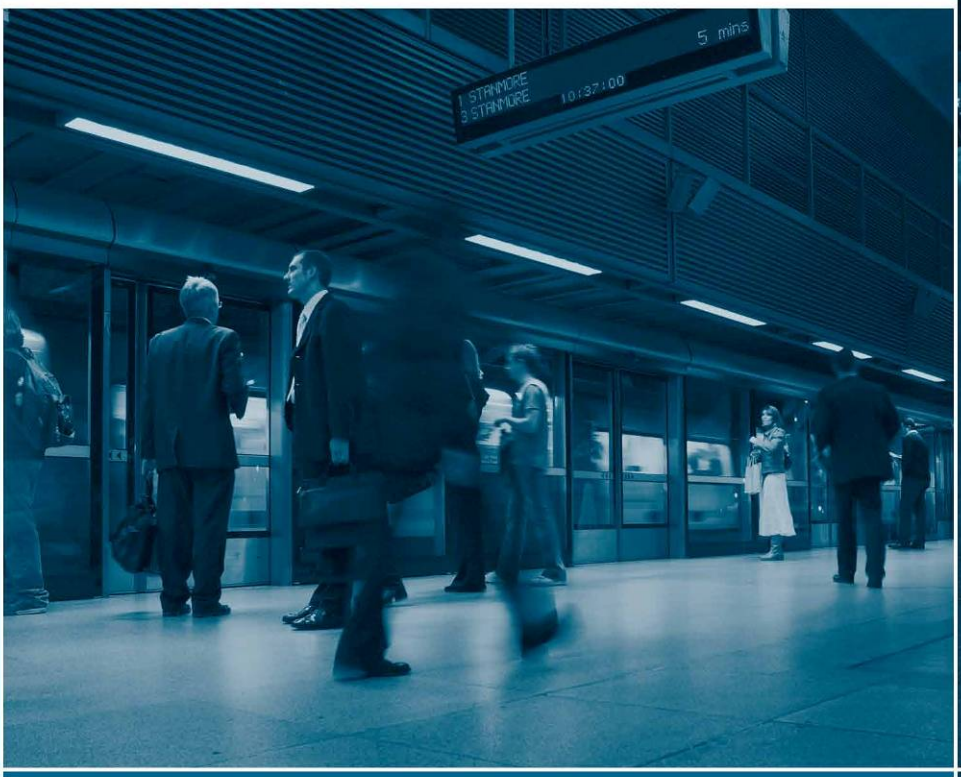


FORMER BATTLE HOSPITAL SITE, READING

TRANSPORT ASSESSMENT

Client: Bellway Homes Limited



i-Transport

TRANSPORT ASSESSMENT

FORMER BATTLE HOSPITAL SITE, READING

Client: Bellway Homes Limited

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

i-Transport Ref: ZB/JDW/ITB12282-005B R

Date: 15 February 2018

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QUALITY MANAGEMENT

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SECTION 1 INTRODUCTION

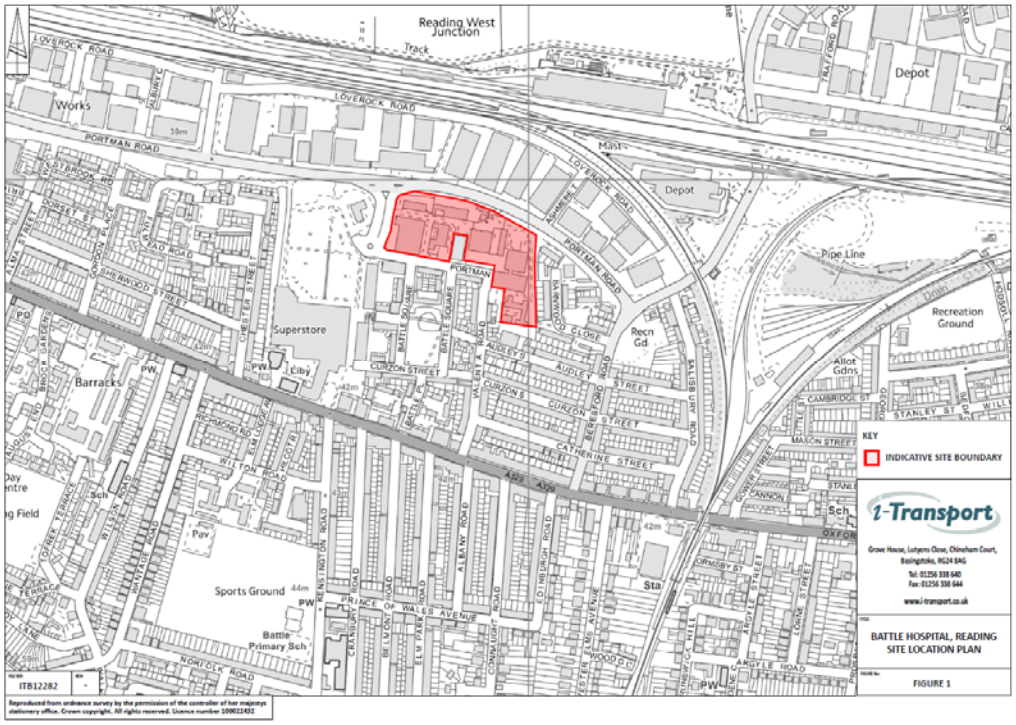
1.1 Background

1.1.1 i-Transport has been appointed by Bellway Homes Thames Valley to provide highways and transport advice to support a full planning application at the former Battle Hospital. The land forms the next phase of the Battle Hospital re-development and is being considered for residential development of some 215 new homes.

1.1.2 The site is located to the west of Reading Town Centre and to the north-west of Reading West railway station and forms part of the former Battle Hospital site. The majority of the Battle Hospital site has already been developed for housing and a Tesco Superstore.

1.1.3 This remaining parcel of land includes a number of hospital and service buildings which are surplus to requirements. Of these buildings, the Synergy Health Sterilisation Service (SHSS) building will be retained for the time being. The site location is illustrated on **Figure 1**, which is reproduced as **Image 1**.

Image 1: Site Location



Source: Open source mapping and consultant

1.1.4 The site is identified within the Battle Hospital development SPD as well as the RBC Sites and Detailed Policies Document (adopted October 2012, altered and adopted January 2015), as well as the Pre-Submission Draft Local Plan (November 2017).

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

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

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

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

1.1.8 In line with policy requirements, a separate Framework Residential Travel Plan (*i-Transport report reference ITB12282-006*) has also been prepared to identify a package of measures designed to encourage sustainable travel to and from the site. The TA should be read alongside the Framework Residential Travel Plan (FRTP).

1.2 Scope of Transport Assessment

1.2.1 To inform the scope and methodologies of the TA, a TA Scoping Note (**Appendix A**) was prepared to set out and agree the parameters of the assessment. This was submitted to Reading Borough Council (RBC) as Local Highway Authority.

1.2.2 The parameters used in determining the impact of the development therefore follow the agreed parameters. RBC's comment on the scoping and their agreement on these parameters are set out in **Appendix B**.

1.3 Public Consultation

1.3.1 A public exhibition was held on 12 December 2017 at the Emmanuel Methodist Church, where local residents and stakeholders were provided with feedback forms to provide their comments. These comments have, in part, been used to inform the transport strategy for the development presented in the TA.

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

- Access from Portman Way / Portman Road;
- On-site Parking provision;
- Traffic impacts; and
- Pedestrian / cycle access.

1.4 Report Structure

1.4.1 The remainder of this TA is structured as follows:

- Section 2 provides an overview of relevant national and local transport policies;
- Section 3 summarises the existing transport conditions in the vicinity of the site;
- Section 4 sets out the details of the development proposal;
- Section 5 considers the accessibility of the site by sustainable modes to key local destinations and services;
- Section 6 sets out the methodology for assessing the impact of the proposal;
- Section 7 identifies the traffic impact resulting from the development;
- Section 8 provides a summary and conclusion

SECTION 2 POLICY REVIEW

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

- **National Policy and Guidance**
  - National Planning Policy Framework (March 2012); and
  - National Planning Practice Guidance (NPPG - March 2014).
- **Local Policy and Guidance**
  - Reading Borough Local Development Framework (LDF) Core Strategy (adopted January 2008, updated January 2015);
  - Reading Borough Local Development Framework (LDF) Sites and Detailed Policies Document (adopted October 2012); and
  - Reading Borough Council – Draft Local Plan (up to 2036);

2.2 National Transport Planning Policy and Guidance

National Planning Policy Framework (2012)

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

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

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

National Planning Practice Guidance (NPGG) (2014)

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

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

2.3 Local Policy and Guidance

2.3.1 RBC's current development plan consists of the following documents: -

- Reading Borough LDF Core Strategy (updated January 2015);
- Reading Borough LDF Sites and Detailed Policies Document (adopted October 2012).

2.3.2 RBC is currently preparing a new Local Plan, which once adopted will replace the existing Core Strategy. It will include a full review of the Borough's planning policies and consider the future growth requirements and site allocations for Reading.

2.3.3 The first stage of preparation for the new Local Plan, the Issues, Options and Recommendations, was published for consultation between 1st May 2017 and 14th June 2017.

2.3.4 The second stage of preparation for the new local plan was the production of the draft Local Plan. This Draft Local Plan was produced as a full draft, after taking into account of all the comments received during the Issues and Options consultation.

2.3.5 The Council consulted on the Pre-Submission Local Plan between 30 November 2017 and 26 January 2018. The Pre-Submission Draft is a revised version of the draft that was consulted on in May and June, and is the version that the Council intend to submit for approval to the Secretary of State The Local Plan's formal adoption is anticipated for 2018- 2019.

2.3.6 A summary of the relevant documents is set out below.

Reading Borough LDF Core Strategy (updated January 2015)

2.3.7 The Adopted RBC Core Strategy Local Plan was adopted in January 2008 and sets out how planning and development will achieve the Reading 2020 Vision for the town. It sets out the strategic objectives, key planning policies and outlines anticipated development that will take place up to 2020.

2.3.8 The Core Strategy outlines the settlement hierarchy with Oxford Road West being identified as a 'District Centre'. With regard to district centres it is:

> **'Considered that, whilst only three or four centres qualify as district centres according to the PPS 6 definition, it is appropriate to designate more district centres in order to encourage an increase in the range of facilities'.**

2.3.9 Policy CS14 sets out the provision of housing growth 2016-2026 and allocated 521 dwellings per annum in accordance with the spatial strategy set out in the Core Strategy Document.

2.3.10 Of the policies relevant to transport, Policy T1 states:

> **'Policy T1 indicates a strategy to concentrate on the improvement of transport nodes and the multi-modal spokes that link them, in order to assist the concentration of development in Major Towns, to assist the objective of urban regeneration and to ensure that best use is made of modes of travel other than the car'.**

Reading Borough LDF Sites and Detailed Policies Document (adopted October 2012)

2.3.11 The Reading Borough Sites and Detailed Policy Document was adopted in October 2011 (revised January 2015). The purpose of this document is to provide detailed planning policies and identify the specific development sites and designations necessary to deliver the Core Strategy.

Reading Borough Council – Draft Local Plan (up to 2036)

2.3.12 Reading Borough Council are producing a new local plan which will replace the current development plans in place (the Core Strategy, Reading Central Area Action Plan and the Sites and Detailed Policies Document).

2.3.13 The draft Local Plan outlines the growth and change that will take place within the Reading Borough between 2017 and 2036 and provides both Strategic and Local policies for or development.

2.3.14 Of the policies relevant to transport, Policy TR3: Access, Traffic and Highway-related matters states:

> **"Development will only be permitted where:**
>
> - **Accesses and works to the highway comply with the adopted standards of the Transport Authority;**
> - **The development would not have a material detrimental impact on the functioning of the transport network;**
> - **The proposals would not be detrimental to the safety of users of the transport network, including pedestrians and cyclists;**
> - **The proposal would not generate regular movement of heavy goods vehicles (HGVs) on unsuitable roads, or on roads without easy access to the Classified Highway Network; and**
> - **For non-residential uses, or new dwellings on classified roads, off-street servicing would be provided. "**

2.3.15 The transport infrastructure required to accommodate the levels of growth proposed in the Reading Borough Area is set out in Policy TR2, as follows: -

- Mass Rapid Transit;
- Park and Ride sites;
- Green Park Station and interchange;
- Cow lane Bridges;
- Crossing of the River Thames;
- National Cycle Network 422; and
- Development of high-quality bus services.

2.4 Summary

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

2.4.2 The PPG provides guidelines on when transport assessments and travel plans are likely to be required, and their content.

SECTION 3 EXISTING CONDITIONS

3.1.1 This section of the TA describes the existing transport conditions within the vicinity of the site, including opportunities for walking, cycling and public transport, as well as local highway conditions.

3.2 Walking and Cycling

3.2.1 The site benefits from connections to Portman Road, Portman Way and Valentia Road which together provide a permeable network of connections to the local area, and onwards towards the centre of Reading.

3.2.2 Portman Road Link (along the western boundary of the site) has a designated 2m wide footway on the western side of the carriageway and a 3m wide shared footway / cycleway on the eastern side of the carriageway. These facilities provide continuous connections from Tesco and Portman Way (to the south) to Portman Road (to the north) via the toucan crossings present at the signalised junction of Portman Road at the north western corner of the site.

3.2.3 Portman Road, to the north, has a 3m wide shared footway / cycleway on the northern side of the carriageway, which, provides a continuous off-carriageway connection from Tilehurst railway station to the west and Reading town centre to the east.

3.2.4 A 2m wide footway is present on the southern side of the carriageway on Portman Way, providing connections from Tesco to the west and the widener highway network on Oxford Road (via the already built Battle Hospital site).

3.2.5 Uncontrolled dropped kerb pedestrian crossings and tactile paving are present at local junctions.

3.2.6 These facilities provide safe and direct connections for pedestrians and cyclists to local employment and retail facilities, Reading Town Centre, and the rail stations at Tilehurst, Reading West and Reading Central.

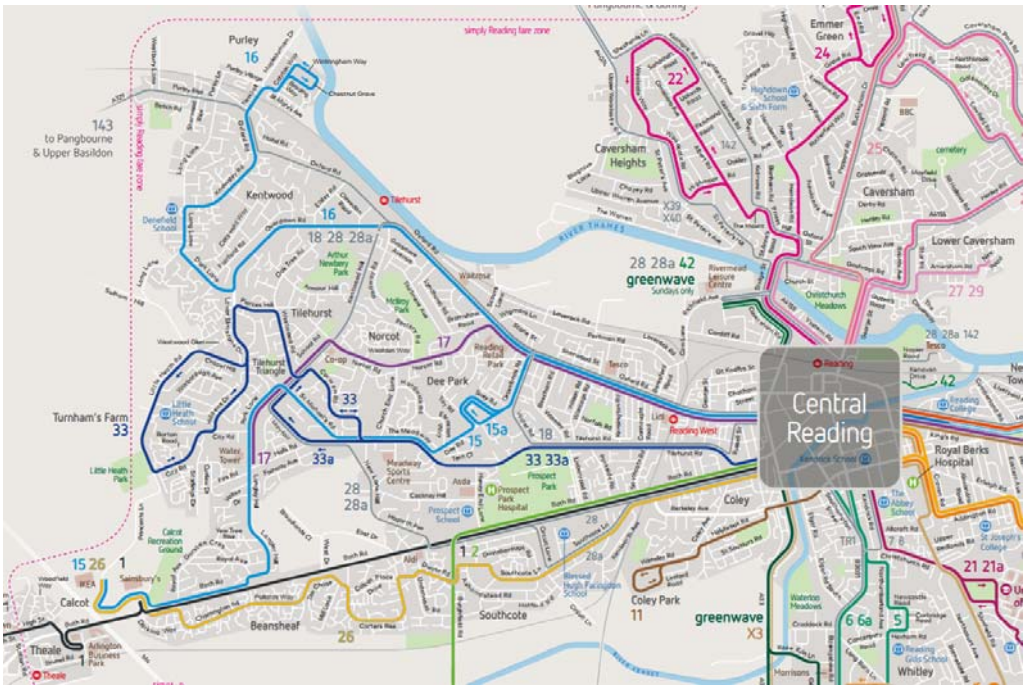
3.3 Public Transport

Bus

3.3.1 The site benefits from access to a number of bus stops, with the closest stops located on Oxford Road, some 400m south of the site which, is a key public transport corridor. These bus stops provide access to bus services 15, 15a, 16 and 17 which, offer a turn up and go service.

3.3.2 An extract of the local bus map is shown as **Image 3.1** (and included at **Appendix C**), while **Table 3.2** provides a summary of the routes and their frequencies.

Image 3.1: Bus Route Plan



Source: Reading Buses

Table 3.1: Bus Routes and Frequencies

Service	Route Description	Frequency (minutes)				
		Mon - Fri			Sat	Sun
		Peaks	Daytime	Evening		
15/15a	Calcot - Tilehurst - Dee Park - Central Reading	15	15	30	15	30
16	Purley - Oxford Road - Central Reading	15	15	30	20	30
17	Wokingham Road - Central Reading - Oxford Road - Tilehurst	7	7	15	7	20

Source: Reading Buses

3.3.3 It is evident from this that there are substantial opportunities to travel to key destinations within Reading by bus, with there being some 16 buses an hour provided throughout Reading.

Rail

3.3.4 The closest railway station to the site is Reading West railway station, located some 750m to the south-east of the site. The station is operated by Great Western Railways and provides regular services to Basingstoke, Newbury and London Waterloo. Basingstoke is a 20-minute journey, with the travel time to Newbury being circa. 25mins and approximately 35mins and 45mins to London Waterloo and London Paddington respectively (changing at Reading main railway station).

3.3.5 **Table 3.2** summarises the local destinations and frequencies.

Table 3.2: Rail services from Reading West Railway Station

Destination	Typical Frequency (trains per hour)		Average Journey Duration
	Peak	Off-Peak	
Reading	4	3	4m
Basingstoke	2	2	22m
London Paddington	4	2 - 4	35m
Newbury	3	2	40m
London Waterloo	5	5	1h20m

Source: National Rail Enquiries

3.4 Local Highway Network

3.4.1 The site is bounded to the north and west by Portman Road, residential housing to the east and Portman Way to the south. To the southwest of the site, Portman Way forms a roundabout junction with Portman Road (referred to as the Portman Road Link), which in turn forms a signalised junction with Portman Road to the northwest.

3.4.2 Portman Road forms a roundabout junction with Cow Lane to the east which, in turn provides a connection northbound through Cow Lane bridges (which are currently being improved) and southbound, via Beresford Road, to Oxford Road. To the west, Portman Road becomes Wigmore Lane and forms a roundabout junction with Oxford Road and Norcot Road.

3.4.3 Portman Way is a single lane, two-way carriageway with varying width (between 6.4m and 5.8m) and is subject to a 30mph speed limit along the site frontage.

3.4.4 To the west, Portman Road Link is a dual lane two-way carriageway, some 7m in width, and forms a roundabout junction with Portman Way to the south and a signalised junction with Portman Road to the north.

3.4.5 To the north, Portman Road is a single lane two-way carriageway some 7.3m in width and is subject to a 40mph speed limit along the site frontage.

Existing Traffic Volumes

3.4.6 To identify existing traffic patterns and volumes on the local highway network, a series of traffic surveys were carried out, as set out and agreed with RBC. These comprised:

- Automatic Traffic Counter Radar Survey at the proposed site access on 22nd February 2017;
- Manual Classified Count survey undertaken on 4th July 2017 during the peak periods, at the following junctions:
  - Junction 1 – Wigmore Lane / Oxford Road / Norcot Road Roundabout;
  - Junction 2 – Portman Road / Portman Road (Link) Signal Junction;
  - Junction 3 – Portman Way / Tesco Stores Roundabout; and
  - Junction 4 – Portman Road / Cow Lane / Beresford Road Roundabout.

3.4.7 The traffic survey data has been analysed to identify the network morning and evening peak hours; a copy of the survey data can be provided upon request. The morning and evening peak hours have been calculated as 08:15-09:15 and 17:30-18:30 respectively.

3.4.8 The observed morning and evening peak hour flows are shown on **Figures TF1** and **TF2** respectively.

Existing Traffic Speeds on Portman Way

3.4.9 Automatic Traffic Count (ATC) surveys were placed on Portman Way from 22 February 2017 for a one-week period to measure vehicle volumes and speeds on the approaches to the proposed site access.

3.4.10 The recorded 85th percentile dry weather speeds are set out in **Table 3.3** below. The survey data can be provided upon request.

Table 3.3: Speed survey results and visibility requirements

Location	Direction	85th percentile dry[1] weather (mph)	Visibility requirement based on MfS criteria (m)
ATC 1 (#7992-west of access)	Eastbound	21	26
	Westbound	21	26
ATC 2 (#7993-east of access)	Eastbound	25	33
	Westbound	25	33

Source: ATC's / Consultant's Calculations

3.4.11 The speed survey found that 85th percentile dry weather vehicle speeds on approach to the proposed access were 21mph eastbound (based on measurements at ATC 1, located to the west of the access) and 25mph westbound (based on measurements at ATC 2, located to the east of the access).

3.5 Personal Injury Accident (PIA) Data

3.5.1 Personal Injury Accident (PIA) data has been obtained from RBC for the most recent five-year period at the time of writing for which data is available, 1st of October 2012 to 30th September 2017.

3.5.2 The data covers a comprehensive study area comprised of, Portman Road, Portman Way, Cow Lane and Wigmore Lane. The study area covered is shown on **Image 3.2** below and was discussed and agreed with RBC at the pre-application scoping stage.

Image 3.2: PIA Data Collection Area



Source: Google Maps

[1] In accordance with the Design Manual for Roads and Bridges TA22/81 (Volume 5 Section 1 Chapter 3 paragraph 3.4), a wet weather reduction of 2.5mph should be applied to observed 85th percentile dry weather speeds. However, in order to be robust, this reduction has not been applied.

3.5.3 A copy of the PIA data and a plan showing the locations of the recorded PIA's is attached at **Appendix D**.

3.5.4 A total of 37 accidents have been recorded within the study area during the period assessed. Of the recorded PIA's, 5 were serious with the remaining 32 slight in nature. A summary of the recorded PIAs within the study area is provided below.

Former Battle Hospital Site

3.5.5 One slight accident was recorded on Valentia Road during the period analysed. This accident occurred when a vehicle travelling north collided with a cyclist.

Portman Road

3.5.6 A total of 13 accidents were recorded on Portman Road during the assessed period.

Portman Road / Little John's Lane Junction

3.5.7 A total of six accidents (five slight and one serious) have been recorded at this junction in the period assessed as follows:

- Two slight accidents occurred when vehicles travelling east to west collided with vehicles waiting to turn onto Littlejohn's Lane;
- One slight accident occurred when a vehicle travelling east to west entered the path of an oncoming vehicle resulting in a head on collision;
- One slight accident occurred when a vehicle travelling west on Portman Road collided with a pedestrian crossing the road on Littlejohn's Lane;
- One slight accident occurred when a vehicle travelling west on Portman Road swerved and collided with the kerb; and
- One serious accident occurred when a vehicle turning east to north onto Littlejohn's Lane collided with a cyclist travelling west on the cycleway.

Portman Road / 200m from Bridgewater Close Junction

3.5.8 One slight accident was recorded at this area of Portman Road during the assessed period in which a vehicle travelling east collided with a vehicle travelling west along Portman Road.

Portman Road / Ashmere Terrace Junction

3.5.9 One slight accident was recorded during the period assessed when a vehicle travelling southeast on Portman Road overtook stationary traffic waiting to turn into Ashmere Terrace was struck by an oncoming vehicle.

Portman Road / Tesco Delivery Access

3.5.10 One slight accident occurred when a motorcycle travelling east on Portman Road collided into the rear of a stationary vehicle awaiting another vehicle to turn into the Tesco stores delivery access road.

Portman Road / Tesco Stores Junction (Signals)

3.5.11 Two slight accidents have been recorded during the period assessed as follows:

- One slight accident occurred when a vehicle travelling west failed to stop for traffic signals and collided with a vehicle turning west to south.
- One slight accident occurred when a vehicle travelling from south to east failed to stop for the traffic signals and collided with a waiting vehicle.

Portman Road / Wigmore Lane Junction

3.5.12 Two slight accidents have been recorded during the period assessed as follows:

- One slight accident occurred when a cyclist travelling east collided with a vehicle travelling north.
- One slight accident occurred when a vehicle travelling northeast was struck by a motorcycle overtaking stationary traffic travelling in the opposite direction.

<u>A329 Oxford Road / Norcot Road / Wigmore Lane Roundabout</u>

3.5.13 A total of 18 accidents were recorded at this roundabout during the assessed period. Of these 16 were slight and 2 were serious.

- Three slight accidents have occurred where vehicles have collided with cyclists travelling either on the pedestrian crossing or on navigating the roundabout.

- One serious accident occurred when a vehicle travelling northeast entering the roundabout collided with a cyclist turning southwest to southeast onto Oxford Road around the roundabout.

- 9 slight accidents have occurred at this roundabout as a result of rear end collisions.

- One serious accident has occurred at this roundabout as a result of a rear end collision where a vehicle travelling northwest was hit in the rear by another vehicle whilst waiting in stationary traffic to enter the roundabout.

- Two slight accidents occurred where vehicles travelling northwest to southeast on the roundabout have been struck by vehicles travelling northeast to southwest entering the roundabout.

- Two slight accidents have occurred where vehicles have collided with pedestrians at the pedestrian crossing, having failed to stop.

A329 Oxford Road Shell Garage Entrance

3.5.14 One slight accident was recorded at this junction during the period assessed in which a vehicle turning into the garage struck a cyclist.

A329 Oxford Road / Reading Retail Park Entrance

3.5.15 One slight accident was recorded at this junction during the period assessed in which a vehicle travelling northwest collided with a bus pulling away from a bus stop.

A329 Oxford Road / Scour's Lane Junction

3.5.16 Two slight accidents were recorded at this junction during the period assessed as follows:

- One slight accident occurred when a cyclist turning right southeast to north was struck by an oncoming vehicle travelling southeast.

- One slight accident occurred when a vehicle turning left north to southeast was struck by on approaching vehicle travelling in the opposite direction.

3.6 Summary

3.6.1 Whilst any accident is regrettable, the overall number and cause of accidents does not suggest a specific issue at any particular location (e.g. there is not a pattern that suggest a problem with a particular turning manoeuvre). It is important to note that the roads in the immediate vicinity of the site, including Portman Way, have a good highway safety record. Furthermore, there are planned improvements identified at the A329 Oxford Road / Norcot Road / Wigmore Lane Roundabout which will improve conditions for pedestrians and cyclists

SECTION 4 DEVELOPMENT PROPOSAL

4.1.1 Full planning consent is being sought for some 215 new residential dwellings. This section of the TA will set out the proposed development, including access, parking, landscaping and open space.

4.2 Development Mix

4.2.1 The development will consist of a mix of dwellings types, as summarised in **Table 4.1**.

Table 4.1: Development Mix

Dwelling Type	Number of units
One-bedroom Apartments	45
Two-bedroom Apartments	105
Three-bedroom Apartments	14
Two-bedroom Coach Houses	2
Three-bedroom Houses	49
Total	**215**

Source: DHA Architects

4.3 Masterplan and Layout

4.3.1 The site layout masterplan has been prepared which demonstrates how the development is expected to come forward. A copy of the masterplan is attached at **Appendix E**, an extract of which is shown at **Image 4.1**.

Image 4.1: Extract of Development Masterplan



Source: DHA

4.3.2 The site layout has been designed in accordance with contemporary design guidance, namely the DfT's *'Manual for Streets'* (MfS), as set out below:

- ***Primary Street*** – 6m wide carriageway with a 3.0m shared use footway / cycleway on the western side of the road and a 2.0m footway on the eastern side of the road;
- ***East - West Street*** – 5.5m carriageway with 2.0m footways adjacent;
- ***Shared surface street*** – minimum 4.8m wide street in eastern section of the site, where provision for pedestrians is on-carriageway; and
- ***Private Driveways / Mews / Courtyard Squares*** – narrower shared surface areas (4.1m – 4.8m) where refuse vehicles do not need to enter.

4.3.3 An area of the existing Battle Hospital Site is to be retained by the current occupier, Synergy Health. This parcel of land, which is currently accessed from Portman Road via the temporary Portman Road access, will in the future be accessed via the new development access onto Portman Way. All road widths have been designed to allow for the access to the Synergy Health building to be retained.

4.4 Site Access Strategy

4.4.1 The NPPF at paragraph 32 requires that decisions should take account of whether:

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

4.4.2 To deliver safe and suitable access, the following access strategy is proposed:

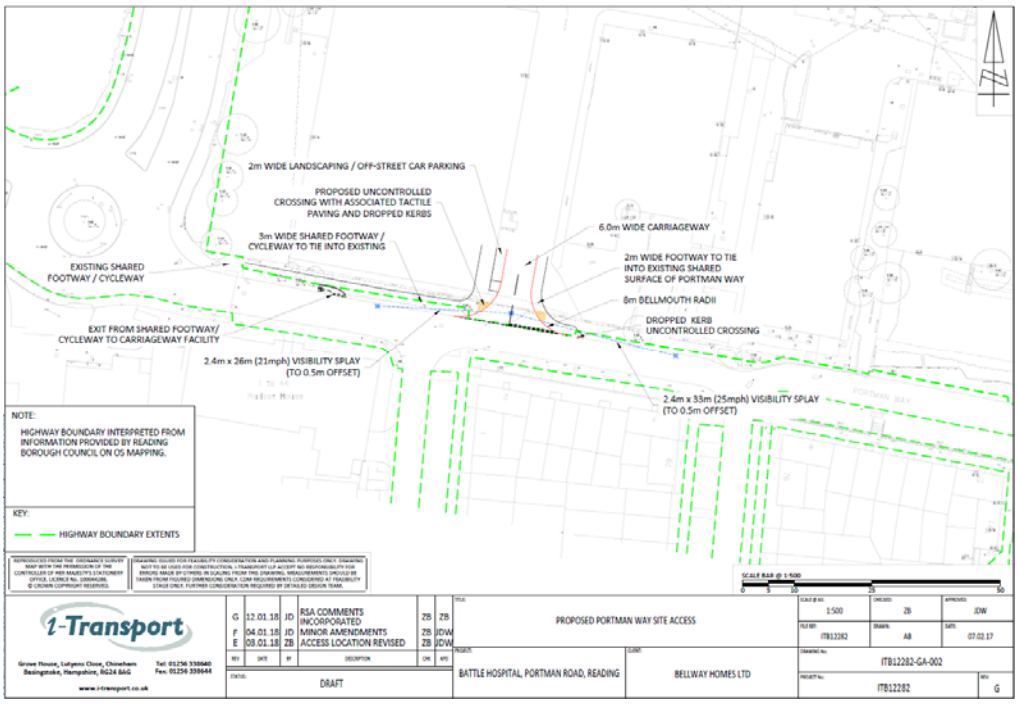
- Vehicular access to Portman Way from a simple priority junction;
- The existing temporary access from Portman Road to be closed;
- Emergency vehicular access to Valentia Way (internal to phase 1) from the existing nurse's accommodation access;
- Pedestrian and cycle access is provided in four locations: -
  - i) To Portman Way at the site access;
  - ii) To Valentia Way (internal to Phase 1) via the emergency access;
  - iii) To the existing infrastructure at the signalised junction of Portman Road / Portman Way link (north western corner of the site); and
  - iv) To a new shared footway / cycleway on the north eastern corner of the site (adjacent to Portman Road).

4.4.3 The site is therefore very well connected through pedestrian / cycle linkages on all corners of the site and the existing network of footways and cycleways in the local area.

4.5 Vehicular Access to Portman Way

4.5.1 A single vehicular access will be provided to the site from Portman Way in the form of a simple priority junction. The principle access is shown on **Drawing ITB12282-GA-002 Rev G**, which is reproduced at **Image 4.2**. This arrangement has been agreed in principle with RBC who considered the access through the pre-application process.

Image 4.2: Site Access Extract



Source: i-Transport

4.5.2 **Table 3.3** presents the recorded speeds on Portman Way, captured from the week-long ATC survey. The recorded speeds are below 37.5mph, and so use of the '*Manual for Streets*' (MfS) Guidance is appropriate. Table 3.3 provides a calculation of the visibility requirements at the proposed access in line with the MfS guidance. **Drawing ITB12282-GA-002 Rev G** demonstrates that the required visibility splays of 2.4m x 33m (to the left) and 2.4m x 26m (to the right) can be provided in accordance with the recorded vehicle speeds. In reality, visibility in excess of those shown can be achieved.

4.5.3 The access road is proposed to be 6m in width to enable two large vehicles to pass comfortably, with localised widening on the bends. Swept path analysis of the proposed site access has been undertaken to demonstrate that a large refuse vehicle can adequately manoeuvre into and out of the site access. This also demonstrates that the junction will safely accommodate vehicles associated with the future residential use of the site, and that, during the construction period, large vehicles will be able to access the site safely.

4.5.4 As the existing Synergy Health building will initially be retained, the access and road widths have been designed to accommodate the occasional large vehicles which may visit the Synergy unit site for servicing.

4.5.5 An independent Stage One Road Safety Audit (RSA) has been undertaken of the proposed vehicular and pedestrian site access arrangements and the proposed highway improvement works. This has been carried out in accordance with the Design Manual for Roads and Bridges (DMRB) Highways Directive 19/15.

4.5.6 No serious, nor insurmountable issues were identified by the auditor. All comments received by the auditor have been satisfactorily dealt with through minor amendments to the arrangements; or by identifying that additional information will be (more appropriately) provided at the detailed design stage.

4.5.7 A copy of the Stage 1 Road Safety Audit and associated Designer's Response is contained in **Appendix F**.

4.6 Parking Provision

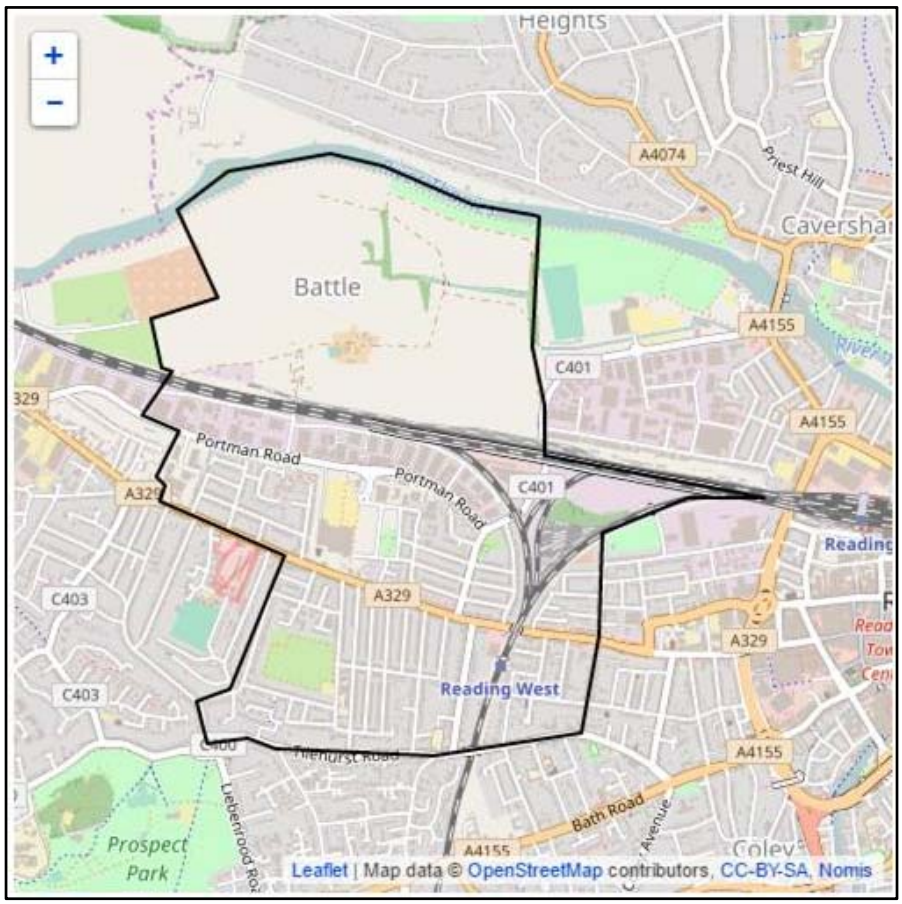
4.6.1 This TA supports a full application and as such parking provision has been considered in detail.

4.6.2 As discussed with RBC, a bespoke parking demand assessment has been undertaken which utilises 2011 census data for the local area to determine likely parking demand.

Current car ownership levels

4.6.3 To understand car ownership locally a review has been undertaken for the Battle Ward (Ref: E05002320), within which the site sits, as shown on **Image 4.3**. This Ward includes the Battle Hospital site.

Image 4.3: Battle Ward



4.6.4 **Table 4.2** summarises local car ownership within the Battle Ward, based on Census 2011 data provided by the Office of National Statistics.

Table 4.2: Car ownership in Battle Ward

Car or van availability (Battle Ward)	Number of Households	Percentage (%)
All categories: Car or van availability	4,480	100.0
No cars or vans in household	1,623	36.2
1 car or van in household	2,142	47.8
2 cars or vans in household	597	13.3
3 cars or vans in household	97	2.2
4 or more cars or vans in household	21	0.5

Source: Table KS404EW (ONS)

4.6.5 The 2011 Census data for the Battle Ward identifies that a relatively high proportion of existing residents (36.2%) currently do not own a car and that some 47.8% only own one car. It is of note that only 16% of households own two or more cars. The average car ownership for the Battle Ward it is some 0.8 vehicles per household.

4.6.6 As a comparison, the car ownership levels for Reading (BUASD area) as taken from the 2011 Census have been summarised in **Table 4.3**.

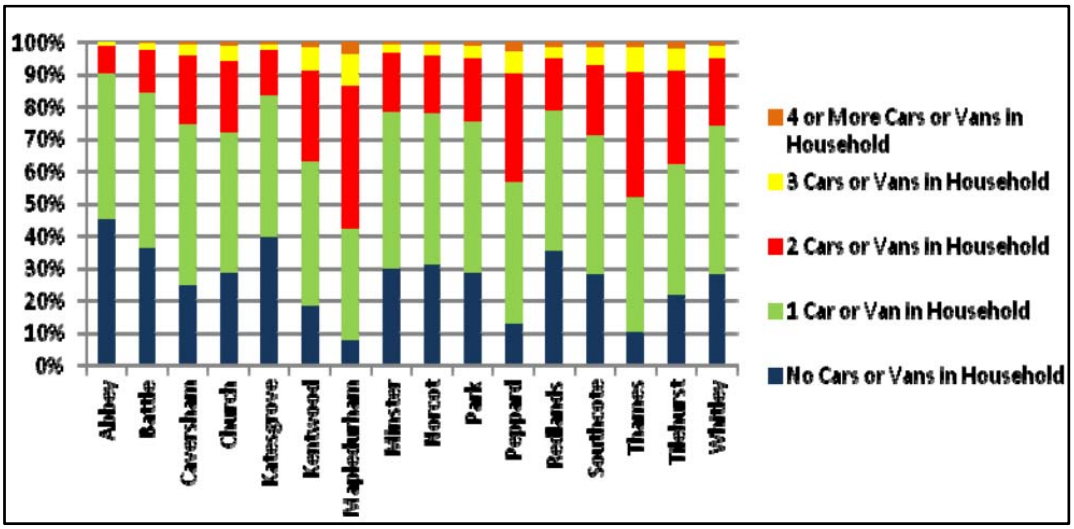
Table 4.3: Car ownership in Reading

Car or van availability (Reading BUASD)	Number of Households	Percentage (%)
All categories: Car or van availability	86,982	100%
No cars or vans in household	20,000	23%
1 car or van in household	37,841	44%
2 cars or vans in household	22,654	26%
3 cars or vans in household	4,816	6%
4 or more cars or vans in household	1,671	2%

Source: ONS (Reading BUASD area)

4.6.7 It is evident from the two tables that the average car ownership for the wider Reading area is some 1.2 vehicles per household, while for the Battle Ward it is some 0.8 vehicles per household. These findings are supported by the Reading 2011 Census factsheet summarises key Census statistics across Reading. From this it can be seen that the Ward of Battle has some of the lowest car ownership in Reading; refer **Image 4.4**.

Image 4.4: Car ownership by household by ward



Source: Reading Key Census Statistics

4.6.8 Following discussions with RBC, further analysis of the six local output areas which cover the original Battle site (areas E00082651, E00082652, and E00082654), and areas to the west (broadly Alma Street to Chester Street (areas E00174501, E00174504, and E00174506) has been undertaken, as shown on **Table 4.4**.

Table 4.4: Car ownership by household by ward

	Wards												Totals	
	E00082651		E00082652		E00082654		E00174504		E00174501		E00174506			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
All categories: Car or van	140	100	138	100	138	100	128	100	130	100	64	100	738	100
No cars or vans	30	21.4	42	30.4	53	38.4	32	25	45	34.6	13	20.3	214	28.9
1 car or van	78	55.7	75	54.3	59	42.8	71	55.5	68	52.3	42	65.6	393	53.3
2 cars or vans	24	17.1	17	12.3	21	15.2	24	18.8	14	10.8	9	14.1	109	14.8
3 cars or vans	8	5.7	3	2.2	4	2.9	1	0.8	3	2.3	0	0	19	2.6
4 or more cars or vans	0	0	1	0.7	1	0.7	0	0	0	0	0	0	2	0.3
sum of all cars or vans	150	-	122	-	117	-	122	-	105	-	60	-	676	-

Source: Census 2011

4.6.9 The combined average over these six areas identifies an average car ownership figure of 0.92 cars per dwelling. This is slightly higher than the average within the Battle Ward as a whole. The difference is likely to be due to the high level of parking restrictions in some parts of the Battle Ward which, contributes to reduced car ownership, as residents will be aware of the limited opportunities for parking in the area. This does however highlight that a combination of reduced parking availability and the proximity of the area to local facilities and public transport means that residents have less reliance on the private car.

4.6.10 Taking these as two district areas i.e. combining the three output areas covering the original Battle site (areas E00082651, E00082652, and E00082654), and areas to the west (broadly Alma Street to Chester Street (areas E00174501, E00174504, and E00174506), it can be seen from **Table 4.5** that the average car ownership varies between 0.94 and 0.89. This is likely to be due to the difference in type of dwelling (Alma Street to Chester Street is predominantly housing) and tenure type, where it is likely that the original Battle site has a higher percentage of flats social / shared ownership.

Table 4.5: Typical parking demand for houses in Battle Ward

Battle Site Wards			Western Wards		
Ward No.	**Sum of all cars or vans**	**All categories: Car or van**	**Ward No.**	**Sum of all cars or vans**	**All categories: Car or van**
E00082651	150	140	E00174504	122	128
E00082652	122	138	E00174501	105	130
E00082654	117	138	E00174506	60	64
Total	389	416	Total	287	322
Ratio	**0.94**		**Ratio**	**0.89**	

Consultants Estimates

4.6.11 Further to the 2011 Census household parking data identified in **Table 4.5**, a further assessment of the 2011 Census data has been undertaken looking at how car ownership within the Battle Ward relates to dwelling size, type and tenure.

4.6.12 **Table 4.6** summarises the typical parking demand for houses, both privately owned and affordable.

Table 4.6: Typical parking demand for houses in Battle Ward

Houses	Number of Rooms	Beds (Houses)	Typical Demand (No allocated provision)
Owned & Private rented or living rent free	3	1 bed	0.98
	4	2 bed	0.98
	5	3 bed	1.26
Other Social Rented	3	1 bed	0.46
	4	2 bed	0.46
	5	3 bed	0.67

Consultants Estimates

4.6.13 The analysis identifies that where a single parking space is allocated to a 3 bed house an additional 0.9 spaces and 0.4 spaces per dwelling should be provided for each private and affordable dwelling respectively.

4.6.14 **Table 4.7** summarises the typical demand for apartments, both privately owned and affordable, when no allocated spaces are provided.

Table 4.7: Typical parking demand for apartments in Battle Ward

Apartments	Number of Rooms	Beds (Houses)	Typical Demand (No allocated provision)
Owned & Private rented or living rent free	2	1 bed	0.79
	3	1 bed	0.98
	4	2 bed	0.98
	5	3 bed	1.26
Other Social Rented	3	1 bed	0.46
	4	2 bed	0.46
	5	3 bed	0.67

Consultants Estimates

4.6.15 Where a single parking space is allocated to an apartment an additional 0.2 to 0.6 spaces per apartment should be provided, depending on the tenure and size of the unit.

4.6.16 On the basis of the above, the following parking provision has been identified:

- All parking for apartments to be unallocated;
- 1 bed apartments to have a ratio of at least 0.8 spaces per dwelling;

- 2 and 3 bed apartments to have a ratio of at least 1.0 spaces per dwelling; and
- All 3 bed houses to have at least 1.9 spaces per dwelling (with at least one allocated parking space and 0.9 unallocated spaces per dwelling).

4.6.17 As shown on the master plan, parking will be provided:

- Within an undercroft basement for the flat blocks;
- Within the curtilage of individual dwellings;
- In parking courts; and
- Within dedicated parking bays along the street frontage.

4.6.18 The dimensions of parking spaces and garages are to be provided in accordance with the guidance set out in RBC's Residential Car & Cycle Parking Standards.

4.6.19 All of the parking for the apartments will be unallocated to provide for efficient use, while there will be a number of on-street visitor parking provided in dedicated lay-bys.

4.6.20 Cycle parking will be provided in accordance with the minimum cycle parking standards presented in RBC' LDF Revised Parking Standards and design SPD (adopted October 2011), re-produced below: -

- 1/2 Bed Flat – 0.5 spaces per flat;
- 3+ Bed Flat – 1 space per flat;
- 1 bed house – 1 space per dwelling; and
- 2+ bed house – 2 spaces per dwelling.

4.6.21 Cycle parking for the proposed houses will be provided in garages, or in sheds in back gardens and, for apartments, cycle parking will be provided in covered and secured communal areas.

4.7 Refuse Collection Arrangements

4.7.1 Drawing **ITB12282-GA-006 Rev A** demonstrates that a refuse vehicle can enter, circulate around the site and exit in forward gear. The refuse vehicle used in the swept path analysis is based on the specification provided in RBC's 'Waste Management Guidelines for Property Developers, Architects, Planners and Contractors' document.

4.7.2 The refuse carry distances for the development comply with Section 2.3 for households and Section 3.6 for purpose built flats. Specifically: -

- All of the dwellings with two wheeled bins are within 30m of a waste collection point and the refuse vehicle can get to within 15m of the collection points; and

- All of the apartments with Eurobins are within 15m of an area accessible by the refuse collection vehicle.

4.8 Emergency Vehicle Access

4.8.1 An emergency vehicle will be able to enter and egress the proposed development in forward gear and manoeuvre as required within the development, as shown on **Drawing ITB12282-GA-007 Rev A**. Access to within a maximum of 45m of the furthest point of every dwelling will be provided for a fire tender, or fire hydrants and / or dry risers are provided where this isn't possible.

4.8.2 Provision to fight fires has therefore been provided in accordance with the Building Regulations Approved Documents and MfS. DHA drawing 031610-BEL-TV-02 (also attached in **Appendix E**) presents the locations of the fire hydrants and / or dry risers.

4.8.3 As requested, at the pre-application scoping stage with RBC highways, a suitable designated emergency vehicle access from Valentia Road (to the south-west) has been provided. This is in the form of a 3.7m wide shared use footway / cycleway / controlled emergency access.

SECTION 5 PROMOTING SUSTAINABLE TRANSPORT

5.1 Introduction

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

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

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

5.2 Journey Purpose

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

Table 5.1: Proportion of Trips per Year by Journey Purpose

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

Source: National Travel Survey Statistics 2015 (Table NTS0401)

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

5.3 Propensity to Travel by Non-Car Modes

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

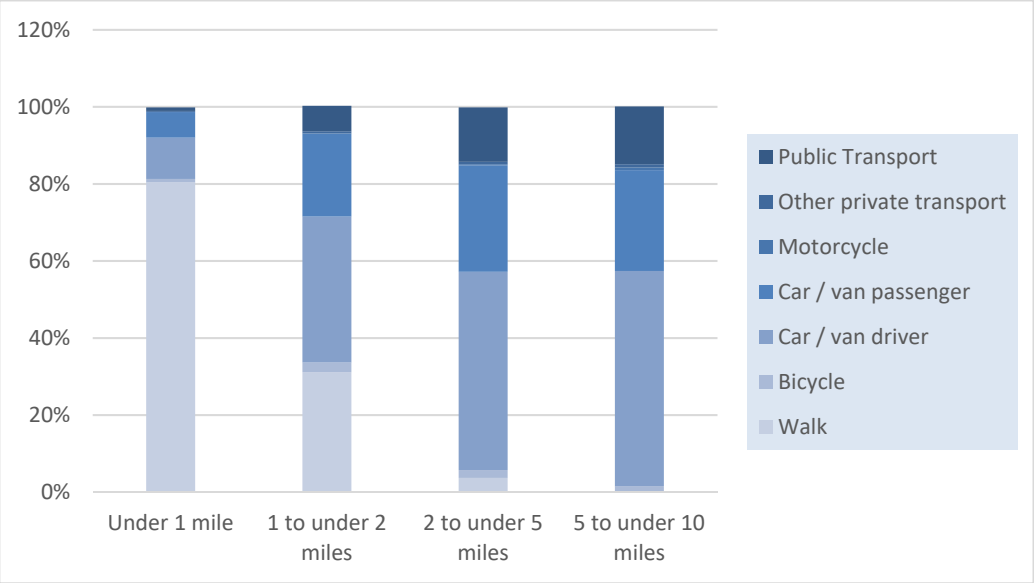
Walking Distances

5.3.2 Paragraph 4.4.1 of the Manual for Streets identifies that ***"Walkable neighbourhoods are typically characterised by having a range of facilities within 10 minutes' (up to about 800 m) walking distance of residential areas".***

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

5.3.4 The National Travel Survey (NTS) 2016 identifies the mode share journeys of different lengths. This is repeated in **Image 5.1** and demonstrates that the vast majority (80%) of trips of up to one mile (1.6km) are undertaken on foot for journeys. This is corroborated by the CIHT guidance *'Planning for Walking'*. The NTS data also shows that 33% of journeys between 1 and 2 miles will be on foot, i.e. a significant proportion of people are prepared to walk for journeys of up to 2 miles (3.2km).

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



Source: NTS 2016 (NTS0308)

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

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

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

- Up to **800m** – A comfortable walking distance;
- Up to **2,000m** – A reasonable walking distance i.e. the distance that "offers the greatest potential to replace short car trips", and where the majority of trips are undertaken on foot; and
- Up to **3,200m** – A maximum regular walking distance i.e. the distance within which a significant proportion (circa one-third) of journeys will be on foot.

5.4 Cycling Distances

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

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

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

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

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

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

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

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

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

5.5 Local Facilities and Services

5.5.1 The key local destinations for future residents of the proposed development within the context of the above noted local walking and cycling catchments are illustrated on **Figure 2** and are listed in **Table 5.2**, which includes facilities for education, leisure, retail, employment and health.

