIST OF SITES relevant to selection parameters

1	HC-02-F-02 RUTHERFORD ROAD	LOGISTICS	HAMPSHIRE
	BASINGSTOKE Suburban Area (PPS6 Out of Centre) Commercial Zone Total Gross floor area: 13200 sqm <i>Survey date: THURSDAY 16/06/16</i>		
2	LN-02-F-01 TRENT ROAD	BOOK SERVICE	LINCOLNSHIRE
	GRANTHAM Edge of Town No Sub Category Total Gross floor area: 32300 sqm <i>Survey date: MONDAY 29/11/10</i>		
3	SF-02-F-02 WALTON ROAD	WAREHOUSING	SUFFOLK
	FELIXSTOWE Suburban Area (PPS6 Out of Centre) Industrial Zone Total Gross floor area: 22270 sqm <i>Survey date: THURSDAY 11/07/13</i>		
4	TW-02-F-01 MANDARIN WAY PATTISON IND. ESTATE WASHINGTON	ASDA DISTRIBUTION CENTRE	TYNE & WEAR
	Edge of Town Industrial Zone Total Gross floor area: 31000 sqm <i>Survey date: FRIDAY 13/11/15</i>		
5	WR-02-F-01 UNIT 1-2 PACIFIC PARK WREXHAM IND. ESTATE NEAR WREXHAM	WAREHOUSE	WREXHAM
	Free Standing (PPS6 Out of Town) Industrial Zone Total Gross floor area: 9000 sqm <i>Survey date: TUESDAY 18/10/11</i>		

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AN-02-F-02	x
AN-02-F-03	x
CC-02-F-01	x
GA-02-F-01	x
HO-02-F-01	x
HO-02-F-02	x
LU-02-F-01	x

TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	1	22270	0.013	1	22270	0.018	1	22270	0.031
05:30 - 06:00	1	22270	0.004	1	22270	0.022	1	22270	0.026
06:00 - 06:30	1	22270	0.018	1	22270	0.022	1	22270	0.040
06:30 - 07:00	1	22270	0.040	1	22270	0.040	1	22270	0.080
07:00 - 07:30	5	21554	0.021	5	21554	0.008	5	21554	0.029
07:30 - 08:00	5	21554	0.032	5	21554	0.015	5	21554	0.047
08:00 - 08:30	5	21554	0.031	5	21554	0.016	5	21554	0.047
08:30 - 09:00	5	21554	0.033	5	21554	0.021	5	21554	0.054
09:00 - 09:30	5	21554	0.027	5	21554	0.013	5	21554	0.040
09:30 - 10:00	5	21554	0.030	5	21554	0.020	5	21554	0.050
10:00 - 10:30	5	21554	0.032	5	21554	0.024	5	21554	0.056
10:30 - 11:00	5	21554	0.020	5	21554	0.019	5	21554	0.039
11:00 - 11:30	5	21554	0.018	5	21554	0.017	5	21554	0.035
11:30 - 12:00	5	21554	0.017	5	21554	0.025	5	21554	0.042
12:00 - 12:30	5	21554	0.015	5	21554	0.017	5	21554	0.032
12:30 - 13:00	5	21554	0.024	5	21554	0.019	5	21554	0.043
13:00 - 13:30	5	21554	0.032	5	21554	0.019	5	21554	0.051
13:30 - 14:00	5	21554	0.038	5	21554	0.038	5	21554	0.076
14:00 - 14:30	5	21554	0.015	5	21554	0.044	5	21554	0.059
14:30 - 15:00	5	21554	0.019	5	21554	0.019	5	21554	0.038
15:00 - 15:30	5	21554	0.020	5	21554	0.027	5	21554	0.047
15:30 - 16:00	5	21554	0.016	5	21554	0.019	5	21554	0.035
16:00 - 16:30	5	21554	0.015	5	21554	0.025	5	21554	0.040
16:30 - 17:00	5	21554	0.008	5	21554	0.020	5	21554	0.028
17:00 - 17:30	5	21554	0.019	5	21554	0.028	5	21554	0.047
17:30 - 18:00	5	21554	0.008	5	21554	0.021	5	21554	0.029
18:00 - 18:30	5	21554	0.008	5	21554	0.017	5	21554	0.025
18:30 - 19:00	5	21554	0.012	5	21554	0.010	5	21554	0.022
19:00 - 19:30	1	22270	0.027	1	22270	0.013	1	22270	0.040
19:30 - 20:00	1	22270	0.009	1	22270	0.018	1	22270	0.027
20:00 - 20:30	1	22270	0.004	1	22270	0.018	1	22270	0.022
20:30 - 21:00	1	22270	0.009	1	22270	0.013	1	22270	0.022
21:00 - 21:30	1	22270	0.018	1	22270	0.009	1	22270	0.027
21:30 - 22:00	1	22270	0.013	1	22270	0.009	1	22270	0.022
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.665			0.683			1.348

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

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

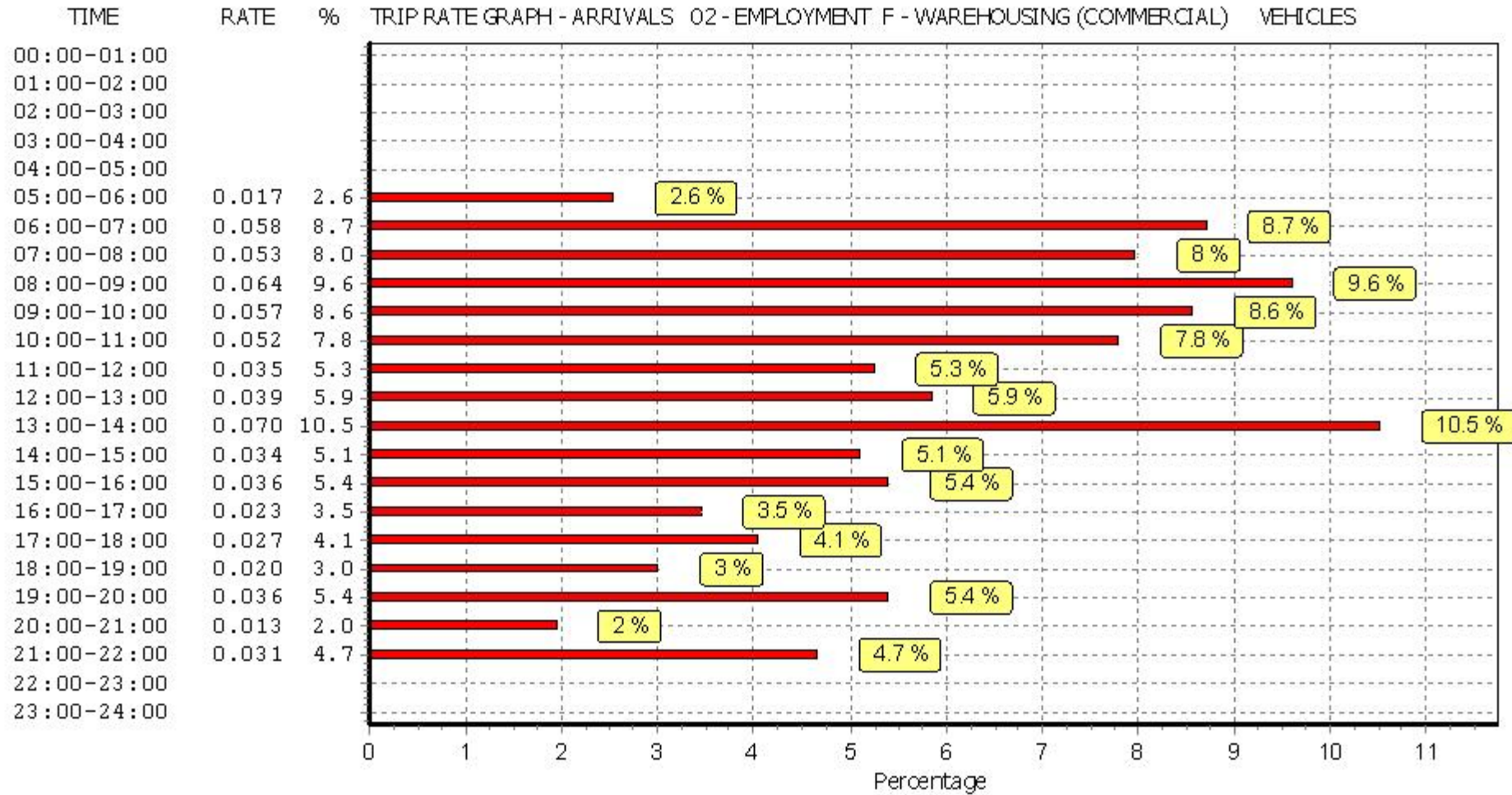
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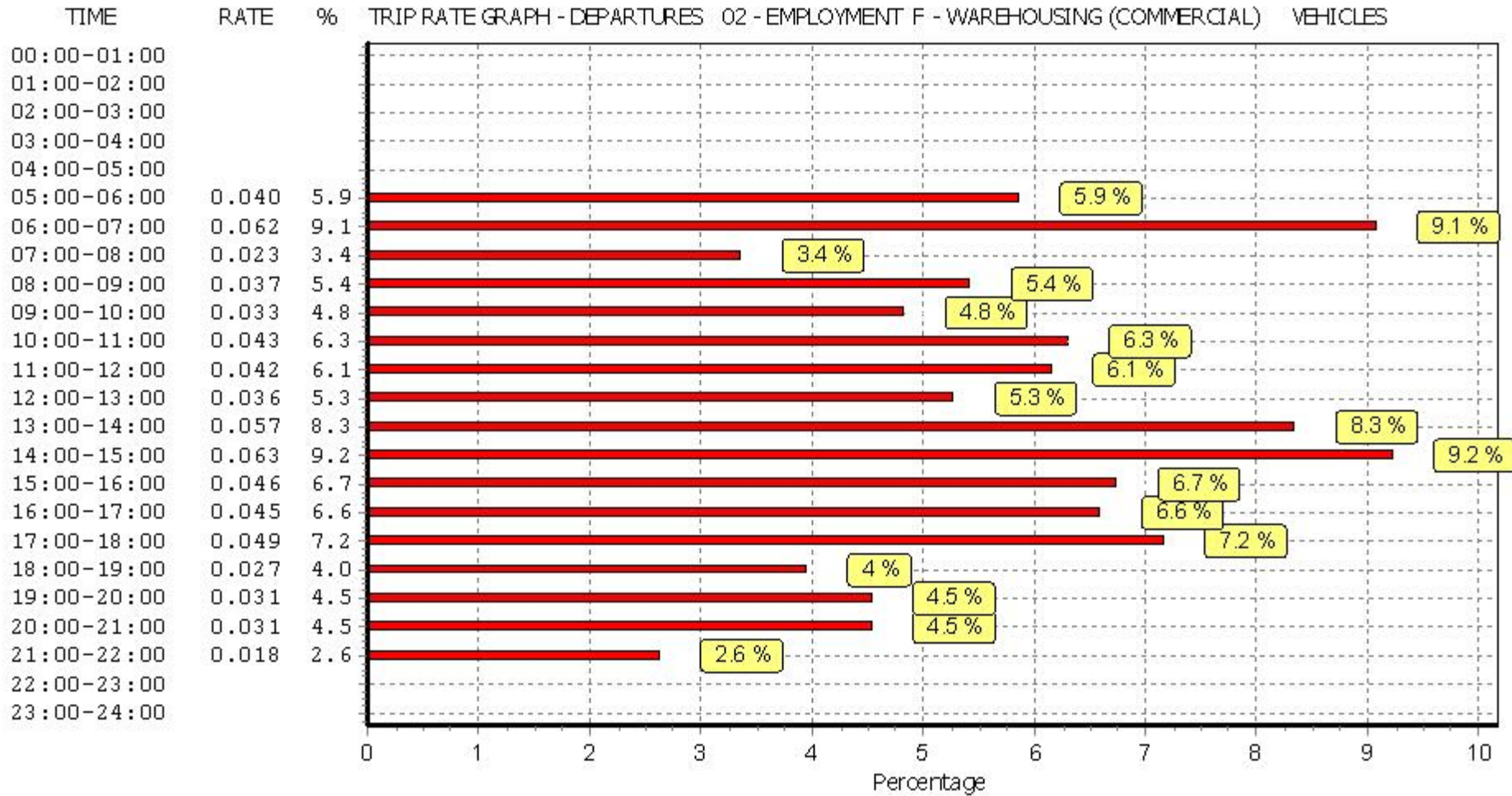
Parameter summary