Table 5.2: Key Local Destinations

Facility Type	Key Destination	Walking Distance (m)	Walk	Cycle
Retail	Tesco Extra	100	✓✓✓	✓✓✓
	Oxford Road Shopping Parade	400	✓✓✓	✓✓✓
	Lidl	800	✓✓✓	✓✓✓
	Reading Retail Park	1600	✓✓	✓✓✓
	Vastern Court Retail Park	1800	✓✓	✓✓✓
	Waitrose	1900	✓✓	✓✓✓
	Reading Town Centre	2000	✓✓	✓✓✓
	The Oracle Shopping Centre	2300	✓	✓✓
Health	Oxford Road Pharmacy	600	✓✓✓	✓✓✓
	Western Elms Surgery	650	✓✓✓	✓✓✓
	Inspire Dental Reading	1200	✓✓	✓✓✓
Employment	Portman Road Industrial Estate	100	✓✓✓	✓✓✓
	Richfield Avenue Industrial Estate	1000	✓✓	✓✓✓
	Reading Retail Park	1600	✓✓✓	✓✓✓
	Reading Town Centre	2000	✓✓	✓✓✓
Education	The Honey Bee Pre-School	400	✓✓✓	✓✓✓
	Battle Primary Academy	800	✓✓✓	✓✓✓
	Wilson Primary School	950	✓	✓✓
	Oxford Road Primary School	1100	✓✓	✓✓✓
	The Wren School	1800	✓✓	✓✓✓
	Ranikhet Academy	2100	✓	✓✓
	Prospect School	2700	✓	✓✓
Leisure	Oxford Road Community Garden	800	✓✓✓	✓✓✓
	Kensington Park	800	✓✓✓	✓✓✓
	Central Swimming Pool	1200	✓✓	✓✓✓
	Prospect Park	1500	✓✓	✓✓✓
	Rivermead Leisure Centre	1500	✓✓	✓✓✓
	River Ibis Leisure Centre	1900	✓✓	✓✓✓
Travel	Bus Stops	650	✓✓✓	✓✓✓
	Reading West Railway Station	750	✓✓✓	✓✓✓
	Reading Railway Station	2300	✓	✓✓

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

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

5.5.2 **Figure 2** and **Table 5.2** demonstrate that are a wide range of everyday facilities within a comfortable and attractive walking distance of the site, including primary education, convenience retail, personal business services, a range of leisure facilities and employment opportunities.

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

5.6 Summary

5.6.1 The site is accessible to a wide range of everyday facilities on foot and by cycle, and a network of footways and cycleways have been designed into the site, with multiple points of access to ensure permeability.

5.6.2 High frequency bus services can be accessed from the Oxford Road corridor to the south of the site providing access to Services 15/15a, 16 and 17. These together provide high-standard bus access to key destinations including the centre of Reading, Tilehurst, Calcot and the rail network.

5.6.3 The site is located within an acceptable walking distance and reasonable cycle distance to Reading West railway station, which is located some 750m to the south-east of the site. This provides a realistic opportunity for residents to access destinations further afield for both employment and leisure trips.

5.6.4 A number of opportunities exist (and have been taken up) to provide additional pedestrian connections to the existing footway infrastructure, thus enhancing the permeability of the site and encouraging the use of sustainable travel modes.

5.7 Sustainable Transport Strategy

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

5.7.2 The site is located within a comfortable and attractive walking distance of these facilities, all of which are well within a comfortable cycle distance too.

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

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

- Delivering sustainable access connections from the site to the local walking and cycling network;
- Delivering improvements to the walking and cycling network to address gaps in provision;

- Providing pedestrian and cycle routes along the boundary of the site and through the site; and

- Delivering a realistic package of measures within a Framework Travel Plan designed to encourage residents to consider sustainable travel choices as part of their overall travel pattern.

5.7.5 The strategy will be delivered through a Residential Travel Plan. This is set out in the FRTP that supports the application *(report ref: ITB12282-006 R).*

5.7.6 The overarching aims of the Strategy are:

- To improve accessibility to the site by non-car modes of transport and thereby encourage the use of other travel modes;

- To reduce the number of car journeys to the site; and

- Ensure that car ownership levels on site are similar to those in the local area.

5.7.7 The key target of the Residential Travel Plan is:

"To reduce the number of vehicle trips to and from the site over a 12-hour weekday by 10% from the baseline position by year five."

5.7.8 To achieve the aims and objectives, a package of 'Hard' and 'Soft' measures designed to encourage residents to consider sustainable travel opportunities are promoted through the FRTP.

5.7.9 A combination of 'hard' (infrastructure led) and 'soft' (promotion and incentive based) measures are identified to promote and incentivise sustainable travel choices where it is realistic to do so. The FRTP identifies a delivery and management strategy for these measures and commits to future monitoring of the success of the travel plan.

Hard Measures

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

- A new 3m wide north – south pedestrian / cycle connection within the site from Portman Road to Portman Way. This will tie into the existing infrastructure at the at signalised junction of Portman Road / Portman Way (north western corner of the site);

- A new pedestrian / cycle connection within the site adjacent to Portman Road. This will also tie into the existing infrastructure at the at signalised junction of Portman Road / Portman Way. The route will be predominantly 3m in width, with a short section reduced to 2m in width. This reduction is necessary to deliver the land scaping which has been requested during the pre-application discussions;

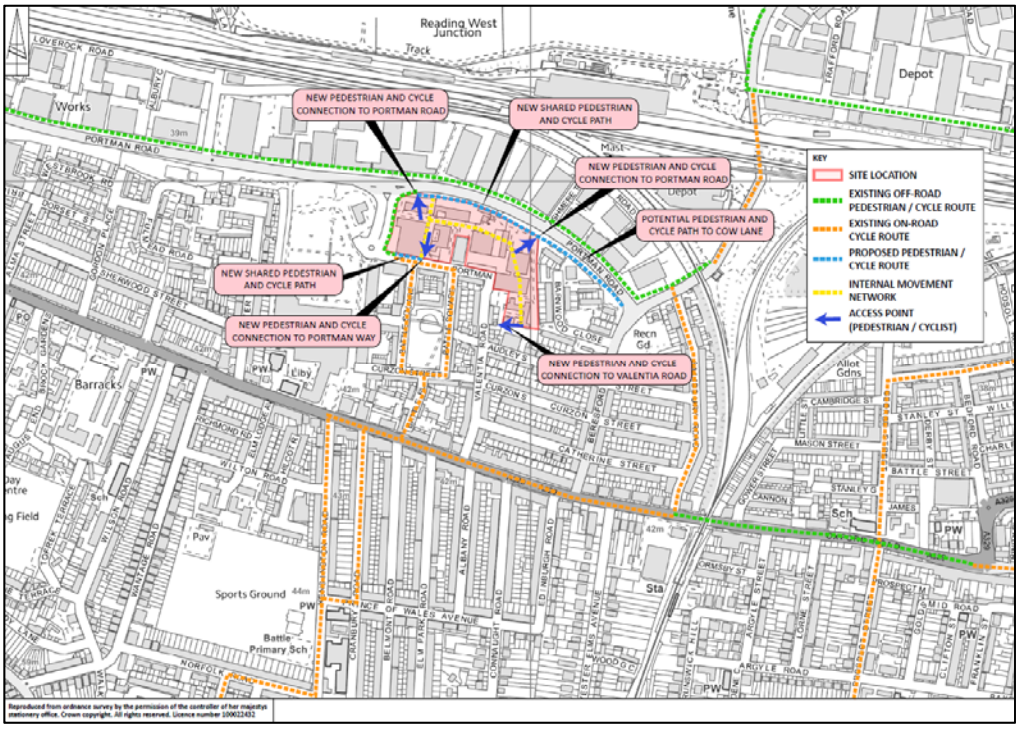
- An extension of the existing 3m wide shared footway / cycleway from the internal Portman Way Tesco roundabout (at the south-western corner of the site) to the proposed site access; and

- A new pedestrian / cycle connection to Valentia Way (via the emergency access).

5.7.11 The applicant is also willing to provide a reasonable financial contribution towards the continuation of the footway / cycleway from the north eastern corner of the site, on the southern side of Portman Road, through to the Cow Lane mini roundabout, thus replicating the cycle provision currently provided on the northern side of Portman Road.

5.7.12 It is understood a number of improvements are being considered to the Portman Road / Cow Lane / Beresford Road roundabout (as set out in Section 8.3), which include the provision of a footway on the southern side of Portman Road in the vicinity of the junction. It is therefore considered that a financial contribution is the best approach to delivering these improvements. An indicative arrangement is shown on **Drawing ITB12282-GA-005 Rev A**.

Image 5.2: Improved Sustainable Transport Connections



Source: - i-Transport

Soft Measures

5.7.13 The Framework Residential Travel Plan identifies the following measures;

- Provision of a 'Travel Welcome Pack', to provide information of travel opportunities and to promote travel;
- Creation of a community travel website, to provide travel information;
- Creation of a steering group consisting of local residents;
- Community noticeboards to identify travel opportunities and incentives;
- Promotion of local car-share schemes;
- Promotion of local car clubs (Co-wheels); and
- Establishment of a Bicycle User Group (BUG).

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

5.7.15 An Action Plan is provided in **Table 5.3** which summarises the comprehensive package of measures proposed to be delivered to encourage sustainable access to and from the site. Further detail is provided within the FRTP that accompanies the application.

Table 5.3: Sustainable Transport Strategy

Objective	Measure	Timescale
Initial-Objective	Develop and maintain community web-site	Phased with Development
	Prepare and distribute Travel Welcome Packs	Prior to Occupation
	Prepare and distribute local Car Club promotional material	Prior to Occupation
	Provide community notice board	Phased with Development
Reduce the Need to Travel	Deliver connections to broadband network	Phased with Development
Promotion of Walking and cycling	Provision of walking and cycling maps	Prior to Occupation
	Pedestrian / cycleway connection to Portman Way, Portman Road, Valentia Way	Phased with Development
	Provision of a new footway / cycleway adjacent to Portman Way	Phased with Development
	Provision of a new footway / cycleway adjacent to Portman Road	Phased with Development
	Provision of tactile paving along key walking routes	Phased with Development
	Delivery of MfS layout – interconnecting streets, shared streets and home zones	Phased with Development
	Provision of cycle storage within each unit	Phased with Development
	Set up a Bicycle User Group (BUG)	Six months after Occupation
Promotion of Public Transport	Negotiation of reduced bus tickets	On occupation
Encourage Car Sharing	Promotion of car sharing schemes through https://liftshare.com/uk/journeys/from/reading-united-kingdom and https://www.blablacar.co.uk/ride-sharing/reading/	Prior to Occupation
Management		
Appoint a Travel Plan Coordinator		One month prior to Occupation – retained for minimum of five years from occupation
Training of sales team about the Travel Plan		Training as part of induction process.
Production of Sales Stage Travel Packs		To be developed before 1st occupation.
Steering Group		Meeting every 6 months during the first year and annually thereafter
Monitoring		
Traffic Surveys at site access		Year one, three and five
Travel Questionnaires		One year after fist occupation and then biennially until the end of the travel plan period
Monitoring Report		Biennially until the end of the travel plan period

5.8 Summary

5.8.1 The site is well located to take advantage of a good range of local services and facilities, which future residents of the proposed development will visit on a regular basis. This includes local convenience stores, pharmacy, post office, health centre and community facilities on Oxford Road and employment opportunities on Portman Road. In addition, local schools (primary and secondary), and leisure facilities are within a reasonable walking distance from the proposed site.

5.8.2 Future residents of the proposed development will have the opportunity to access a range of everyday destinations by a choice of different travel modes and as such will be less reliant on the private car.

5.8.3 Walking is a realistic mode of travel to and from the site and the development will facilitate safe and easy cycling within the site and connecting to surrounding routes. The access strategy provides a permeable and connected development with four points of walking / cycle access to reduce travel distance. A significant proportion of travel from the site can be expected to be made on foot / by bike to reach local facilities and regional facilities within Reading.

5.8.4 Frequent and regular bus services operate a turn up and go service on Oxford Road some 400m south of the site. These services provide opportunities to travel to Reading, Calcot and Tilehurst, as well as linking the site to the rail network.

5.8.5 A Sustainable Transport Strategy has been developed which will be delivered through the Residential Travel Plan. This identifies opportunities for the effective promotion and delivery of sustainable transport initiatives e.g. walking, cycling, public transport to reduce the demand for travel by less sustainable modes. The reduced reliance on the private car will in turn lead to a reduced need to own a vehicle, or a second vehicle. The reduced parking demand already observed across the Battle Ward shows that existing residents already have a high propensity to use alternatives to the private car.

5.8.6 Future residents therefore have the opportunity to access a range of destinations by a choice of sustainable transport modes. The proposed development is located where the need to travel will be minimised and, through the Residential Travel Plan, the use of sustainable transport modes can be maximised.

5.8.7 In line with the NPPF requirements, it is therefore demonstrated that the opportunities for sustainable travel can be and have been taken up.

SECTION 6 TRAFFIC IMPACT – METHODOLOGY

6.1 Introduction

6.1.1 This section of the Transport Assessment details the methodology used to assess the potential traffic impact of the development. This methodology has been agreed with RBC through the pre-application Scoping Process.

6.2 Baseline Conditions

6.2.1 Peak period manual classified turning counts were undertaken on 4th July 2017 at the junctions identified in Section 3. The observed morning and evening peak hour traffic flows are shown on **Figures TF1 and TF2** respectively.

6.3 Traffic Generation

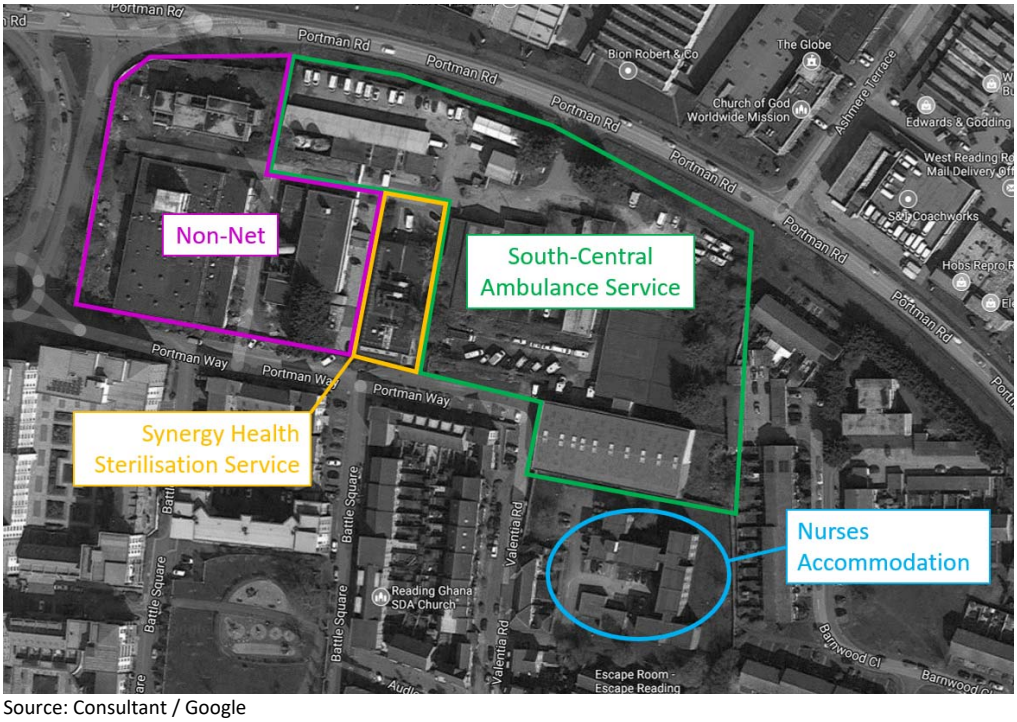
Existing Trip Generation

6.3.1 The site is currently made up of a number of occupied and non-occupied buildings; comprised of store rooms, vehicle maintenance & storage, Ambulance service, Synergy sterilisation unit and Nurse's accommodation (totalling some 7,983sqm).

6.3.2 Of these buildings, the South-Central Ambulance Service, Synergy Health Sterilisation Service and the Nurses Accommodation are subject to extant planning permission.

6.3.3 With this in mind, it is proposed to undertake a net impact comparison of the change in traffic volumes between the permitted and proposed land uses. However, as set out in Section 1, the Synergy Health Sterilisation Service is to be retained and as such, the net traffic impact comparison will not include traffic associated with this building. **Image 6.1** below, demonstrates the approximate locations of the buildings on-site.

Image 6.1: Land Use Locations



Source: Consultant / Google

6.3.4 It is understood a number of buildings that form part of the site (shown bounded purple) have not been occupied for an extended period of time. As such, no traffic generation rates have been applied to these buildings for the purpose of the net traffic generation comparison exercise. However, it should be noted that these do have an extant planning permission, and this should be taken into account when considering the predicted impacts of the development proposal.

6.3.5 The South-Central Ambulance Service (SCAS) and Synergy Health Sterilisation Service (SHSS) are currently in operation on-site. In order to determine the existing traffic generation associated with these services a manual classified turning count (MCC) was undertaken, on Tuesday 4th July 2017, at the existing vehicular access onto Portman Road.

6.3.6 A summary of the survey results is presented in **Table 6.1**; a full copy of the survey data can be provided upon request.

Table 6.1: Observed Traffic Volumes – Portman Road Access

Time			In	Out	Two-Way
AM	07:30	08:30	13	6	19
	07:45	08:45	9	8	17
	08:00	09:00	9	7	16
	08:15	09:15	10	10	20
	08:30	09:30	12	9	21
PM	16:00	17:00	5	13	18
	16:15	17:15	5	12	17
	16:30	17:30	2	12	14
	16:45	17:45	3	7	10
	17:00	18:00	4	6	10
	17:15	18:15	2	3	5
	17:30	18:30	4	2	6

Source: Traffic Survey

6.3.7 As can be seen, the existing SCAS and SHSS services currently generate up to 21 two-way vehicle movements during the busiest morning hour period, with 18 two-way vehicle movements observed entering / exiting in the busiest evening hour.

6.3.8 As set out earlier, the SHSS building / unit is to be retained, therefore the traffic associated with this building will continue to be generated. As such, traffic generated by this use class will not be deducted as part of the net traffic comparison exercise. The trips will however be reassigned from the Portman Road access to the new Portman Way access, and thus will access the wider highway network from the traffic signal junction. The closure of the Portman Road access will reduce conflicting movements onto a classified road (Portman Road) and is in line with the policy requirements of the site.

6.3.9 In order to determine the traffic associated with the SHSS service, a TRICS trip generation calculation has been undertake for the circa. 726sqm building. It is understood the SHSS building is subject to B1 use planning permission. While it is clear a direct comparison to the SHSS is unlikely to be obtainable from the TRICS database, the Industrial Unit use class is considered to be the closest match on the TRICS database to that of the SHSS.

6.3.10 The calculated trip rates and likely trip generation are set out in **Table 6.2** below; with a copy of the TRICS output data sheets contained in **Appendix G**.

Table 6.2: Synergy Health Sterilisation Service Vehicle Trips

	AM Peak			PM Peak		
	In	Out	Two-Way	In	Out	Two-Way
Trip Rate (per 100sqm)	0.465	0.155	0.62	0	0.745	0.745
Trips	4	1	5	0	6	6

Source: TRICS

6.3.11 **Table 6.2** shows that the SHSS building could be expected to generate 5 two-way vehicle movements during the morning peak hour and 6 two-way vehicle movements during the evening peak hour.

Extant Use Traffic Generation

6.3.12 At the south western corner, the site is subject to an extant permission for some 2,334sqm of C3 Nurses Accommodation. This accommodation is currently un-occupied. As such, in order to determine potential traffic generation, a review of the TRICS trip generation database has been undertaken to determine the likely trip generation from this parcel of the site.

6.3.13 The calculated trip rates and likely trip generation, based on the number of parking spaces of which there are 23, are set out in **Table 6.3**. A copy of the full TRICS output can be found in **Appendix G**.

Table 6.3: Nurses Accommodation Vehicle Trips

	AM Peak			PM Peak		
	In	Out	Two-Way	In	Out	Two-Way
Trip Rate (per parking space)	0.08	0.12	0.2	0.12	0.04	0.16
Trips	2	3	5	3	1	4

Source: TRICS

6.3.14 As can be seen, the Nurses Accommodation could be expected to generate some 5 two-way vehicle movements during the morning peak hour and 4 two-way vehicle movements during the evening peak hour.

6.3.15 Using the information contained in **Table 6.1**, **Table 6.2** and **Table 6.3**, the net traffic reduction proposed to be used as part of the development traffic impact assessment has been calculated and is presented in **Table 6.4**.

Table 6.4: Net Traffic Impact

Time	AM Peak			PM Peak		
	In	Out	Two-Way	In	Out	Two-Way
Existing Traffic Generation (A)	10	10	20	4	2	6
Nurses Accommodation (B)	2	3	5	3	1	4
Total site trips (A + B)	**12**	**13**	**25**	**7**	**3**	**10**
Synergy (C) retained trips	4	1	5	0	6	6
Total Net Reduction (A + B - C)	**-8**	**-12**	**-20**	**-7**	**+3**	**-4**

Source: Consultants Calculations

6.3.16 While the trip generation identifies that there would be an additional three trips in the evening peak hour, this is on the basis of assuming a generic rate for the SHSS building and the variation in the timing of peak hour demand. This small reduction is therefore unlikely to occur while the current occupier is in place.

Residential Trip Generation

6.3.17 The TRICS database (version 7.4) was used to calculate the potential traffic generation of the proposed development, using the following parameters:

- Region – all of England (except Greater London);
- Time period – surveys for the last 10-year period (start date: 01/01/2009);
- Location relevance – surveys in 'Town Centre', 'Edge of Town Centre' and 'edge of town' locations;
- Date relevance – surveys undertaken during a weekday.

6.3.18 Given the proportions of flats and houses proposed, trip rates have been calculated for both 'Private Housing' and 'Flats Privately Owned'. This approach does not account for affordable units which generally have a lower trip rate. Should affordable housing be provided on this site then the anticipated trip rates for the site will have been over estimated.

6.3.19 The vehicle trip rates for Flats Privately Owned and Private Housing are summarised in **Table 6.5**. A full copy of the TRICS data is provided within **Appendix G**.

Table 6.5: Vehicle Trip Rates

	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Private (per flat)	0.039	0.107	0.146	0.114	0.066	0.180
Private (per house)	0.118	0.335	0.453	0.273	0.181	0.454

Source: TRICS

6.3.20 While these rates are considered to be robust given the proximity of the site to local facilities, the centre of Reading and public transport opportunities, RBC requested that further analysis be undertaken in respect to the trip rate for the development, given that some of the TRICS sites are identified as being 'town centre' locations.

6.3.21 Town Centre category of TRICS was included as it was considered that the Battle Hospital site shares many characteristics with town centre locations, such as good access to day to day facilities, on the doorstep of a large superstore, employment opportunities, proximity to rail stations and being on a quality bus corridor. All of these facilities mean that there are genuine opportunities for residents to use modes of travel which do not involve the use of a private car. This is backed up by the car ownership statistics which have been reviewed in detail.

6.3.22 Notwithstanding this, given the first phase of the Battle hospital redevelopment is accessed by vehicles from a single point, it is possible to derive a typical trip rate for the existing first phase of the Battle hospital development (which is accessed from Portman Way) using the traffic counts undertaken in July 2017.

6.3.23 **Table 6.6** presents the results of this analysis, based on the July 2017 survey and a total of 434 dwellings (185 houses and 249 flats).

Table 6.6: - Existing Battle Hospital Trip Generation

	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
Observed Flows	48	83	131	93	40	133
Trip Rate	0.111	0.191	0.302	0.214	0.092	0.306

Source: Consultants Calculations

6.3.24 As can be seen, the original Battle Hospital site generates some 131 and 133 two-way morning and evening peak hour vehicle trips respectively, providing a trip rate of 0.302 in the morning peak hour and 0.306 in the evening peak hour, i.e. the rate is very similar to the average of the private flats and houses rates).

6.3.25 Of the 434 dwellings on the original site, some 43% are houses, with the remaining 57% being flats. It is generally accepted that houses generate more vehicle trips when compared to flats (given houses generally comprise a higher number of bedrooms / habitable rooms and generally higher occupancy rates, which, subsequently results in a higher proportion of vehicle movements).

6.3.26 Therefore, given the proposed site comprises of a higher mix of flats than houses, with only 23% of proposed units being houses, there is likely to be a lower vehicle trip generation overall, i.e. the observed trip rate is robust when considering its use for the proposed scheme.

6.3.27 Therefore, rather than use the trip rates calculated by TRICS, it is proposed to use the observed data from the traffic survey. This leads to an increased trip generation for the proposal compared to the generation set out in the Scoping Note. The proposed vehicle trip rates and resultant trip generation is set out in **Table 6.7**.

Table 6.7: - Proposed Residential Trip Generation

	AM Peak			PM Peak		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Observed rates	0.111	0.191	0.302	0.214	0.092	0.306
Predicted	24	41	65	46	20	66

6.3.28 These rates are considered to be robust and provide a realistic approach to determining traffic generation from the site, as the proposed site will have very similar characteristics to the earlier phase of the development.

Total trip generation

6.3.29 **Table 6.8**, summarises the net traffic generation for the proposed development, and the retained Synergy building.

Table 6.8: - Proposed Residential Trip Generation

Time	AM Peak			PM Peak		
	In	Out	Two-Way	In	Out	Two-Way
Total Net Reduction (A + B - C)	**-8**	**-12**	**-20**	**-7**	**+3**	**-4**
Synergy (C) retained trips	4	1	5	0	6	6
Residential Trips	24	41	65	46	20	66
Total Trips	**20**	**30**	**50**	**39**	**29**	**68**

6.4 Traffic Distribution and Assignment

Journey Purpose

6.4.1 Data derived from the National Travel Survey (NTS) 2015 (DfT) outlines the proportion of peak hour trips made by car, split into journey purpose (**Table 6.9**).

Table 6.9: Proportion of Peak Hour Trips by Journey Purpose (Car Driver Only)

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

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

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

Trip Distribution

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

- For commuting and business trips, the National Census Journey to Work statistics (for car drivers) for the Reading 007 Super Output Area – Middle Layer has been used. This identifies the location of existing resident's employment locations and so identify existing commuting patterns; and
- For other journey purpose trips a P/T^2 gravity model has been undertaken using the population of key urban areas (from the 2011 census) within a 40-minute drive from the site (estimated from Google Maps Directions facility).

6.4.4 The two sets of data are then combined to generate a single set of distribution parameters to inform the development trip assignment. The key local destinations are shown in **Table 6.10**.

Table 6.10: Distribution of Car Driver Trips (All Purpose)

Destination	Employment Trips %	Non-Commuter Trips %	All trips Combined %
Abingdon	0.7%	-	0.72%
Ascot	0.0%	0.23%	0.23%
Basingstoke	0.8%	-	0.80%
Beaconsfield and Iver Heath	0.2%	-	0.20%
Blackwater and Minley	0.1%	-	0.10%
Bracknell	2.3%	1.41%	3.71%
Camberley	0.3%	-	0.30%
Cobham	0.0%	0.13%	0.13%
Farnborough	0.2%	-	0.20%
Fleet	0.2%	0.29%	0.49%
Guildford	0.2%	-	0.20%
Henley-on-Thames	0.0%	1.93%	1.93%
Hook	0.2%	0.14%	0.34%
London	1.8%	-	1.80%
Newbury/ Thatcham	7.3%	-	7.30%
Other East	0.5%	-	0.50%
Other North	0.7%	-	0.70%
Other South	0.4%	-	0.40%
Other West	0.4%	-	0.40%
Oxford	3.0%	-	3.00%
Reading	16.4%	46.42%	62.82%
Slough	1.1%	1.74%	2.84%
Swindon	0.4%	-	0.40%
Maidenhead	1.1%	0.69%	1.79%
Woking	0.1%	-	0.10%
Wokingham	6.0%	2.04%	8.04%
Wycombe	0.6%	-	0.60%
Total	**45.0%**	**55.0%**	**100.0%**

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

6.4.5 This analysis identifies that some 62.8% of car trips are likely to be contained with the Reading area, while 8% would be to / from Wokingham,7% to / from Newbury and Thatcham, and the remainder being spread around the local towns and villages.

Assignment

6.4.6 The expected traffic that would be generated by the development is then distributed onto the local network to the destinations identified in **Table 6.10**.

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

6.4.8 The full distribution and assignment model is included in **Appendix H**.

6.5 Traffic Growth

Background traffic growth

6.5.1 In line with the Highways England (HE) advice in 'Circular 02/2013' (which is re-iterated in the recent HE document 'Planning for the Future') assessments to consider the traffic impact of development should be carried out at the expected opening year (assuming full occupation). This identifies: whether there is sufficient capacity in the network to accommodate development traffic; and, if necessary, where mitigation may be required to address any 'severe' impacts arising in the opening year assessment.

6.5.2 The TA therefore assess the local highway network in 2021, which is the expected year of opening (assuming full occupation).

6.5.3 The TEMPRO and National Transport Model (NTM) database has been interrogated in order to determine applicable growth rates for the background traffic to be factored up from the baseline year (2017) to the opening year of 2021. A growth factor of 1.07 has been determined for the morning peak hour and 1.06 for the evening peak hour for the Reading 007 Super Output Area – Middle Layer.

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

- 2017 Base Year – **Figures TF1** and **TF2**;
- 2021 'Without Development' – **Figures TF3** and **TF4**; and
- 2021 'With Development' - **Figures TF5** and **TF6**.

SECTION 7 TRAFFIC IMPACT ASSESSMENT

7.1 Introduction

7.1.1 This section of the TA details results of the traffic impact assessment of the development proposal and identifies any mitigation which may be necessary.

7.2 Detailed Junction Assessment

7.2.1 Operational analysis has been undertaken to determine the performance of the surrounding highway network and its ability to accommodate the additional traffic from the proposed development. As agreed with RBC, operational analysis has been undertaken at the following junctions:

- Junction 1 – Wigmore Lane / Oxford Road / Norcot Road Roundabout;
- Junction 2 – Portman Way / Portman Road Signal Junction and Tesco Roundabout;
- Junction 3 – Portman Road / Cow Lane / Beresford Road Mini Roundabout; and
- Junction 4 – Portman Way / Site Access Priority Junction.

7.2.2 Assessments have been undertaken using the weekday morning and evening peak hour traffic flows (08:15 to 09:15 and 17:30 to 18:30) combined with the peak hour traffic generation of the development (08:00 to 09:00 and 17:00 to 18:00). The assessment results are therefore a worst case. The priority junctions and roundabouts have been tested using the TRL Software Junctions 9, whereas traffic signal controlled junctions have been assessed using LINSIG3. The Portman Road signal junction and Portman Way link / roundabout junction have been modelled as a linked junction.

7.2.3 The principal outputs derived from the traffic models are the Ratio of Flow to Capacity (RFC)[2] (for roundabouts and priority junctions), the Degree of Saturation (DOS) (for traffic signals) and queue length (for all types of junction).

[2] An RFC of 1 means that the traffic demand equals the available capacity. An RFC of less than 1 means that the junction is operating below capacity. An RFC of 0.85 is often used as a threshold – less than this and the junction will be generally 'free flowing'.

7.2.4 With regards to traffic signals, a DOS of 100% indicates that the traffic demand has approached the theoretical capacity.

7.2.5 A copy of the full junction modelling outputs is provided at **Appendix I** with the results of the assessments presented in the following sections.

Junction 1 – Wigmore Lane / Oxford Road/ Norcot Road Roundabout

7.2.6 To assess the capacity of the existing Wigmore Lane / Oxford Road / Norcot Road Roundabout, Junctions 9 has been used. The results of the assessment are summarised in **Table 7.1**.

Table 7.1: Wigmore Lane / Oxford Road / Norcot Road Roundabout

	Morning Peak Hour		Evening Peak Hour	
	RFC	**Queue (veh)**	**RFC**	**Queue (veh)**
2017 Base				
Wigmore Lane (Portman Road)	0.42	1	0.73	3
Oxford Road (East)	0.55	1	0.66	2
Norcot Road	0.75	3	0.73	3
Oxford Road (West)	0.81	4	0.61	2
2021 Future Year				
Wigmore Lane (Portman Road)	0.46	1	0.81	4
Oxford Road (East)	0.60	2	0.72	2
Norcot Road	0.84	5	0.82	4
Oxford Road (West)	0.89	7	0.66	2
2021 Future Year + Development				
Wigmore Lane (Portman Road)	0.47	1	0.81	4
Oxford Road (East)	0.60	2	0.72	2
Norcot Road	0.84	5	0.83	4
Oxford Road (West)	0.89	7	0.66	2

Source: Junctions 9

7.2.7 The operational analysis identifies that the junction is starting to operate at stress, with some queueing and that this is worsened in the future scenario, without any development. In the future year with the addition of the development, there is no material change to the operation of the junction, with it expected to operate at stress, but within its theoretical capacity. The results predict an RFC of 0.89 and maximum queue of 7 vehicles on Oxford Road (W) in the morning peak and an RFC of 0.83 and maximum queue of 4 vehicles on the Norcot Road arm of the roundabout in the evening peak.

7.2.8 In summary, the development is expected to result in negligible increases in the RFC's of the junction and no increase in the number of queueing vehicles.

Junction 2 - Portman Way / Portman Road traffic signals and Tesco Roundabout

7.2.9 To assess the capacity of the existing signals and internal roundabout junction, a LINSIG3 model has been constructed. Given the proximity of the Portman Way / Portman Road traffic signals and the Tesco roundabout and the potential for queueing at one junction to obstruct other junction, these two junctions have been considered in combination. The results of the assessment are summarised in **Table 7.2**.

Table 7.2: Portman way / Portman Road / Tesco Junctions

	Morning Peak Hour		Evening Peak Hour	
	DOS	Mean Max Queue	DOS	Mean Max Queue
2017 Observed				
Junction 1 – Portman Road Signals				
Portman Road (W) – Ahead	64.40%	5.8	31.00%	2.7
Portman Road (W) – Right	27.50%	1.3	41.90%	2
Portman Road (E) – Left Ahead	60.60%	4.1	70.60%	7
Portman Way – Link Left	10.90%	0.7	29.60%	2.3
Portman Way – Link Right	26.50%	1.2	31.10%	1.6
Portman Road (E) - Exit	60.50%	1.4	35.60%	1.8
Portman Way – Link Exit	16.00%	0.3	20.30%	0.7
Junction 2 – Portman Way / Tesco Roundabout				
Portman Way – Link (N) Ahead	19.40%	0	8.30%	1
Portman Way (E) – Ahead	7.10%	0	27.70%	0
Tesco	10.30%	0.1	21.60%	0.1
2021 'Without Development'				
Junction 1 – Portman Road Signals				
Portman Road (W) – Ahead	68.80%	6.6	32.90%	2.8
Portman Road (W) – Right	29.70%	1.5	44.70%	2.2
Portman Road (E) – Left Ahead	64.80%	4.4	74.90%	7.7
Portman Way – Link Left	11.70%	0.8	31.50%	2.5
Portman Way – Link Right	28.20%	1.2	33.00%	1.7
Portman Road (E) - Exit	64.60%	1.5	37.80%	1.9
Portman Way – Link Exit	17.30%	0.3	21.60%	0.7
Junction 2 – Portman Way / Tesco Roundabout				
Portman Way – Link (N) Ahead	20.80%	0.6	8.80%	1.2
Portman Way (E) – Ahead	7.7	0	29.40%	0
Tesco	11.10%	0.1	23.00%	0.1

	Morning Peak Hour		Evening Peak Hour	
	DOS	Mean Max Queue	DOS	Mean Max Queue
2021 'With Development'				
Junction 1 – Portman Road Signals				
Portman Road (W) – Ahead	68.50%	6.5	32.90%	2.8
Portman Road (W) – Right	19.80%	0.9	29.90%	1.4
Portman Road (E) – Left Ahead	64.60%	4.4	75.70%	7.7
Portman Way – Link Left	12.10%	0.8	32.30%	2.6
Portman Way – Link Right	34.90%	1.6	41.10%	2.1
Portman Road (E) - Exit	66.50%	2.4	39.80%	3
Portman Way – Link Exit	16.40%	0.5	17.70%	0.7
Junction 2 – Portman Way / Tesco Roundabout				
Portman Way – Link (N) Ahead	20.80%	1.8	29.40%	1.8
Portman Way (E) – Ahead	10.30%	0.1	6.90%	0
Tesco	11.20%	0.1	23.30%	0.2

Source: LINSIG 3

7.2.10 The operational analysis demonstrates that the existing junction arrangement will operate well within its theoretical capacity in the design years both with and without the additional traffic from the proposed development.

Junction 3 - Portman Road/ Cow Lane/ Beresford Road Roundabout

7.2.11 To assess the capacity of the existing Portman Road / Cow Lane / Beresford Road Roundabout Junctions 9 has been used. The results of the assessment are summarised in **Table 7.3**.

Table 7.3: Portman Road / Cow Lane / Beresford Road Roundabout

	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (veh)	RFC	Queue (veh)
2017 Base				
Cow Lane	0.6	1	0.91	7
Beresford Road	0.54	1	0.71	2
Portman Road	0.95	10	0.58	1
2021 Future Year				
Cow Lane	0.64	2	0.97	13
Beresford Road	0.59	1	0.77	3
Portman Road	1.02	17	0.62	2
2021 Future Year + Development				
Cow Lane	0.66	2	0.99	17
Beresford Road	0.61	2	0.82	4
Portman Road	1.04	21	0.64	2

Source: Junctions 9

7.2.12 The operation of the Portman Road / Cow Lane / Beresford Road junction has been historically impacted by the operation of the Cow Lane bridges, which created a pinch point on the local network, causing blocking back through the junction, i.e. existing queuing at this location is not necessarily as a result of capacity constraints at the mini roundabout itself. The final phase of removing the Cow bridges is currently under construction and as such these knock-on delays should be eradicated.

7.2.13 The operational assessment identifies that in isolation, the junction is currently operating 'at stress'. In the future year with growth scenario the junction is expected to exceed its theoretical capacity with an RFC of 1.02 and maximum queue of 17 vehicles on Portman Road in the morning peak. In the evening peak, the Cow Lane arm is expected to operate at stress with an RFC of 0.97 and a queue of 13 vehicles.

7.2.14 Turning to the impact of the development, it can be seen that in the 2021 opening year (with all development traffic included), the additional traffic from the development increases the ratio of flow to capacity at the junction by a maximum of 0.02 (and 4 vehicles) in the morning peak hour and 0.05 (and 4 vehicles) in the evening peak hour.

7.2.15 As illustrated in **Table 7.3**, whilst it is acknowledged that this junction would suffer from some peak period congestion, the development will result in very modest increases in queueing traffic.

7.2.16 On this basis, it is not considered that the development will have a 'severe impact' on the operation of the junction.

Junction 4 – Portman Way / Site Access Priority Junction

7.2.17 In order to assess the capacity of the proposed Portman Way / Site Access junction, a Junctions 9 traffic model has been produced. The junction analysis results are summarised in **Table 7.4** below.

Table 7.4: Portman Way / Site Access Priority Junction

	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (veh)	RFC	Queue (veh)
2021 Future Year + Development				
Site Access	0.02	0	0.02	0
Portman Way	0	0	0	0

Source: Junctions 9

7.2.18 The operational analysis demonstrates that the proposed site access junction will operate well within capacity in both the morning and evening peak hours, with no expected delays or queueing in either peak period.

7.3 Potential Future Improvements

7.3.1 As part of the removal of the Cow Lane bridges, RBC have undertaken an 'Oxford Road Corridor Study' which has reviewed the operation of the local highway network and identified potential improvements that could be made to help reduce delays and increase capacity of junctions within the vicinity of the site.

7.3.2 As part of this study, concept junction improvements have been identified at both the Wigmore Lane (Portman Road) / Oxford Road / Norcot Road roundabout and the Portman Road / Cow Lane / Beresford Road roundabout. The roundabout improvement schemes are shown on PBA drawings 20291/002/008 rev E and 20291/002/006 rev D respectively (attached as **Appendix J**).

7.3.3 Notwithstanding the results of the analysis set out in section 7.2 above (which demonstrates the development will have a negligible impact on the operation of the local highway network), operational assessments of the junction improvement schemes have been undertaken. The results of the operational analysis for the Wigmore Lane (Portman Road) / Oxford Road / Norcot Road are summarised in **Table 7.5**.

Table 7.5: Portman Road / Oxford Road / Norcot Road Roundabout

	Morning Peak Hour		Evening Peak Hour	
	RFC	Queue (veh)	RFC	Queue (veh)
2021 Future Year + Development				
Wigmore Lane (Portman Road)	0.37	1	0.64	2
Oxford Road (East)	0.48	1	0.56	1
Norcot Road	0.57	1	0.54	1
Oxford Road (West)	0.89	7	0.66	2

Source: Junctions 9

7.3.4 As can be seen, the amendments to the junction, improve its operation, with the junction expected to operate within capacity with a maximum RFC of 0.89 and queue of 7 vehicles in the morning peak hour and a maximum RFC of 0.66 and queue of 2 vehicles in the evening peak hour.

7.3.5 The results for the potential junction improvement for the Portman Road / Cow Lane / Beresford Road roundabout are summarised in **Table 7.6**.

Table 7.6: Portman Road / Cow Lane / Beresford Road Roundabout

	Morning Peak Hour		Evening Peak Hour	
	RFC	**Queue (veh)**	**RFC**	**Queue (veh)**
2021 Future Year + Development				
Cow Lane	0.65	2	0.98	15
Beresford Road	0.67	2	0.98	10
Portman Road	0.88	6	0.54	1

Source: Junctions 9

7.3.6 As can be seen, the amendments to the junction improve its overall operation, with the junction operating within capacity with a maximum RFC of 0.88 and queue of 6 vehicles in the morning peak hour and a maximum RFC of 0.98 and queue of 15 vehicles in the evening peak hour.

7.4 Summary

7.4.1 The proposal is likely to generate a net of 50 two way movements in the morning peak hour and 68 two way movements in the evening peak hour, i.e. less than or close to one additional movement per minute in the peak hour.

7.4.2 This level of traffic generation has no material impact on the operation of the local junctions, and the residual impact from the development is far from 'severe'.

SECTION 8 SUMMARY AND CONCLUSION

8.1 Summary

8.1.1 This Transport Assessment has been prepared to consider the potential transport impacts that would arise from a development of some 215 residential dwellings on land previously used for the former Battle Hospital and the South-Central Ambulance Service depot.

8.1.2 The development proposal comprises 215 new homes, of which 164 would be flats and 52 would be houses. The existing Synergy site is to be retained, but with a revised access.

8.1.3 Parking provision is to be provided below the RBC parking standards, but in line with observed parking demand across the Battle Ward, and specific locations within the Ward area.

8.1.4 This Transport Assessment tests the development proposals against key policy requirements, particularly paragraph 32 of the NPPF, which requires that development sites: -

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

8.1.5 In undertaking this assessment, the issues raised by local residents have been considered. These issues principally relate to the location and design of the site access, the local traffic impacts, and parking provision.

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

Site Access

8.1.7 Vehicular access is proposed via a realigned priority junction onto Portman Way, as requested by RBC. The existing 'temporary' junction onto Portman Road will be stopped up.

8.1.8 Taking the access from Portman Way and the closure of the 'temporary' junction onto Portman Road offers a safety benefit, by reducing the number of access points onto a classified road (Portman Road).

8.1.9 The proposed site access junction will provide adequate capacity and the design fully takes on board the comments made by an Independent Stage 1 Road safety Audit.

8.1.10 The internal site layout will include a street network that will be permeable and will provide a slow speed environment with pedestrians and cyclists at the top of the user hierarchy. The site is connected to the existing network of pedestrian and cycle routes, in all four corners of the site. Furthermore, it will deliver a new footway / cycleway from the Tesco signal junction along the length of the site frontage. There is then the opportunity to extend this footway / cycleway further east, and to join it with planned improvements at the Cow Lane mini roundabout.

8.1.11 On this basis, safe and acceptable access will be provided for all users.

Accessibility

8.1.12 The site is in a highly sustainable location in transport terms. There is a good range of facilities and services locally on Oxford Road and Portman Road as well as within Reading itself. New residents will have realistic opportunities to access these facilities and services by walking and cycling and the development offers existing residents greater opportunity to make journeys locally and without the need to use their cars. As such, it is expected that car ownership and parking demand will be in line with that experienced within the Battle Ward, where the average car ownership is some 0.8 cars per dwelling.

8.1.13 The site will connect with the existing pedestrian and cycle network, as well as the existing network of routes through the first phase of the Battle hospital redevelopment site. In addition, a number of improvements and new connections to pedestrian and cycle network are to be provided, such as the provision of new shared footway / cycleway routes within the site and a new footway / cycleway along the northern boundary of the site.

8.1.14 The development proposal will therefore 'take up' the opportunities for walking and cycling through: -

- Internal site layout and access design that places pedestrians and cyclists at the top of the hierarchy of users, e.g. through a permeable layout with slow speed streets; and

- A comprehensive Residential Travel Plan that will encourage and facilitate walking and cycling journeys.

8.1.15 The site benefits from access to a number of bus stops, with the closest stops located on Oxford Road, some 400m south of the site which, is a key public transport corridor. These bus stops provide access to bus services 15, 15a, 16 and 17 which, offer a turn up and go service.

8.1.16 The site is located some 750m from Reading west railway station, which provides regular services to Basingstoke, Newbury and London.

8.1.17 The Residential Travel Plan will include measures to encourage and facilitate bus use, e.g. through the provision of information and subsidised bus season tickets when residents first move in.

8.1.18 Against this background, the opportunities for sustainable travel will be taken up appropriately and comprehensively.

Traffic Impacts

8.1.19 A full and robust capacity analysis assessment has been undertaken to determine the operation of the surrounding highway network and its ability to accommodate the additional traffic from the proposed development.

8.1.20 The assessment shows that the development will have a negligible impact on the operation of the local highway network. The modest number of additional trips generated by the site can be adequately accommodated on local junctions without the need for improvements.