Trip rate parameter range selected:	9000 - 32300 (units: sqm)
Survey date date range:	01/01/09 - 23/11/16
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	7

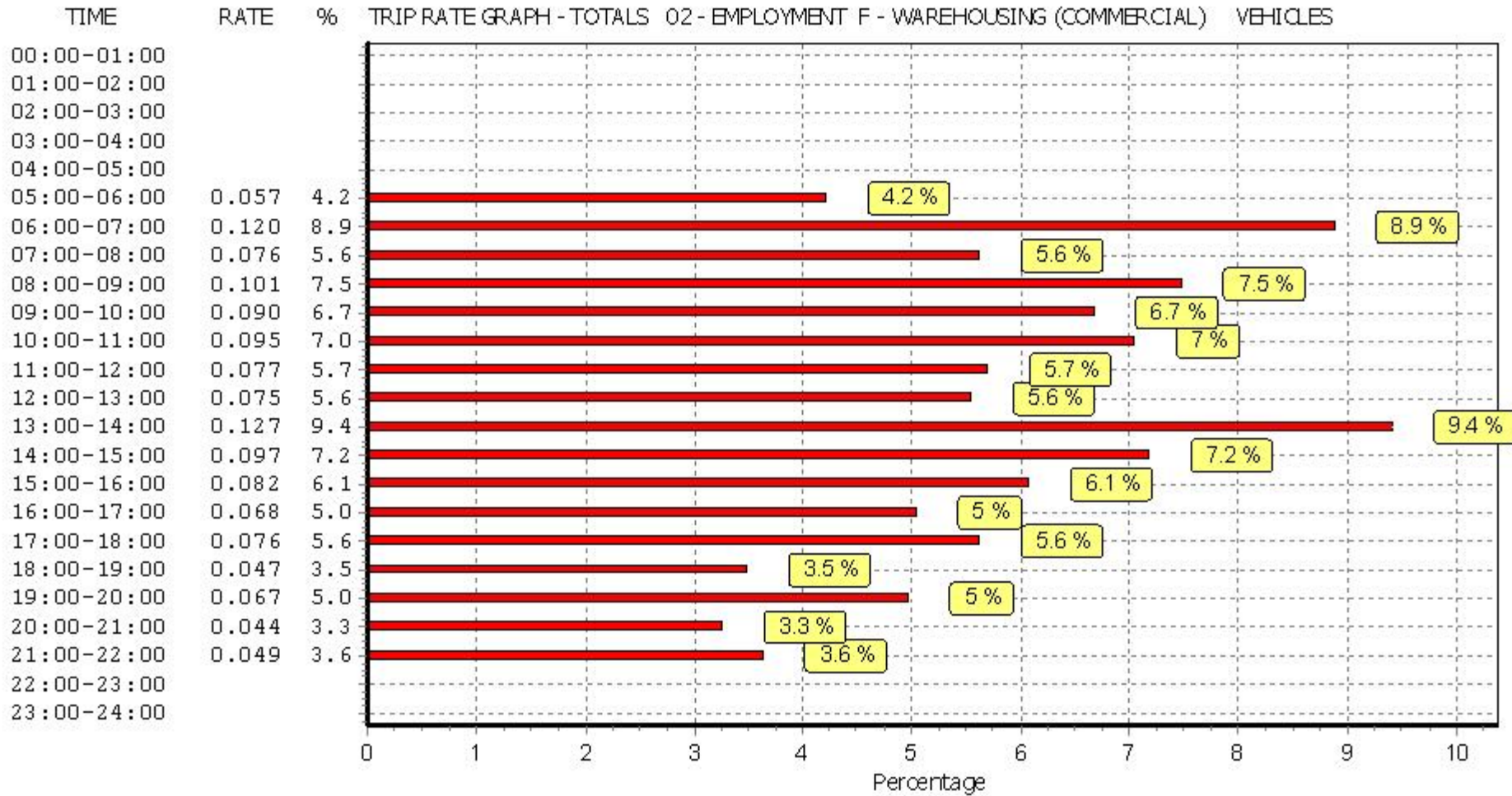
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	1	22270	0.000	1	22270	0.000	1	22270	0.000
05:30 - 06:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
06:00 - 06:30	1	22270	0.000	1	22270	0.000	1	22270	0.000
06:30 - 07:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
07:00 - 07:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
07:30 - 08:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
08:00 - 08:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
08:30 - 09:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
09:00 - 09:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
09:30 - 10:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
10:00 - 10:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
10:30 - 11:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
11:00 - 11:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
11:30 - 12:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
12:00 - 12:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
12:30 - 13:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
13:00 - 13:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
13:30 - 14:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
14:00 - 14:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
14:30 - 15:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
15:00 - 15:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
15:30 - 16:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
16:00 - 16:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
16:30 - 17:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
17:00 - 17:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
17:30 - 18:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
18:00 - 18:30	5	21554	0.000	5	21554	0.000	5	21554	0.000
18:30 - 19:00	5	21554	0.000	5	21554	0.000	5	21554	0.000
19:00 - 19:30	1	22270	0.000	1	22270	0.000	1	22270	0.000
19:30 - 20:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
20:00 - 20:30	1	22270	0.000	1	22270	0.000	1	22270	0.000
20:30 - 21:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
21:00 - 21:30	1	22270	0.000	1	22270	0.000	1	22270	0.000
21:30 - 22:00	1	22270	0.000	1	22270	0.000	1	22270	0.000
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.000			0.000			0.000