8.1.21 While the development may have some impacts, there will certainly not be a 'severe' residual impact.

8.2 Conclusion

8.2.1 On this basis, it is concluded that: -

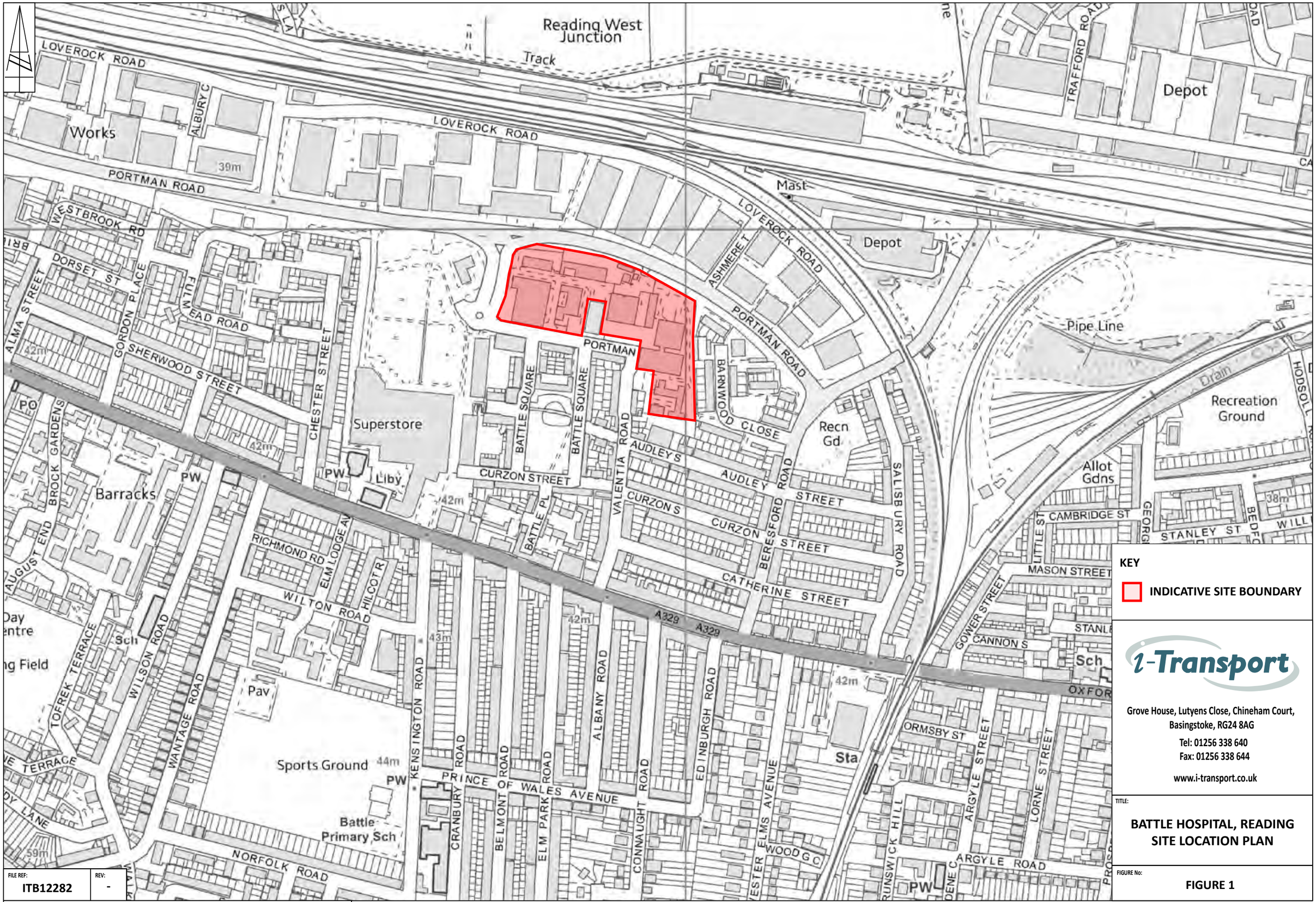
- The site layout and access arrangements comply with the relevant design guidance providing safe access for all users and the development proposals comply with relevant national and local transport policy;

- The site is ideally placed next to existing local services and facilities and as such the site is well connected to encourage the take up of sustainable modes of travel; and

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

8.2.2 Overall, the proposal is considered acceptable in transport and highways terms.

FIGURES



KEY

INDICATIVE SITE BOUNDARY

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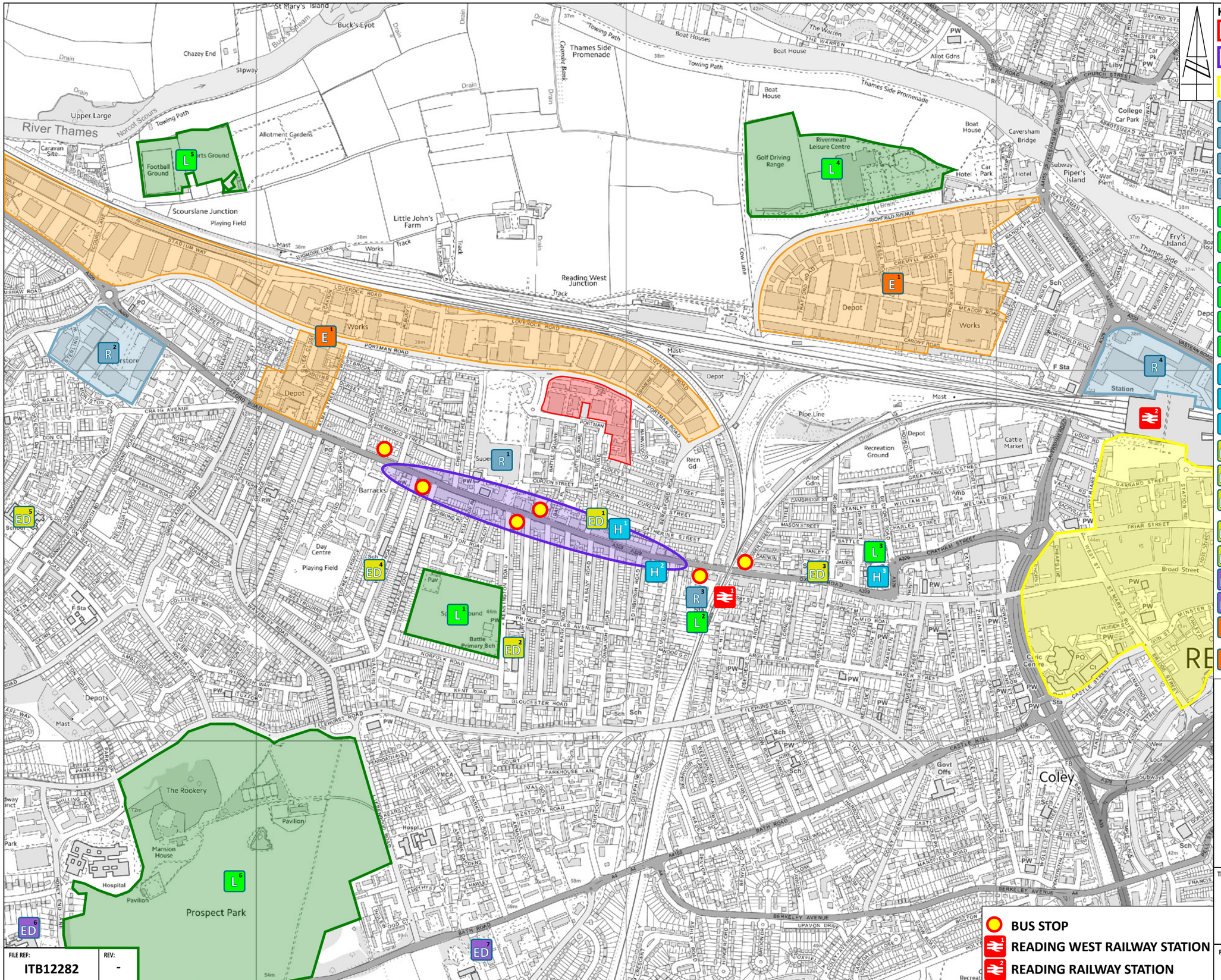
BATTLE HOSPITAL, READING
SITE LOCATION PLAN

FIGURE No:

FIGURE 1

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KEY

- SITE BOUNDARY
- OXFORD ROAD SHOPPING PARADE
- READING TOWN CENTRE
- R1 TESCO EXTRA
- R2 READING RETAIL PARK
- R3 LIDL
- R4 VASTERN COURT RETAIL PARK
- L1 KENSINGTON PARK
- L2 OXFORD ROAD COMMUNITY GARDEN
- L3 CENTRAL SWIMMING POOL
- L4 RIVERMEAD LEISURE CENTRE
- L5 RIVER IBIS LEISURE CENTRE
- L6 PROSPECT PARK
- H1 OXFORD ROAD PHARMACY
- H2 WESTERN ELMS SURGERY
- H3 INSPIRE DENTAL READING
- ED1 THE HONEY BEE PRE SCHOOL
- ED2 BATTLE PRIMARY ACADEMY
- ED3 OXFORD ROAD PRIMARY SCHOOL
- ED4 WILSON PRIMARY SCHOOL
- ED5 RANIKHET ACADEMY
- ED6 PROSPECT SCHOOL
- ED7 THE WREN SCHOOL
- E1 PORTMAN ROAD INDUSTRIAL ESTATE
- E2 RICHFIELD AVENUE INDUSTRIAL ESTATE

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TITLE:

BATTLE HOSPITAL, READING LOCAL FACILITIES PLAN

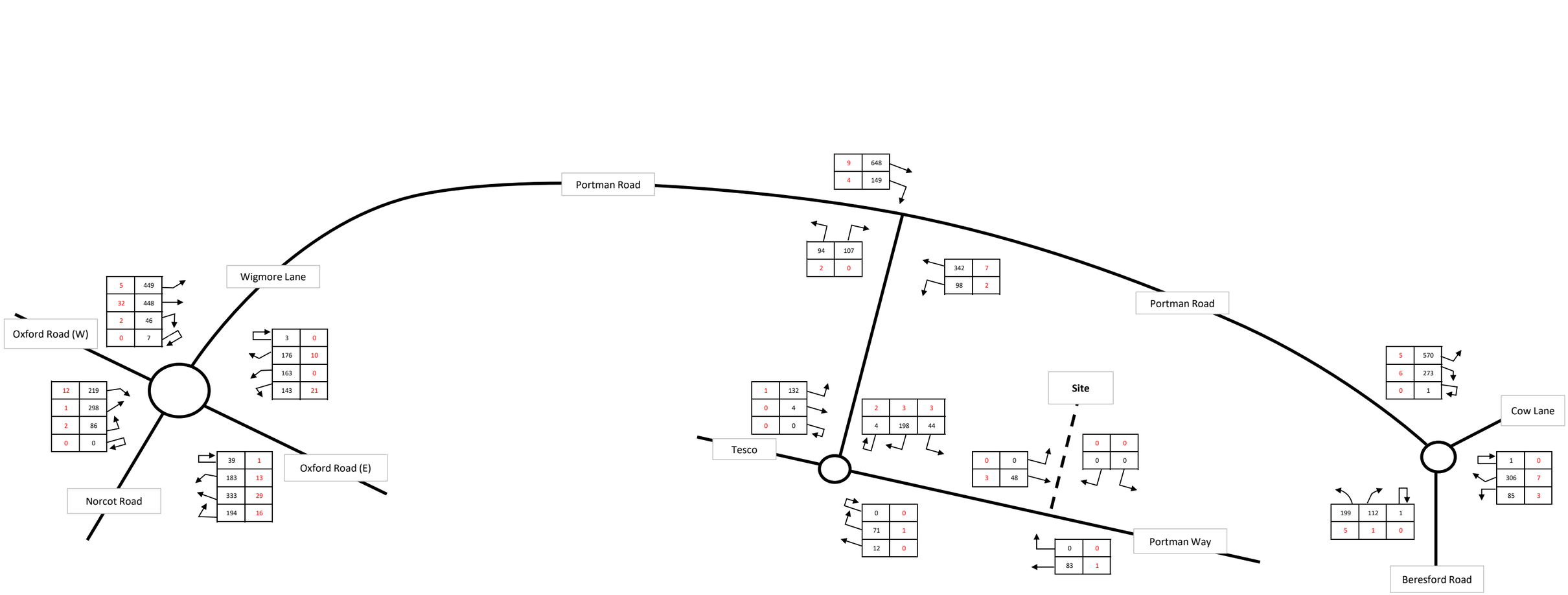
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FIGURE 2

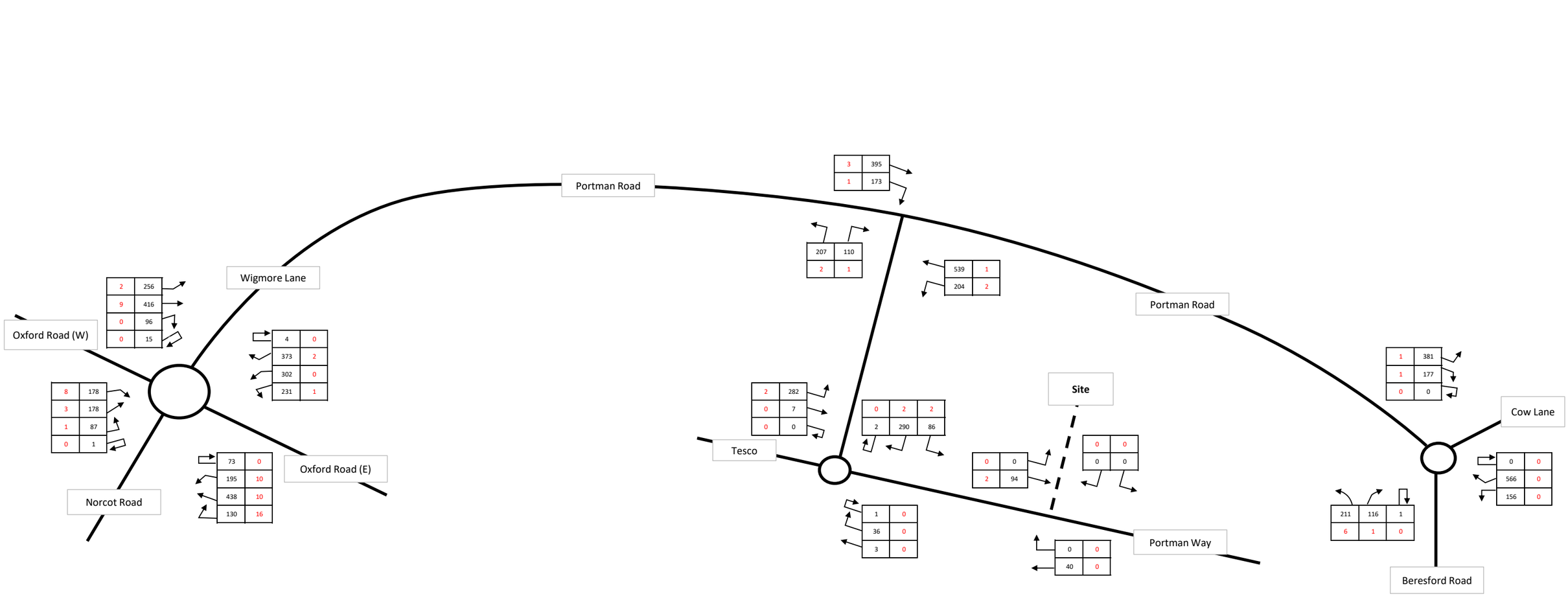
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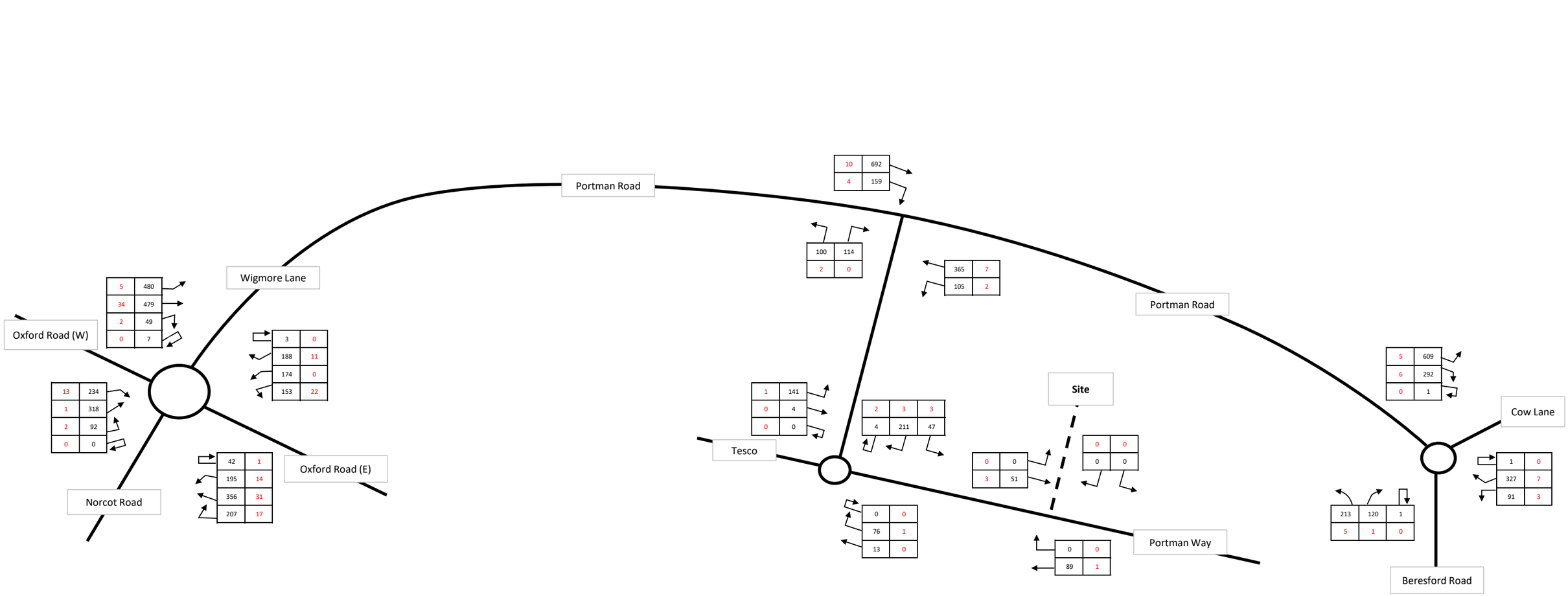
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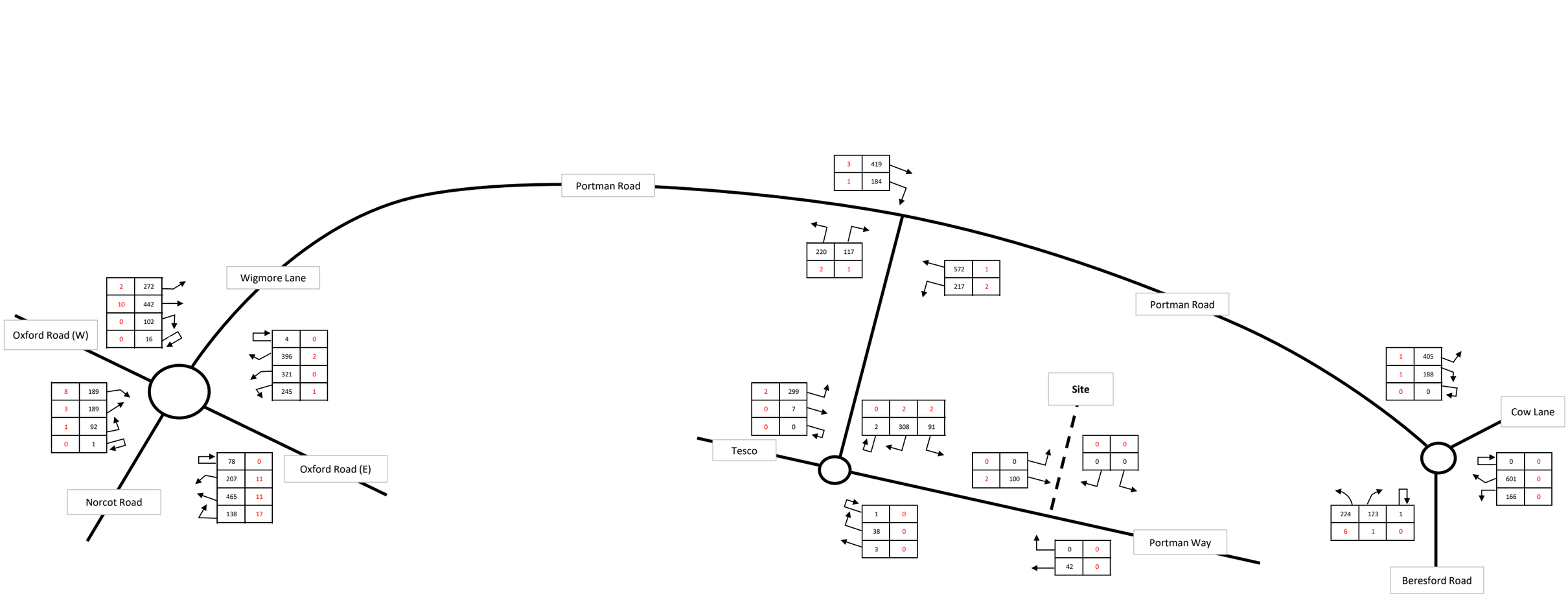
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TF1		25 = HGVs
2017 Observed Traffic Flows AM Peak (08:15-09:15)		



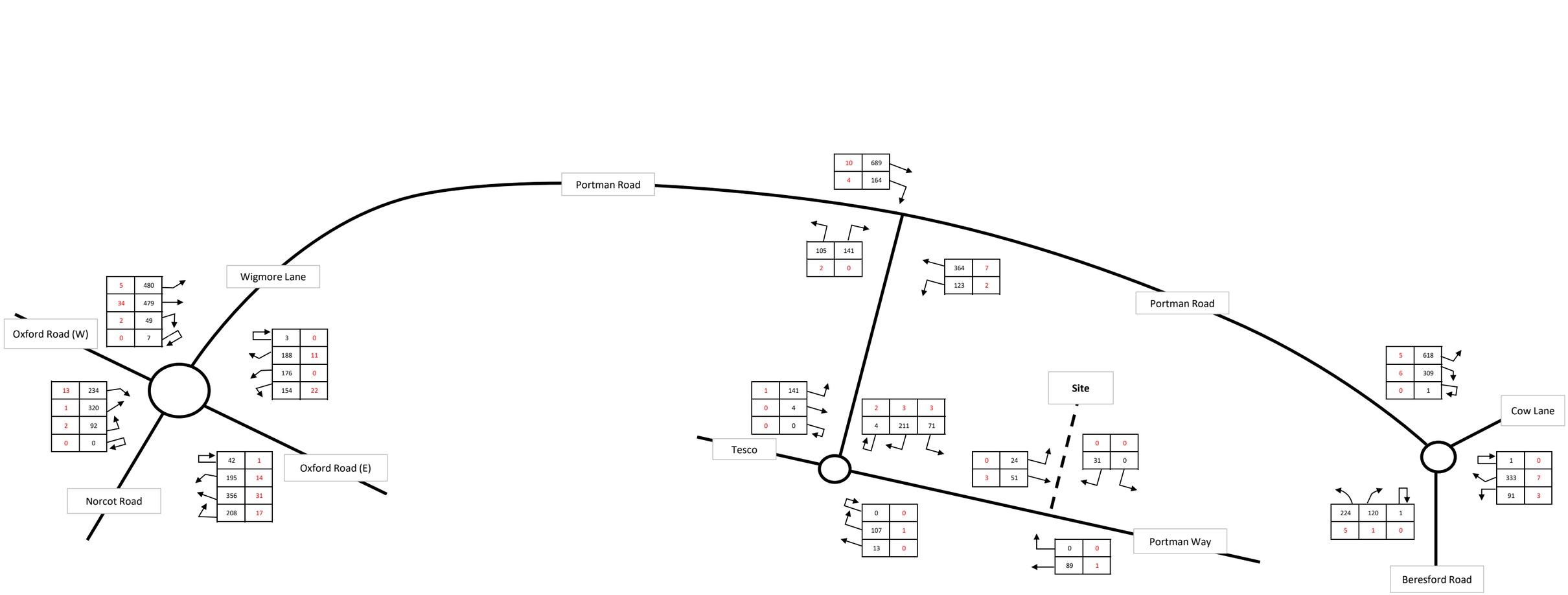
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BATTLE HOSPITAL, READING		500 = TOTAL VEHICLES
TF2		25 = HGVs
2017 Observed Traffic Flows PM Peak (17.30-18.30)		



i-Transport	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY
BATTLE HOSPITAL, READING		500 = TOTAL VEHICLES
TF3		25 = HGVs
2021 Future Traffic Flows AM Peak (08:15-09:15)		



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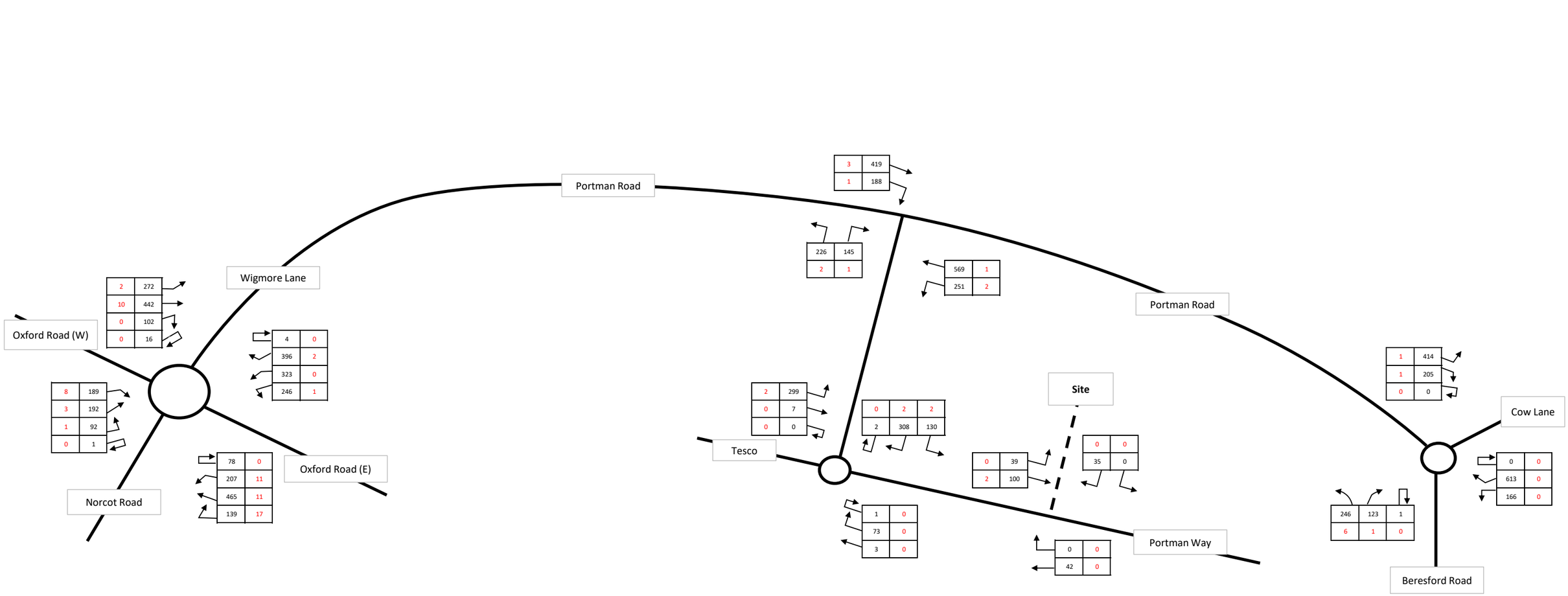


i-Transport	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640
BATTLE HOSPITAL, READING	
TF5	
2021 with Redistributed Site Traffic + Development AM Peak (08:15-09:15)	

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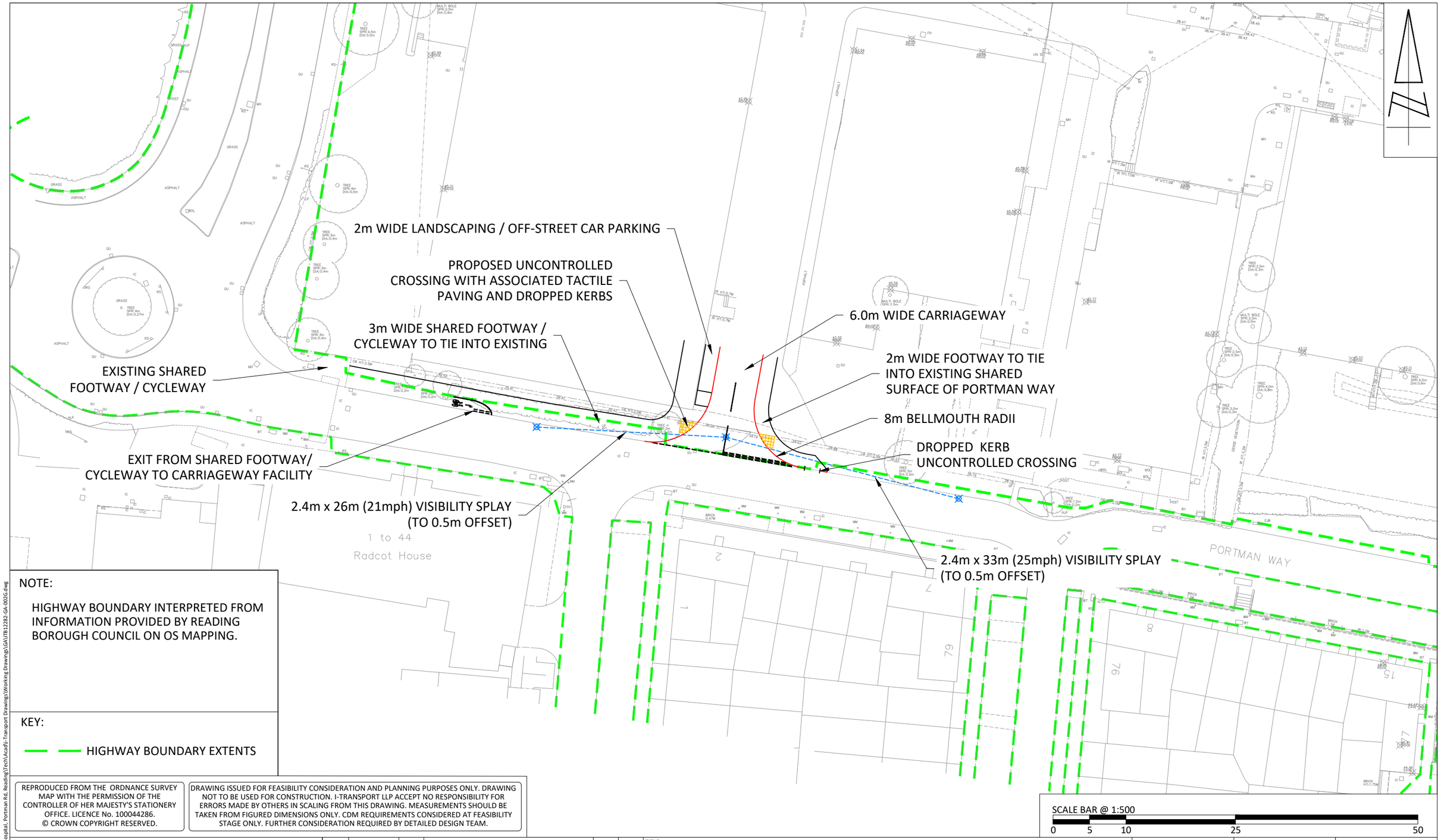
500 = TOTAL VEHICLES

25 = HGVs



i-Transport	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY
BATTLE HOSPITAL, READING		500 = TOTAL VEHICLES
TF6		25 = HGVs
2021 with Redistributed Site Traffic + Development PM Peak (17:30-18:30)		

DRAWINGS



NOTE:

HIGHWAY BOUNDARY INTERPRETED FROM INFORMATION PROVIDED BY READING BOROUGH COUNCIL ON OS MAPPING.

KEY:

HIGHWAY BOUNDARY EXTENTS

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REV	DATE	BY	DESCRIPTION	CHK	APD
G	12.01.18	JD	RSA COMMENTS INCORPORATED	ZB	ZB
F	04.01.18	JD	MINOR AMENDMENTS	ZB	JDW
E	03.01.18	ZB	ACCESS LOCATION REVISED	ZB	JDW

STATUS: DRAFT

TITLE: PROPOSED PORTMAN WAY SITE ACCESS

PROJECT: BATTLE HOSPITAL, PORTMAN ROAD, READING

CLIENT: BELLWAY HOMES LTD

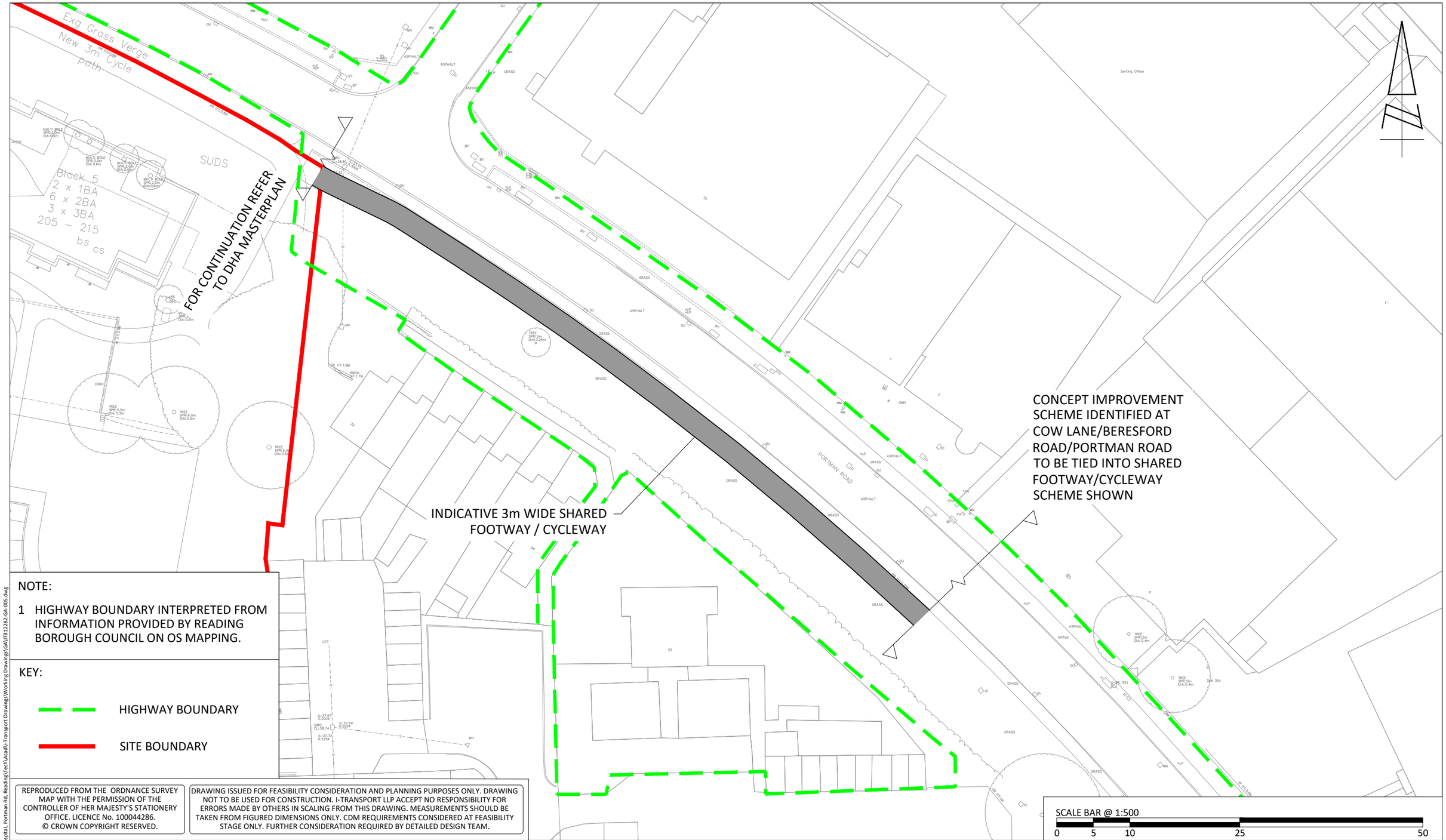
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ITB12282	AB	07.02.17

DRAWING No: ITB12282-GA-002

PROJECT No: ITB12282

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SCALE BAR @ 1:500

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STATUS: DRAFT

TITLE: INDICATIVE SHARED FOOTWAY / CYCLEWAY

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FILE REF:	DRAWN:	DATE:
ITB12282	JD	16.01.18

PROJECT: BATTLE HOSPITAL, PORTMAN ROAD, READING

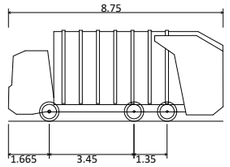
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PROJECT No: ITB12282

REV: -

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Phoenix 2-17N (with Elite 2 6x2 RS chassis) - RBC

Overall Length	8.750m
Overall Width	2.250m
Overall Body Height	3.707m
Min Body Ground Clearance	0.260m
Track Width	2.250m
Lock to lock time	4.00s
Wall to Wall Turning Radius	10.150m

INSET A



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SCALE BAR @ 1:1000

0 10 25 50 100

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REV	DATE	BY	DESCRIPTION	CHK	APD
A	30.01.18	JD	SITE LAYOUT UPDATED	ZB	ZB

STATUS: FOR INFORMATION

TITLE: SWEPT PATH ANALYSIS - LARGE REFUSE VEHICLE

PROJECT: BATTLE HOSPITAL, PORTMAN ROAD, READING

CLIENT: BELLWAY HOMES LTD

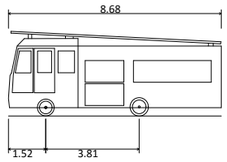
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DRAWING No: ITB12282-GA-006

PROJECT No: ITB12282

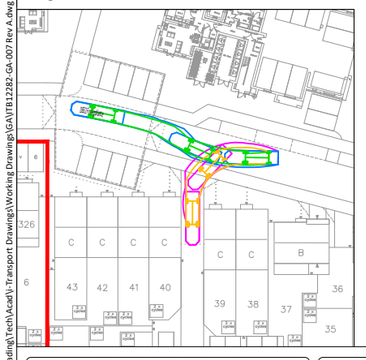
REV: A

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DB32 Fire Appliance	
Overall Length	8.680m
Overall Width	2.180m
Overall Body Height	3.452m
Min Body Ground Clearance	0.337m
Max Track Width	2.121m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	7.910m

INSET A



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SCALE BAR @ 1:1000

0 10 25 50 100

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A	30.01.18	JD	SITE LAYOUT UPDATED	ZB	ZB

STATUS: FOR INFORMATION

TITLE: SWEPT PATH ANALYSIS - FIRE TENDER

PROJECT: BATTLE HOSPITAL, PORTMAN ROAD, READING

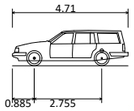
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DRAWING No: ITB12282-GA-007

PROJECT No: ITB12282 REV: A

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Estate Car	
Overall Length	4.710m
Overall Width	1.804m
Overall Body Height	1.442m
Min Body Ground Clearance	0.207m
Max Track Width	1.756m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	5.950m

INSET A

INSET B

INSET C

REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. LICENCE No. 100044286.
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SCALE BAR @ 1:1000

0 10 25 50 100

i-Transport

Grove House, Lutyens Close, Chineham
Basingstoke, Hampshire, RG24 8AG

Tel: 01256 338640
Fax: 01256 338644

www.i-transport.co.uk

REV	DATE	BY	DESCRIPTION	CHK	APD
A	30.01.18	JD	SITE LAYOUT UPDATED	ZB	ZB

STATUS: FOR INFORMATION

TITLE: SWEPT PATH ANALYSIS - ESTATE CAR

PROJECT: BATTLE HOSPITAL, PORTMAN ROAD, READING

CLIENT: BELLWAY HOMES LTD

SCALE @ A3:	CHECKED:	APPROVED:
1:1000	ZB	ZB
FILE REF:	DRAWN:	DATE:
ITB12282	JD	22.01.18

DRAWING No: ITB12282-GA-008

PROJECT No: ITB12282

REV: A

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APPENDIX A **TRANSPORT ASSESSMENT SCOPING NOTE**



FORMER BATTLE HOSPITAL SITE, READING

TRANSPORT ASSESSMENT SCOPING REPORT

Client: Bellway Homes Limited



i-Transport

TRANSPORT ASSESSMENT SCOPING REPORT

FORMER BATTLE HOSPITAL SITE, READING

Client: Bellway Homes Limited

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

i-Transport Ref: ZB/JDW/ITB12282-004 R

Date: 24 November 2017

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QUALITY MANAGEMENT

Report No.	Comments	Date	Author	Authorised
ITB12282-004	Issue	24/11/2017	ZB	JDW

File ref: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Admin\Report and Tech Notes\ITB12282-004 R - Scoping Note.docx

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FIGURES

FIGURE 1	**SITE LOCATION PLAN**

APPENDICES

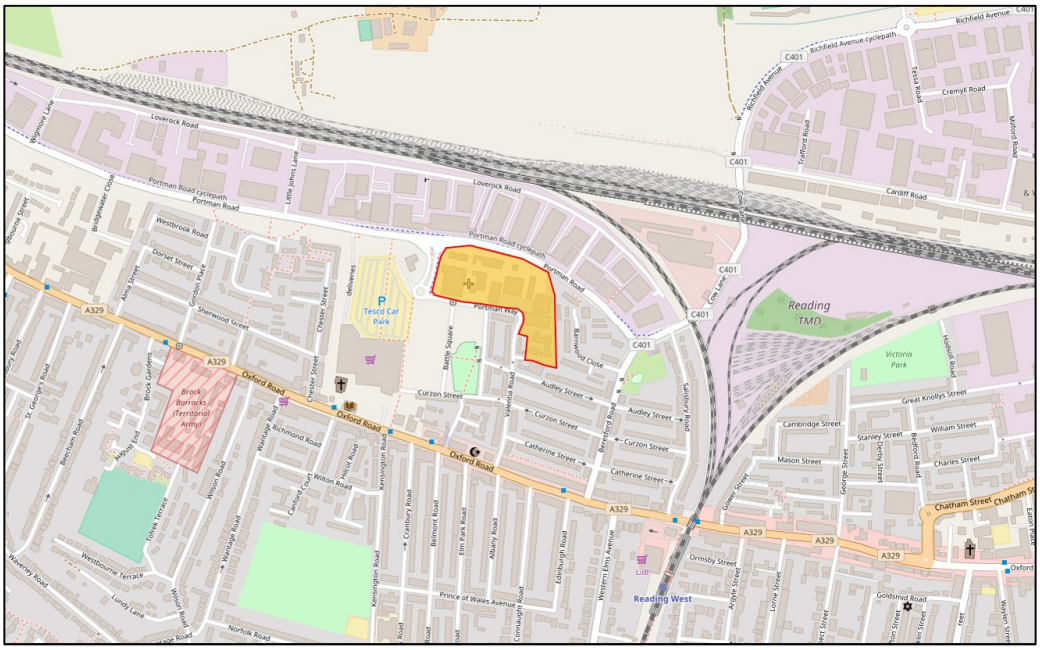
APPENDIX A	**TRICS OUTPUT DATA**
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SECTION 1 INTRODUCTION

1.1 Background

1.1.1 i-Transport has been appointed by Bellway Homes to provide highways and transport advice to support a full planning application at the former Battle Hospital. The land forms the last phase of the Battle Hospital re-development and is being considered for residential development of some 214 new homes. The site location is illustrated on **Figure 1**, which is reproduced as **Image 1**.

Image 1: Site Location



Source: Open source mapping and consultant

1.1.2 The site is located to the west of Reading Town Centre and to the north-west of Reading West railway station and forms part of the former Battle Hospital site. The majority of the site has already been developed for housing and a Tesco Superstore.

1.1.3 This remaining parcel of land includes a number of hospital and service buildings which are surplus to requirements. Of these buildings, the Synergy Health Sterilisation Service has recently been refurbished and will be retained.

1.1.4 The site is identified within the Battle Hospital development SPD as well as the RBC Sites and Detailed Policies Document (adopted October 2012, altered and adopted January 2015).

1.2 Scope of Report

1.2.1 This report sets out the proposed approach and key parameters of the Transport Assessment (TA) for discussion with the Local Highway Authority, Reading Borough Council (RBC). The objective is to arrive at an agreed methodology for undertaking the TA.

1.2.2 This note is structured as follows:

- Section 2 presents a brief summary of the highways pre-application discussions that have taken place thus far with RBC;
- Section 3 provides a summary of the relevant national and local transport policies to be considered as part of the TA;
- Section 4 briefly describes the existing transport conditions in the vicinity of the site;
- Section 5 provides details of the development proposal;
- Section 6 provides parameters for trip generation and impact assessment; and
- Section 7 provides the proposed scope and structure of the Transport Assessment to assess the transport and highways implications of the proposed scheme.

SECTION 2 SUMMARY OF HIGHWAYS PRE-APPLICATION DISCUSSIONS

2.1 Introduction

2.1.1 In order to enable the application to be prepared on an agreed basis, a number of pre-application discussions / meetings have taken place with RBC planners and highways officer. As part of these on-going pre-application discussions, a number of items pertaining to Highways and Transport have been discussed.

2.1.2 This section presents a summary of two key aspects that have so far been discussed and agreed with RBC. These being, the primary site access arrangement and the proposed level of car parking across the development.

2.2 Site Access

2.2.1 An Initial Site Access Appraisal Technical Note (*i-Transport report ITB12282-002C TN*) was produced and submitted to RBC. This Technical Note considered the potential to deliver a satisfactory access to the site and presented an initial review of the transport opportunities and constraints of the site in the context of the potential residential development.

2.2.2 The site access junction arrangement presented in the Access Appraisal Technical Note comprised of: -

- A 6m wide carriageway onto Portman Way (to the south);
- 8m bellmouth radii;
- Visibility splays of 2.4m x 26m and 2.4m x 33m visibility splay to the left and right respectively (in accordance with observed vehicle speeds);
- A 2m wide footway on the eastern side of the carriageway;
- A 3m wide shared footway / cycleway on the western side of the carriageway which, will tie into the extents of the existing shared footway / cycleway infrastructure located to the west of the proposed access; and
- An uncontrolled pedestrian crossing to the east of the access.

2.2.3 Following submission of the Access Appraisal TN to RBC, a meeting took place at RBC offices whereby the RBC Highways Officer confirmed the principal of access onto Portman Way is acceptable.

2.2.4 Some minor alterations (such as reducing the carriageway width to 5.5m and the removal of the uncontrolled pedestrian crossing) have been requested and will be incorporated into a revised site access junction arrangement, to be presented in the TA.

2.3 Parking Demand

2.3.1 A Parking Demand Appraisal Technical Note (*i-Transport report ITB12282-003B TN*) was produced and submitted to RBC. This Technical Note considered the likely parking demand on-site based on local 2011 census data and, using these results, proposed a reduced bespoke parking provision for use on-site.

2.3.2 RBC have confirmed that a reduction in the level of car parking on-site is agreeable and discussions are still ongoing.

SECTION 3 POLICY CONTEXT

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

- National Planning Policy Framework (NPPF);
- National Planning Practice Guidance (NPPG);
- Reading Borough Local Development Framework Core Strategy (adopted January 2008, updated January 2015);
- Reading Borough Local Development Framework Sites and Detailed Policies Document (adopted October 2012); and
- Reading Borough Council – Draft Local Plan (up to 2036);

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

SECTION 4 EXISTING CONDITIONS

4.1.1 This section of the TA will describe the existing transport conditions within the vicinity of the site, including opportunities for walking, cycling and public transport, as well as local highway conditions.

4.2 Local Highway Network

4.2.1 The site is bounded to the north and west by Portman Road, residential housing to the east and Portman Way to the south. To the southwest of the site, Portman Way forms a roundabout junction with Portman Road, which in turn forms a signalised junction with Portman Road to the northwest.

4.2.2 Portman Road forms a roundabout junction with Cow Lane to the east which, in turn provides a connection northbound through Cow Lane bridges (which are currently being improved) and southbound, via Beresford Road, to Oxford Road. To the west, Portman Road becomes Wigmore Lane and forms a roundabout junction with Oxford Road and Norcot Road.

4.2.3 Portman Way is a single lane, two-way carriageway with varying width (between 6.4m and 5.8m) and is subject to a 30mph speed limit along the site frontage. A 2m wide footway is present on the southern side of the carriageway.

4.2.4 To the west, Portman Road is a dual lane two-way carriageway, some 7m in width, and forms a roundabout junction with Portman Way to the south and a signalised junction with Portman Road to the north. A 2m wide footway is present on the western side of the carriageway with a 3m wide shared footway / cycleway present on the eastern side of the carriageway.

4.2.5 To the north, Portman Road is a single lane two-way carriageway some 7.3m in width and is subject to a 40mph speed limit along the site frontage. A 3m wide shared footway / cycleway is present on the northern side of the carriageway.

4.2.6 2m wide footways or 3m wide shared footway / cycleways are present on all local roads surrounding the site, with toucan crossings present at the signalised junction of Portman Road at the north western corner of the site. These facilities provide safe and direct connections for pedestrians and cyclists to Reading Town Centre, local employment and retail facilities and the rail stations at Tilhurst, Reading West and Reading Central.

4.3 Local Amenities

4.3.1 The site is identified within the Battle Hospital development SPD as well as the adopted RBC Sites and Detailed Policies Document (2015) as being in a sustainable location.

4.3.2 The TA will demonstrate how key services and facilities can be reached from the site by a choice of sustainable modes of travel including walking, cycling, and public transport and will set out measures to encourage sustainable access to these facilities.

4.4 Public Transport

4.4.1 The site benefits from access to a number of bus stops, with the closest stops located on Oxford Road, some 400m south of the site which, is a key public transport corridor. These bus stops provide access to bus services 15, 15a, 16 and 17 which, offer a turn up and go service.

4.4.2 **Table 4.1** provides a summary of the routes and their frequencies.

Table 4.1: Bus Routes and Frequencies

Service	Route Description	Frequency (minutes)				
		Mon - Fri			Sat	Sun
		Peaks	Daytime	Evening		
15/15a	Calcot - Tilehurst - Dee Park - Central Reading	15	15	30	15	30
16	Purley - Oxford road - Central Reading	15	15	30	20	30
17	Wokingham Road - Central Reading - Oxford Road - Tilehurst	7	7	15	7	20

Source: reading Buses

4.4.3 It is evident from this that there are substantial opportunities to travel to key destinations within Reading by bus, with there being some 16 buses an hour provided throughout Reading.

4.4.4 The closest railway station to the site is Reading west railway station, located some 750m to the south-east of the site. The station is operated by Great Western Railways and provides regular services to Basingstoke, Newbury and London Waterloo. Basingstoke is a 20-minute journey, with the travel time to Newbury being circa. 25mins and approximately 35mins and 45mins to London Waterloo and London Paddington respectively (changing at Reading main railway station).

4.5 Personal Injury Accident Data

4.5.1 Personal Injury Accident (PIA) data will be obtained from RBC for the most recent five-year period and will be analysed in the TA for the area shown hatched blue on **Image 2**. This will identify if there are any recorded road safety issues in the local area that need to be considered in the TA.

Image 2: PIA Data Collection Area



Source: Google Maps

SECTION 5 DEVELOPMENT PROPOSAL

5.1 Overview

5.1.1 The full planning application will seek planning consent for a development of some 214 new residential dwellings. This section of the TA will set out the proposed development, including access, parking, landscaping and open space.

5.2 Site Access

5.2.1 As set out in Section 2.2 above, as part of the pre-application discussions, RBC have agreed the principles of the site access junction arrangement.

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

5.2.3 As per the advice provided by RBC in the pre-application scoping discussions, a number of pedestrian and cycle connections to the site will be provided throughout to ensure a well connected and permeable development, such as:

- All modes access to Portman Way at the main site access;
- A north to south 3m wide shared footway / cycleway on the western side of the site access;
- An east to west 3m wide shared footway / cycleway adjacent to Portman Road; and
- A 3.7m wide shared footway / cycleway / emergency access onto Valentia Road.

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

5.3 Internal Site Layout and Parking

5.3.1 The internal site layout will be designed in line with key guidance contained within the DfT's Manual for Streets and Manual for Streets 2.

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

- Primary Street - 5.5m carriageway with either a 2m footway, a 3m wide shared footway / cycleway or both;
- Smaller cul-de-sacs and areas where refuse vehicles enter – 5m shared surfaces;
- Private Driveways – narrower shared surface areas where refuse vehicles do not need to enter (4.1m to 4.8m);
- Service margins provided where no footway is present; and
- A 20mph design speed will be adopted on primary streets, with 15mph design speeds on secondary roads.

5.3.3 Swept path analysis will be undertaken for fire tender, to be in accordance with Building Code Approved Documents H & B respectively.

5.3.4 Swept path analysis will also be undertaken for the refuse vehicle, in accordance with RBC's Waste Management Guidelines for Property Developers, Architects, Planners and Contractors.

Parking

5.3.5 As set out in Section 2.3, a bespoke car parking methodology is currently being discussed which, will set out the car parking provision to be provided on-site.

5.3.6 Cycle parking will be provided in accordance with the minimum cycle parking standards presented in RBC' LDF Revised Parking Standards and design SPD (adopted October 2011), re-produced below: -

- 1/2 Bed Flat – 0.5 spaces per flat;
- 3+ Bed Flat – 1 space per flat;
- 1 bed house – 1 space per dwelling; and
- 2+ bed house – 2 spaces per dwelling.

5.3.7 Cycle parking facilities will be provided on-curtilage in sheds and garages for houses, or in secure, well lit, covered cycle storage facilities for flatted units.

SECTION 6 TRAFFIC IMPACT

6.1 Introduction

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

6.2 Trip Generation

6.2.1 The TRICS database (version 7.4.3) has been used to calculate the potential traffic generation of the proposed development. The trip rates have been obtained using the following parameters:

- Region – all of England (except Greater London);
- Time period – surveys for the last 10-year period (start date: 01/01/2009);
- Location relevance – surveys in 'Town Centre', 'Edge of Town Centre' and 'edge of town' locations;
- Date relevance – surveys undertaken during a weekday.

6.2.2 Given the proportions of flats and houses proposed, trip rates have been calculated for both 'Private Housing' and 'Flats Privately Owned'. This approach does not account for affordable units which generally have a lower trip rate and as such overestimates the likely traffic that would be generated by the affordable dwellings provided on the site.

6.2.3 The vehicle trip rates for Flats Privately Owned and Private Housing are summarised in **Table 6.1**. A full copy of the TRICS data is provided within **Appendix A**.

Table 6.1: Vehicle Trip Rates

	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	In	Out	Total	In	Out	Total
Private (per flat)	0.039	0.107	0.146	0.114	0.066	0.180
Private (per house)	0.118	0.335	0.453	0.273	0.181	0.454

Source: TRICS

6.2.4 Using the currently indicated dwelling mix (i.e. 166 flats and 48 houses), the resultant vehicle trips are summarised in **Table 6.2**.

Table 6.2: Vehicle Trips

	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	In	Out	Total	In	Out	Total
Private Flats	6	18	24	19	11	30
Private Houses	6	16	22	13	9	22

Source: Consultants Calculations (Note: Values rounded)

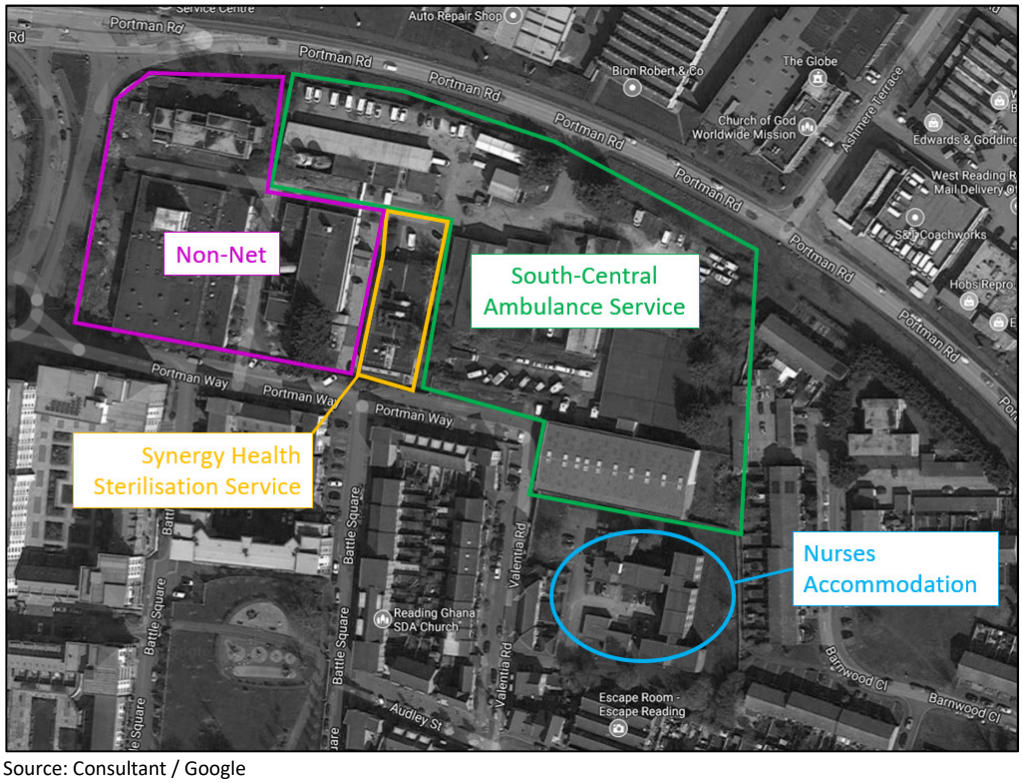
6.3 Net Traffic Impact

6.3.1 The site is currently made up of a number of occupied and non-occupied buildings; comprised of store rooms, vehicle maintenance & storage, Ambulance service, Synergy sterilisation unit and Nurse's accommodation (totalling some 7,983sqm).

6.3.2 Of these buildings, the South-Central Ambulance Service, Synergy Health Sterilisation Service and the Nurses Accommodation are subject to extant planning permission.

6.3.3 With this in mind, it is proposed to undertake a net impact comparison of the change in traffic volumes between the permitted and proposed land uses. However, as set out in Section 1.1, the Synergy Health Sterilisation Service is to be retained as such, the net traffic impact comparison will not include traffic associated with this building. **Image 3** below, demonstrates the approximate locations of the buildings on-site.

Image 3: Land Use Locations



Source: Consultant / Google

6.3.4 It is understood a number of buildings that part of the site have not been occupied for an extended period of time therefore, will not form part of the net traffic generation comparison exercise (shown bounded purple).

Existing Traffic Generation

6.3.5 The South-Central Ambulance Service (SCAS) and Synergy Health Sterilisation Service (SHSS) are currently in operation on-site. In order to determine the existing traffic generation associated with these services a manual classified turning count (MCC) was undertaken, on Tuesday 4th July 2017, at the existing vehicular access onto Portman Road.

6.3.6 A summary of the survey results is presented in **Table 6.3**; a full copy of the survey data can be found in **Appendix A**.

Table 6.3: Observed Traffic Volumes – Portman Road Access

Time			In	Out	Two-Way
AM	07:30	08:30	13	6	19
	07:45	08:45	9	8	17
	08:00	09:00	9	7	16
	08:15	09:15	10	10	20
	08:30	09:30	12	9	21
PM	16:00	17:00	5	13	18
	16:15	17:15	5	12	17
	16:30	17:30	2	12	14
	16:45	17:45	3	7	10
	17:00	18:00	4	6	10
	17:15	18:15	2	3	5
	17:30	18:30	4	2	6

Source: Traffic Survey

6.3.7 As can be seen, the existing SCAS and SHSS services currently generate up to 21 two-way vehicle movements during the busiest morning hour, with 18 two-way vehicle movements observed entering / exiting in the busiest evening hour.

6.3.8 As set out in Section 1.1, the SHSS building / unit is to be retained, therefore the traffic associated by this service will continue to be generated as such will not be deducted as part of the net traffic comparison exercise.

6.3.9 In order to determine the traffic associated with the SHSS service, a TRICS trip generation calculation has been undertake for the circa. 726sqm building. It is understood the SHSS building is subject to B1 use planning permission. While it is clear a direct comparison to the SHSS is unlikely to be obtainable from the TRICS database, the Industrial Unit use class is considered to be the closest match on the TRICS database to that of the SHSS.

6.3.10 The calculated trip rates and likely trip generation are set out in **Table 6.4** below; with a copy of the TRICS output data sheets contained in **Appendix A**.

Table 6.4: Synergy Health Sterilisation Service Vehicle Trips

	AM Peak			PM Peak		
	In	Out	Two-Way	In	Out	Two-Way
Trip Rate (per 100sqm)	0.465	0.155	0.62	0	0.745	0.745
Trips	4	1	5	0	6	6

Source: TRICS

6.3.11 **Table 6.4** shows that the SHSS could be expected to generate 5 two-way vehicle movements during the morning peak hour and 6 two-way vehicle movements during the evening peak hour.

Permitted Use Traffic Generation

6.3.12 At the south western corner, the site is subject to planning permission for some 2334sqm of C3 Nurses Accommodation. This accommodation is currently un-occupied as such, in order to determine potential traffic generation, a review of the TRICS trip generation database has been undertaken.

6.3.13 The calculated trip rates and likely trip generation, based on the number of parking spaces of which there are 23, are set out in **Table 6.5**. A copy of the full TRICS output can be found in **Appendix A**.

Table 6.5: Nurses Accommodation Vehicle Trips

	AM Peak			PM Peak		
	In	Out	Two-Way	In	Out	Two-Way
Trip Rate (per parking space)	0.08	0.12	0.2	0.12	0.04	0.16
Trips	2	3	5	3	1	4

Source: TRICS

6.3.14 As can be seen, the Nurses Accommodation could be expected to generate some 5 two-way vehicle movements during the morning peak hour and 4 two-way vehicle movements during the evening peak hour.

6.3.15 Using the information contained in **Table 6.3**, **Table 6.4** and **Table 6.5**, the net traffic reduction proposed to be used as part of the development traffic impact assessment has been calculated and is presented in **Table 6.6**.

Table 6.6: Net Traffic Reduction

Time	AM Peak			PM Peak		
	In	Out	Two-Way	In	Out	Two-Way
Existing Traffic Generation	12	9	21	5	13	18
Synergy	4	1	5	0	6	6
Nurses Accommodation	2	3	5	3	1	4
Total Net Reduction	**10**	**11**	**21**	**8**	**8**	**16**

Source: Consultants Calculations

6.4 Traffic Distribution and Assignment

Journey Purpose

6.4.1 Data derived from the National Travel Survey (NTS) 2015 (DfT) outlines the proportion of peak hour trips made by car, split into journey purpose (**Table 6.7**).

Table 6.7: Proportion of Peak Hour Trips by Journey Purpose (Car Driver Only)

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

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

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

Trip Distribution

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

- For commuting and business trips, the National Census Journey to Work statistics (for car drivers) for the Reading 007 Super Output Area – Middle Layer has been used. This identifies the location of existing resident's employment locations and so identify existing commuting patterns; and
- For other journey purpose trips a P/T^2 gravity model has been undertaken using the population of key urban areas (from the 2011 census) within a 40-minute drive from the site (estimated from Google Maps Directions facility).

6.4.4 The two sets of data are then combined to generate a single set of distribution parameters to inform the development trip assignment. The combined data is presented in **Table 6.8**.

Table 6.8: Distribution of Car Driver Trips (All Purpose)

Destination	Employment Trips %	Non-Commuter Trips %	All Trips Combined %
Abingdon	0.7%	-	0.72%
Ascot	0.0%	0.23%	0.23%
Basingstoke	0.8%	-	0.80%
Beaconsfield and Iver Heath	0.2%	-	0.20%
Blackwater and Minley	0.1%	-	0.10%
Bracknell	2.3%	1.41%	3.71%
Camberley	0.3%	-	0.30%
Cobham	0.0%	0.13%	0.13%
Farnborough	0.2%	-	0.20%
Fleet	0.2%	0.29%	0.49%
Guildford	0.2%	-	0.20%
Henley-on-Thames	0.0%	1.93%	1.93%
Hook	0.2%	0.14%	0.34%
London	1.8%	-	1.80%
Newbury/ Thatcham	7.3%	-	7.30%
Other East	0.5%	-	0.50%
Other North	0.7%	-	0.70%
Other South	0.4%	-	0.40%
Other West	0.4%	-	0.40%
Oxford	3.0%	-	3.00%
Reading	16.4%	46.42%	62.82%
Slough	1.1%	1.74%	2.84%
Swindon	0.4%	-	0.40%
Maidenhead	1.1%	0.69%	1.79%
Woking	0.1%	-	0.10%
Wokingham	6.0%	2.04%	8.04%
Wycombe	0.6%	-	0.60%
Total	**45%**	**55%**	**100%**

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

6.4.5 This analysis identifies that Reading is the main traffic attractor, with some 63% of total travel demand, followed by Wokingham (8%) and Newbury (7%). The remainder of trips are well distributed across various destinations.

Assignment

6.4.6 The expected traffic that would be generated by the development is then distributed onto the local network to the destinations identified in **Table 6.8**.

6.4.7 To determine the routing of trips to these destinations, trips were assigned to the road network based on the quickest route from the site to the destination location using the Google Maps 'Directions' Facility. Within the Directions facility, a start time for journeys of 08:00 was utilised to ensure that peak period traffic conditions are reflected.

6.4.8 In some of cases, there was a single route option identified by the assessment, however for the majority of destinations the assessment identified multiple routes. In these cases, the estimated development trips were distributed amongst the routes based upon the journey times identified, with the quickest route assigned a larger amount of trips than slower comparable routes.

6.4.9 Traffic has been assigned to the local highway network according to:

- The distribution methodology set out;
- The journey times of routes available based on journey planning software and local knowledge; and
- The impact of the proposed access strategy on route choice.

6.4.10 The development related traffic distribution is shown on **Figure TF1** with the full distribution model for agreement included in **Appendix B**.

6.5 Assessment

6.5.1 An assessment of the traffic impact of the proposed development on the highway network surrounding the development will be undertaken using industry standard traffic modelling software.

6.5.2 It is proposed to undertake detailed operational analysis at the following junctions:

- Portman Road / Portman Way traffic signals;
- Portman Way / Tesco roundabout;
- Cow Lane / Beresford Road / Portman Road mini-roundabout; and
- Oxford Road / Wigmore Lane / Norcot Road roundabout.

6.5.3 Neutral weekday peak period traffic surveys were undertaken on the 4th July 2017 for the above junctions.

6.5.4 Given the improvements identified, and currently being implemented, at the Cow Lane bridges, a percentage impact only assessment will be undertaken of traffic heading to / from the bridges.

6.6 Traffic Growth

Background traffic growth

6.6.1 In line with the Highways England (HE) advice in 'Circular 02/2013' (which is re-iterated in the recent HE document 'Planning for the Future') assessments to consider the traffic impact of development should be carried out at the expected opening year (assuming full occupation). This identifies: whether there is sufficient capacity in the network to accommodate development traffic; and, if necessary, where mitigation may be required to address any 'severe' impacts arising in the opening year assessment.

6.6.2 The TA will therefore assess the local highway network in 2021, which is the expected year of opening (assuming full occupation).

6.6.3 The TEMPRO and National Transport Model (NTM) database has been interrogated in order to determine applicable growth rates for the background traffic to be growthed from the baseline year (2017) to the opening year of 2021. A growth rate of 1.07 has been determined for the AM peak period and 1.06 for the PM peak for the Reading 007 Super Output Area – Middle Layer.

Committed Development

6.6.4 We will take account of any relevant committed developments in the vicinity of the site and add these traffic flows to the background traffic. We would be grateful for advice on whether any committed development traffic should be included.

6.6.5 Upon receipt of any committed development information, we will undertake a review of this information in order to determine if this is included within the TEMPRO growth factors identified above. If this is the case, adjustments will be made to the TEMPRO database to avoid 'double counting'.

6.7 Framework Travel Plan

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

6.7.2 The FTP will focus on promoting sustainable lifestyles amongst new residents, through reducing the need for travel by private car, providing non-car mode travel options for local journeys and influencing modal choice. The FTP will also provide an initial Framework for implementation, management and review of the Travel Plan.

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

SECTION 7 SUMMARY

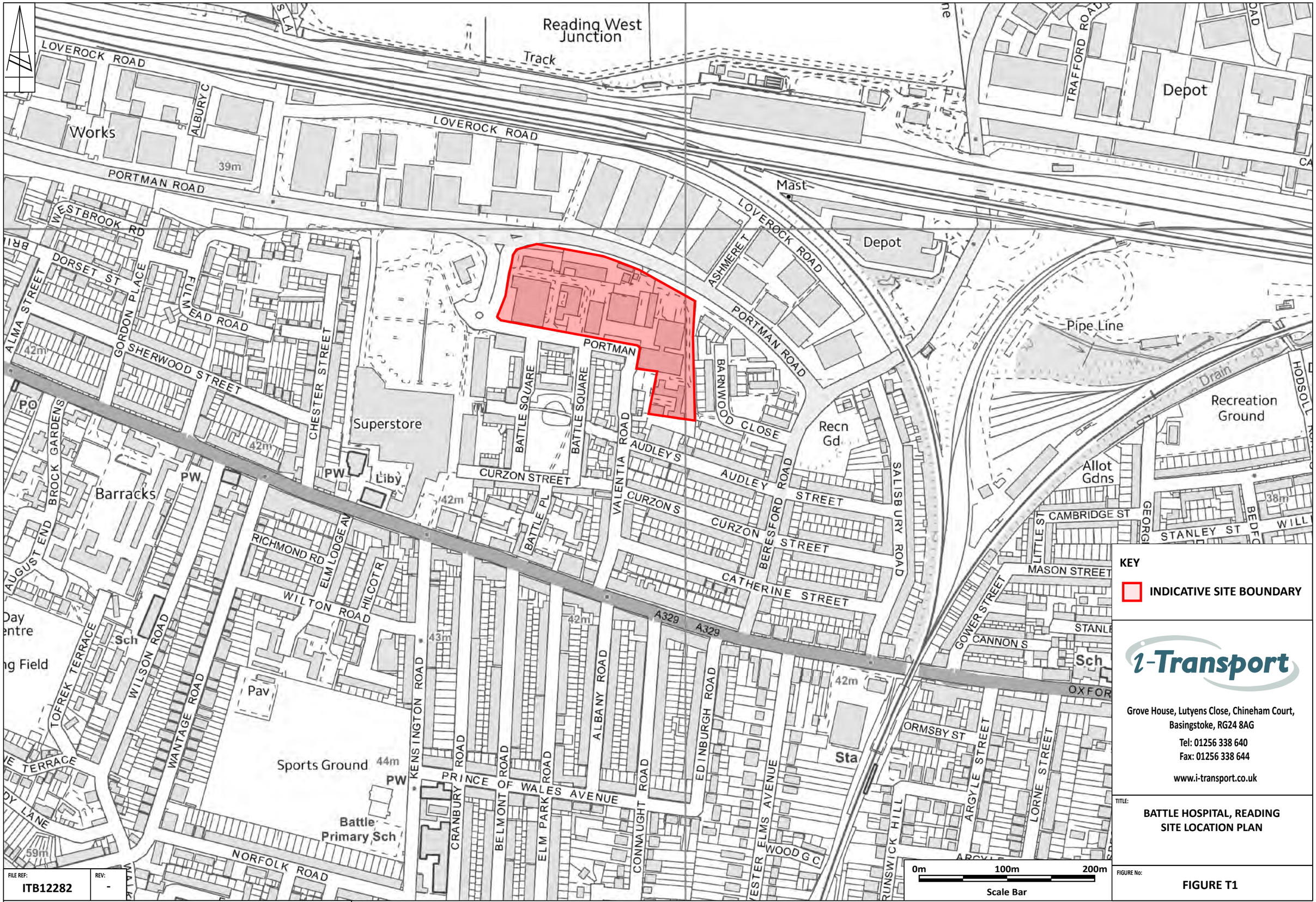
7.1.1 This Transport Assessment Scoping Note sets out the proposed methodology and parameters for a Transport Assessment to assess the transport and highways implications of a development of some 214 dwellings on the former the Battle Hospital site.

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

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

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

FIGURE



KEY

INDICATIVE SITE BOUNDARY

i-Transport

Grove House, Lutyens Close, Chineham Court,
Basingstoke, RG24 8AG

Tel: 01256 338 640
Fax: 01256 338 644

www.i-transport.co.uk

TITLE:

BATTLE HOSPITAL, READING
SITE LOCATION PLAN

FIGURE No:

FIGURE T1

FILE REF:	REV:
ITB12282	-

0m 100m 200m

Scale Bar

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APPENDIX A TRICS OUTPUT DATA

Calculation Reference: AUDIT-236601-171124-1103

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : C - INDUSTRIAL UNIT
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	RE	READING	1 days
03	SOUTH WEST		
	BR	BRISTOL CITY	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	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: 645 to 1475 (units: sqm)
Range Selected by User: 300 to 1500 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 22/09/15

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

Selected survey days:

Tuesday	1 days
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	3 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 undertaking using machines.

Selected Locations:

Edge of Town	3

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

Selected Location Sub Categories:

Industrial Zone	3

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

Secondary Filtering selection:

Use Class:

B1	3 days

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

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days

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

Population within 5 miles:

75,001 to 100,000	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	2 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	3 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	3 days

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

LIST OF SITES relevant to selection parameters

1 BR-02-C-02 STAINLESS FITTINGS BRISTOL CITY
SOUTH LIBERTY LANE

BRISTOL
Edge of Town
Industrial Zone
Total Gross floor area: 1475 sqm
Survey date: TUESDAY 22/09/15 Survey Type: MANUAL

2 RE-02-C-01 SHEET METAL FABRICATION READING
COMMERCIAL ROAD

READING
Edge of Town
Industrial Zone
Total Gross floor area: 645 sqm
Survey date: THURSDAY 22/11/12 Survey Type: MANUAL

3 SF-02-C-01 JOINERY SUFFOLK
ANSON ROAD
MARTLESHAM HEATH
IPSWICH
Edge of Town
Industrial Zone
Total Gross floor area: 1100 sqm
Survey date: FRIDAY 12/07/13 Survey Type: MANUAL

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.093	3	1073	0.000	3	1073	0.093
07:30 - 08:00	3	1073	0.311	3	1073	0.000	3	1073	0.311
08:00 - 08:30	3	1073	0.248	3	1073	0.093	3	1073	0.341
08:30 - 09:00	3	1073	0.217	3	1073	0.062	3	1073	0.279
09:00 - 09:30	3	1073	0.124	3	1073	0.062	3	1073	0.186
09:30 - 10:00	3	1073	0.280	3	1073	0.062	3	1073	0.342
10:00 - 10:30	3	1073	0.311	3	1073	0.124	3	1073	0.435
10:30 - 11:00	3	1073	0.062	3	1073	0.124	3	1073	0.186
11:00 - 11:30	3	1073	0.062	3	1073	0.062	3	1073	0.124
11:30 - 12:00	3	1073	0.155	3	1073	0.186	3	1073	0.341
12:00 - 12:30	3	1073	0.248	3	1073	0.155	3	1073	0.403
12:30 - 13:00	3	1073	0.124	3	1073	0.186	3	1073	0.310
13:00 - 13:30	3	1073	0.217	3	1073	0.311	3	1073	0.528
13:30 - 14:00	3	1073	0.124	3	1073	0.093	3	1073	0.217
14:00 - 14:30	3	1073	0.062	3	1073	0.000	3	1073	0.062
14:30 - 15:00	3	1073	0.186	3	1073	0.248	3	1073	0.434
15:00 - 15:30	3	1073	0.093	3	1073	0.093	3	1073	0.186
15:30 - 16:00	3	1073	0.093	3	1073	0.155	3	1073	0.248
16:00 - 16:30	3	1073	0.062	3	1073	0.155	3	1073	0.217
16:30 - 17:00	3	1073	0.062	3	1073	0.155	3	1073	0.217
17:00 - 17:30	3	1073	0.000	3	1073	0.590	3	1073	0.590
17:30 - 18:00	3	1073	0.000	3	1073	0.155	3	1073	0.155
18:00 - 18:30	3	1073	0.031	3	1073	0.062	3	1073	0.093
18:30 - 19:00	3	1073	0.031	3	1073	0.000	3	1073	0.031
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:			3.196			3.133			6.329

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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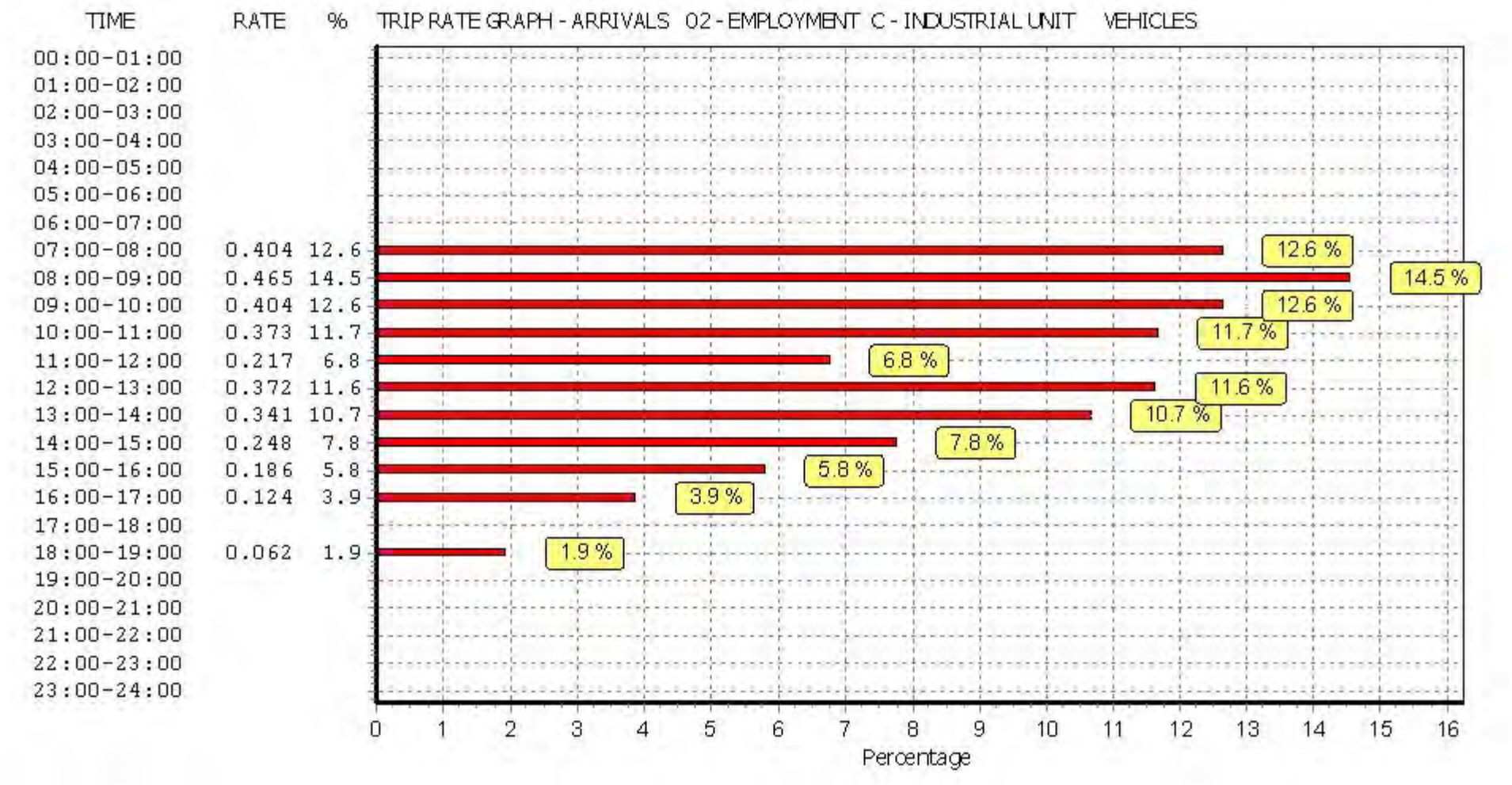
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Parameter summary

Trip rate parameter range selected:	645 - 1475 (units: sqm)
Survey date date range:	01/01/09 - 22/09/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

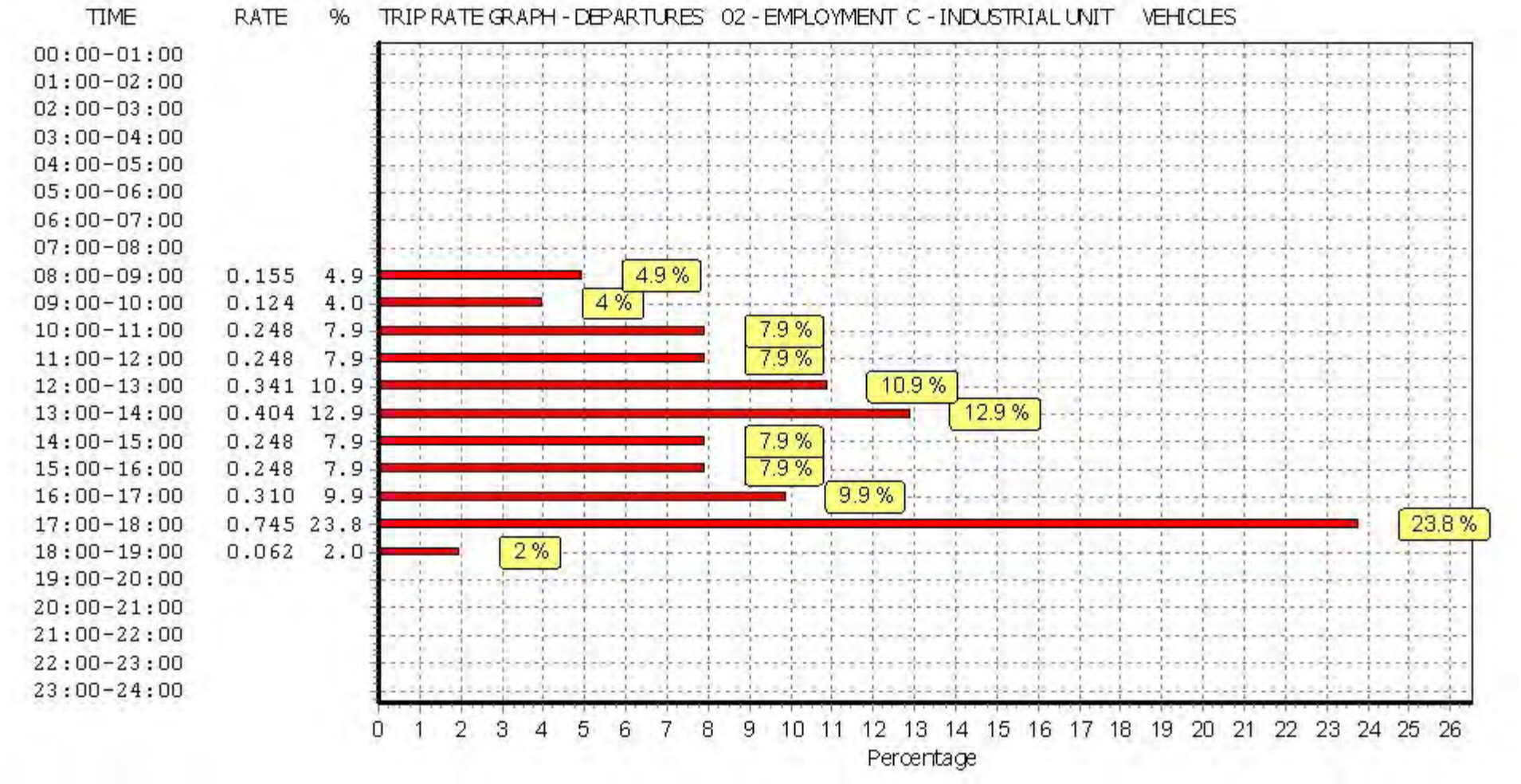
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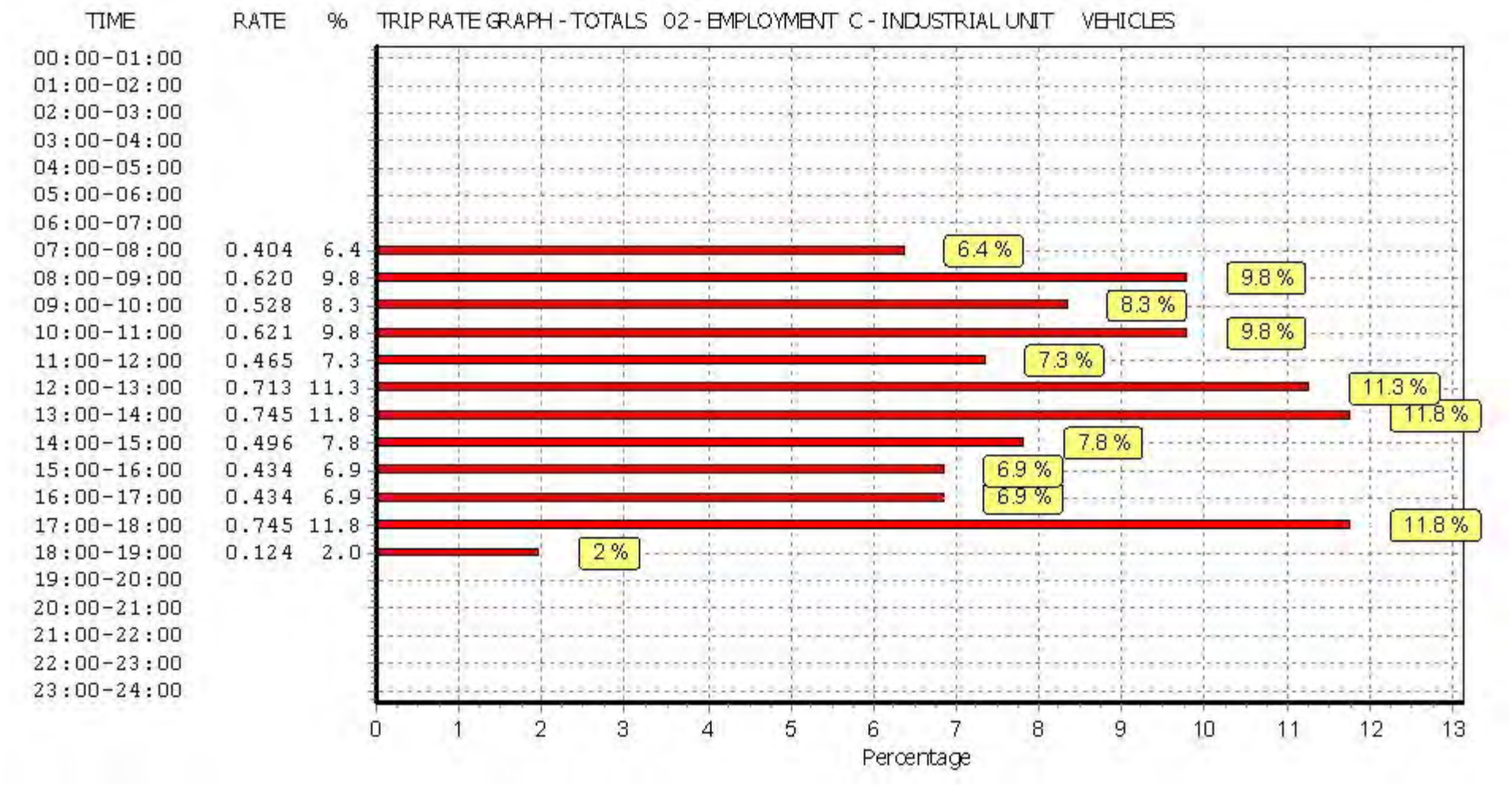
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.000	3	1073	0.000	3	1073	0.000
07:30 - 08:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:00 - 08:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:30 - 09:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:00 - 09:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:30 - 10:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:00 - 10:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:30 - 11:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:00 - 11:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:30 - 12:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:00 - 12:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:30 - 13:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:00 - 13:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:30 - 14:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:00 - 14:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:30 - 15:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:00 - 15:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:30 - 16:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:00 - 16:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:30 - 17:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:00 - 17:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:30 - 18:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:00 - 18:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:30 - 19:00	3	1073	0.000	3	1073	0.000	3	1073	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:			0.000			0.000			0.000

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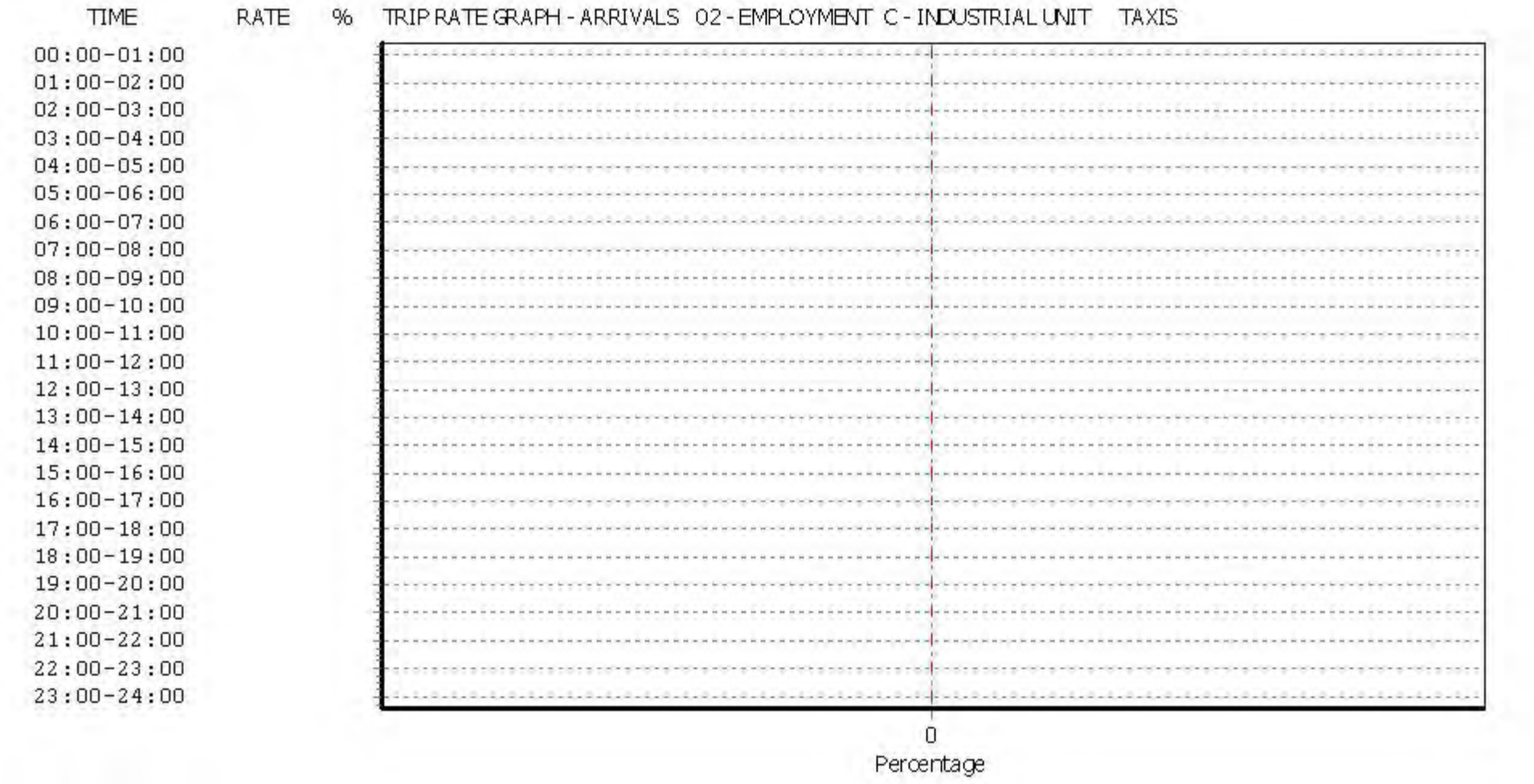
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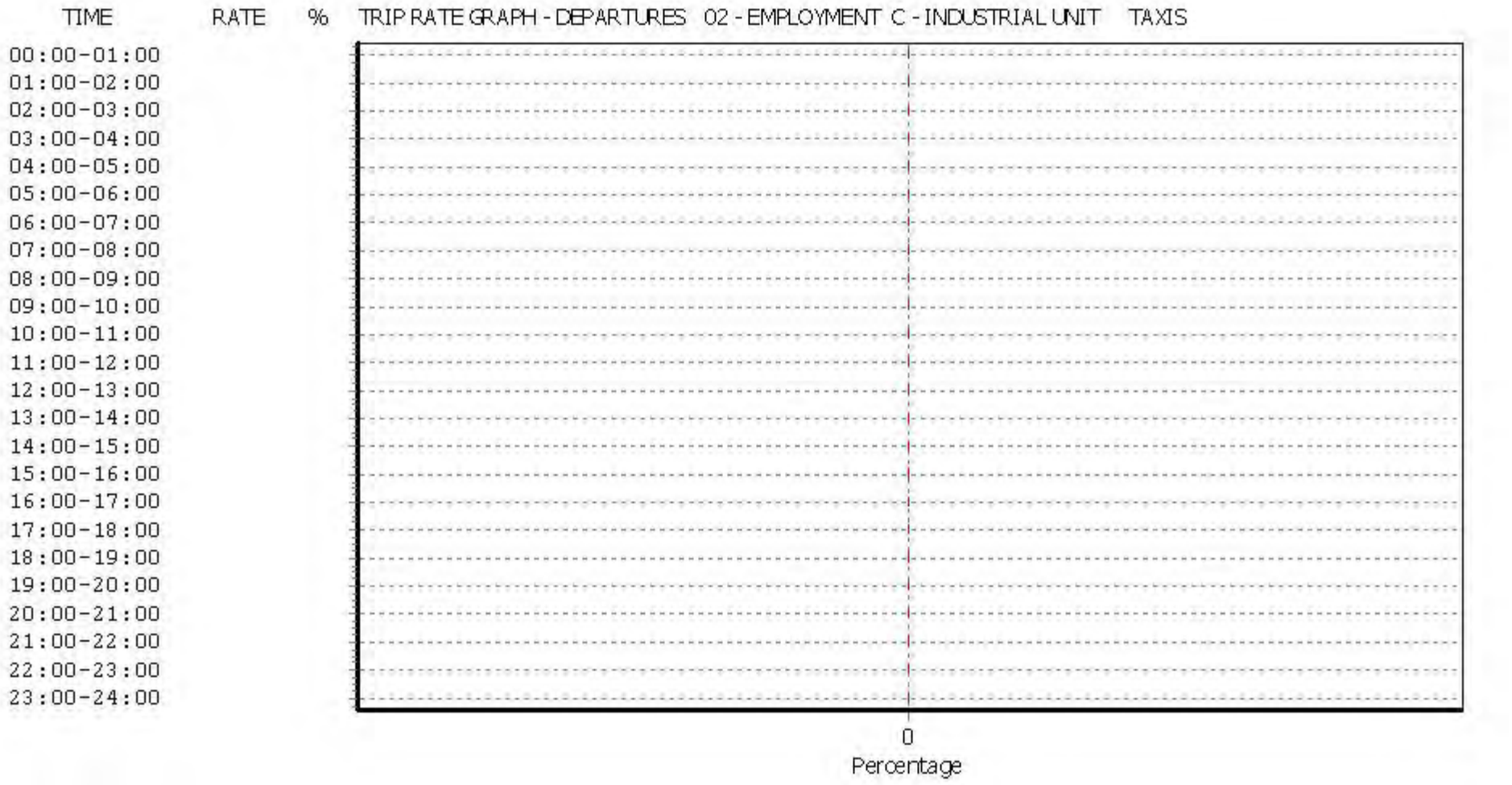
Parameter summary

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Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

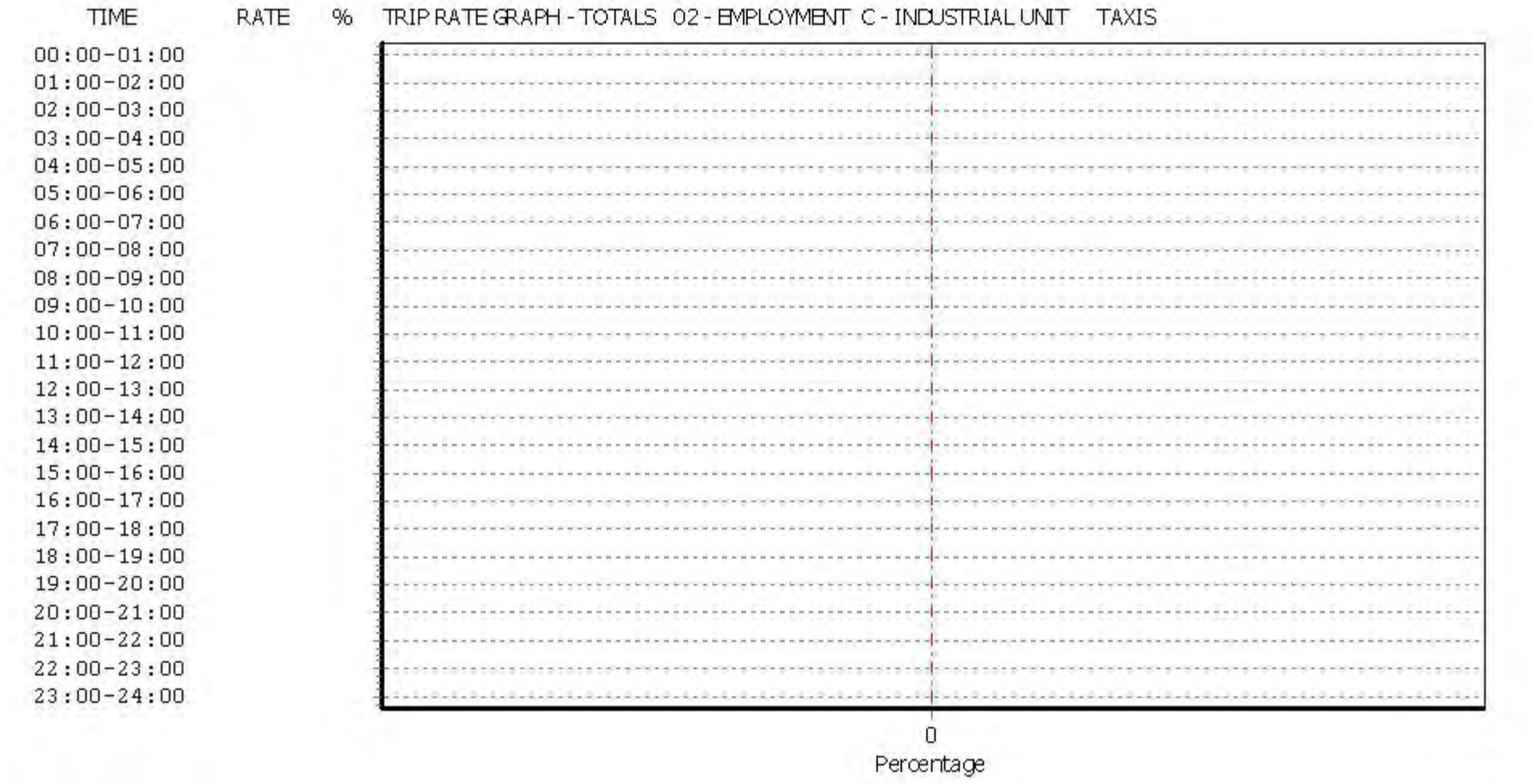
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TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.000	3	1073	0.000	3	1073	0.000
07:30 - 08:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:00 - 08:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:30 - 09:00	3	1073	0.031	3	1073	0.000	3	1073	0.031
09:00 - 09:30	3	1073	0.000	3	1073	0.031	3	1073	0.031
09:30 - 10:00	3	1073	0.062	3	1073	0.031	3	1073	0.093
10:00 - 10:30	3	1073	0.031	3	1073	0.062	3	1073	0.093
10:30 - 11:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:00 - 11:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:30 - 12:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:00 - 12:30	3	1073	0.031	3	1073	0.031	3	1073	0.062
12:30 - 13:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:00 - 13:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:30 - 14:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:00 - 14:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:30 - 15:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:00 - 15:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:30 - 16:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:00 - 16:30	3	1073	0.031	3	1073	0.031	3	1073	0.062
16:30 - 17:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:00 - 17:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:30 - 18:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:00 - 18:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:30 - 19:00	3	1073	0.000	3	1073	0.000	3	1073	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:			0.186			0.186			0.372

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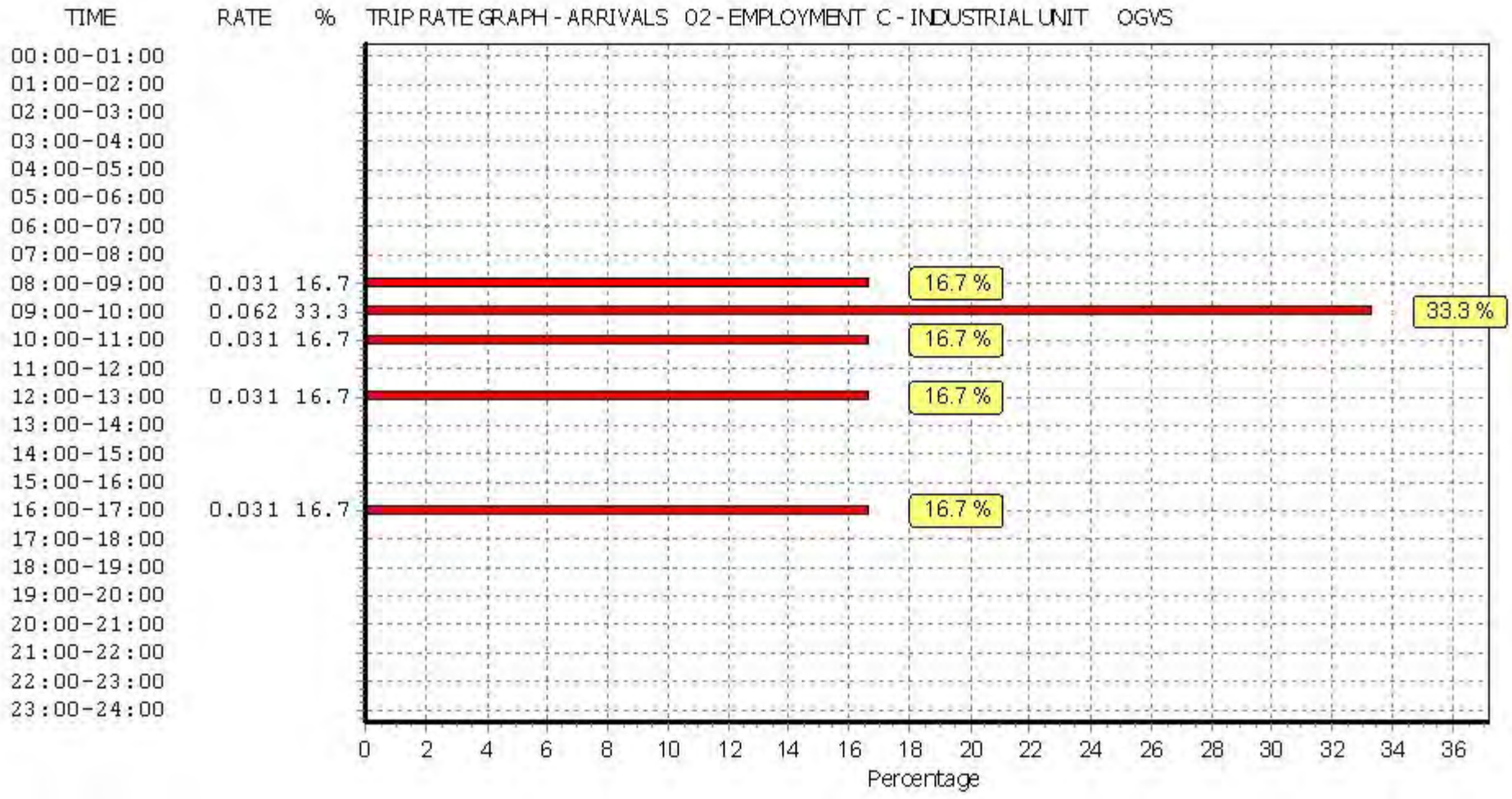
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Parameter summary

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Survey date date range:	01/01/09 - 22/09/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