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

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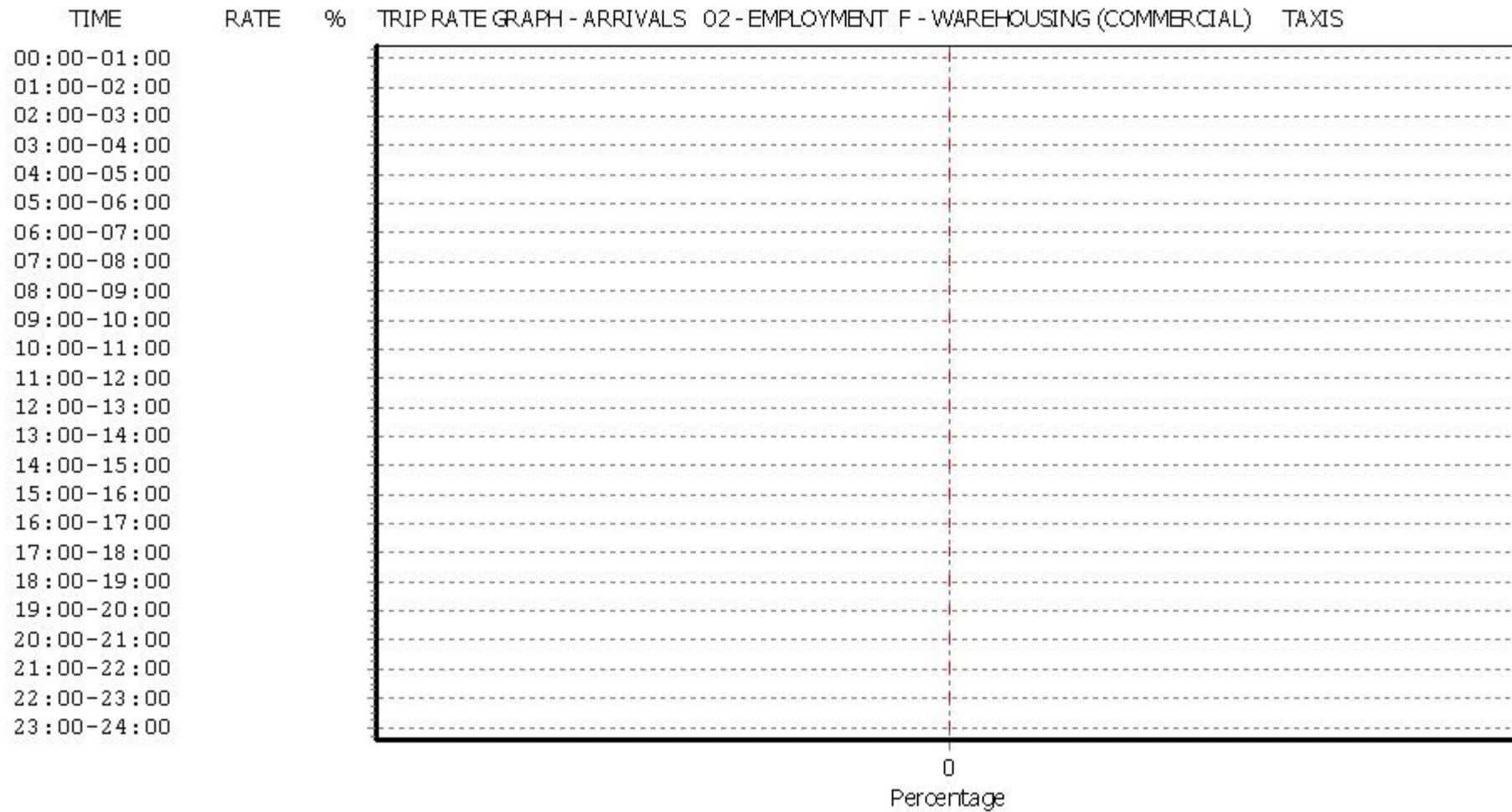
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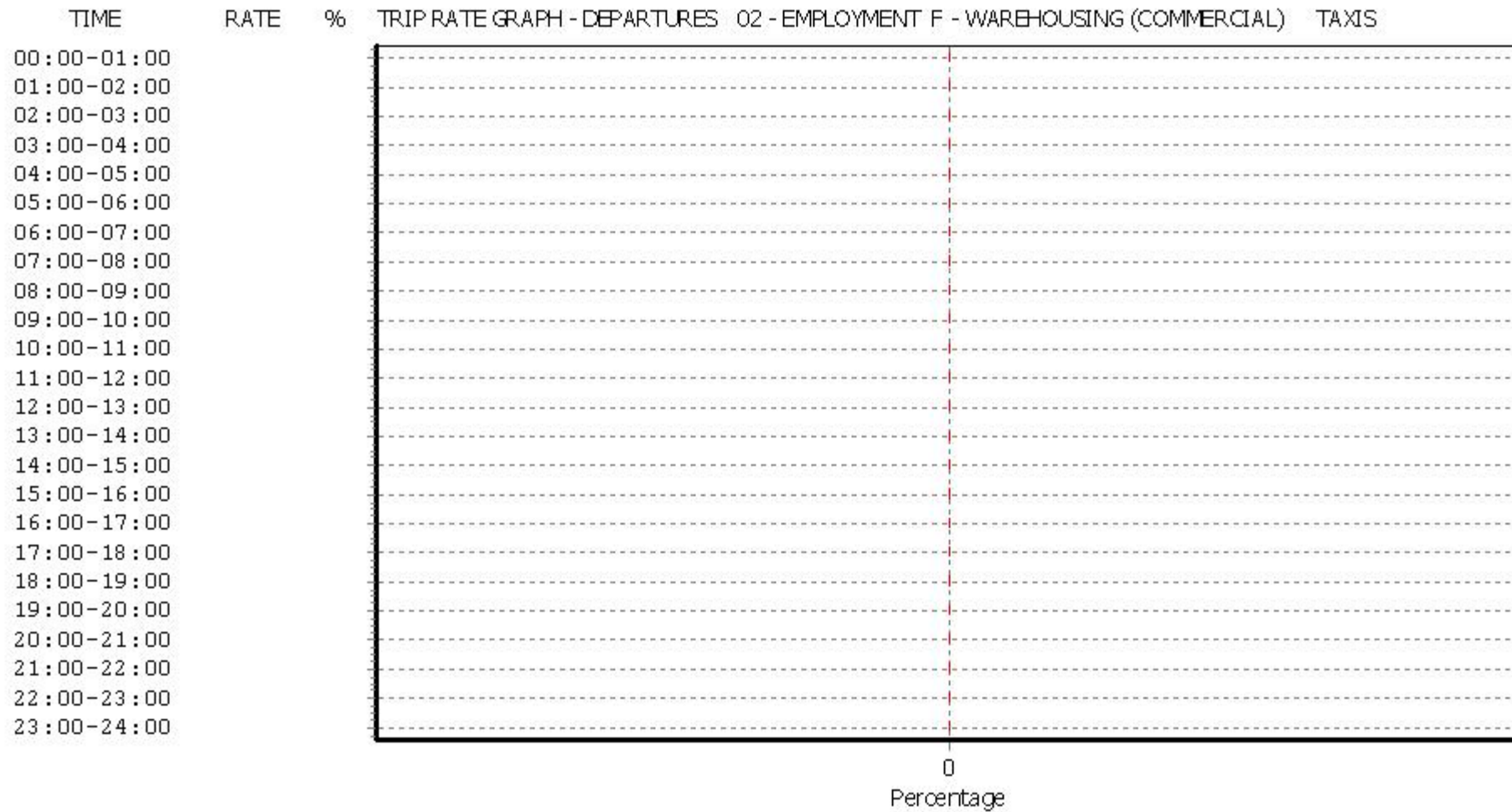
Parameter summary