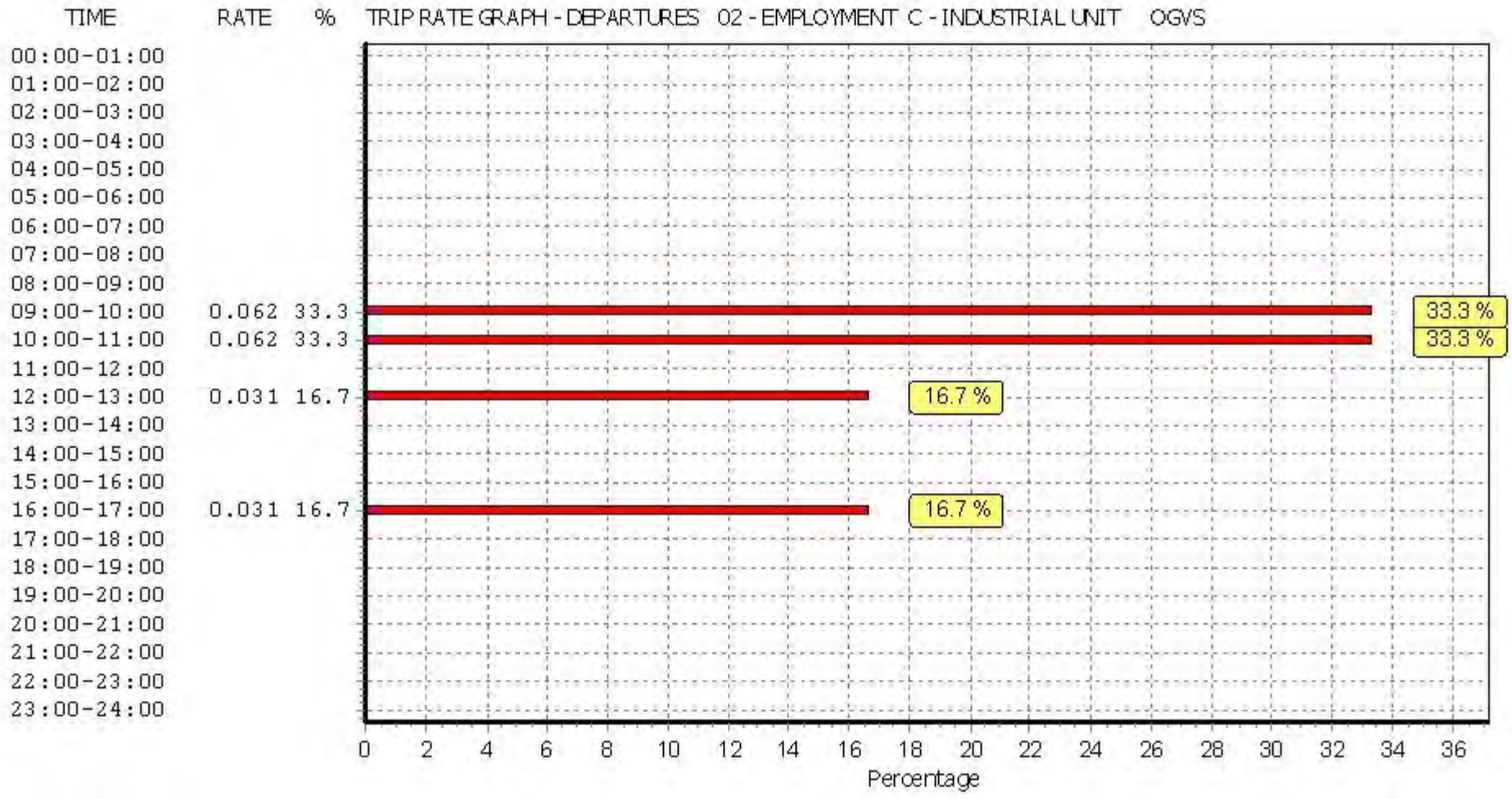
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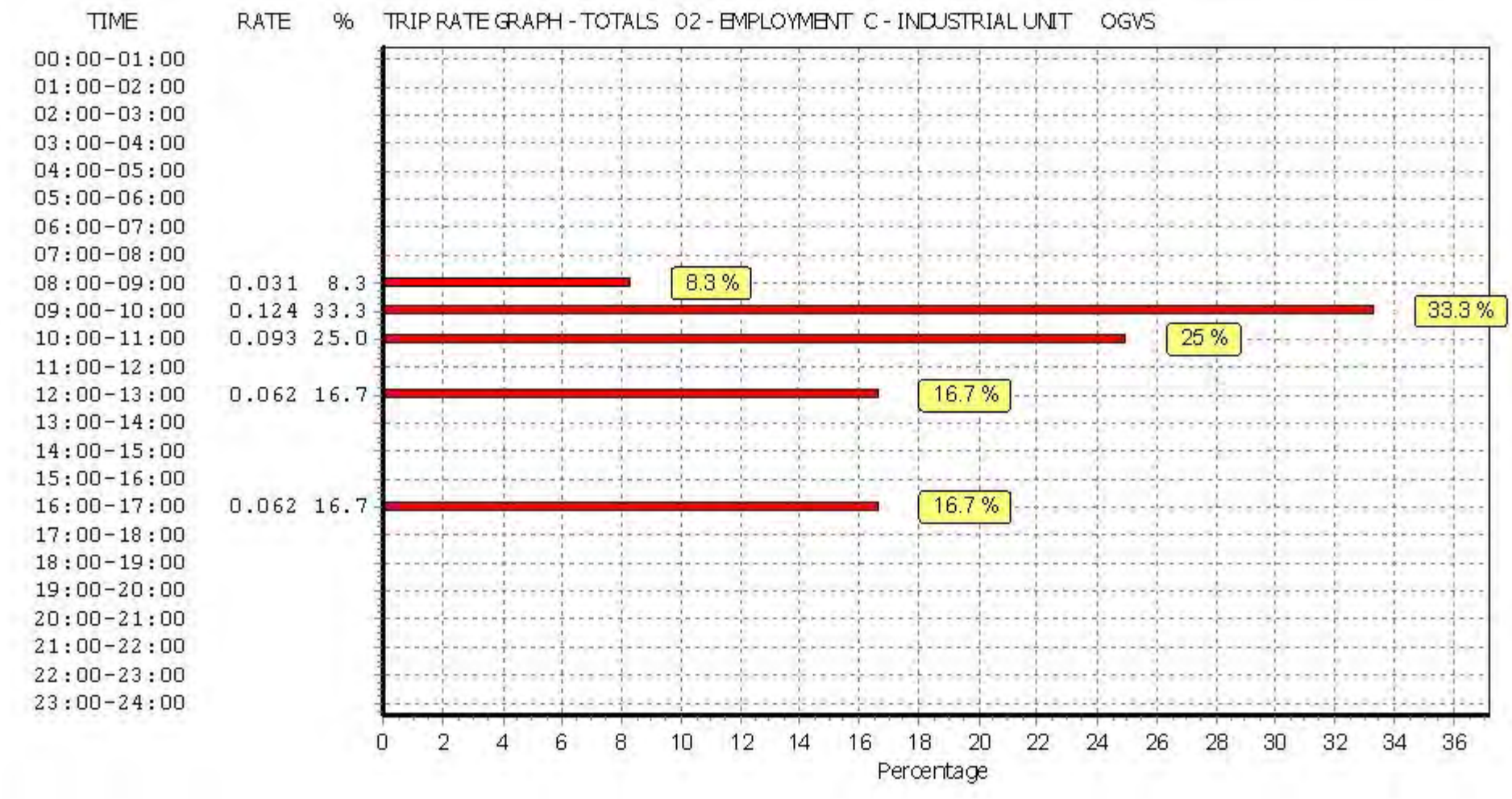
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TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
PSVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.000	3	1073	0.000	3	1073	0.000
07:30 - 08:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:00 - 08:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:30 - 09:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:00 - 09:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:30 - 10:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:00 - 10:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:30 - 11:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:00 - 11:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:30 - 12:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:00 - 12:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:30 - 13:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:00 - 13:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:30 - 14:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:00 - 14:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:30 - 15:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:00 - 15:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:30 - 16:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:00 - 16:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:30 - 17:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:00 - 17:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:30 - 18:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:00 - 18:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:30 - 19:00	3	1073	0.000	3	1073	0.000	3	1073	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:			0.000			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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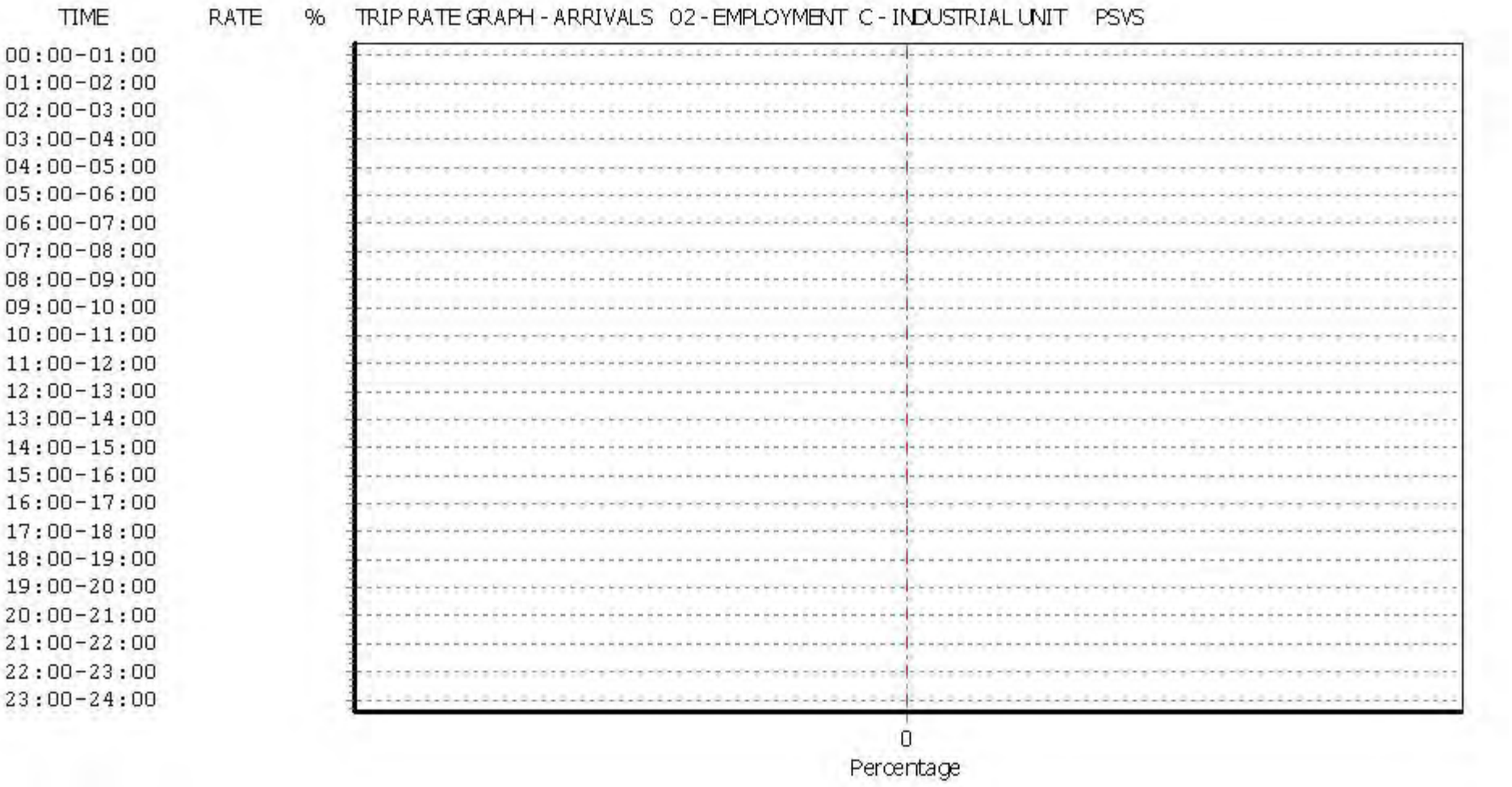
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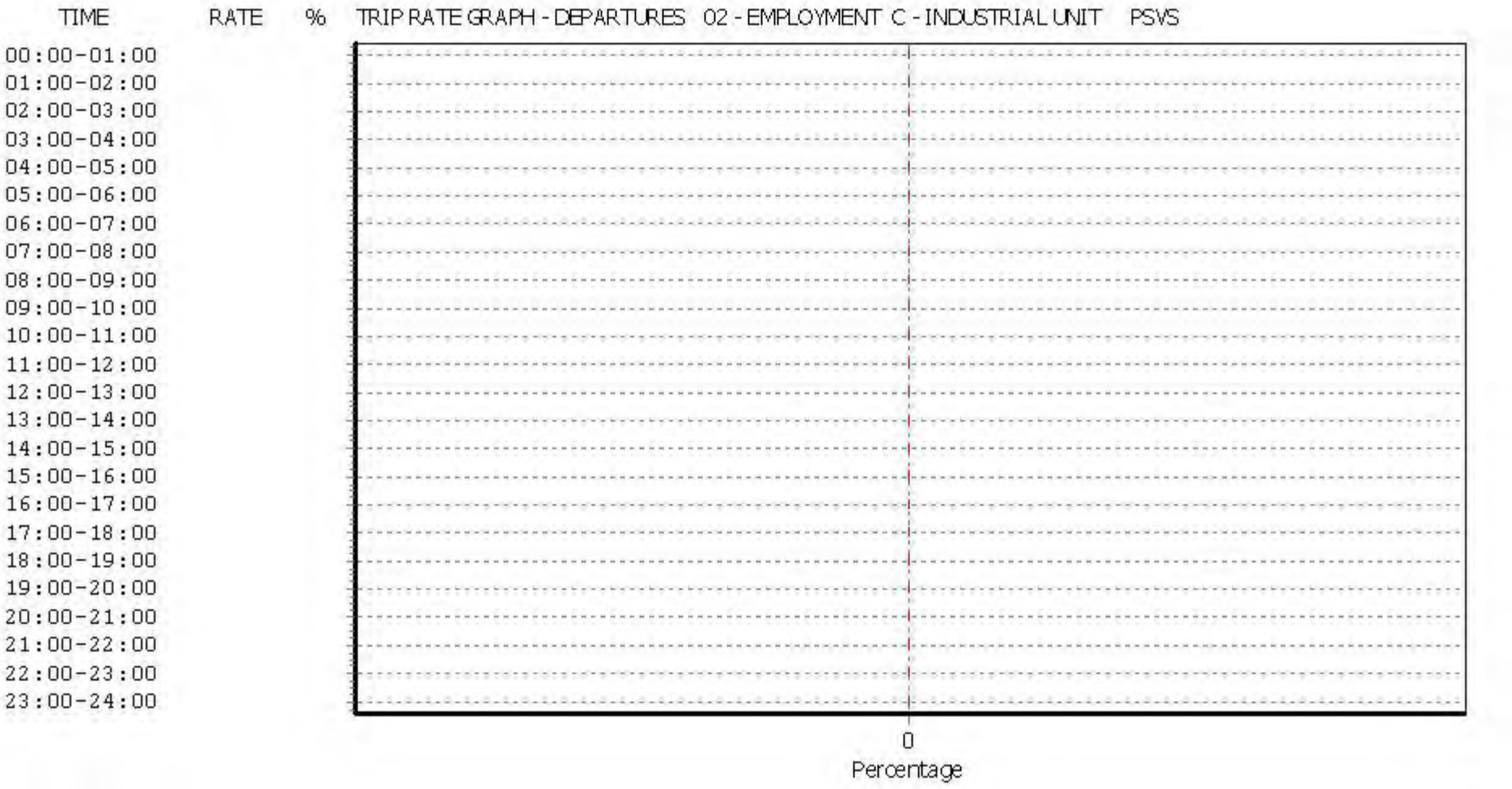
Parameter summary

Trip rate parameter range selected:	645 - 1475 (units: sqm)
Survey date date range:	01/01/09 - 22/09/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
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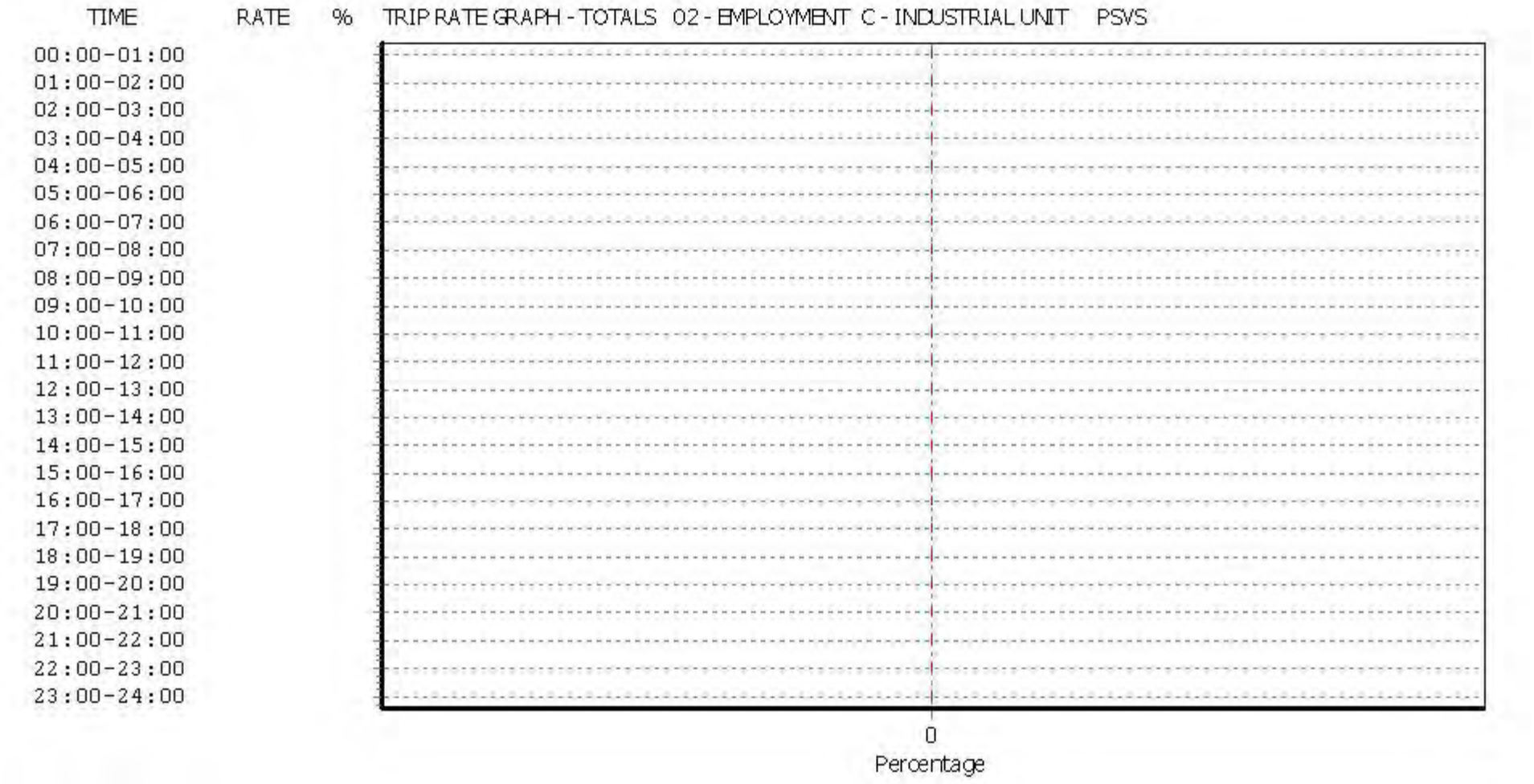
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TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.031	3	1073	0.000	3	1073	0.031
07:30 - 08:00	3	1073	0.062	3	1073	0.000	3	1073	0.062
08:00 - 08:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:30 - 09:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:00 - 09:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:30 - 10:00	3	1073	0.031	3	1073	0.000	3	1073	0.031
10:00 - 10:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:30 - 11:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:00 - 11:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:30 - 12:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:00 - 12:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
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15:30 - 16:00	3	1073	0.000	3	1073	0.031	3	1073	0.031
16:00 - 16:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:30 - 17:00	3	1073	0.000	3	1073	0.062	3	1073	0.062
17:00 - 17:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:30 - 18:00	3	1073	0.031	3	1073	0.000	3	1073	0.031
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18:30 - 19:00	3	1073	0.000	3	1073	0.000	3	1073	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									
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Total Rates:			0.186			0.155			0.341

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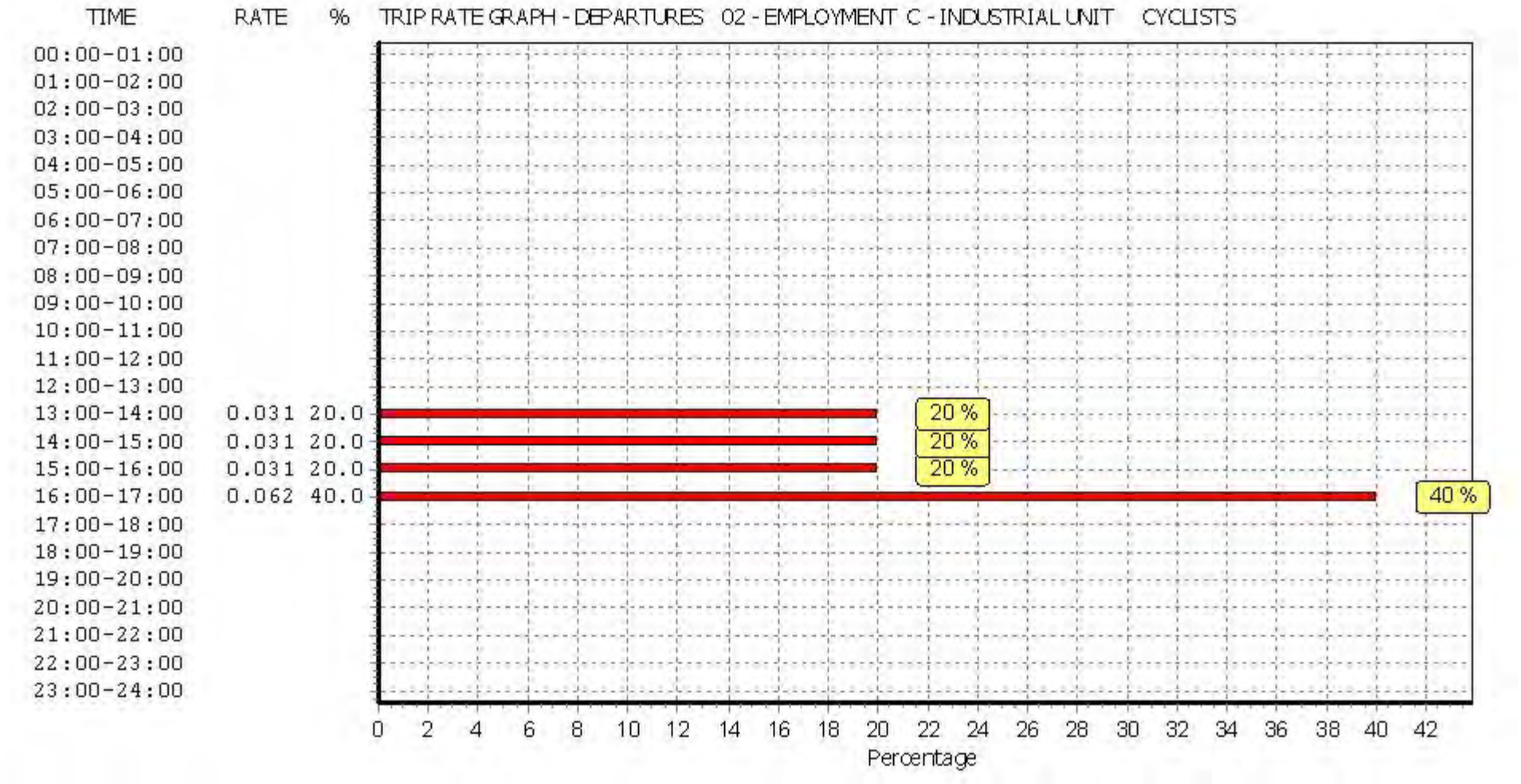
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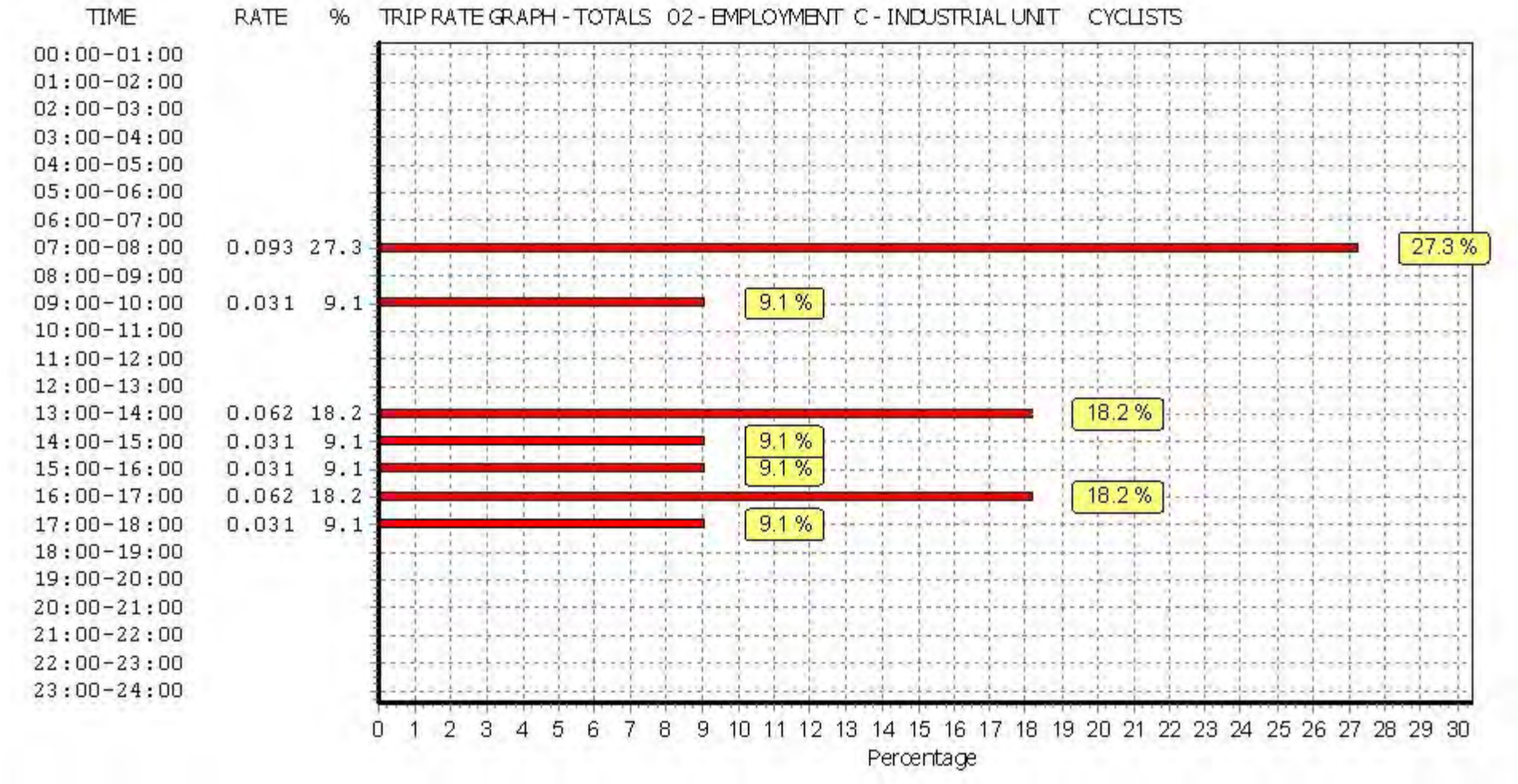
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Calculation Reference: AUDIT-236601-171110-1114

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
Actual Range: 51 to 154 (units:)
Range Selected by User: 50 to 215 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 11/11/16

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:

Tuesday	1 days
Thursday	3 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 undertaking using machines.

Selected Locations:

Town Centre	1
Edge of Town Centre	4

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

Selected Location Sub Categories:

Residential Zone	2
Built-Up Zone	3

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

Secondary Filtering selection:

Use Class:

C3	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®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

10,001 to 15,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	3 days

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

Population within 5 miles:

50,001 to 75,000	2 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days
500,001 or More	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	2 days
1.1 to 1.5	3 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 EX-03-C-02 BLOCK OF FLATS ESSEX
WESTCLIFF PARADE
WESTCLIFF
SOUTHEND-ON-SEA
Edge of Town Centre
Residential Zone
Total Number of dwellings: 94
Survey date: TUESDAY *22/10/13* *Survey Type: MANUAL*

2 GM-03-C-02 BLOCK OF FLATS GREATER MANCHESTER
WHITWORTH STREET W.

MANCHESTER
Town Centre
Built-Up Zone
Total Number of dwellings: 154
Survey date: THURSDAY *13/10/11* *Survey Type: MANUAL*

3 NF-03-C-01 BLOCKS OF FLATS NORFOLK
PAGE STAIR LANE

KING'S LYNN
Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 51
Survey date: THURSDAY *11/12/14* *Survey Type: MANUAL*

4 SF-03-C-01 BLOCKS OF FLATS SUFFOLK
STATION HILL

BURY ST EDMUNDS
Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 85
Survey date: THURSDAY *18/12/14* *Survey Type: MANUAL*

5 WM-03-C-04 BLOCKS OF FLATS WEST MIDLANDS
GILLQUART WAY
PARKSIDE
COVENTRY
Edge of Town Centre
Residential Zone
Total Number of dwellings: 55
Survey date: FRIDAY *11/11/16* *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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.032	5	88	0.064	5	88	0.096
08:00 - 09:00	5	88	0.039	5	88	0.107	5	88	0.146
09:00 - 10:00	5	88	0.052	5	88	0.064	5	88	0.116
10:00 - 11:00	5	88	0.080	5	88	0.091	5	88	0.171
11:00 - 12:00	5	88	0.075	5	88	0.068	5	88	0.143
12:00 - 13:00	5	88	0.098	5	88	0.071	5	88	0.169
13:00 - 14:00	5	88	0.084	5	88	0.103	5	88	0.187
14:00 - 15:00	5	88	0.077	5	88	0.080	5	88	0.157
15:00 - 16:00	5	88	0.052	5	88	0.064	5	88	0.116
16:00 - 17:00	5	88	0.084	5	88	0.064	5	88	0.148
17:00 - 18:00	5	88	0.114	5	88	0.066	5	88	0.180
18:00 - 19:00	5	88	0.098	5	88	0.048	5	88	0.146
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.885			0.890			1.775

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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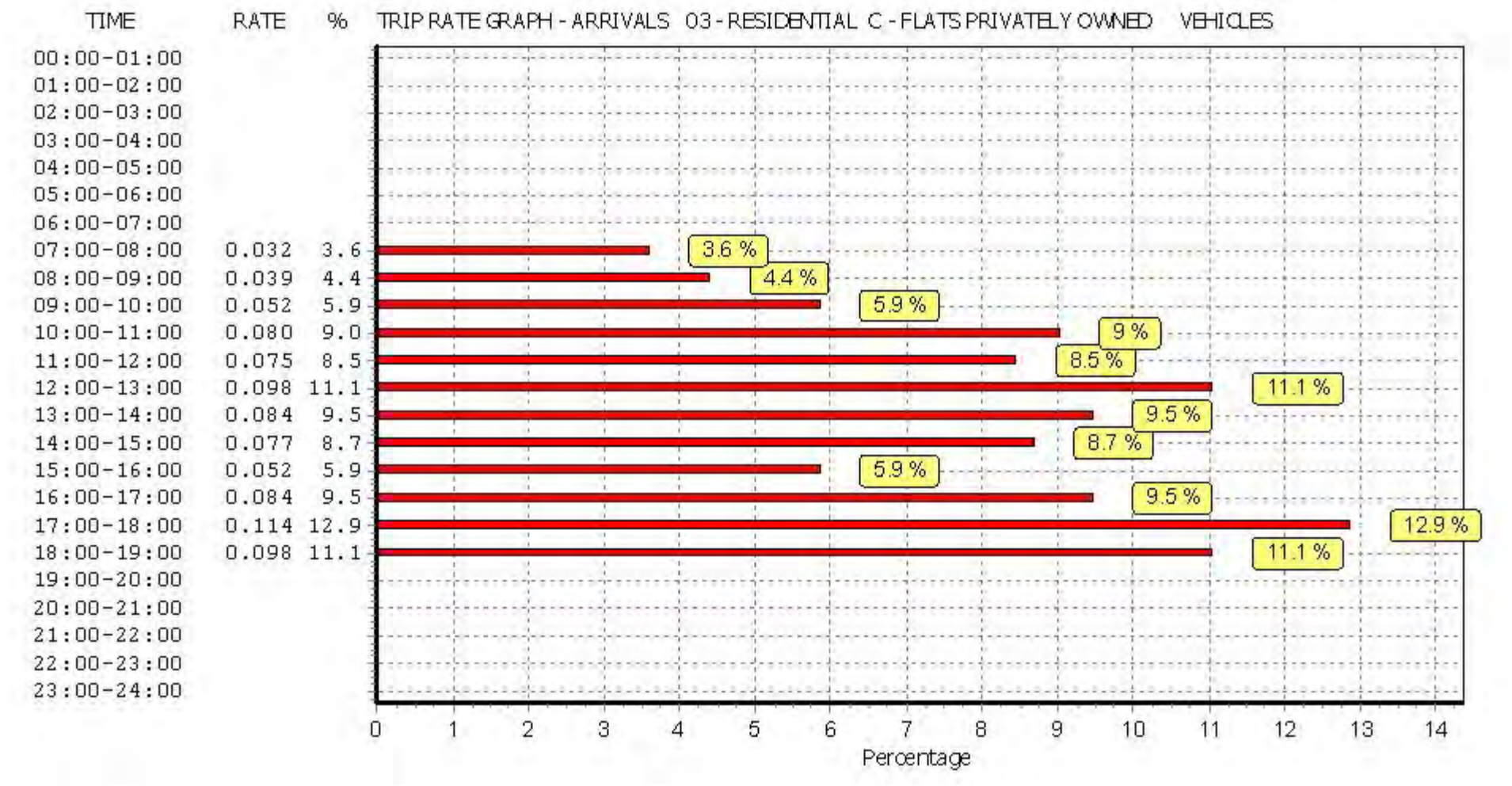
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Parameter summary

Trip rate parameter range selected:	51 - 154 (units:)
Survey date date range:	01/01/09 - 11/11/16
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:	0

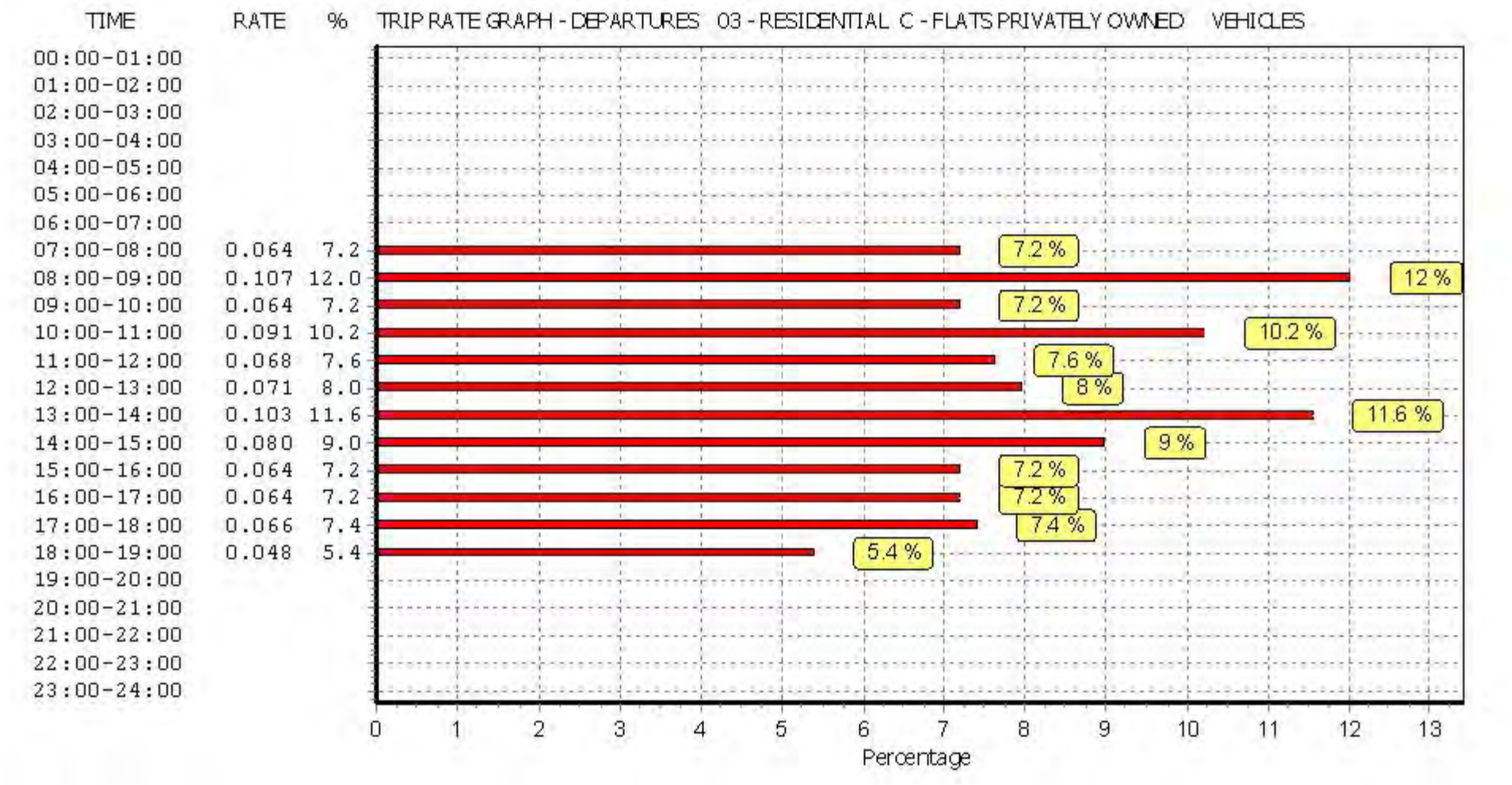
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i-Transport Grove House Basingstoke Licence No: 236601

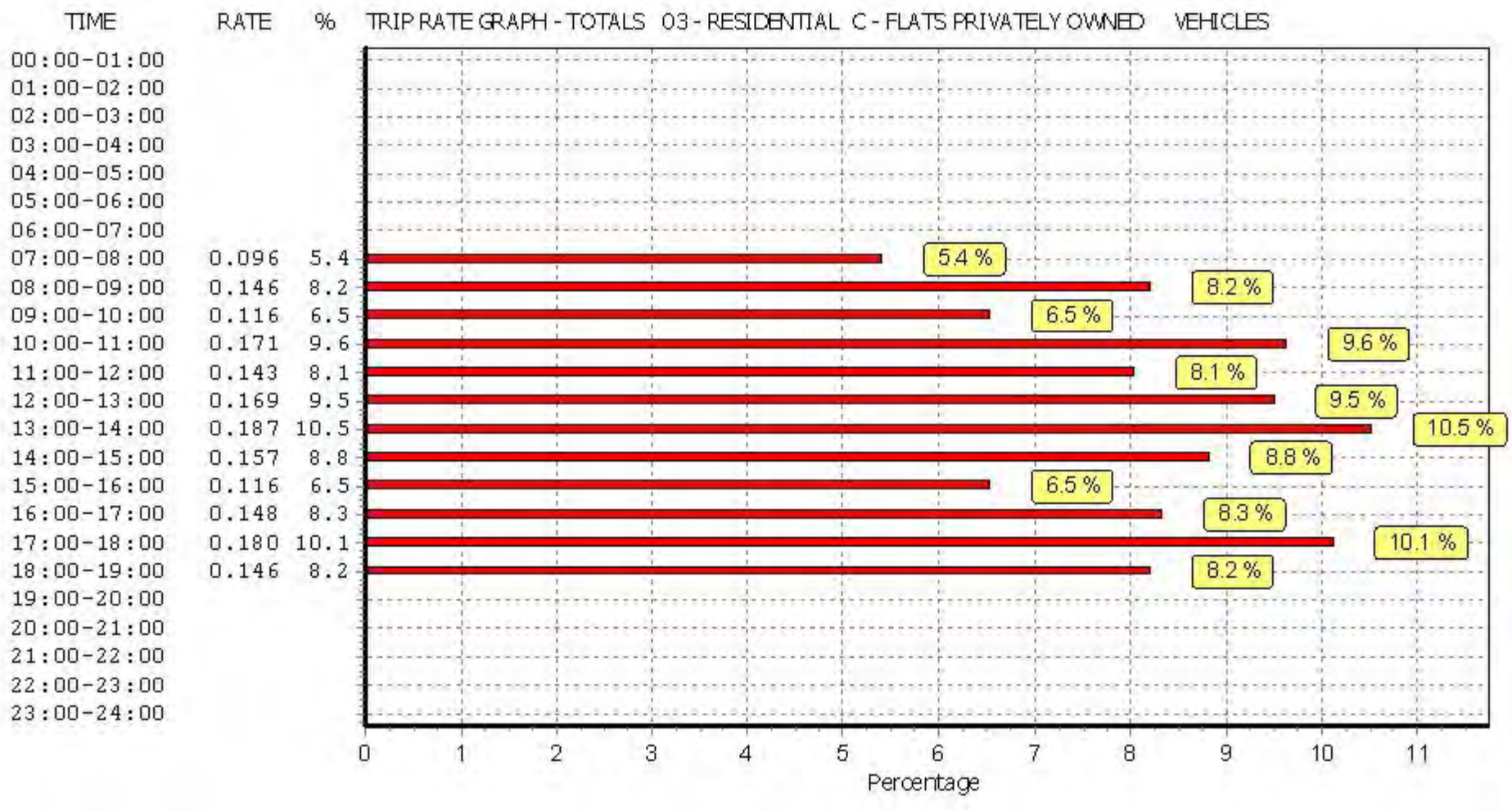


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through 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 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.002	5	88	0.002	5	88	0.004
08:00 - 09:00	5	88	0.000	5	88	0.000	5	88	0.000
09:00 - 10:00	5	88	0.000	5	88	0.000	5	88	0.000
10:00 - 11:00	5	88	0.002	5	88	0.002	5	88	0.004
11:00 - 12:00	5	88	0.007	5	88	0.007	5	88	0.014
12:00 - 13:00	5	88	0.002	5	88	0.002	5	88	0.004
13:00 - 14:00	5	88	0.005	5	88	0.005	5	88	0.010
14:00 - 15:00	5	88	0.000	5	88	0.000	5	88	0.000
15:00 - 16:00	5	88	0.000	5	88	0.000	5	88	0.000
16:00 - 17:00	5	88	0.007	5	88	0.007	5	88	0.014
17:00 - 18:00	5	88	0.002	5	88	0.002	5	88	0.004
18:00 - 19:00	5	88	0.005	5	88	0.002	5	88	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.032			0.029			0.061

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.*

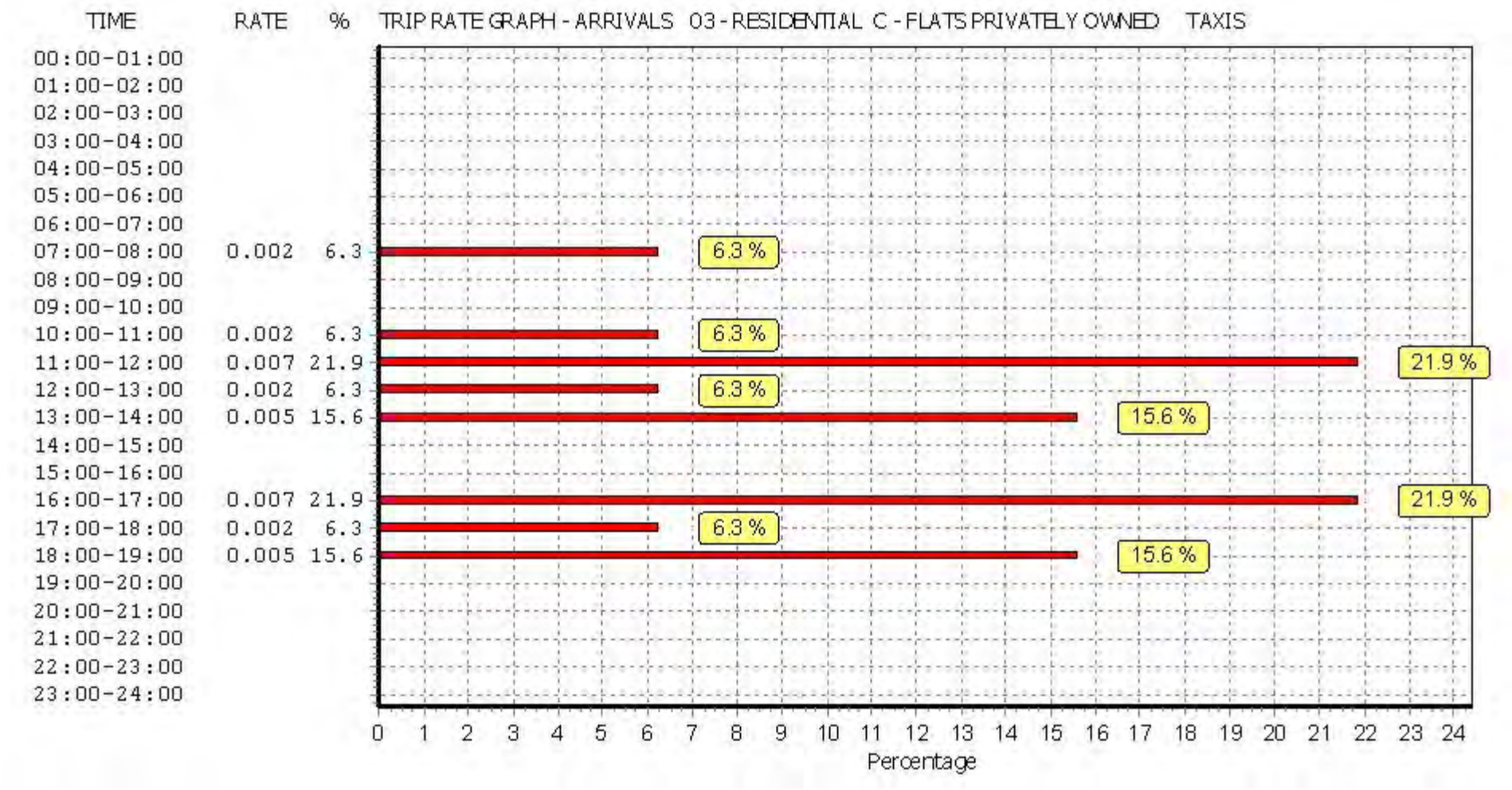
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Parameter summary

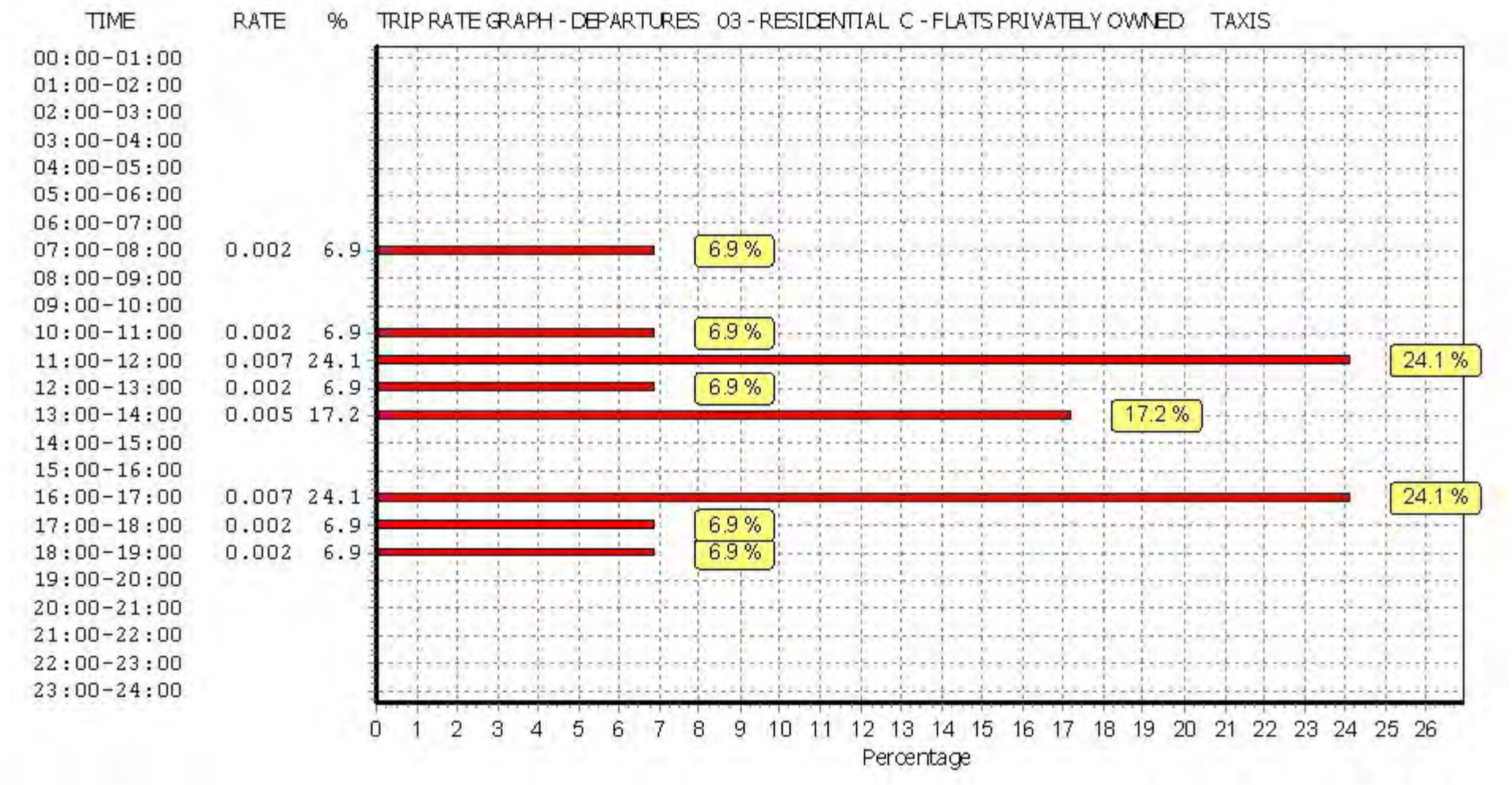
Trip rate parameter range selected:	51 - 154 (units:)
Survey date date range:	01/01/09 - 11/11/16
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

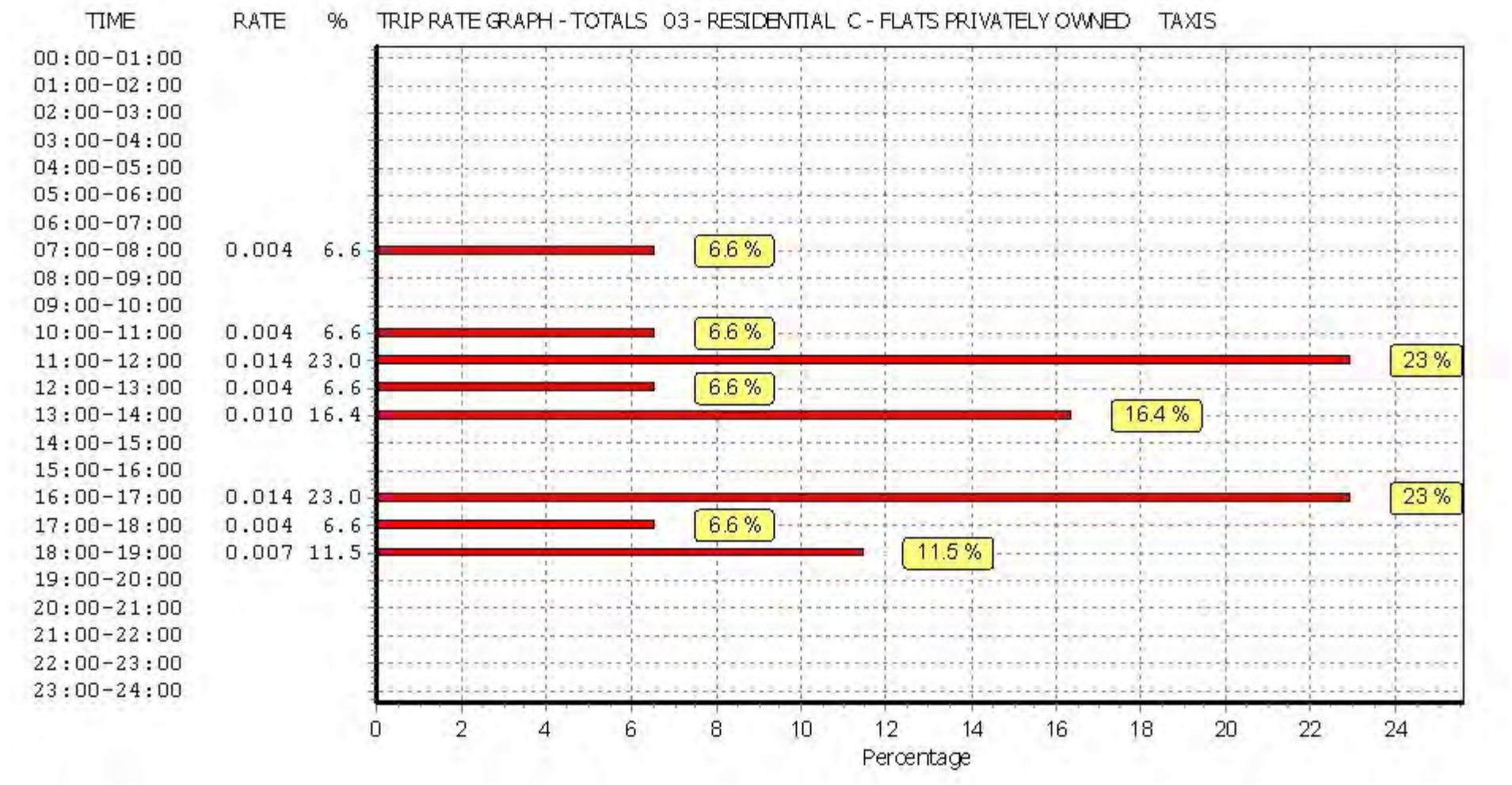


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through 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 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.000	5	88	0.000	5	88	0.000
08:00 - 09:00	5	88	0.000	5	88	0.000	5	88	0.000
09:00 - 10:00	5	88	0.000	5	88	0.000	5	88	0.000
10:00 - 11:00	5	88	0.000	5	88	0.000	5	88	0.000
11:00 - 12:00	5	88	0.000	5	88	0.000	5	88	0.000
12:00 - 13:00	5	88	0.002	5	88	0.002	5	88	0.004
13:00 - 14:00	5	88	0.002	5	88	0.002	5	88	0.004
14:00 - 15:00	5	88	0.000	5	88	0.000	5	88	0.000
15:00 - 16:00	5	88	0.000	5	88	0.000	5	88	0.000
16:00 - 17:00	5	88	0.000	5	88	0.000	5	88	0.000
17:00 - 18:00	5	88	0.000	5	88	0.000	5	88	0.000
18:00 - 19:00	5	88	0.000	5	88	0.000	5	88	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.004			0.004			0.008