Trip rate parameter range selected:	9000 - 32300 (units: sqm)
Survey date date range:	01/01/09 - 23/11/16
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	7

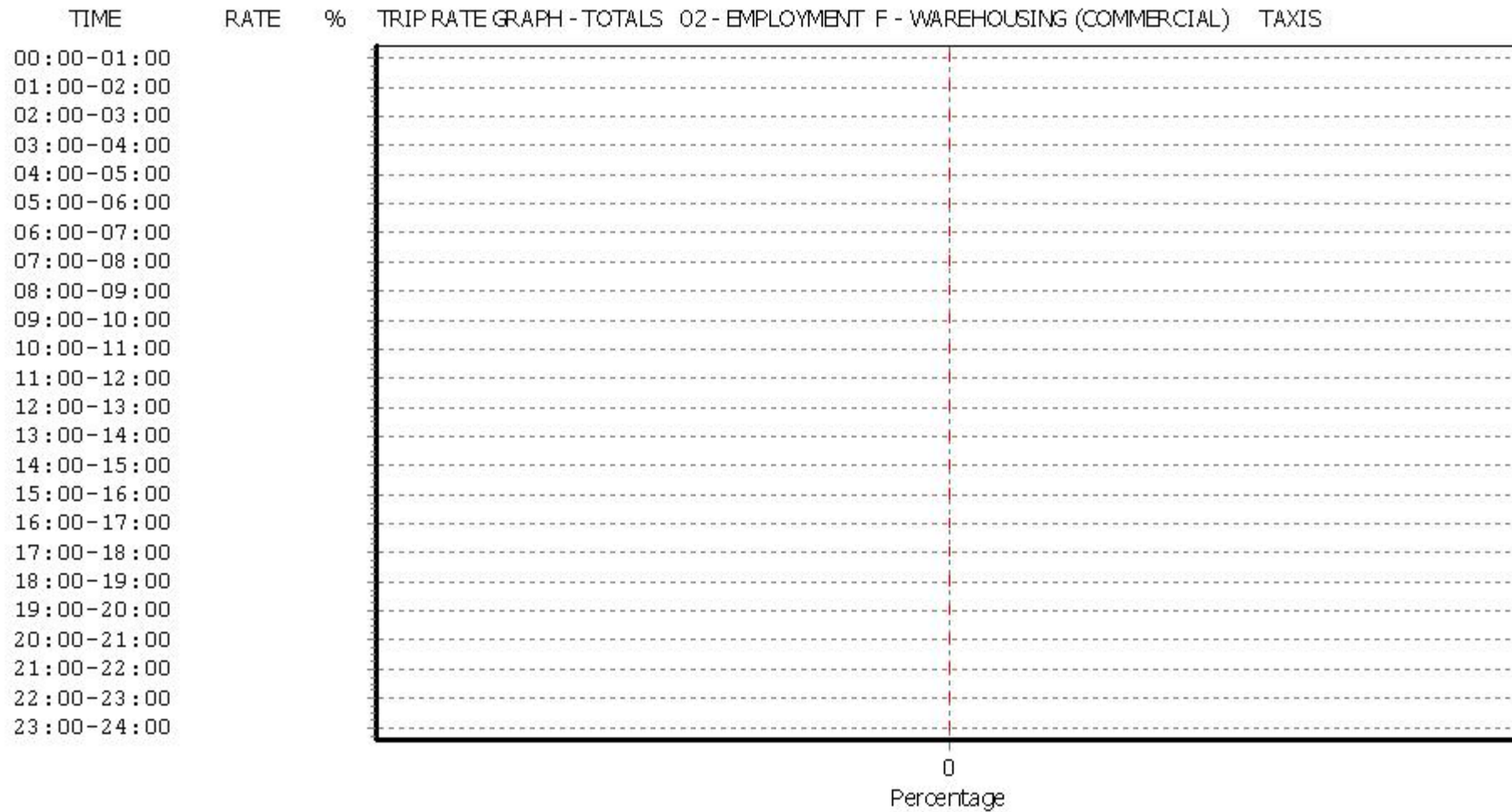
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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TRIP RATE for Land Use 02 - EMPLOYMENT/F - WAREHOUSING (COMMERCIAL)