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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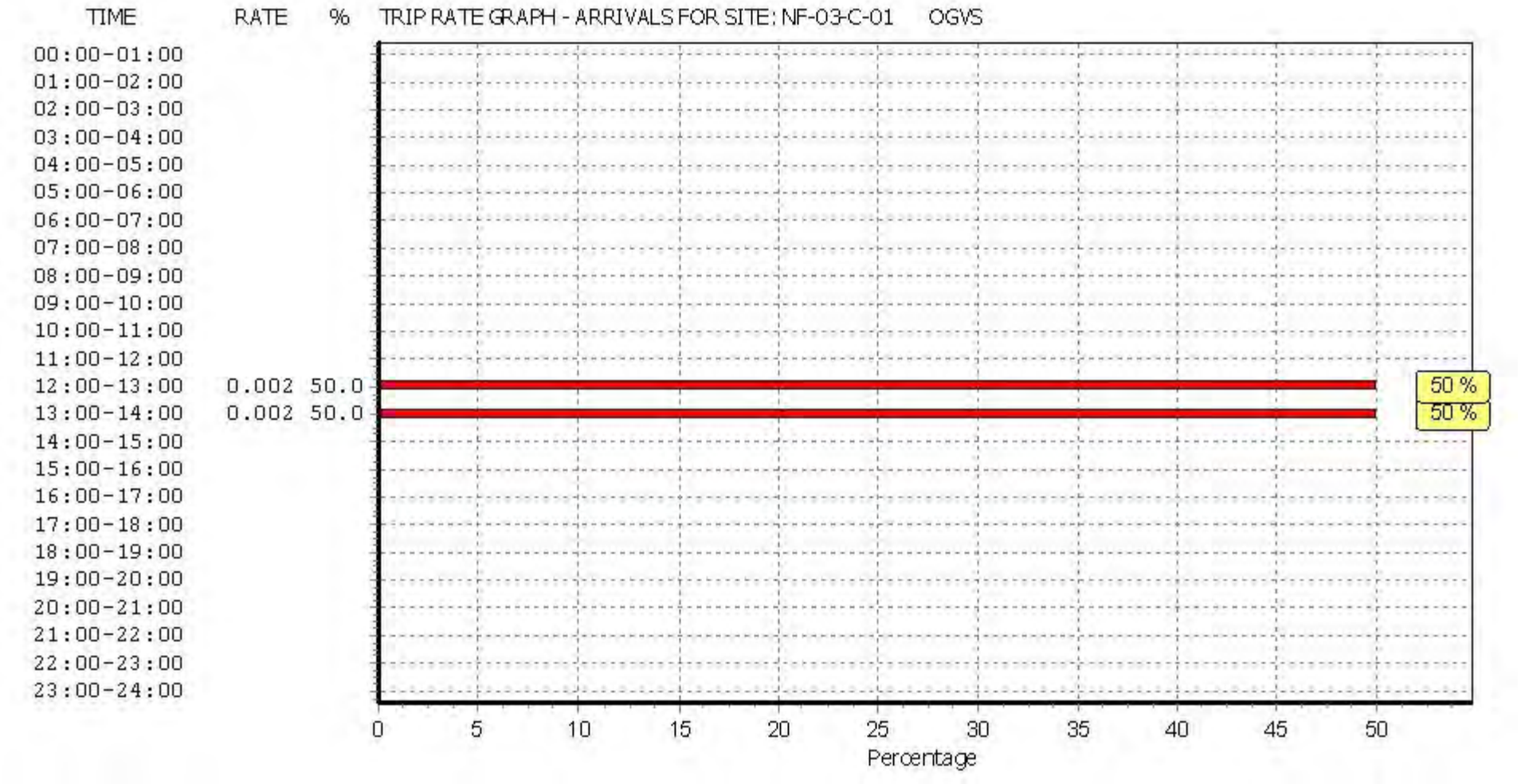
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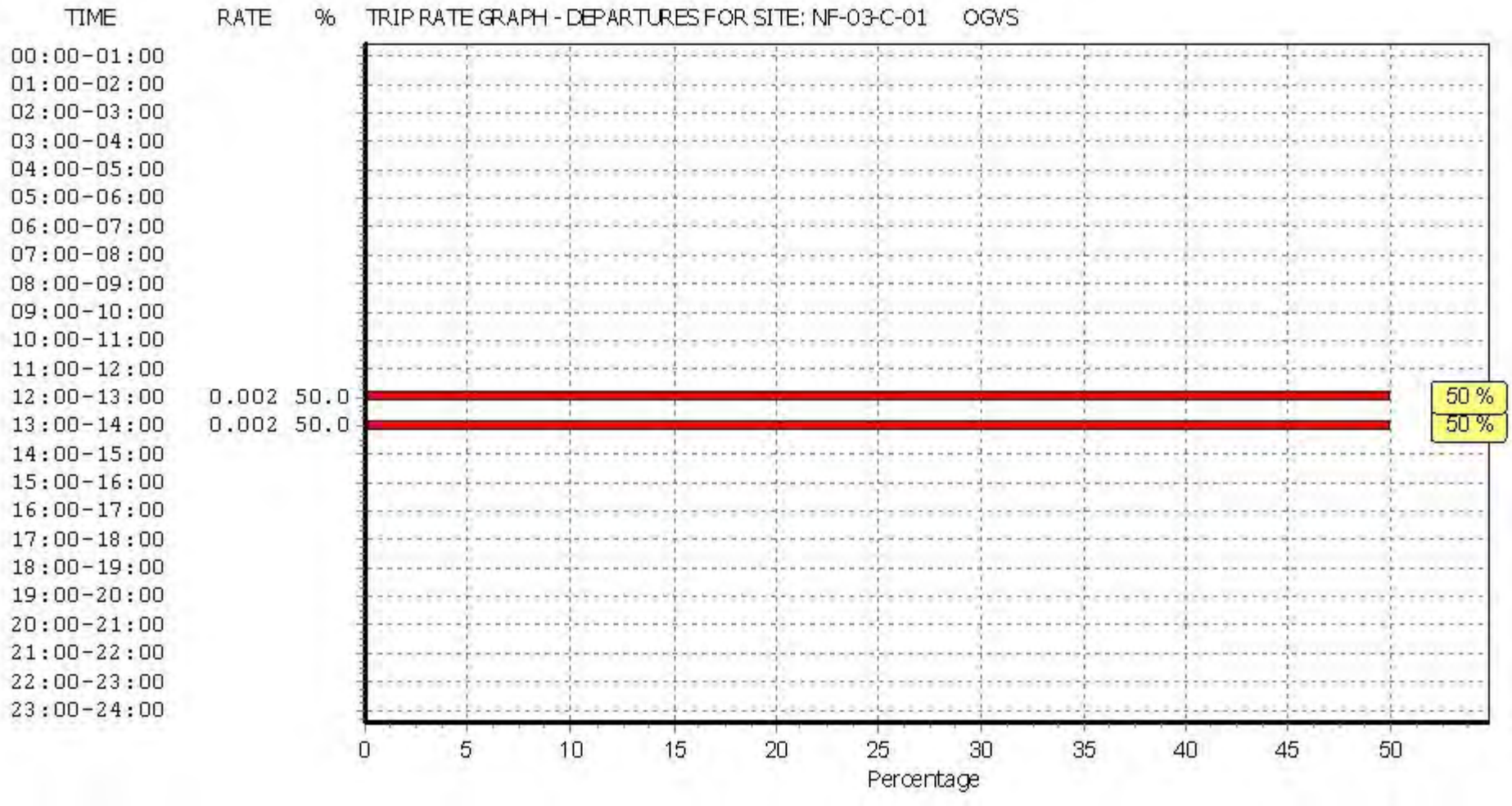
Parameter summary

Trip rate parameter range selected:	51 - 154 (units:)
Survey date date range:	01/01/09 - 11/11/16
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:	0

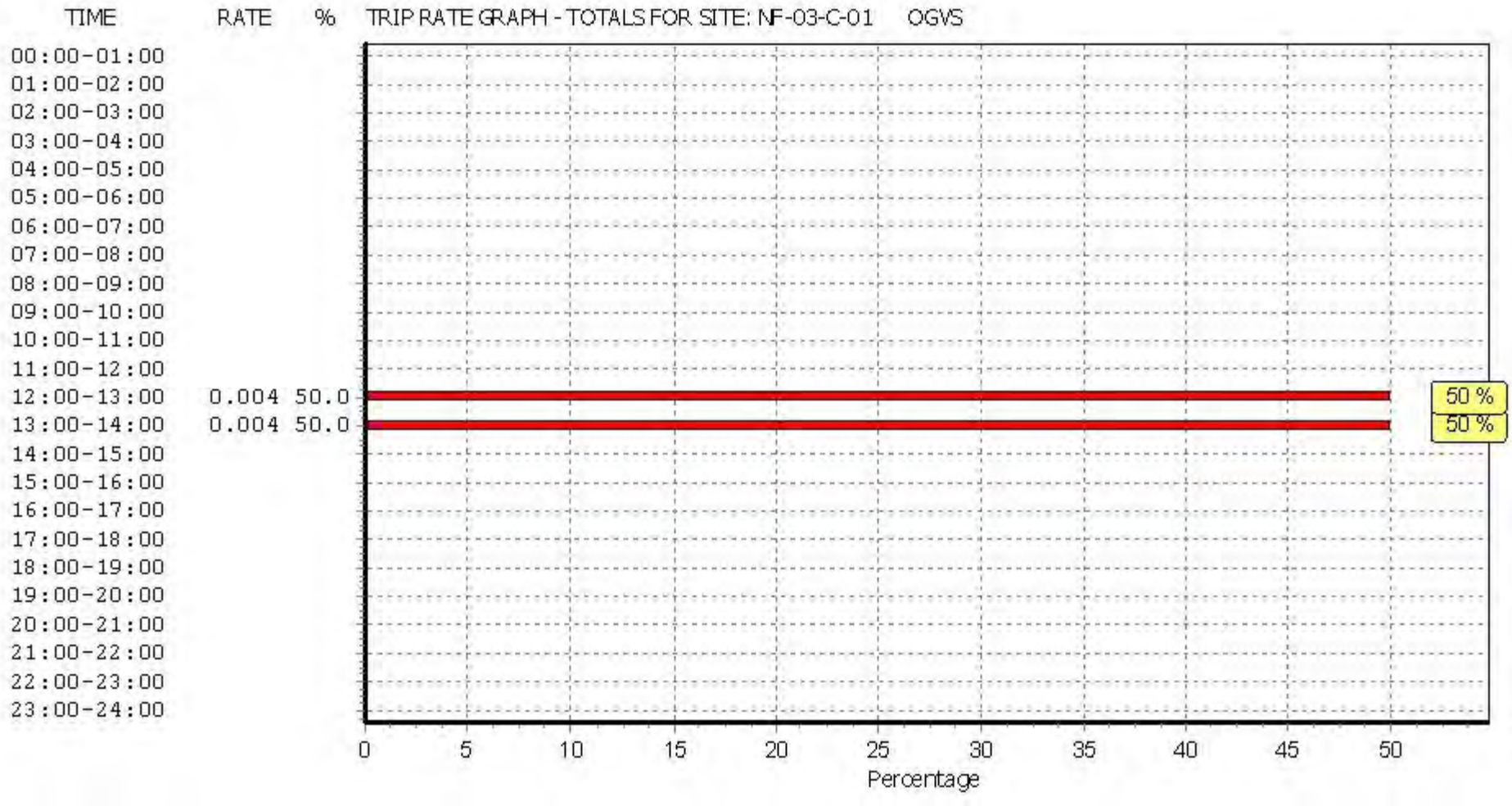
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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



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 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.000	5	88	0.000	5	88	0.000
08:00 - 09:00	5	88	0.000	5	88	0.000	5	88	0.000
09:00 - 10:00	5	88	0.000	5	88	0.000	5	88	0.000
10:00 - 11:00	5	88	0.000	5	88	0.000	5	88	0.000
11:00 - 12:00	5	88	0.000	5	88	0.000	5	88	0.000
12:00 - 13:00	5	88	0.000	5	88	0.000	5	88	0.000
13:00 - 14:00	5	88	0.000	5	88	0.000	5	88	0.000
14:00 - 15:00	5	88	0.000	5	88	0.000	5	88	0.000
15:00 - 16:00	5	88	0.000	5	88	0.000	5	88	0.000
16:00 - 17:00	5	88	0.000	5	88	0.000	5	88	0.000
17:00 - 18:00	5	88	0.000	5	88	0.000	5	88	0.000
18:00 - 19:00	5	88	0.000	5	88	0.000	5	88	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			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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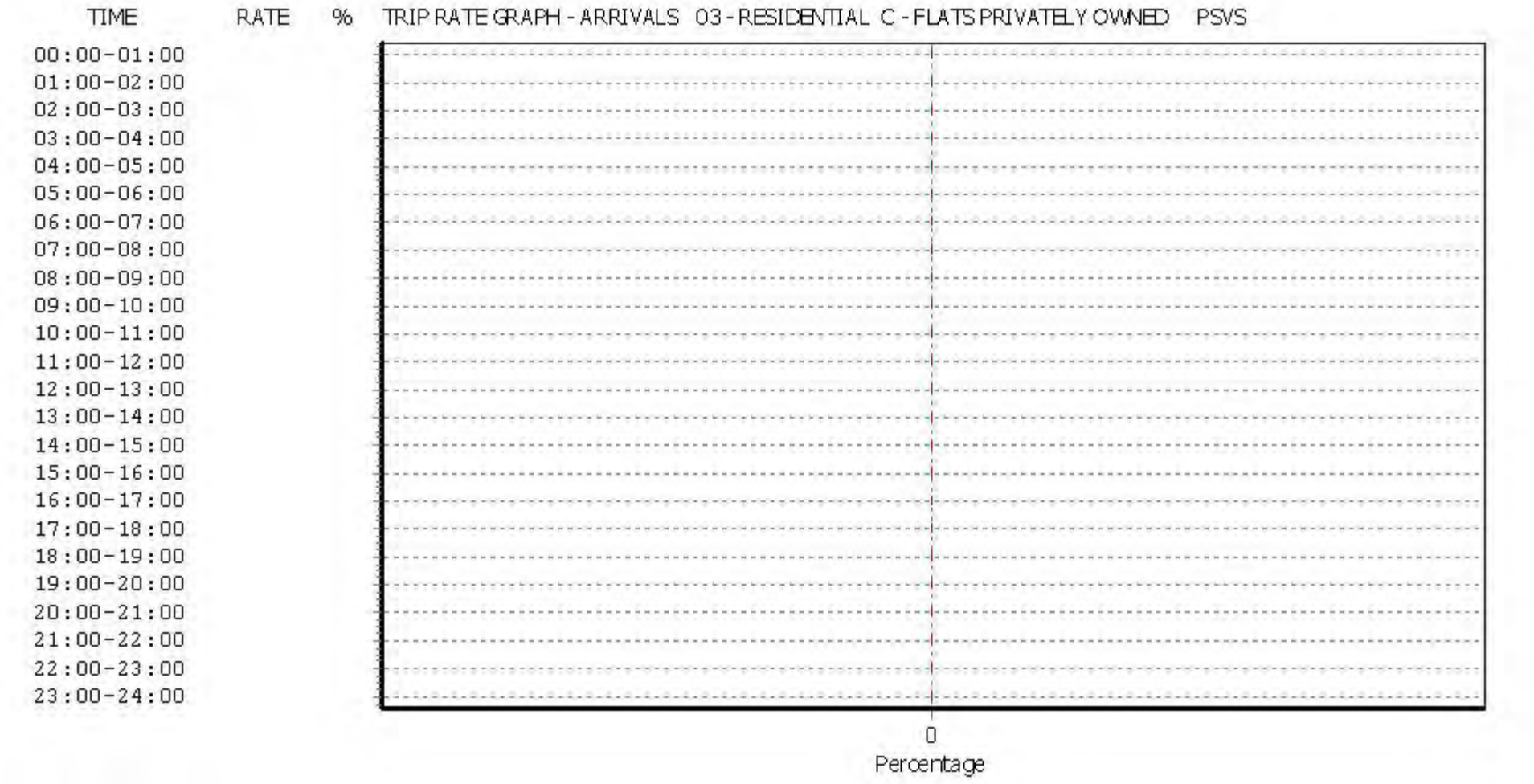
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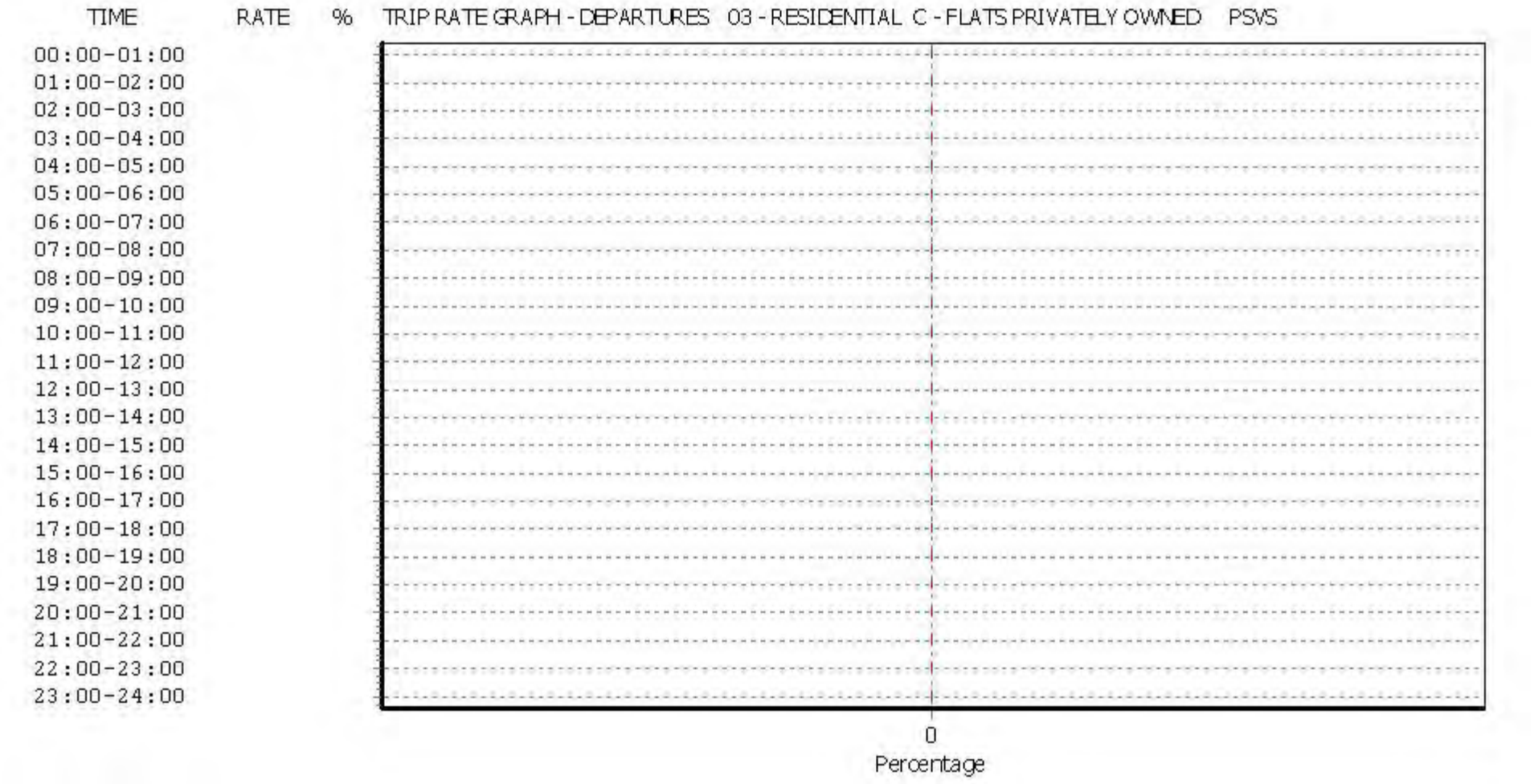
Parameter summary

Trip rate parameter range selected:	51 - 154 (units:)
Survey date date range:	01/01/09 - 11/11/16
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:	0

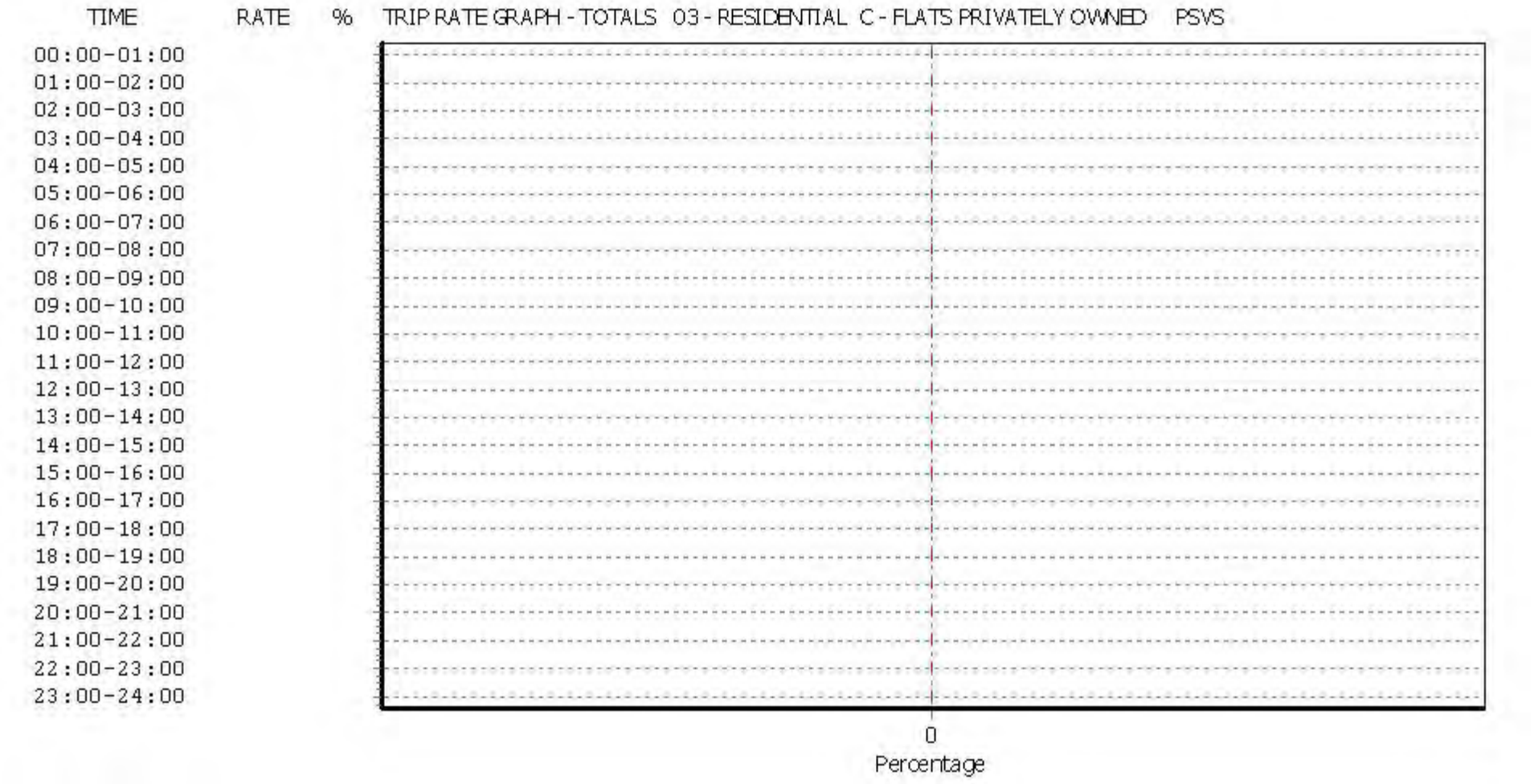
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TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.000	5	88	0.007	5	88	0.007
08:00 - 09:00	5	88	0.002	5	88	0.005	5	88	0.007
09:00 - 10:00	5	88	0.005	5	88	0.005	5	88	0.010
10:00 - 11:00	5	88	0.002	5	88	0.009	5	88	0.011
11:00 - 12:00	5	88	0.007	5	88	0.002	5	88	0.009
12:00 - 13:00	5	88	0.002	5	88	0.009	5	88	0.011
13:00 - 14:00	5	88	0.000	5	88	0.000	5	88	0.000
14:00 - 15:00	5	88	0.000	5	88	0.000	5	88	0.000
15:00 - 16:00	5	88	0.005	5	88	0.002	5	88	0.007
16:00 - 17:00	5	88	0.000	5	88	0.002	5	88	0.002
17:00 - 18:00	5	88	0.009	5	88	0.000	5	88	0.009
18:00 - 19:00	5	88	0.005	5	88	0.000	5	88	0.005
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.037			0.041			0.078

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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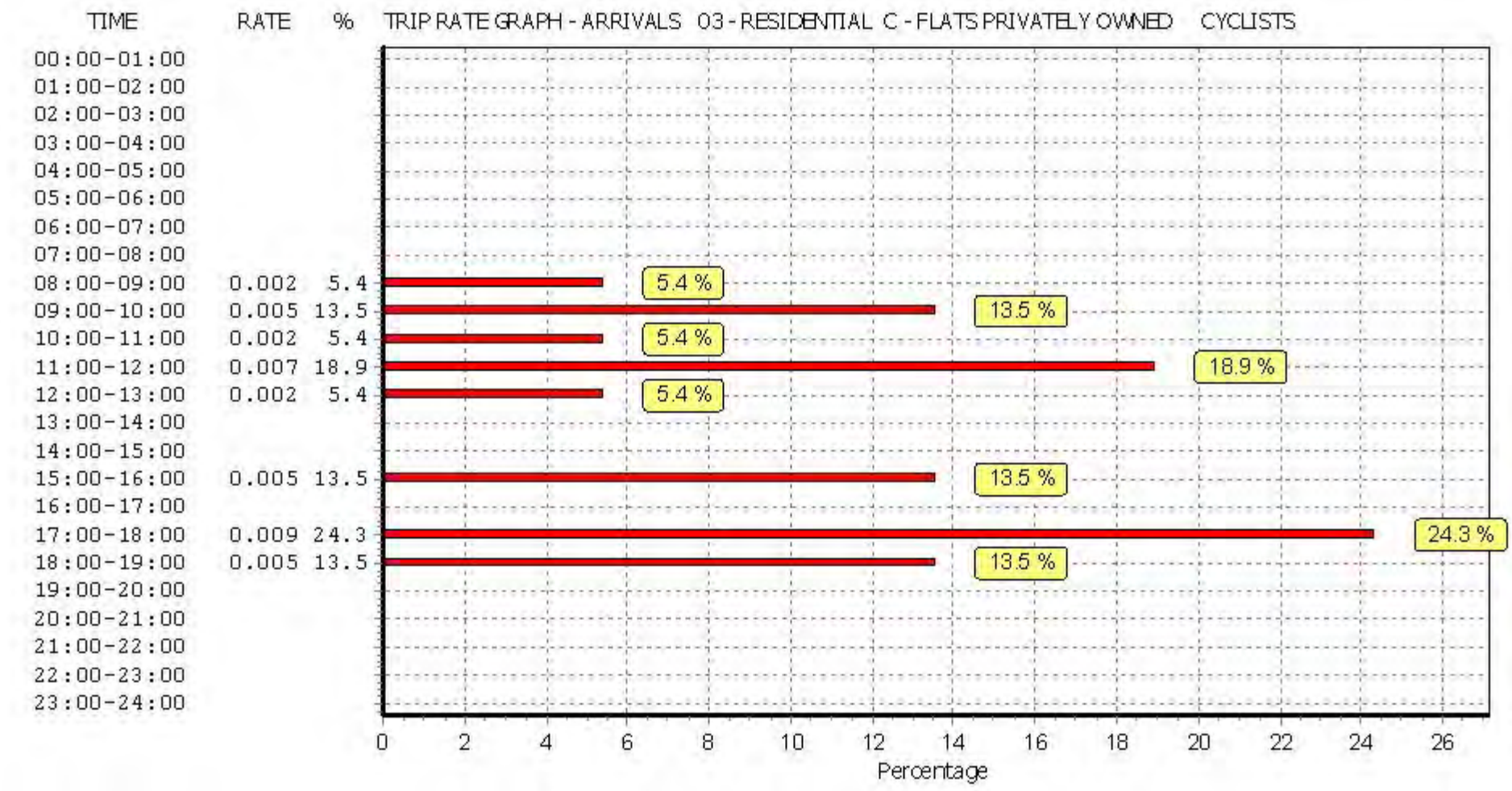
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Parameter summary

Trip rate parameter range selected:	51 - 154 (units:)
Survey date date range:	01/01/09 - 11/11/16
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:	0

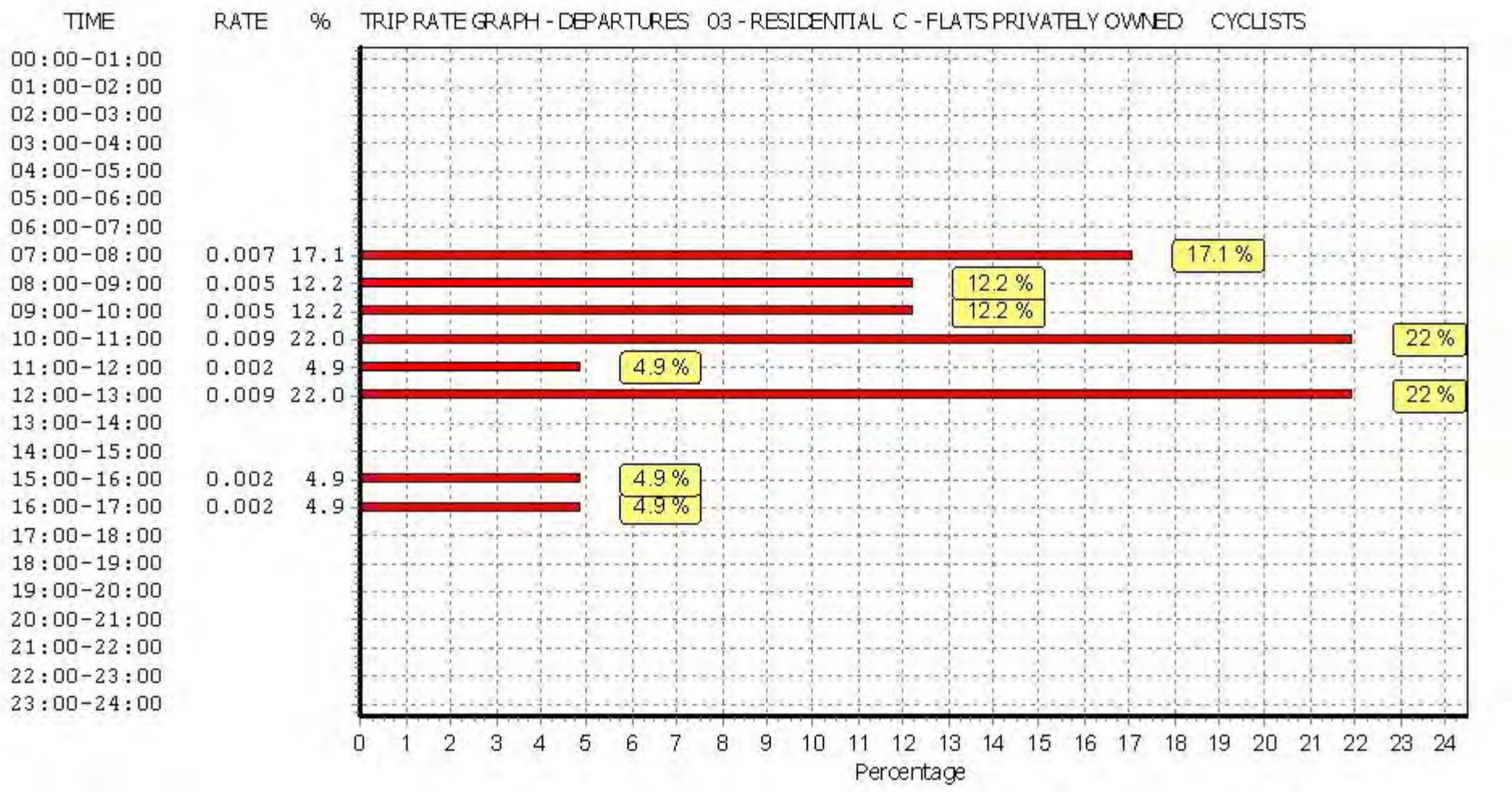
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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

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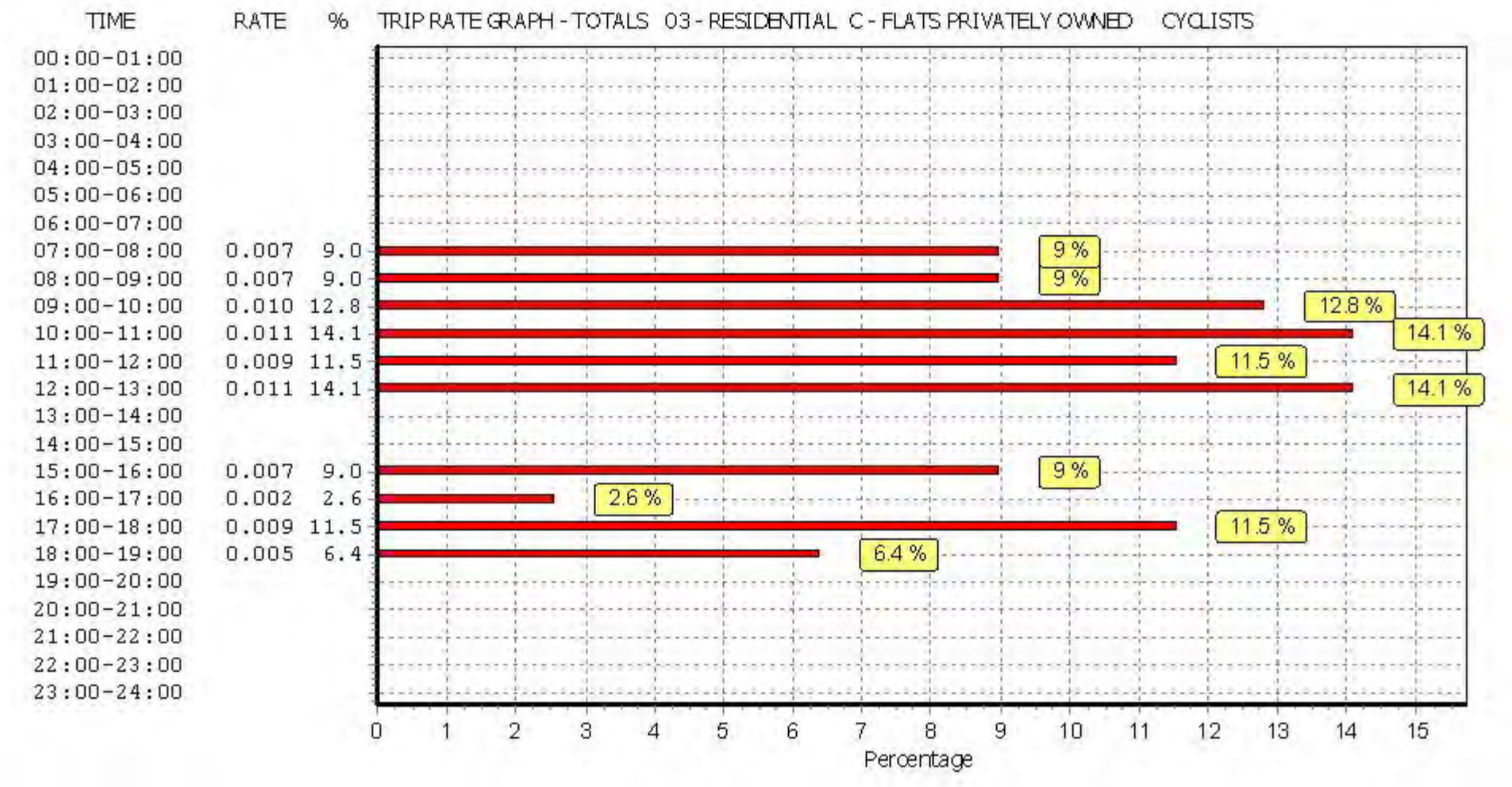


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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Calculation Reference: AUDIT-236601-171124-1136

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : H - NURSES HOMES
VEHICLES

Selected regions and areas:
02 SOUTH EAST
RE READING 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: Parking spaces
Actual Range: 25 to 25 (units:)
Range Selected by User: 25 to 120 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 03/12/09

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:
Thursday 1 days

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

Selected survey types:
Manual count 1 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 undertaking using machines.

Selected Locations:
Neighbourhood Centre (PPS6 Local Centre) 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:
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:
C2 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:
25,001 to 50,000 1 days

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

Secondary Filtering selection (Cont.):

Population within 5 miles:
125,001 to 250,000 1 days

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

Car ownership within 5 miles:
1.1 to 1.5 1 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 1 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 1 days

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

LIST OF SITES relevant to selection parameters

1 RE-03-H-01 NURSES STUDIOS READING
HONEY END LANE
TILEHURST
READING
Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total Parking spaces: 25
Survey date: THURSDAY *03/12/09* *Survey Type: MANUAL*

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

TRIP RATE for Land Use 03 - RESIDENTIAL/H - NURSES HOMES
VEHICLES
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	1	25	0.000	0.000	1	25	0.080	1.840	1	25	0.080	1.840
08:00 - 09:00	1	25	0.080	1.840	1	25	0.120	2.760	1	25	0.200	4.600
09:00 - 10:00	1	25	0.080	1.840	1	25	0.080	1.840	1	25	0.160	3.680
10:00 - 11:00	1	25	0.000	0.000	1	25	0.080	1.840	1	25	0.080	1.840
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.120	2.760	1	25	0.120	2.760	1	25	0.240	5.520
13:00 - 14:00	1	25	0.160	3.680	1	25	0.080	1.840	1	25	0.240	5.520
14:00 - 15:00	1	25	0.080	1.840	1	25	0.160	3.680	1	25	0.240	5.520
15:00 - 16:00	1	25	0.120	2.760	1	25	0.120	2.760	1	25	0.240	5.520
16:00 - 17:00	1	25	0.040	0.920	1	25	0.000	0.000	1	25	0.040	0.920
17:00 - 18:00	1	25	0.120	2.760	1	25	0.040	0.920	1	25	0.160	3.680
18:00 - 19:00	1	25	0.160	3.680	1	25	0.040	0.920	1	25	0.200	4.600
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.960	22.080			0.920	21.160			1.880	43.240

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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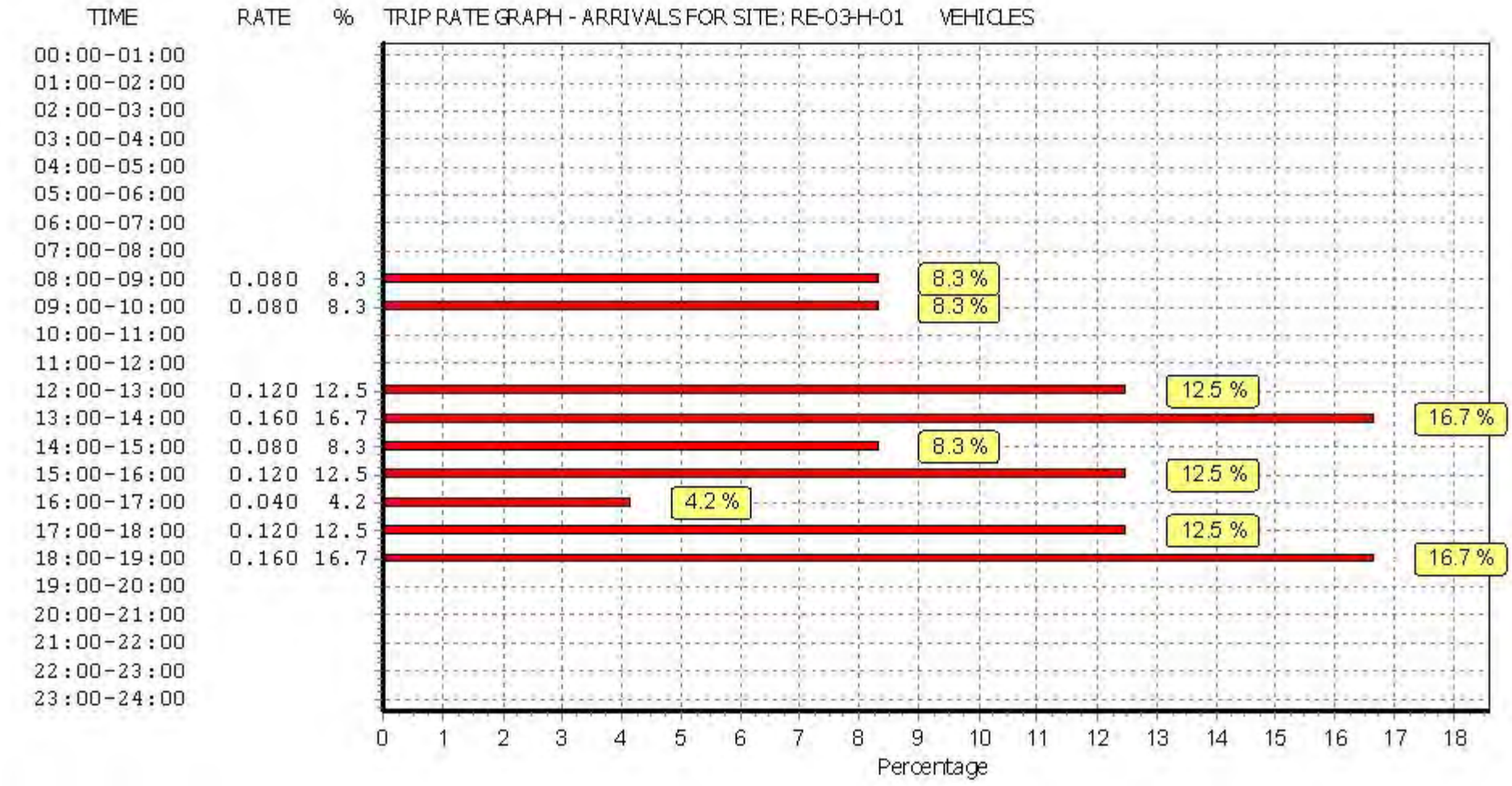
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Parameter summary

Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

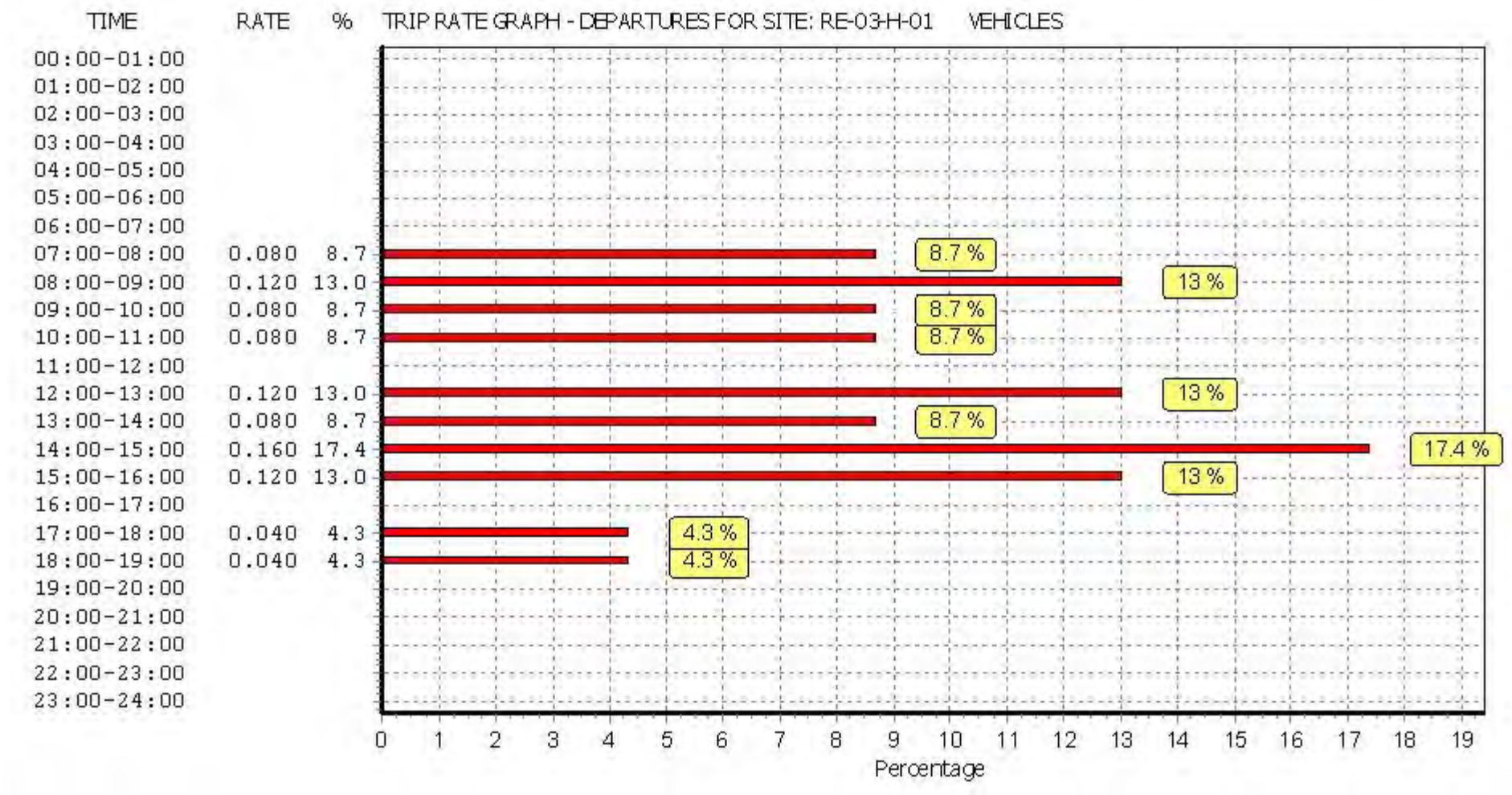
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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

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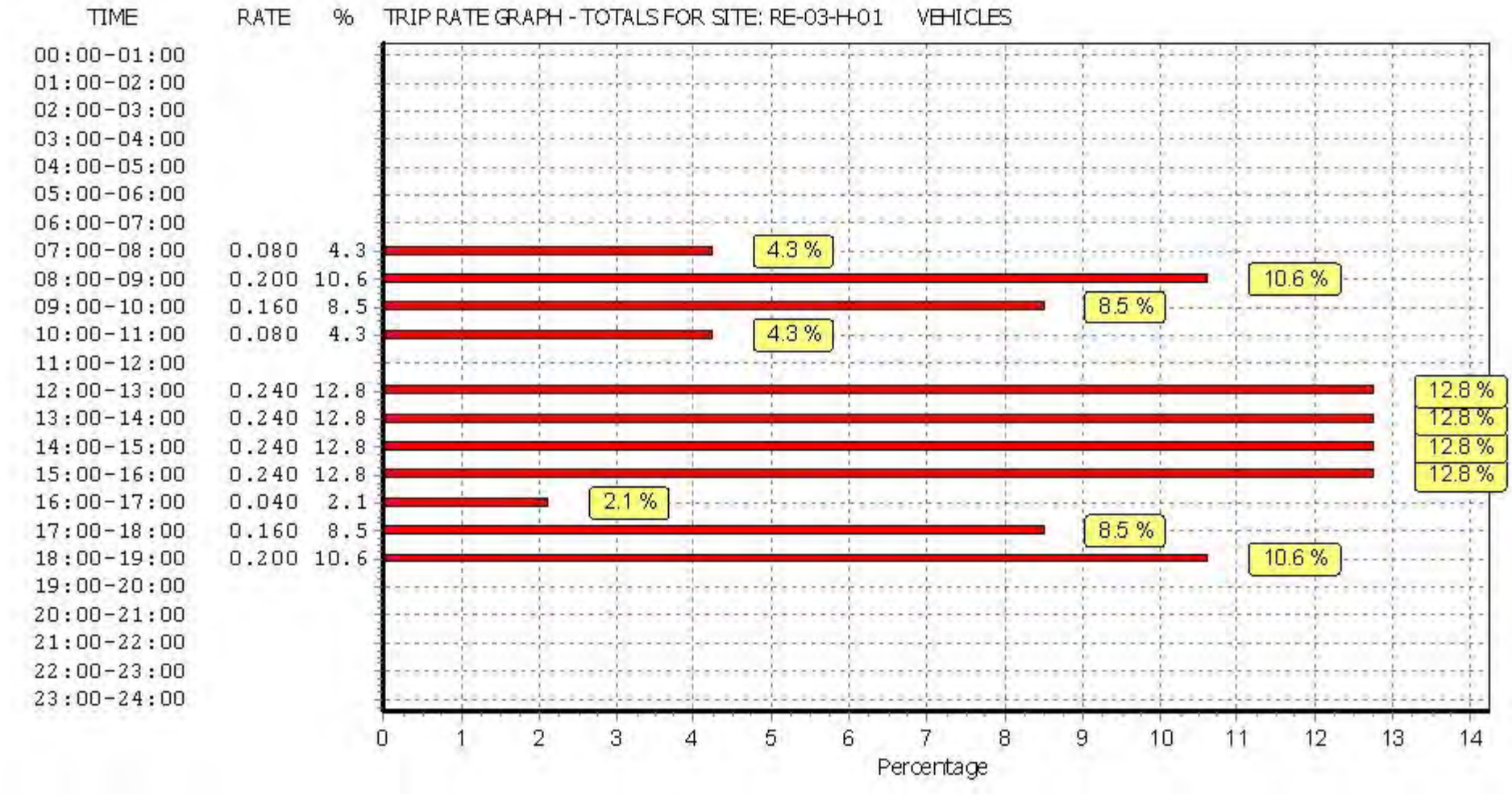
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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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.