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30	1	22270	0.009	1	22270	0.018	1	22270	0.027
05:30 - 06:00	1	22270	0.004	1	22270	0.022	1	22270	0.026
06:00 - 06:30	1	22270	0.009	1	22270	0.022	1	22270	0.031
06:30 - 07:00	1	22270	0.018	1	22270	0.040	1	22270	0.058
07:00 - 07:30	5	21554	0.013	5	21554	0.004	5	21554	0.017
07:30 - 08:00	5	21554	0.008	5	21554	0.012	5	21554	0.020
08:00 - 08:30	5	21554	0.010	5	21554	0.006	5	21554	0.016
08:30 - 09:00	5	21554	0.007	5	21554	0.013	5	21554	0.020
09:00 - 09:30	5	21554	0.015	5	21554	0.008	5	21554	0.023
09:30 - 10:00	5	21554	0.019	5	21554	0.013	5	21554	0.032
10:00 - 10:30	5	21554	0.025	5	21554	0.014	5	21554	0.039
10:30 - 11:00	5	21554	0.013	5	21554	0.011	5	21554	0.024
11:00 - 11:30	5	21554	0.012	5	21554	0.004	5	21554	0.016
11:30 - 12:00	5	21554	0.008	5	21554	0.008	5	21554	0.016
12:00 - 12:30	5	21554	0.008	5	21554	0.008	5	21554	0.016
12:30 - 13:00	5	21554	0.009	5	21554	0.007	5	21554	0.016
13:00 - 13:30	5	21554	0.015	5	21554	0.008	5	21554	0.023
13:30 - 14:00	5	21554	0.007	5	21554	0.021	5	21554	0.028
14:00 - 14:30	5	21554	0.006	5	21554	0.012	5	21554	0.018
14:30 - 15:00	5	21554	0.008	5	21554	0.009	5	21554	0.017
15:00 - 15:30	5	21554	0.011	5	21554	0.014	5	21554	0.025
15:30 - 16:00	5	21554	0.011	5	21554	0.006	5	21554	0.017
16:00 - 16:30	5	21554	0.009	5	21554	0.008	5	21554	0.017
16:30 - 17:00	5	21554	0.006	5	21554	0.007	5	21554	0.013
17:00 - 17:30	5	21554	0.013	5	21554	0.008	5	21554	0.021
17:30 - 18:00	5	21554	0.006	5	21554	0.012	5	21554	0.018
18:00 - 18:30	5	21554	0.005	5	21554	0.004	5	21554	0.009
18:30 - 19:00	5	21554	0.008	5	21554	0.007	5	21554	0.015
19:00 - 19:30	1	22270	0.013	1	22270	0.013	1	22270	0.026
19:30 - 20:00	1	22270	0.004	1	22270	0.009	1	22270	0.013
20:00 - 20:30	1	22270	0.004	1	22270	0.018	1	22270	0.022
20:30 - 21:00	1	22270	0.009	1	22270	0.009	1	22270	0.018
21:00 - 21:30	1	22270	0.013	1	22270	0.004	1	22270	0.017
21:30 - 22:00	1	22270	0.013	1	22270	0.000	1	22270	0.013
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.348			0.379			0.727