TRIP RATE for Land Use 03 - RESIDENTIAL/H - NURSES HOMES
TAXIS
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
08:00 - 09:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
09:00 - 10:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
10:00 - 11:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
13:00 - 14:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
14:00 - 15:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
15:00 - 16:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
16:00 - 17:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
17:00 - 18:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
18:00 - 19:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.000	0.000			0.000	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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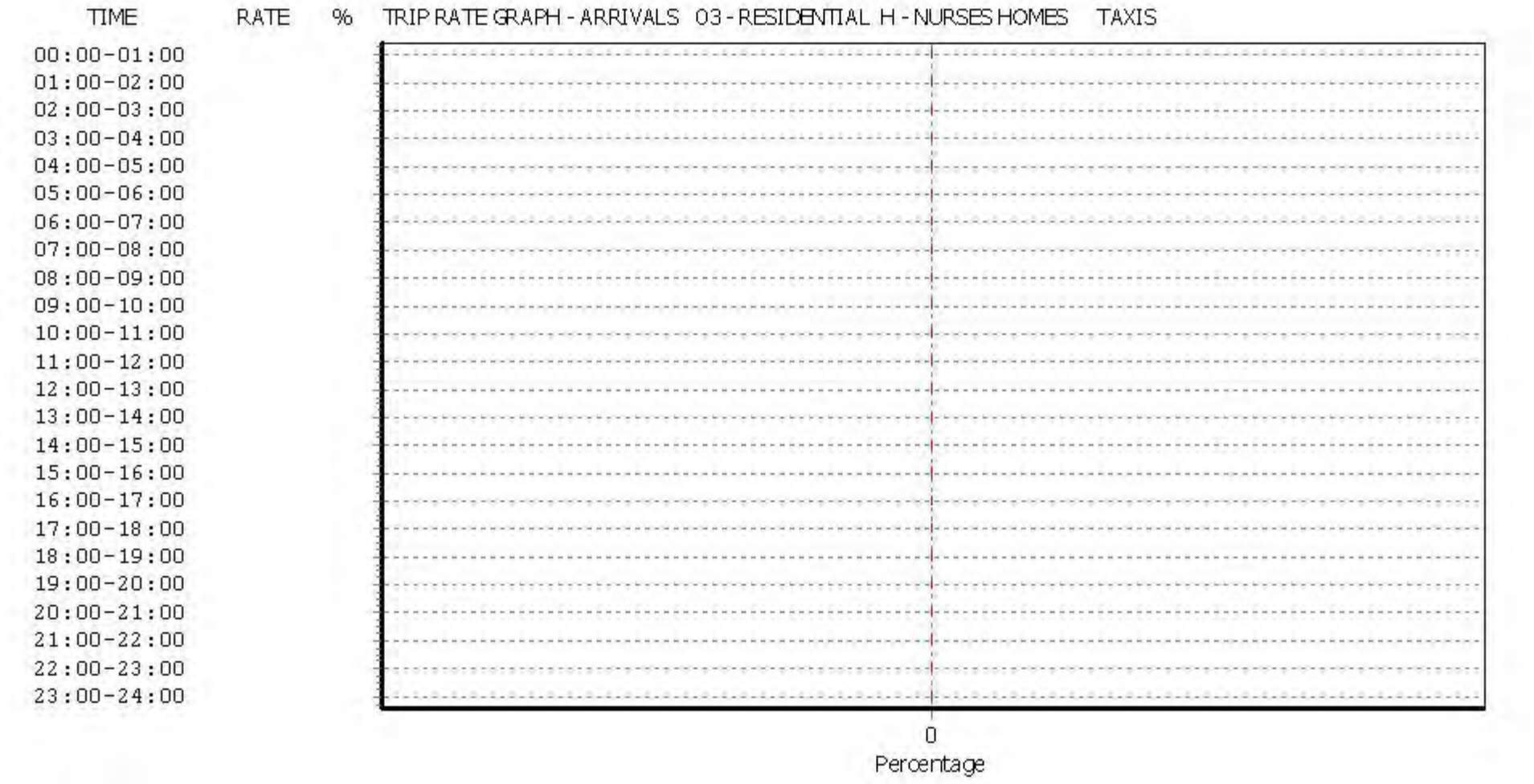
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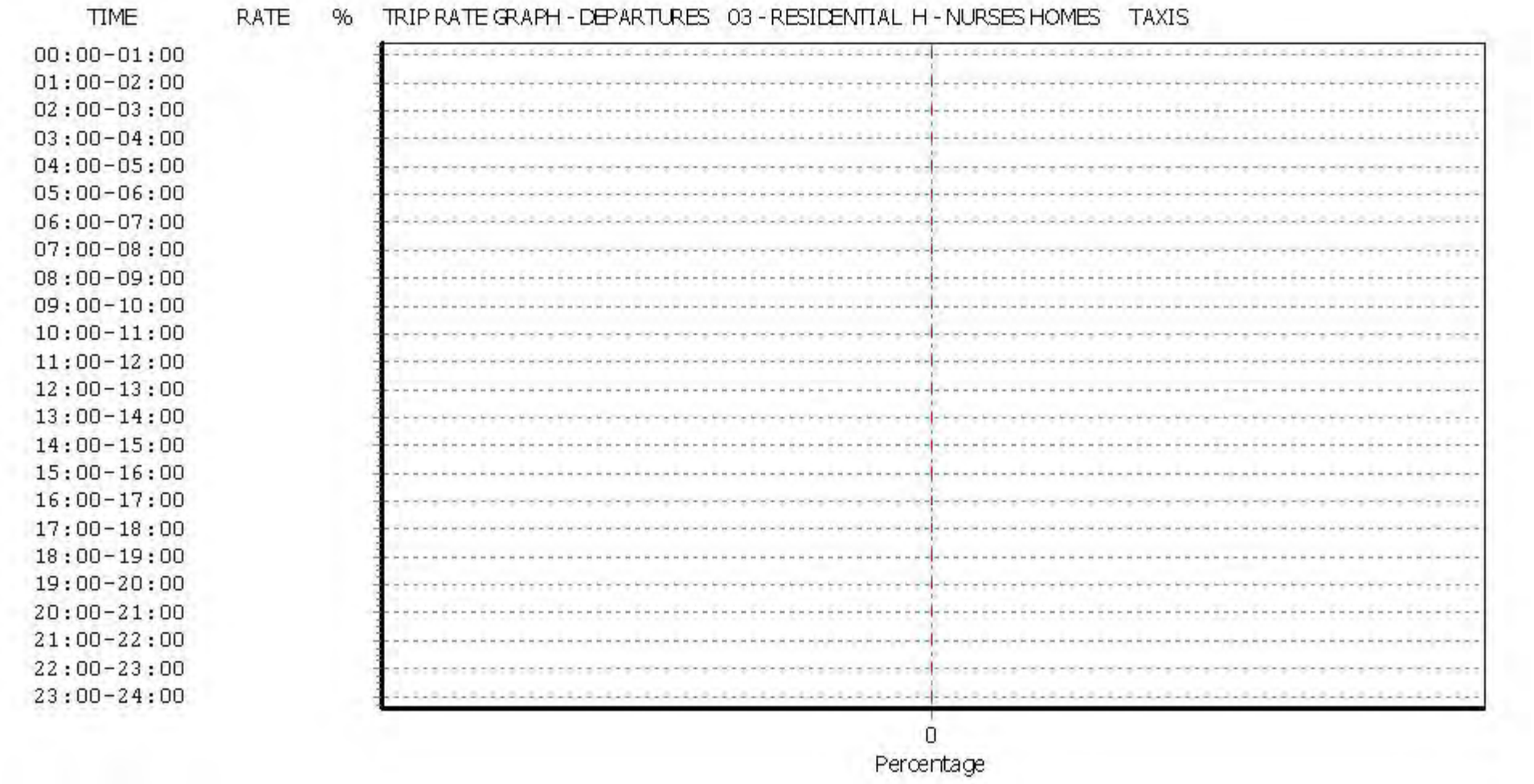
Parameter summary

Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

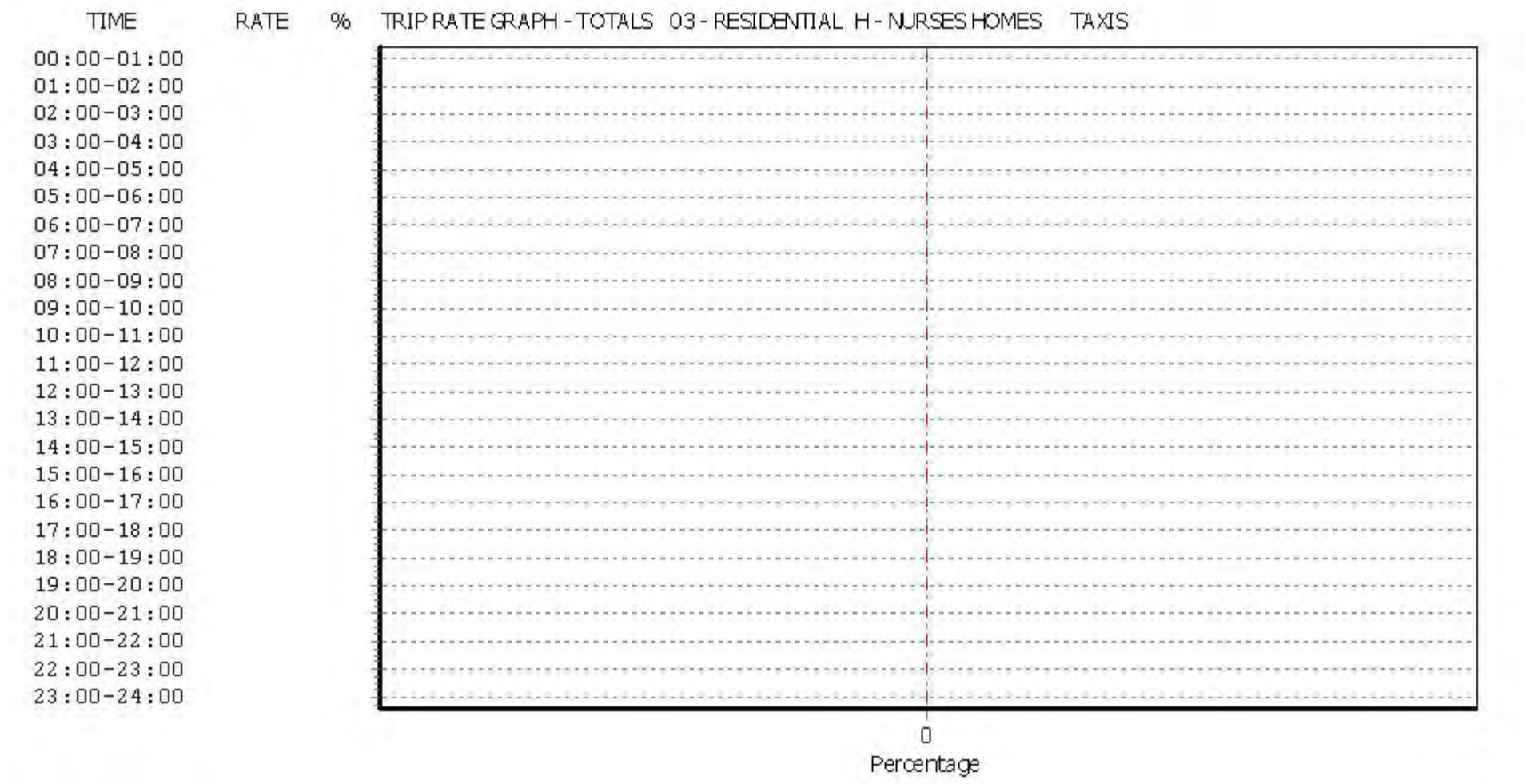
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TRIP RATE for Land Use 03 - RESIDENTIAL/H - NURSES HOMES
OGVS
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
08:00 - 09:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
09:00 - 10:00	1	25	0.040	0.920	1	25	0.000	0.000	1	25	0.040	0.920
10:00 - 11:00	1	25	0.000	0.000	1	25	0.040	0.920	1	25	0.040	0.920
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
13:00 - 14:00	1	25	0.040	0.920	1	25	0.000	0.000	1	25	0.040	0.920
14:00 - 15:00	1	25	0.000	0.000	1	25	0.040	0.920	1	25	0.040	0.920
15:00 - 16:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
16:00 - 17:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
17:00 - 18:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
18:00 - 19:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.080	1.840			0.080	1.840			0.160	3.680

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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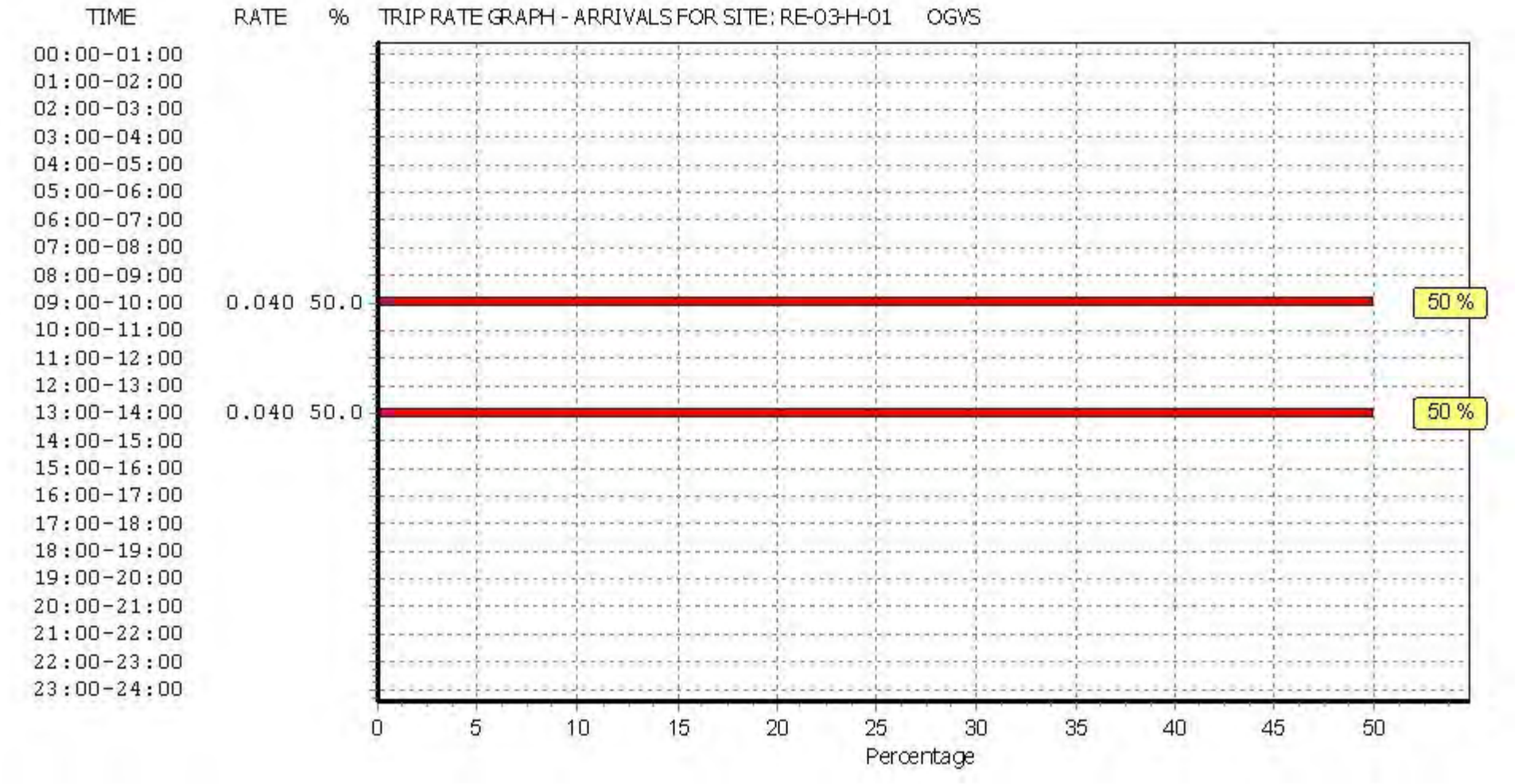
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Parameter summary

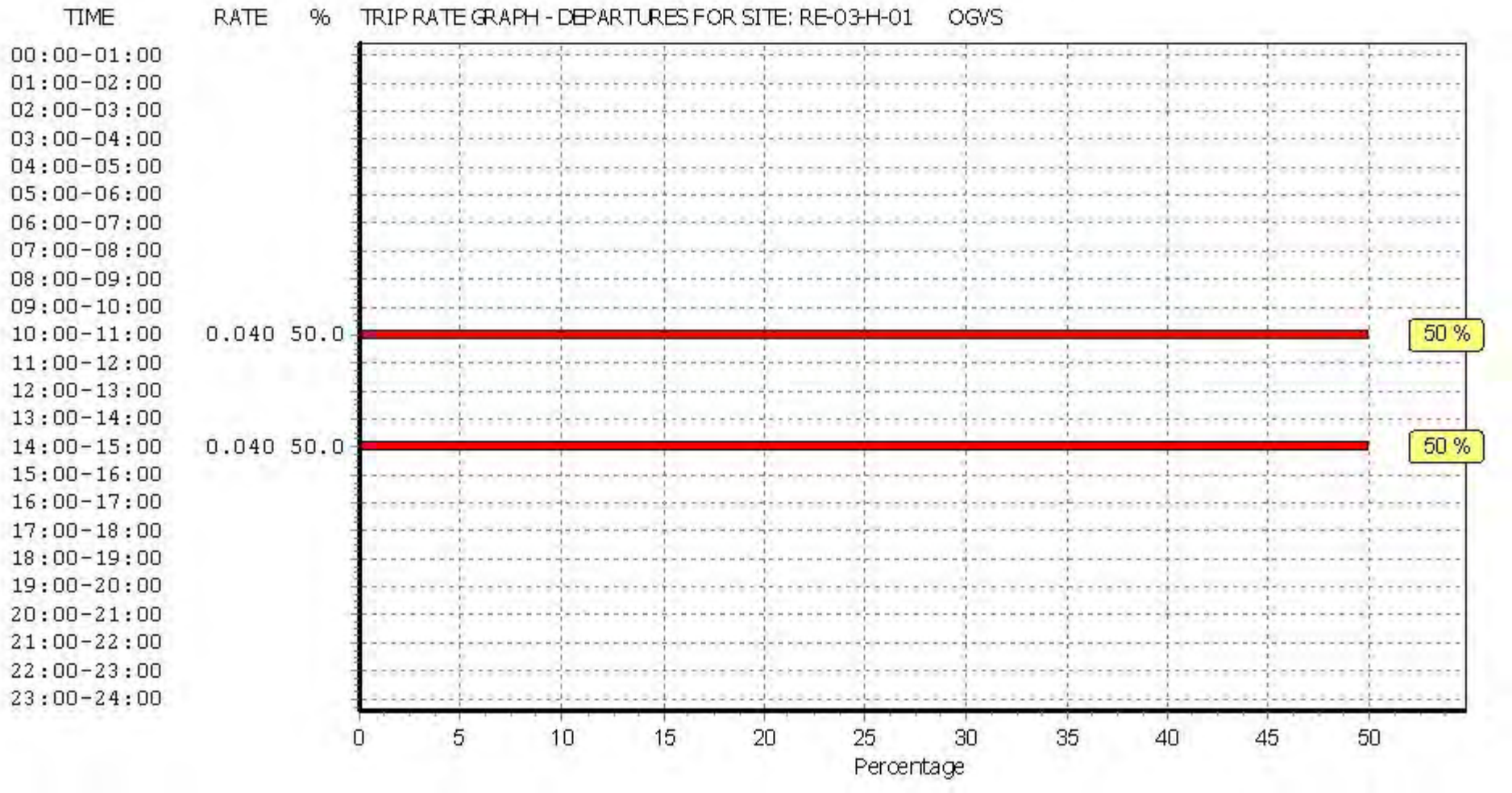
Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

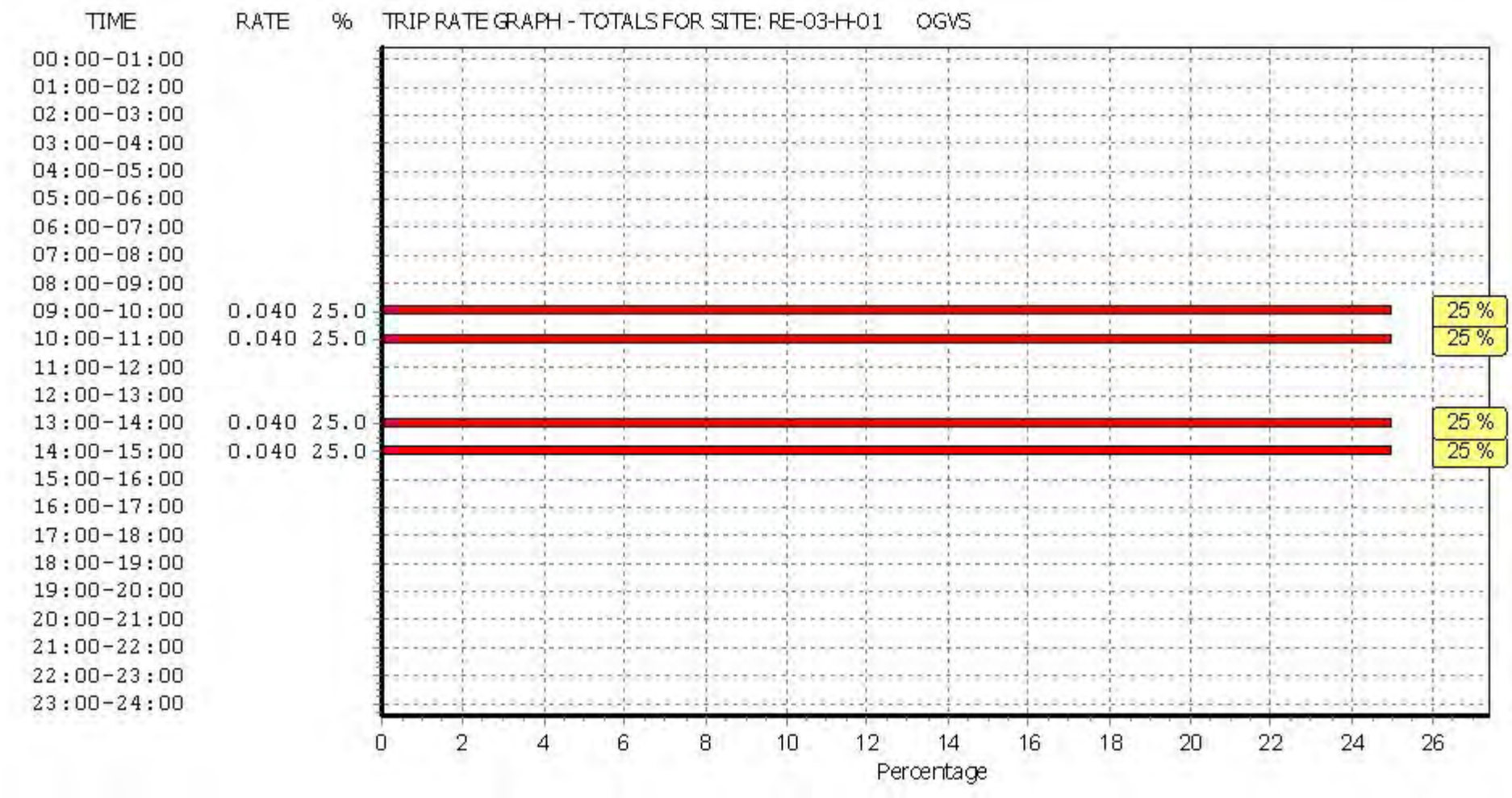


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

i-Transport Grove House Basingstoke Licence No: 236601



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TRIP RATE for Land Use 03 - RESIDENTIAL/H - NURSES HOMES
PSVS
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
08:00 - 09:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
09:00 - 10:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
10:00 - 11:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
13:00 - 14:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
14:00 - 15:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
15:00 - 16:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
16:00 - 17:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
17:00 - 18:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
18:00 - 19:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.000	0.000			0.000	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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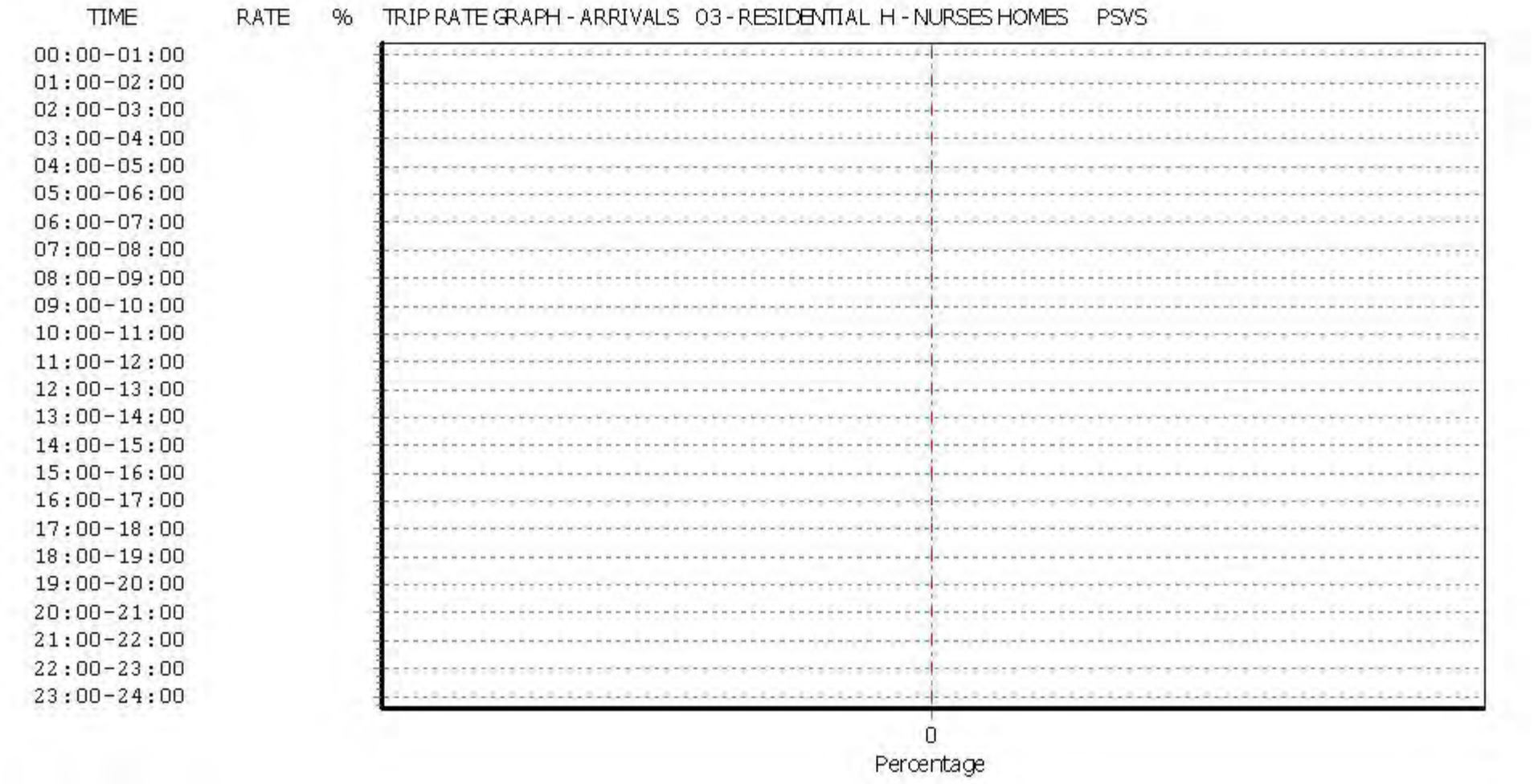
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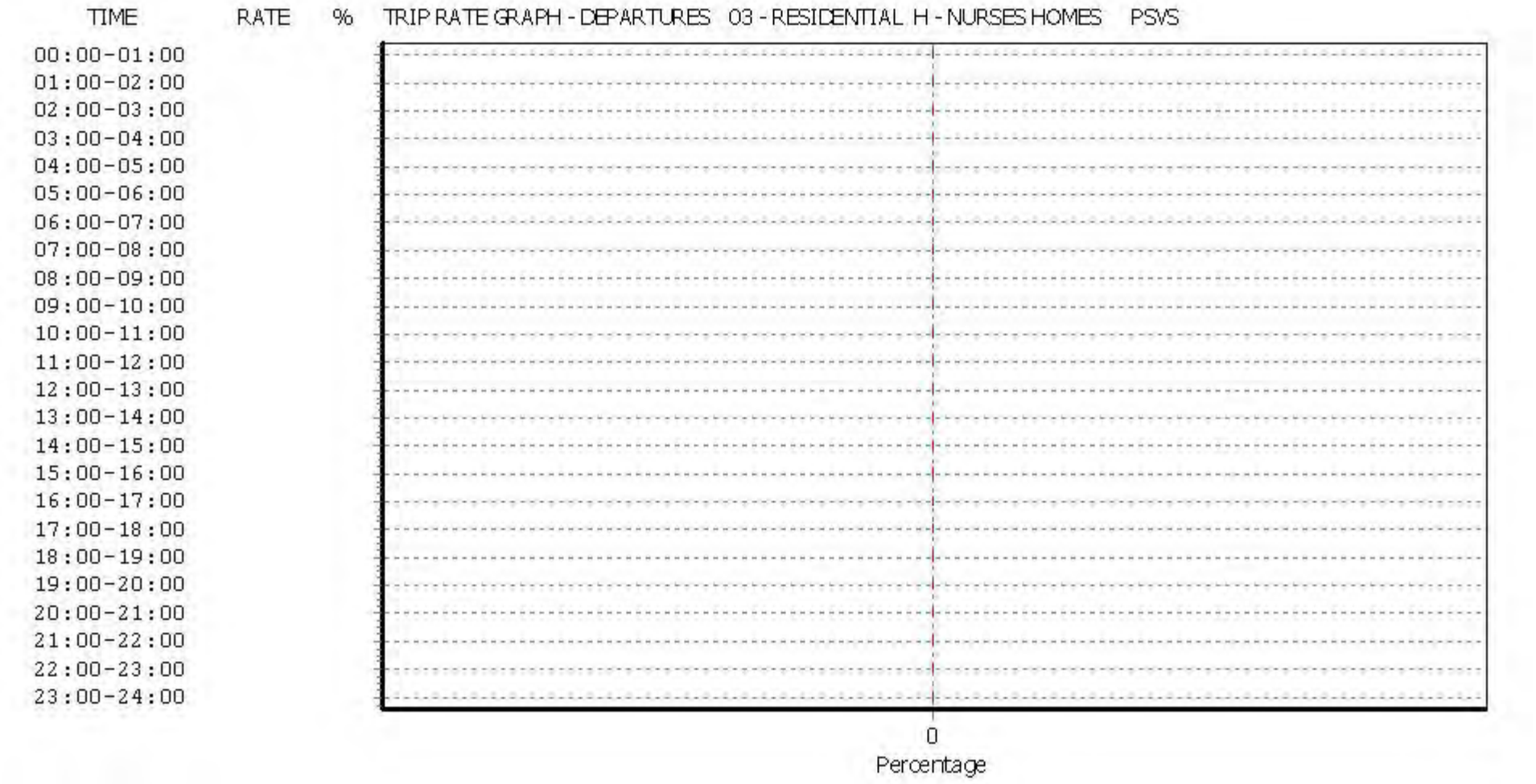
Parameter summary

Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

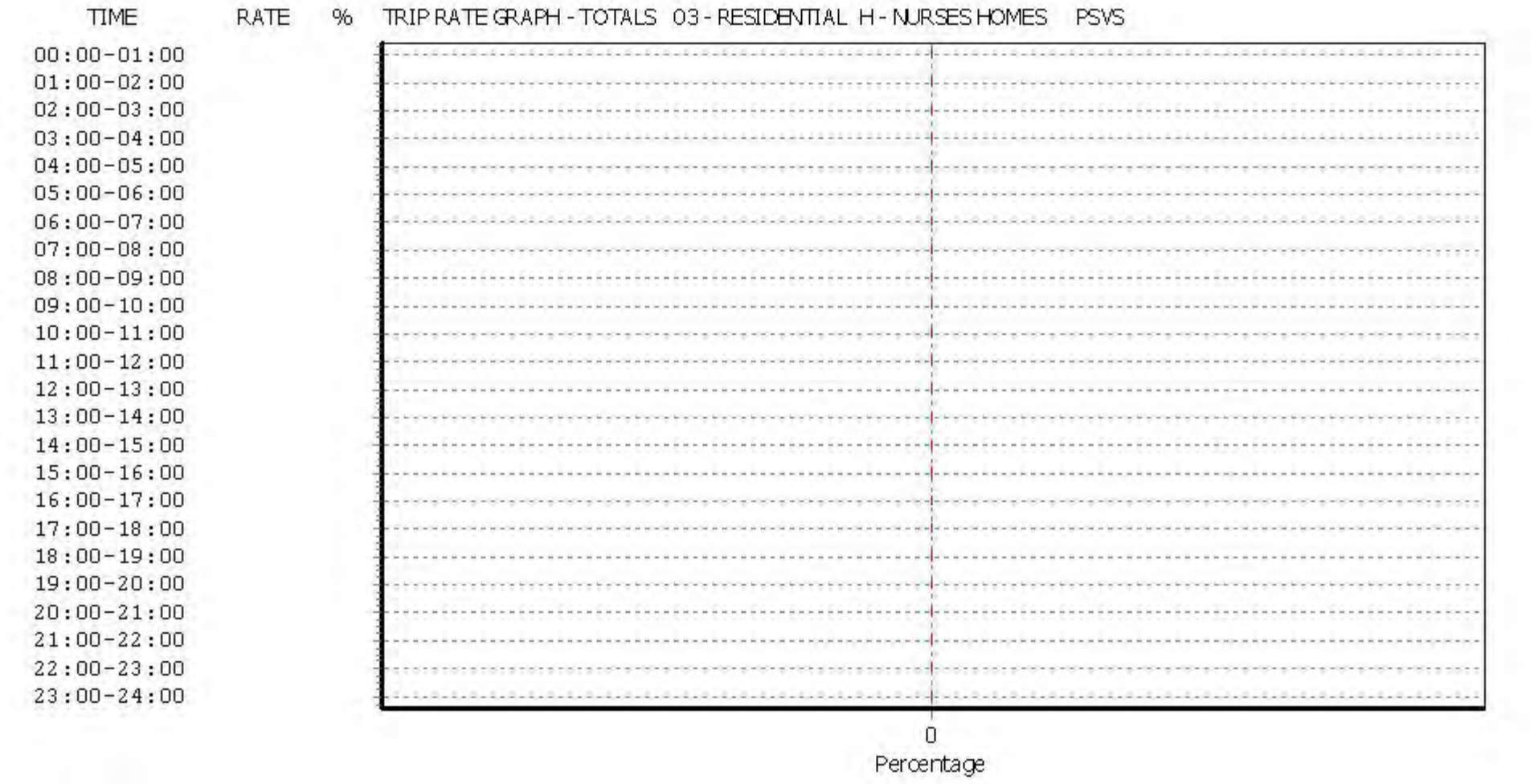
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TRIP RATE for Land Use 03 - RESIDENTIAL/H - NURSES HOMES
CYCLISTS
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
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02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
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08:00 - 09:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
09:00 - 10:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
10:00 - 11:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
13:00 - 14:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
14:00 - 15:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
15:00 - 16:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
16:00 - 17:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
17:00 - 18:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
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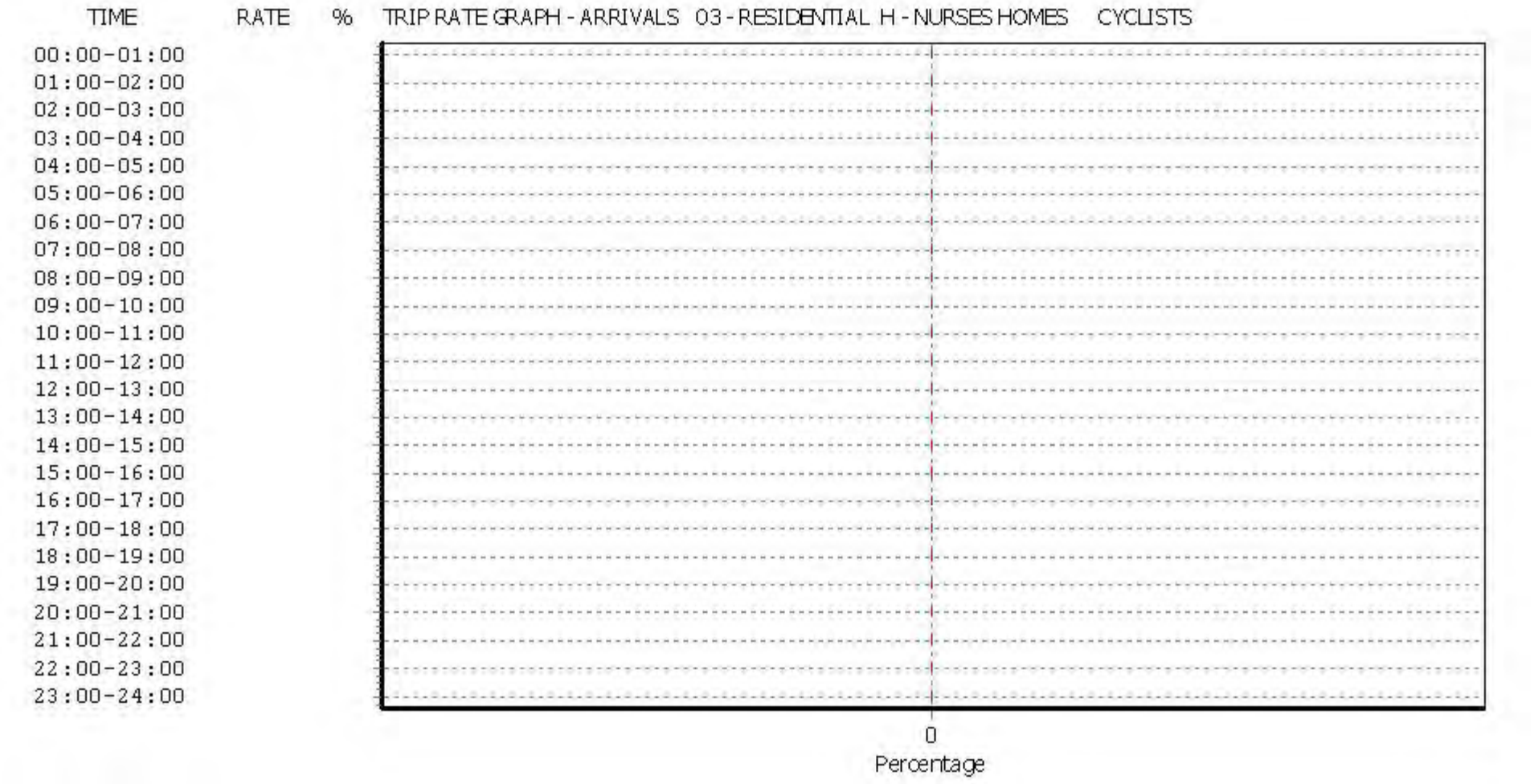
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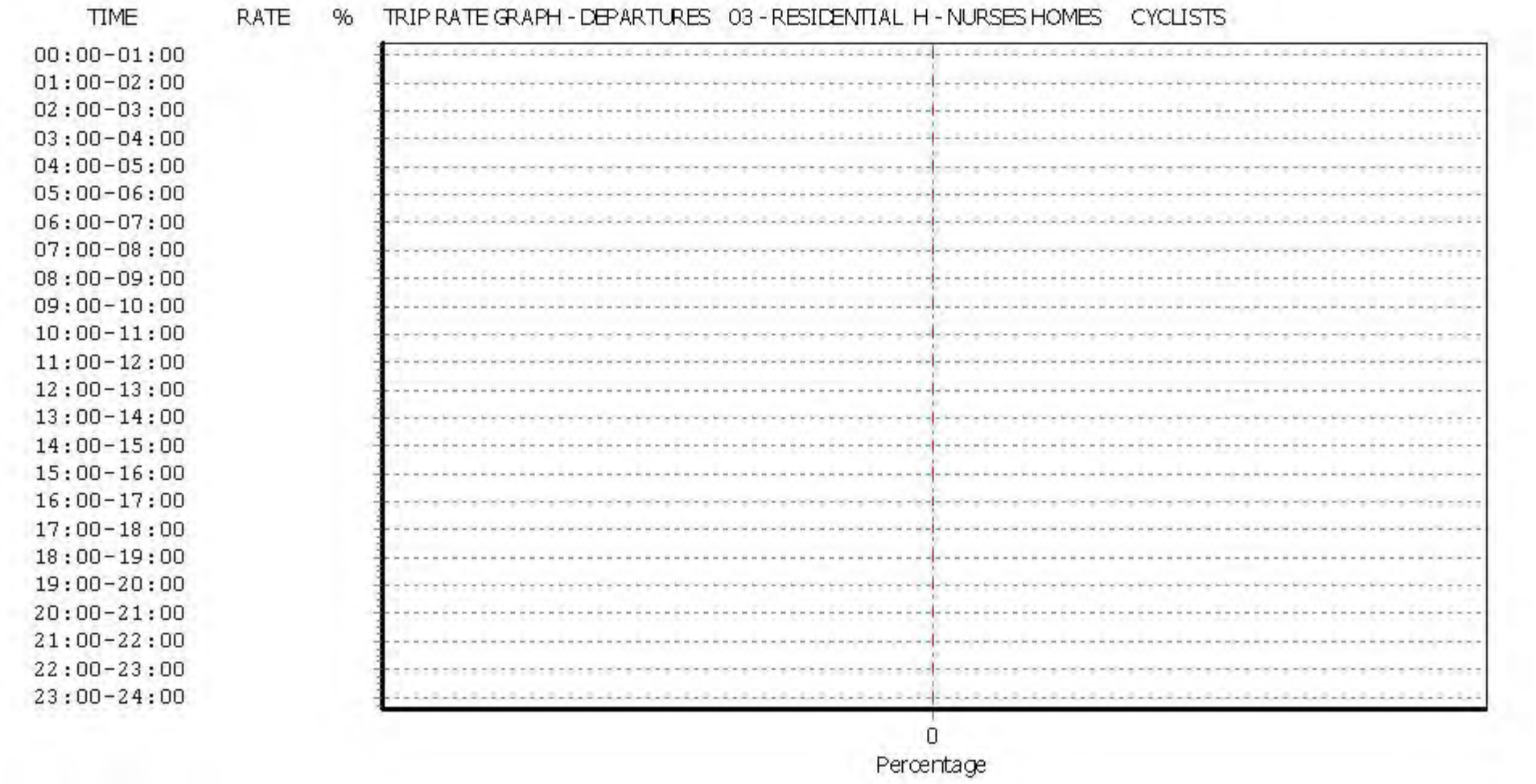
Parameter summary

Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

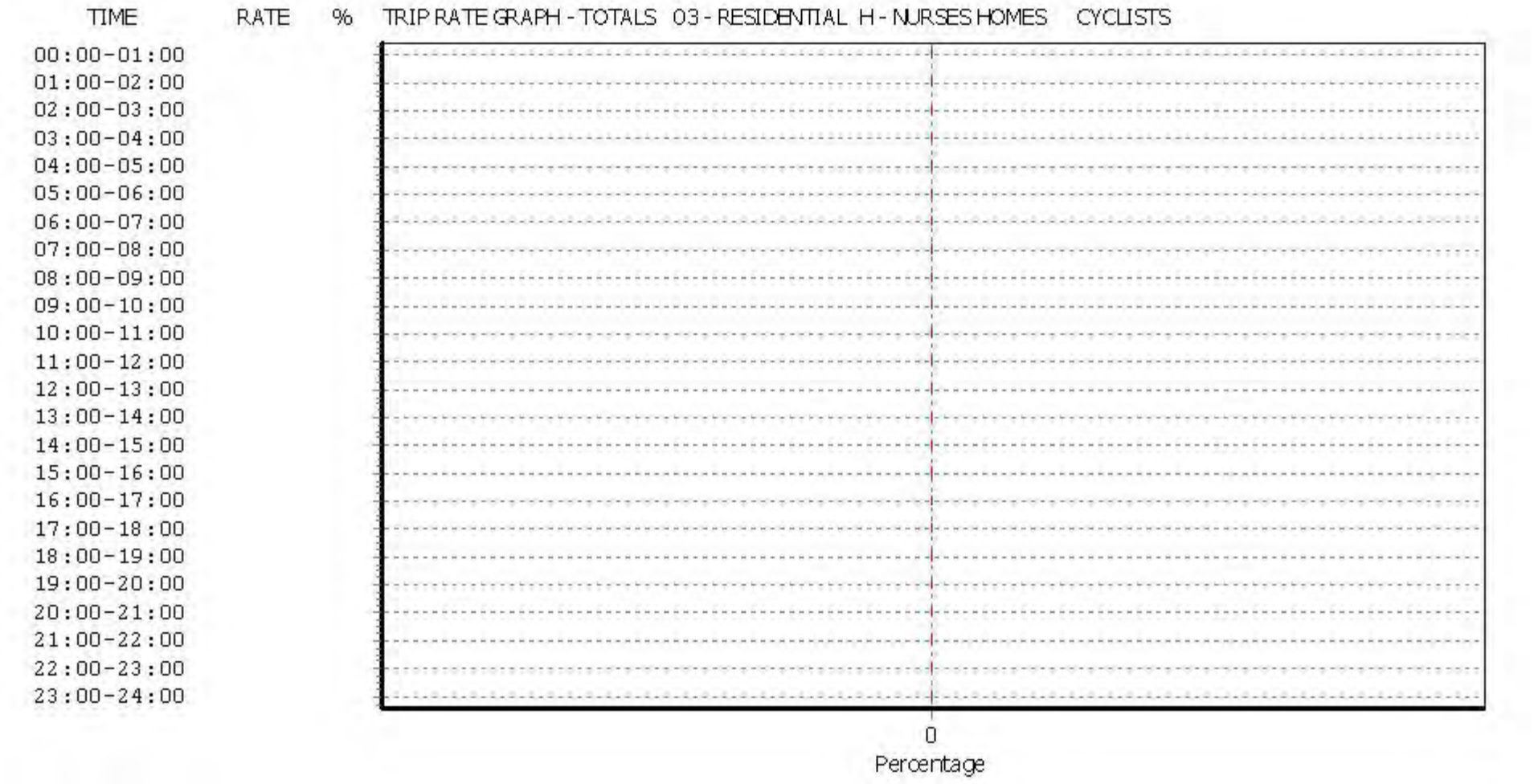
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Calculation Reference: AUDIT-236601-171110-1147

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NE	NORTH EAST LINCOLNSHIRE	2 days
	NY	NORTH YORKSHIRE	1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
Actual Range: 108 to 432 (units:)
Range Selected by User: 100 to 500 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 27/03/17

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
Thursday	2 days
Friday	2 days

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

Selected survey types:

Manual count	6 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 undertaking using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	2

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

Selected Location Sub Categories:

Residential Zone	4
No Sub Category	2

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

Secondary Filtering selection:

Use Class:

C3	6 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:

1,001 to 5,000	2 days
10,001 to 15,000	3 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	3 days
50,001 to 75,000	1 days
75,001 to 100,000	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	1 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:

Yes	1 days
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	6 days

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

LIST OF SITES relevant to selection parameters

1 DV-03-A-02 HOUSES & BUNGALOWS DEVON
MILLHEAD ROAD

HONITON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 116
Survey date: FRIDAY *25/09/15* *Survey Type: MANUAL*

2 NE-03-A-02 SEMI DETACHED & DETACHED NORTH EAST LINCOLNSHIRE
HANOVER WALK

SCUNTHORPE
Edge of Town
No Sub Category
Total Number of dwellings: 432
Survey date: MONDAY *12/05/14* *Survey Type: MANUAL*

3 NE-03-A-03 PRIVATE HOUSES NORTH EAST LINCOLNSHIRE
STATION ROAD

SCUNTHORPE
Edge of Town Centre
Residential Zone
Total Number of dwellings: 180
Survey date: TUESDAY *20/05/14* *Survey Type: MANUAL*

4 NY-03-A-06 BUNGALOWS & SEMI DET. NORTH YORKSHIRE
HORSEFAIR

BOROUGHBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: FRIDAY *14/10/11* *Survey Type: MANUAL*

5 SH-03-A-04 TERRACED SHROPSHIRE
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 108
Survey date: THURSDAY *11/06/09* *Survey Type: MANUAL*

6 WS-03-A-04 MIXED HOUSES WEST SUSSEX
HILLS FARM LANE
BROADBRIDGE HEATH
HORSHAM
Edge of Town
Residential Zone
Total Number of dwellings: 151
Survey date: THURSDAY *11/12/14* *Survey Type: MANUAL*

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.044	6	184	0.218	6	184	0.262
08:00 - 09:00	6	184	0.118	6	184	0.335	6	184	0.453
09:00 - 10:00	6	184	0.139	6	184	0.127	6	184	0.266
10:00 - 11:00	6	184	0.133	6	184	0.163	6	184	0.296
11:00 - 12:00	6	184	0.123	6	184	0.137	6	184	0.260
12:00 - 13:00	6	184	0.148	6	184	0.146	6	184	0.294
13:00 - 14:00	6	184	0.139	6	184	0.127	6	184	0.266
14:00 - 15:00	6	184	0.143	6	184	0.173	6	184	0.316
15:00 - 16:00	6	184	0.241	6	184	0.190	6	184	0.431
16:00 - 17:00	6	184	0.238	6	184	0.157	6	184	0.395
17:00 - 18:00	6	184	0.273	6	184	0.181	6	184	0.454
18:00 - 19:00	6	184	0.199	6	184	0.172	6	184	0.371
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.938			2.126			4.064

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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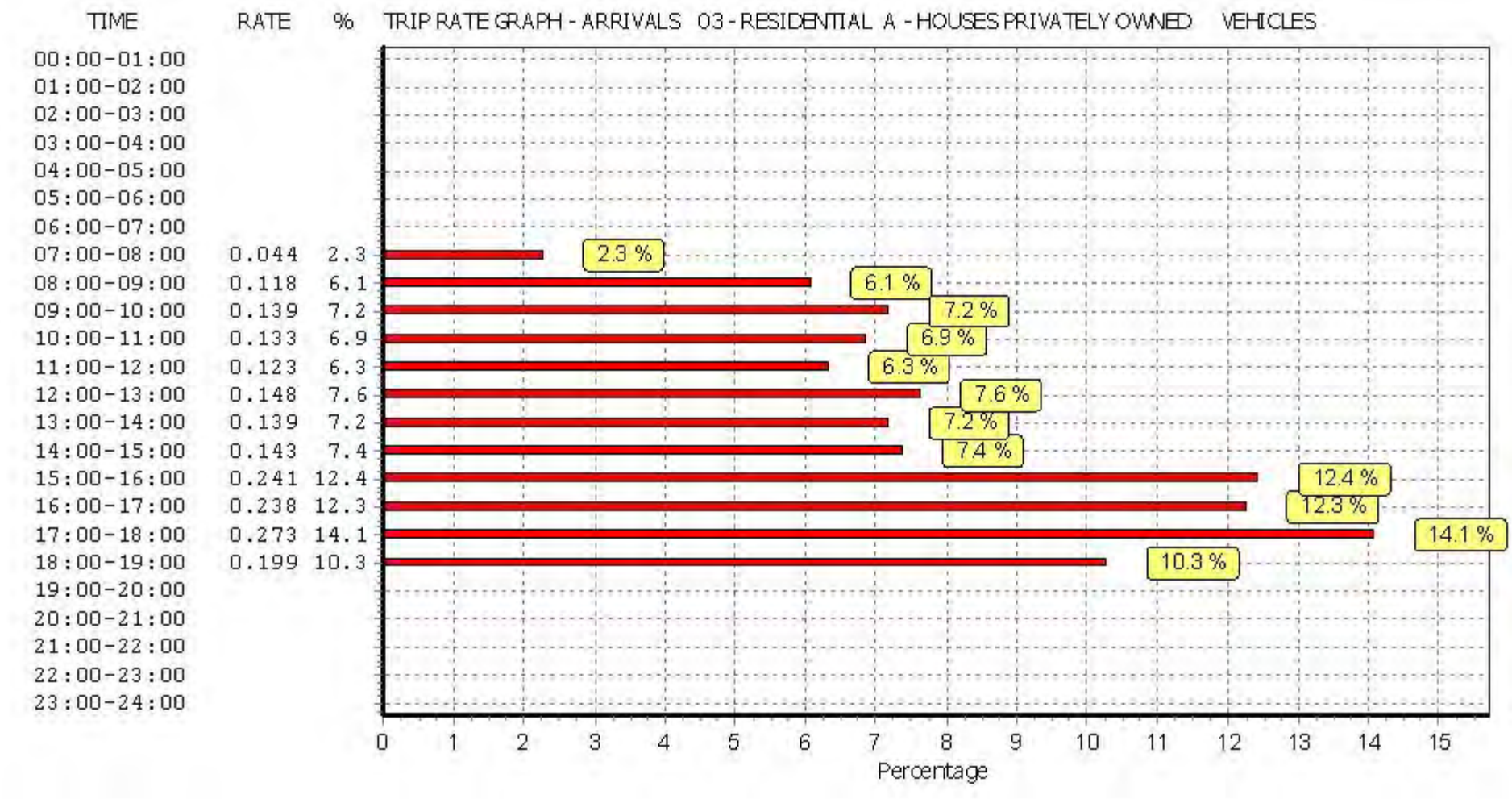
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Parameter summary