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

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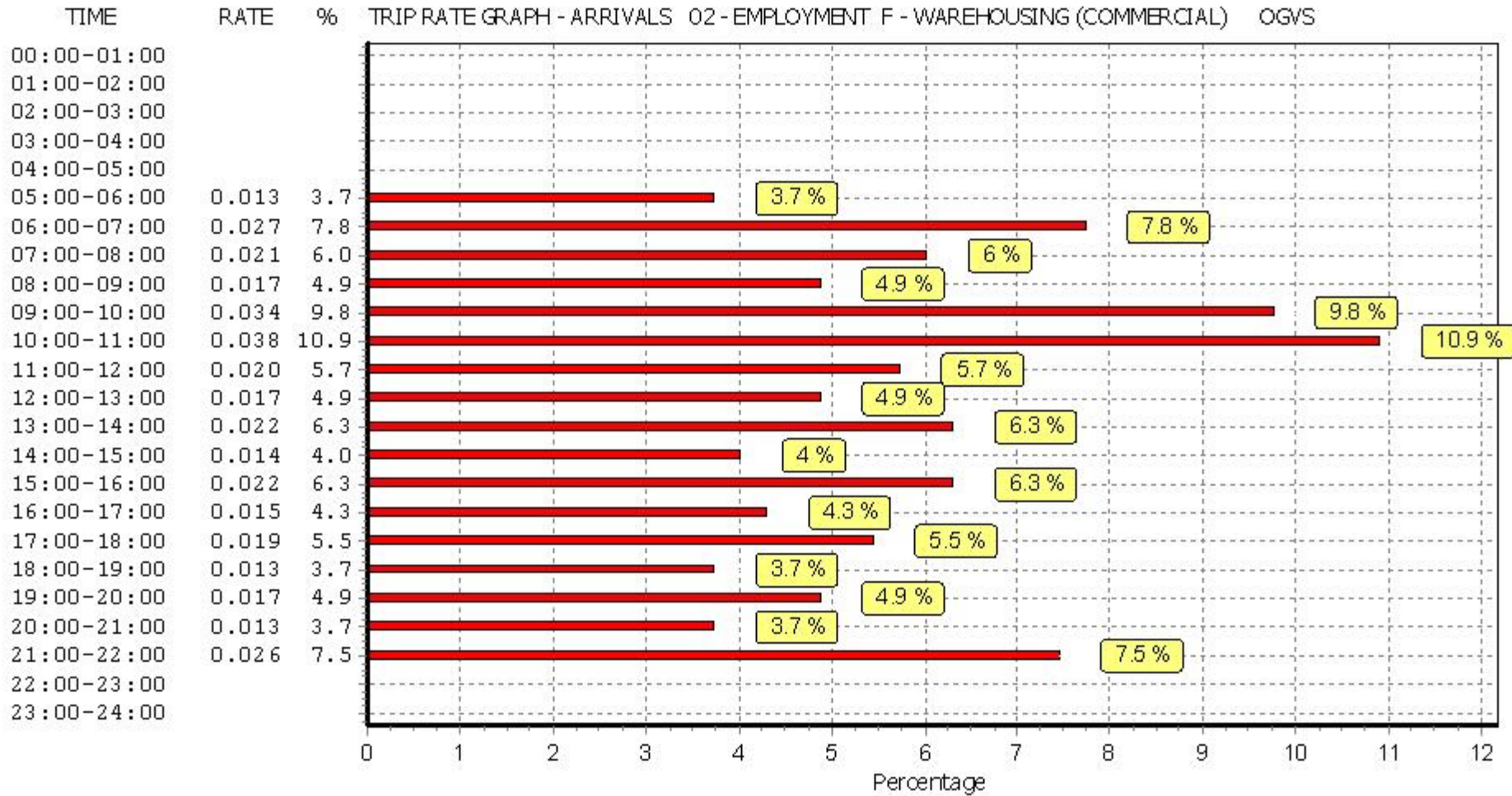
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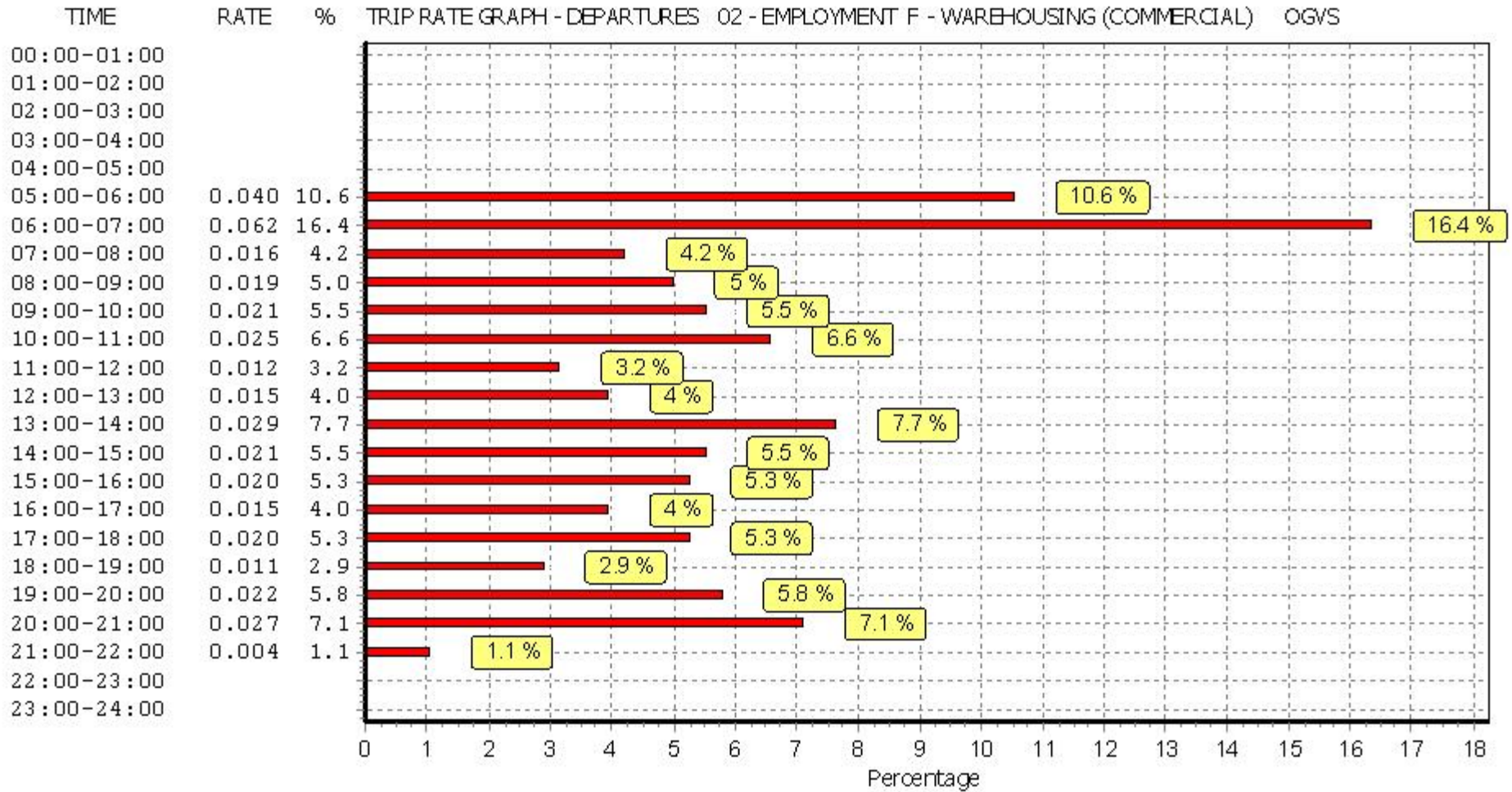
Parameter summary

Trip rate parameter range selected:	9000 - 32300 (units: sqm)
Survey date date range:	01/01/09 - 23/11/16
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	7

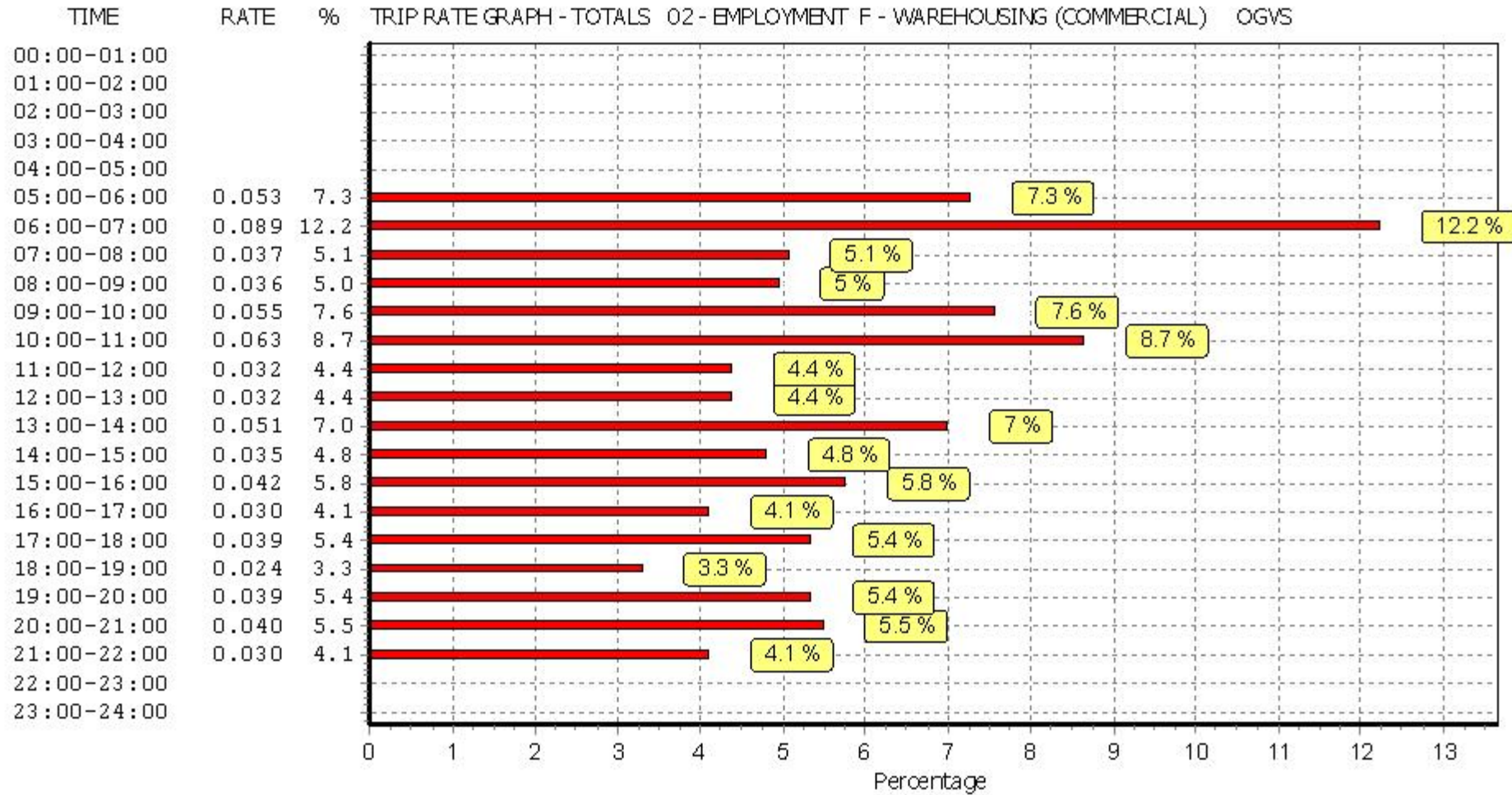
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