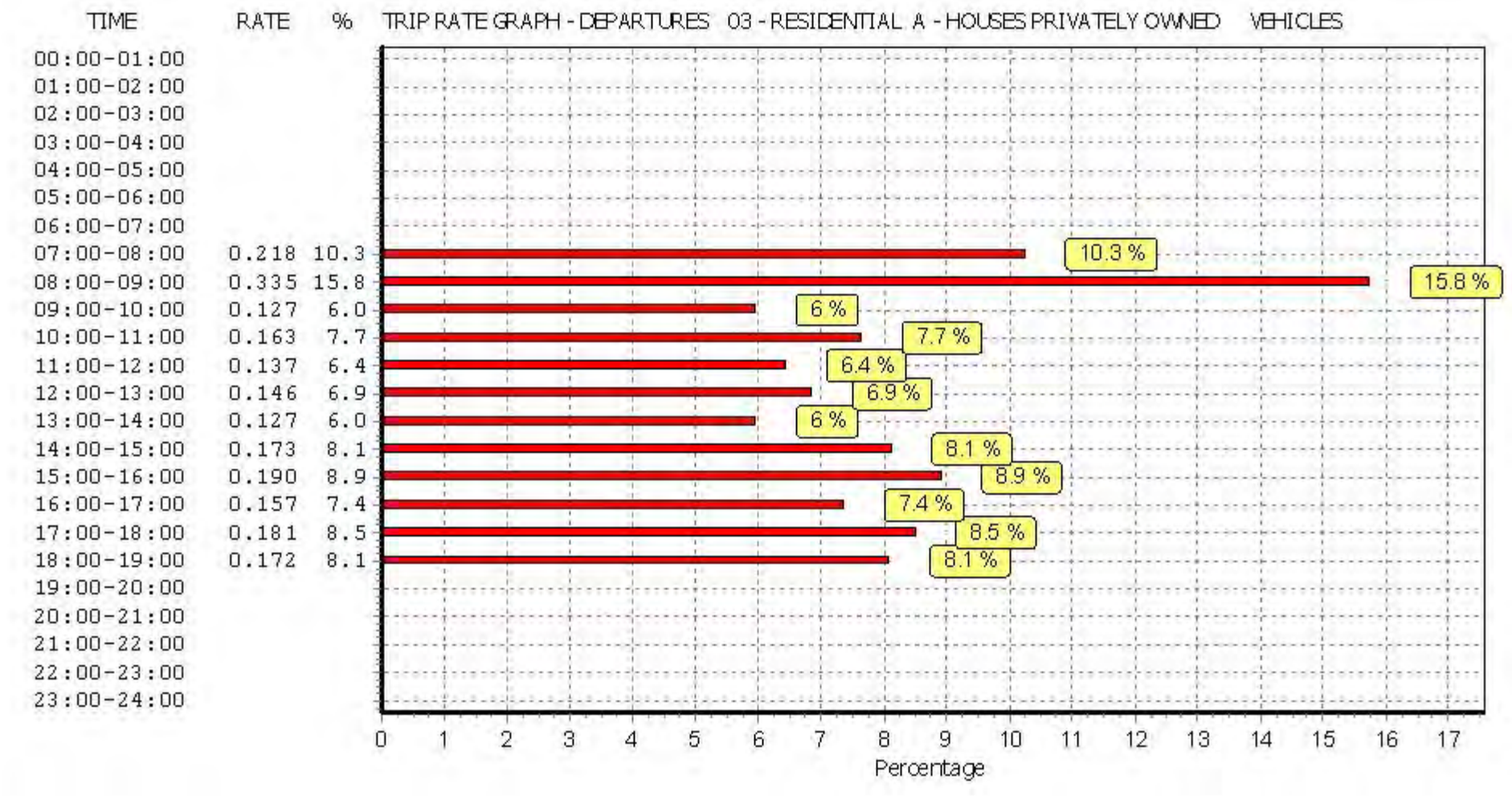
Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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.

i-Transport Grove House Basingstoke Licence No: 236601

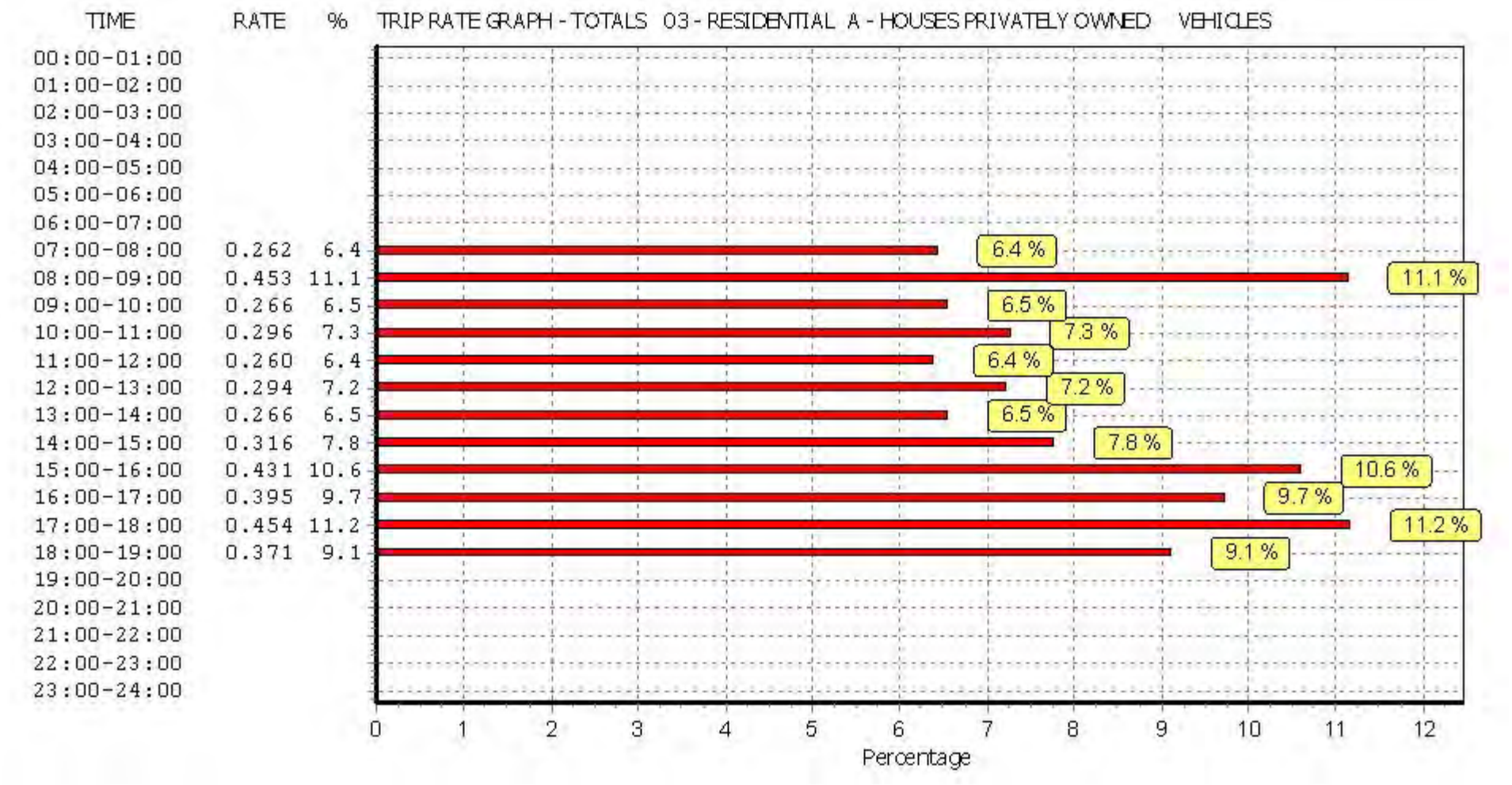


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through 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.

i-Transport Grove House Basingstoke Licence No: 236601



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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.001	6	184	0.001	6	184	0.002
08:00 - 09:00	6	184	0.002	6	184	0.002	6	184	0.004
09:00 - 10:00	6	184	0.002	6	184	0.002	6	184	0.004
10:00 - 11:00	6	184	0.002	6	184	0.002	6	184	0.004
11:00 - 12:00	6	184	0.000	6	184	0.000	6	184	0.000
12:00 - 13:00	6	184	0.000	6	184	0.000	6	184	0.000
13:00 - 14:00	6	184	0.000	6	184	0.000	6	184	0.000
14:00 - 15:00	6	184	0.001	6	184	0.001	6	184	0.002
15:00 - 16:00	6	184	0.005	6	184	0.005	6	184	0.010
16:00 - 17:00	6	184	0.002	6	184	0.002	6	184	0.004
17:00 - 18:00	6	184	0.000	6	184	0.000	6	184	0.000
18:00 - 19:00	6	184	0.001	6	184	0.000	6	184	0.001
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.016			0.015			0.031

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.*

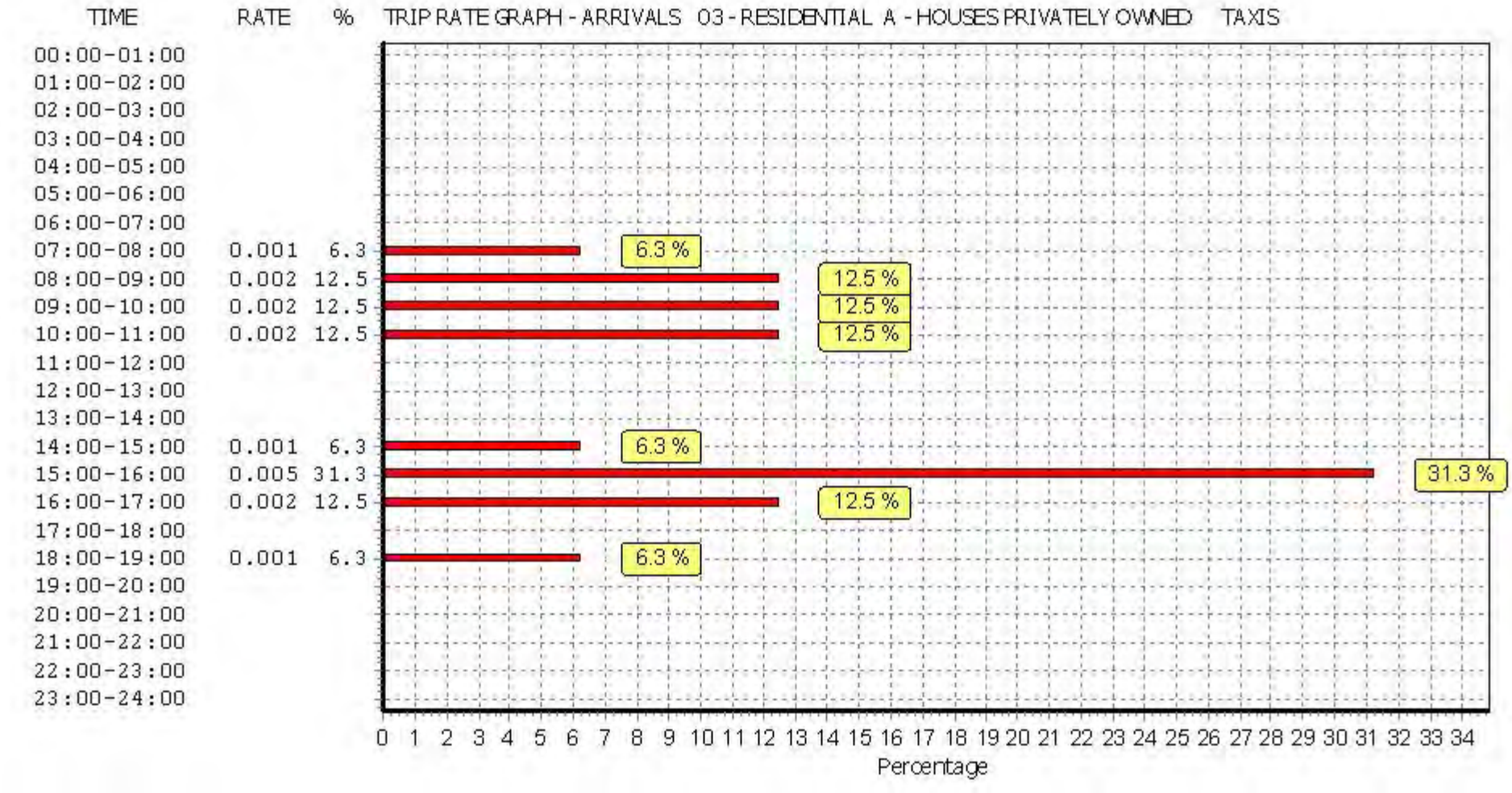
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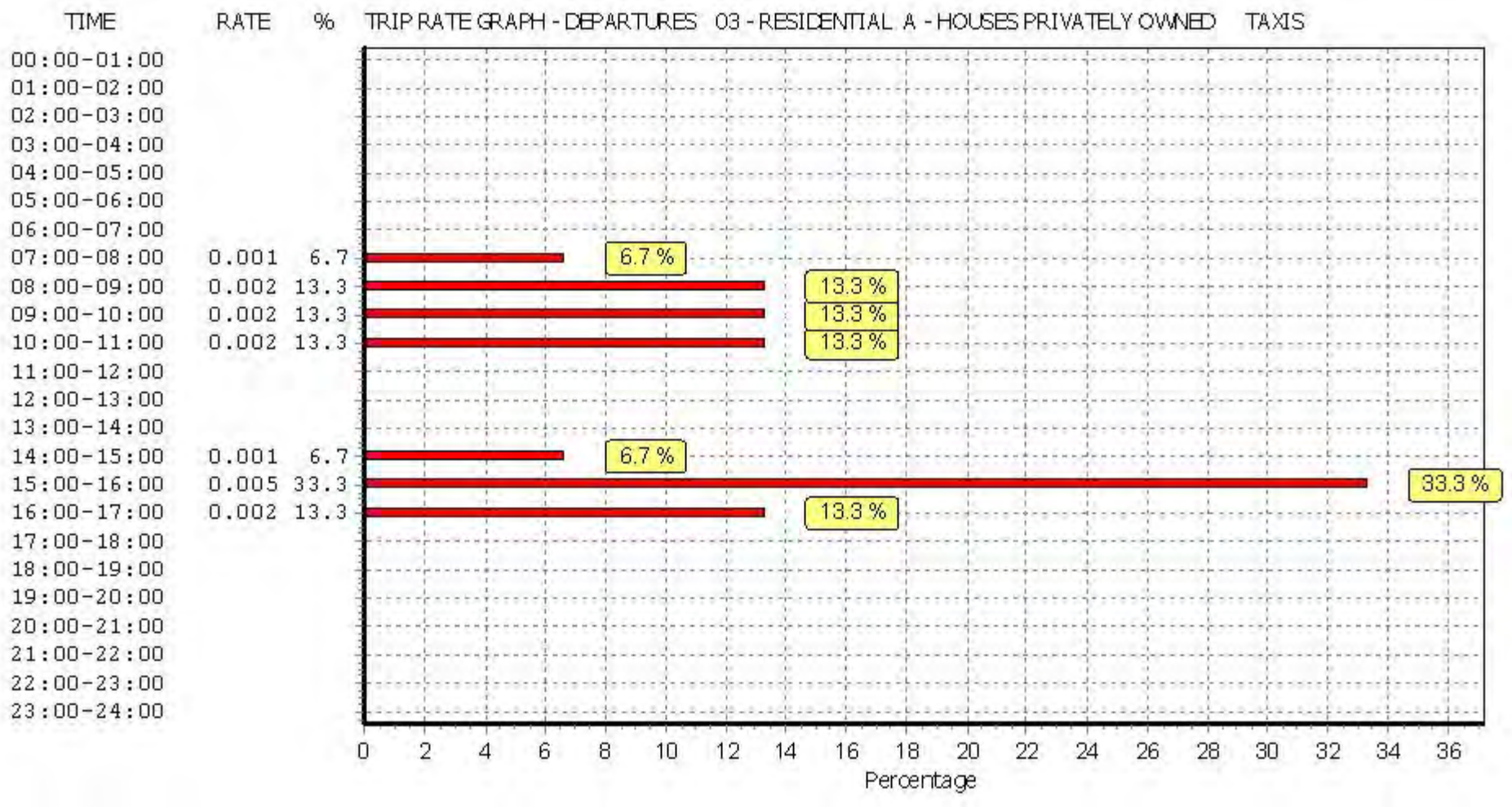
Parameter summary

Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

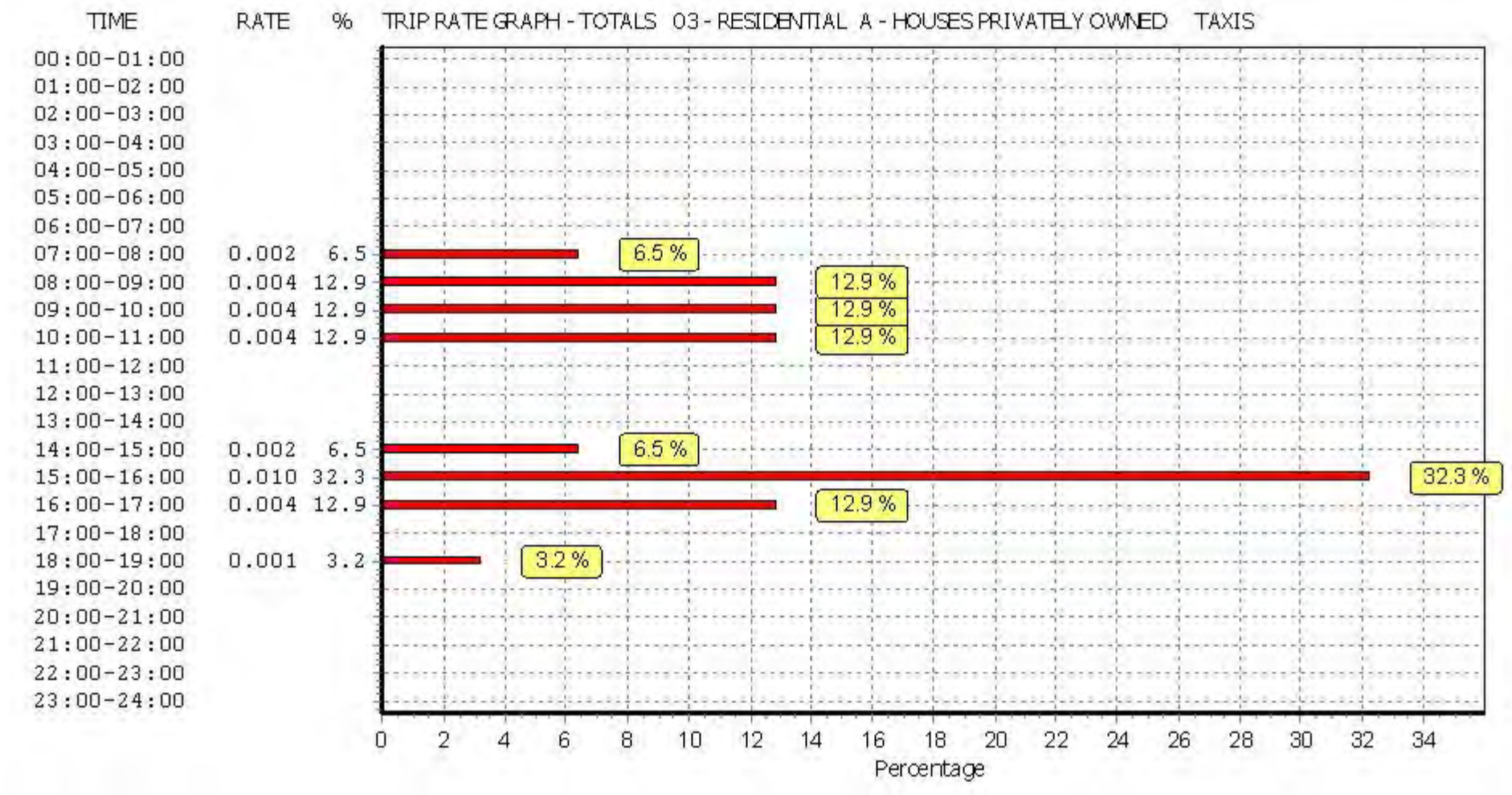
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.000	6	184	0.000	6	184	0.000
08:00 - 09:00	6	184	0.001	6	184	0.001	6	184	0.002
09:00 - 10:00	6	184	0.002	6	184	0.000	6	184	0.002
10:00 - 11:00	6	184	0.003	6	184	0.003	6	184	0.006
11:00 - 12:00	6	184	0.001	6	184	0.003	6	184	0.004
12:00 - 13:00	6	184	0.003	6	184	0.001	6	184	0.004
13:00 - 14:00	6	184	0.001	6	184	0.002	6	184	0.003
14:00 - 15:00	6	184	0.002	6	184	0.004	6	184	0.006
15:00 - 16:00	6	184	0.001	6	184	0.001	6	184	0.002
16:00 - 17:00	6	184	0.004	6	184	0.002	6	184	0.006
17:00 - 18:00	6	184	0.000	6	184	0.000	6	184	0.000
18:00 - 19:00	6	184	0.000	6	184	0.000	6	184	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.018			0.017			0.035

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.*

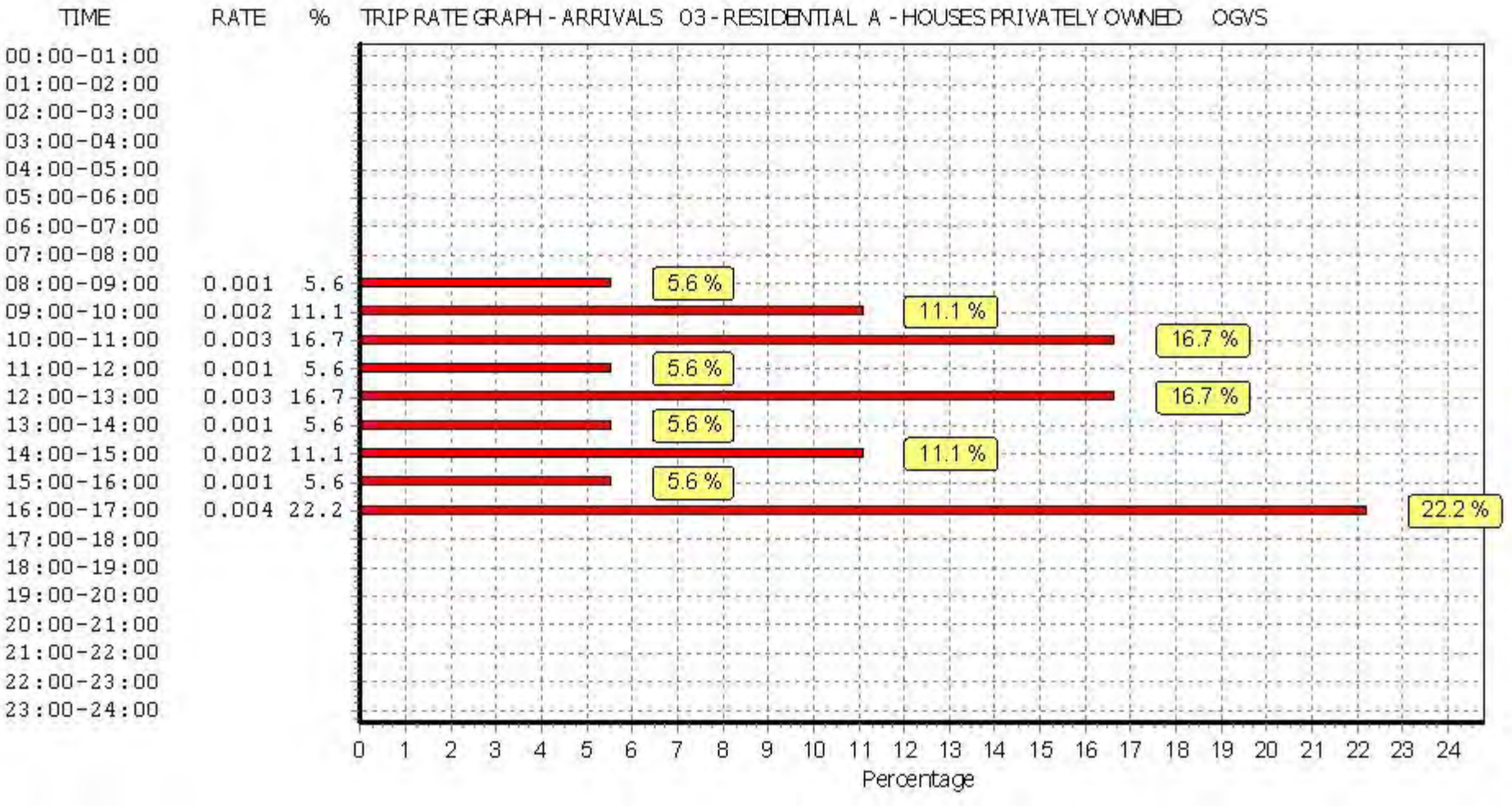
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Parameter summary

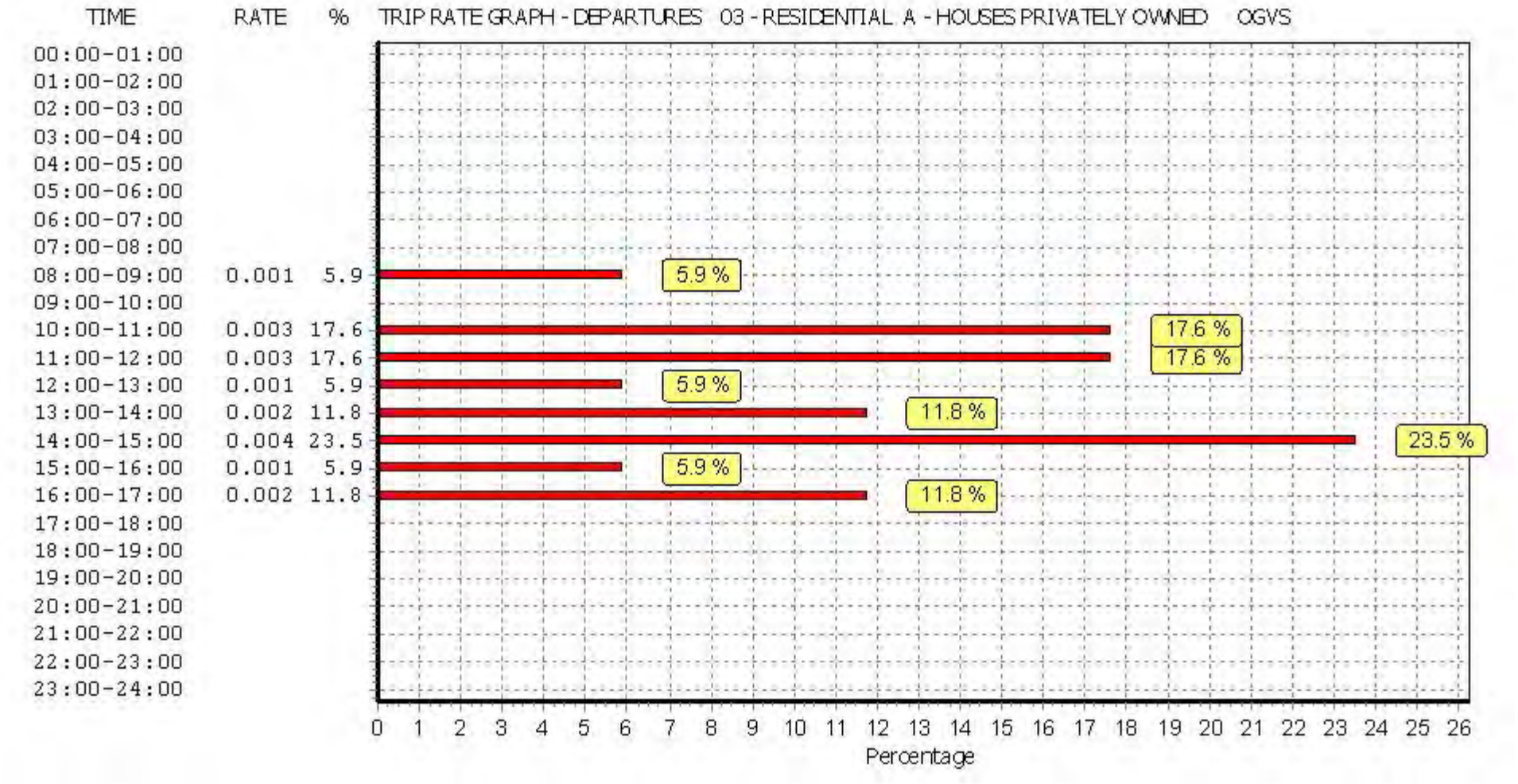
Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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.

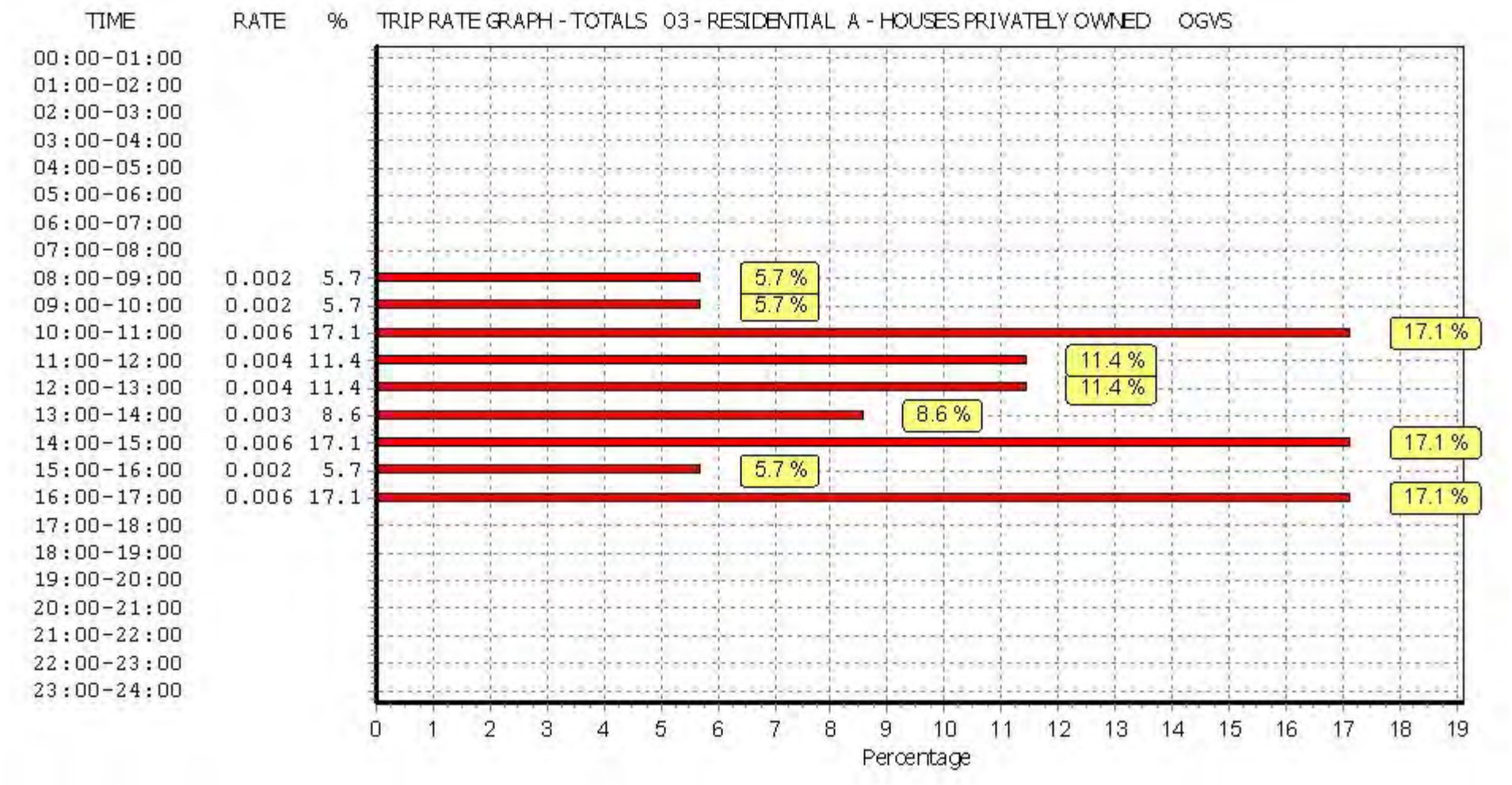


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

i-Transport Grove House Basingstoke Licence No: 236601



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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.000	6	184	0.000	6	184	0.000
08:00 - 09:00	6	184	0.000	6	184	0.000	6	184	0.000
09:00 - 10:00	6	184	0.000	6	184	0.000	6	184	0.000
10:00 - 11:00	6	184	0.000	6	184	0.000	6	184	0.000
11:00 - 12:00	6	184	0.000	6	184	0.000	6	184	0.000
12:00 - 13:00	6	184	0.000	6	184	0.000	6	184	0.000
13:00 - 14:00	6	184	0.000	6	184	0.000	6	184	0.000
14:00 - 15:00	6	184	0.000	6	184	0.000	6	184	0.000
15:00 - 16:00	6	184	0.000	6	184	0.000	6	184	0.000
16:00 - 17:00	6	184	0.000	6	184	0.000	6	184	0.000
17:00 - 18:00	6	184	0.000	6	184	0.000	6	184	0.000
18:00 - 19:00	6	184	0.000	6	184	0.000	6	184	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			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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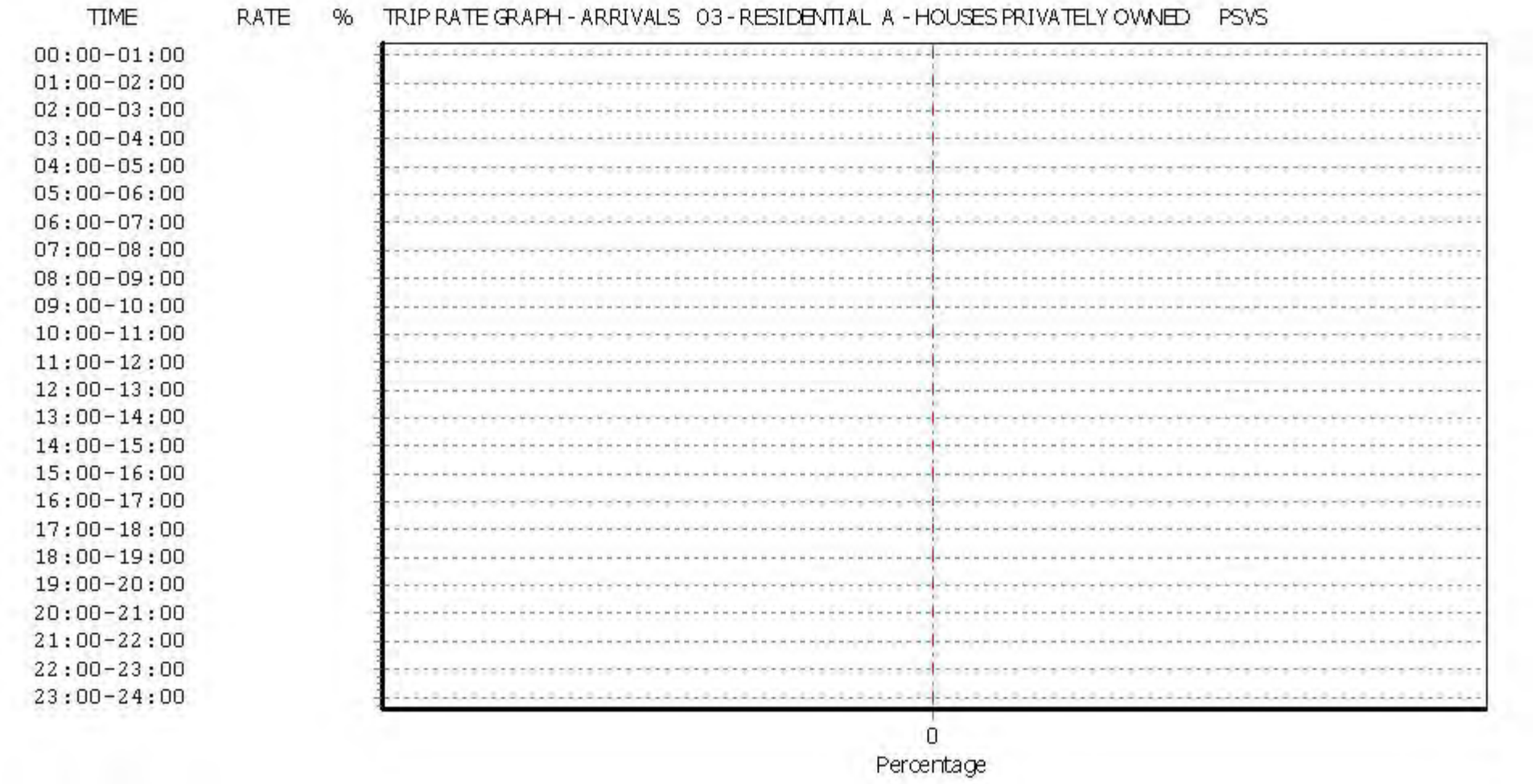
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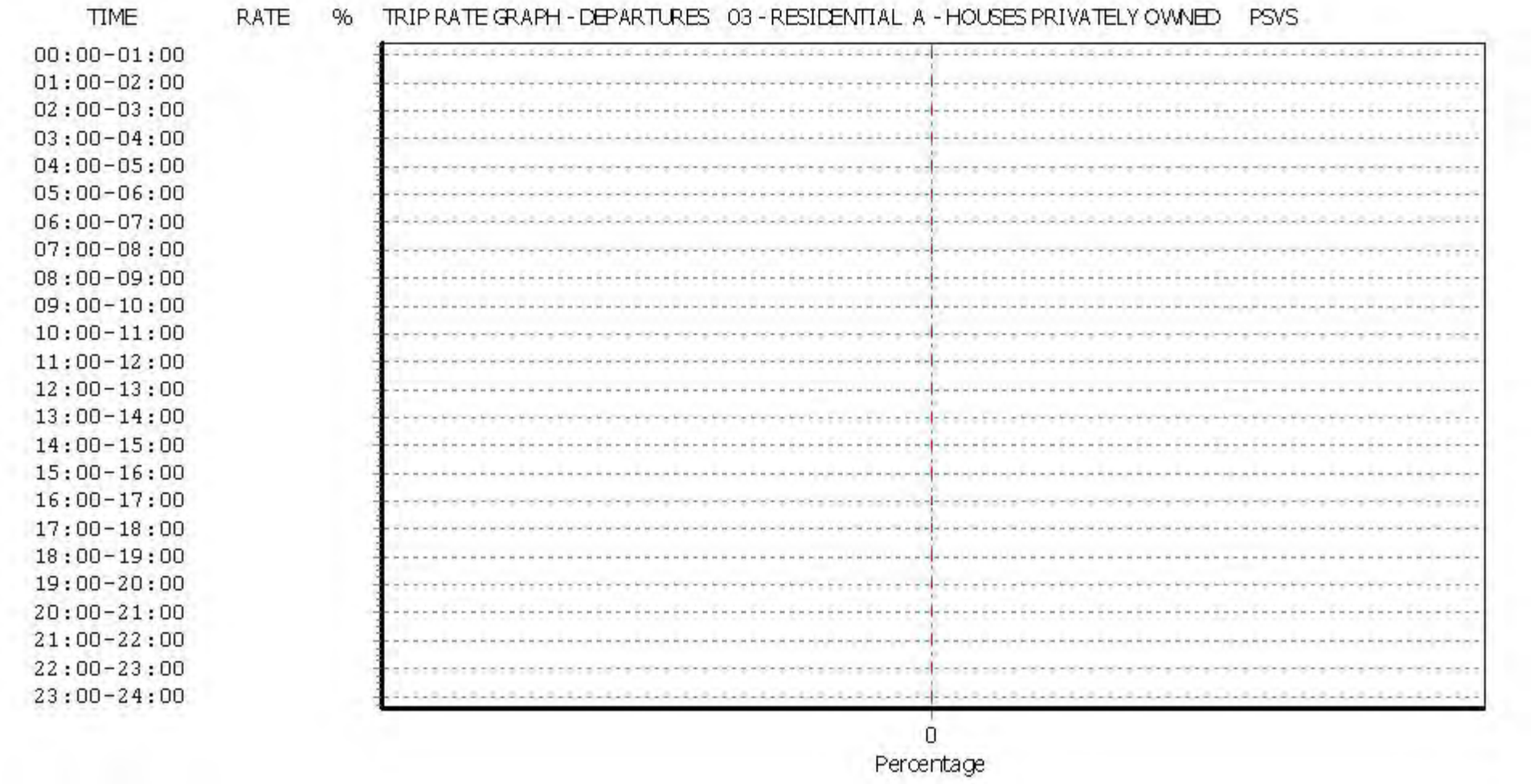
Parameter summary

Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

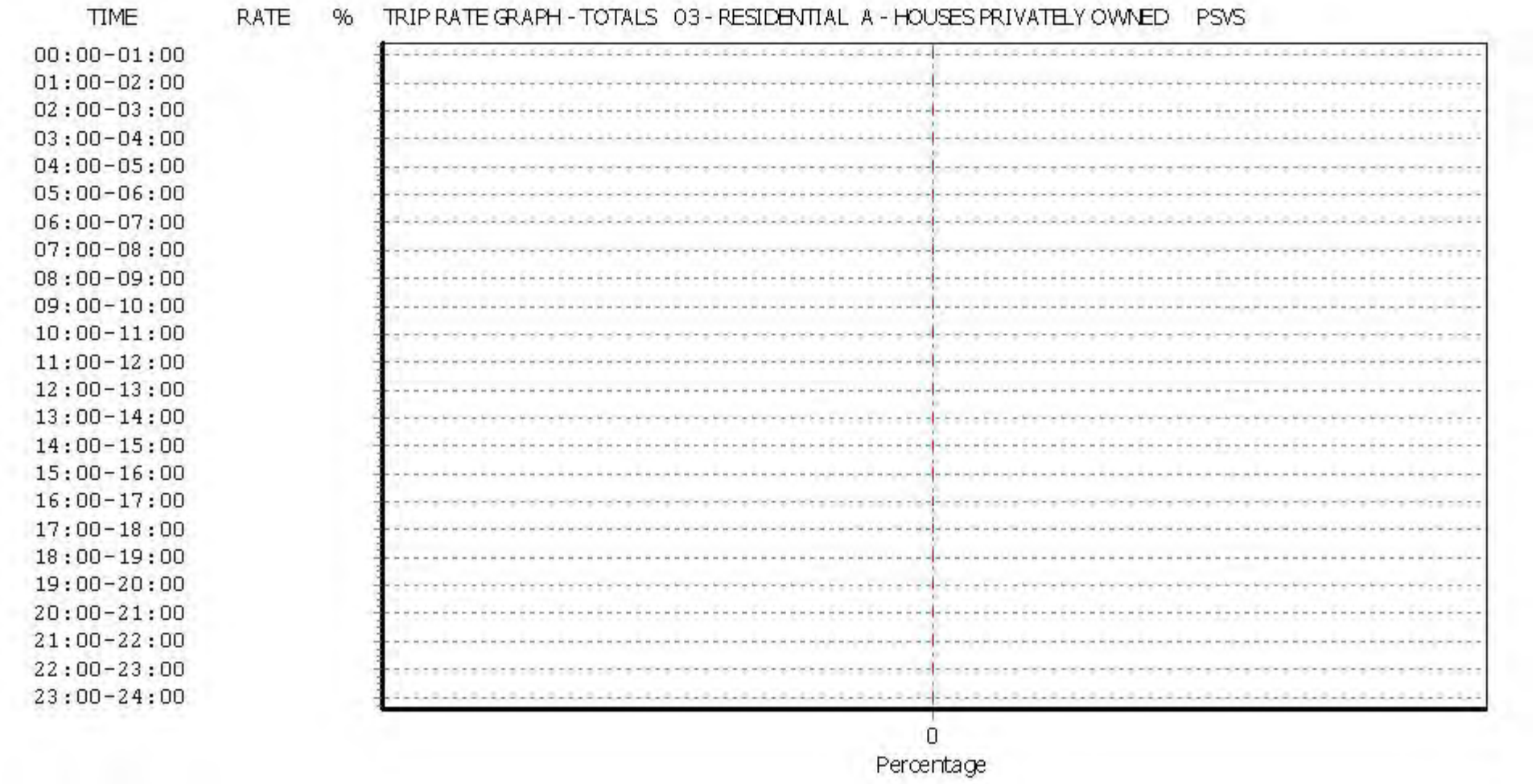
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This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, 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.



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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.003	6	184	0.008	6	184	0.011
08:00 - 09:00	6	184	0.003	6	184	0.006	6	184	0.009
09:00 - 10:00	6	184	0.001	6	184	0.001	6	184	0.002
10:00 - 11:00	6	184	0.005	6	184	0.007	6	184	0.012
11:00 - 12:00	6	184	0.004	6	184	0.002	6	184	0.006
12:00 - 13:00	6	184	0.005	6	184	0.003	6	184	0.008
13:00 - 14:00	6	184	0.003	6	184	0.004	6	184	0.007
14:00 - 15:00	6	184	0.003	6	184	0.004	6	184	0.007
15:00 - 16:00	6	184	0.005	6	184	0.005	6	184	0.010
16:00 - 17:00	6	184	0.002	6	184	0.004	6	184	0.006
17:00 - 18:00	6	184	0.007	6	184	0.006	6	184	0.013
18:00 - 19:00	6	184	0.005	6	184	0.003	6	184	0.008
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.046			0.053			0.099

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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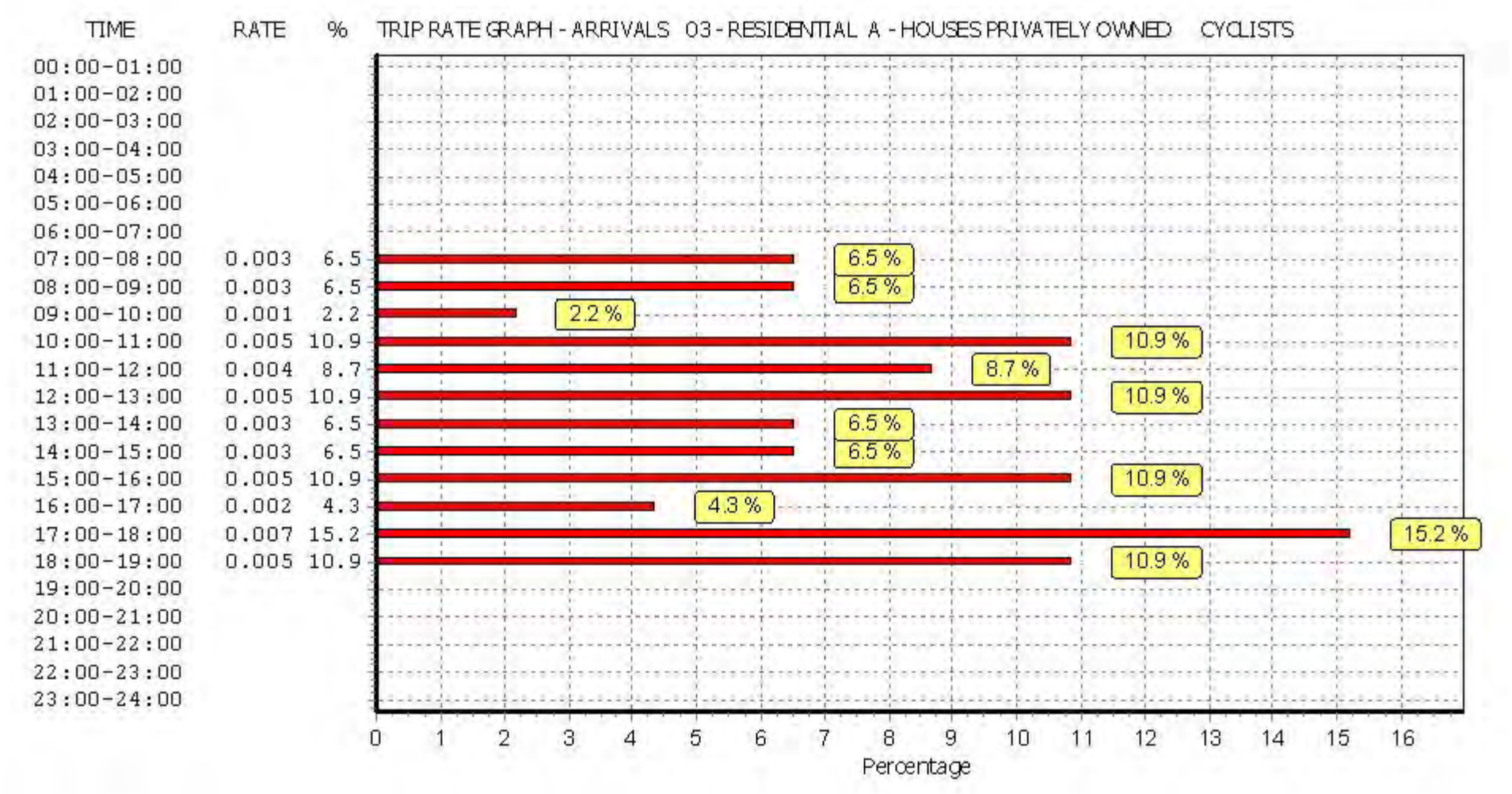
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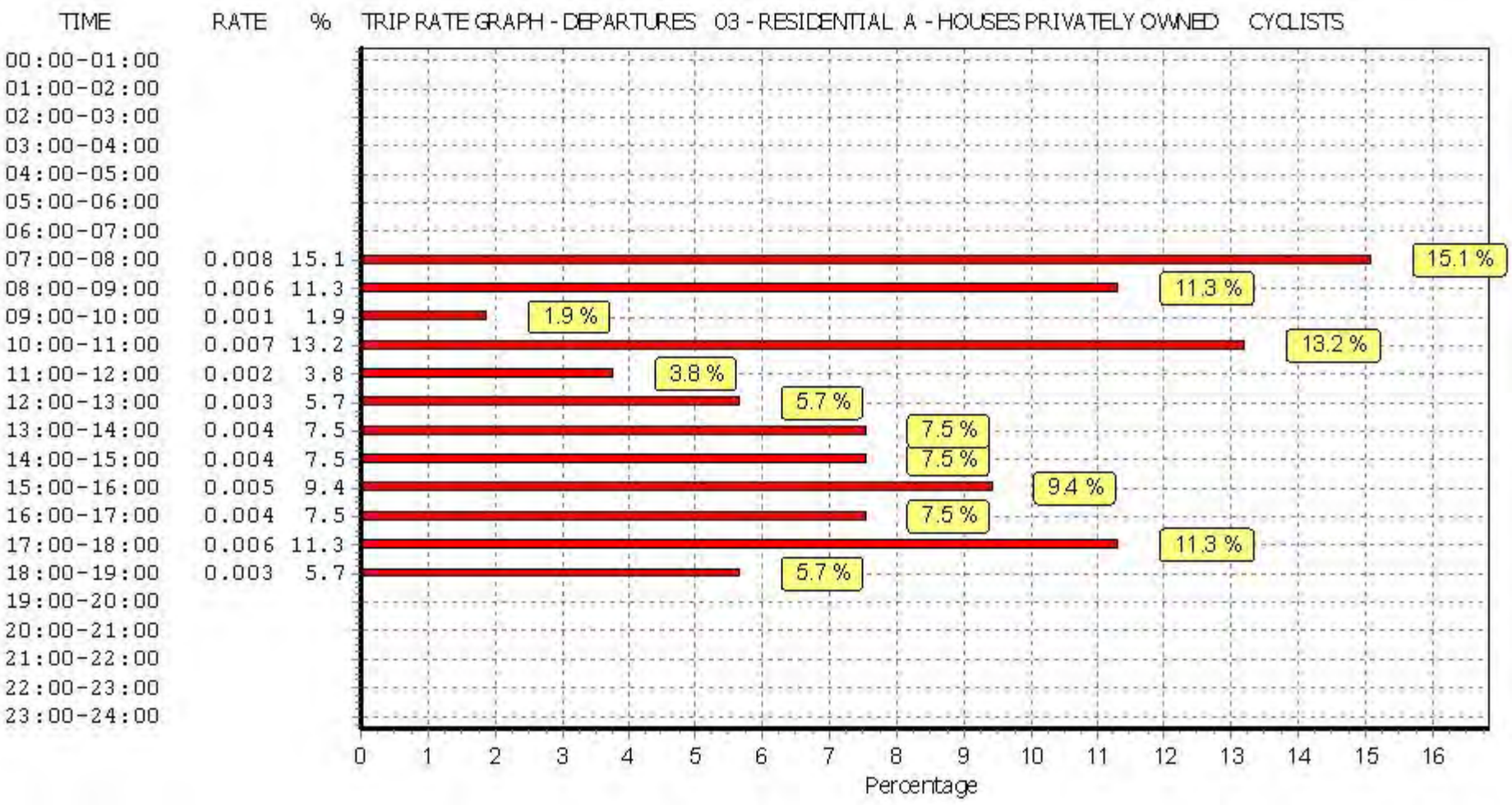
Parameter summary

Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

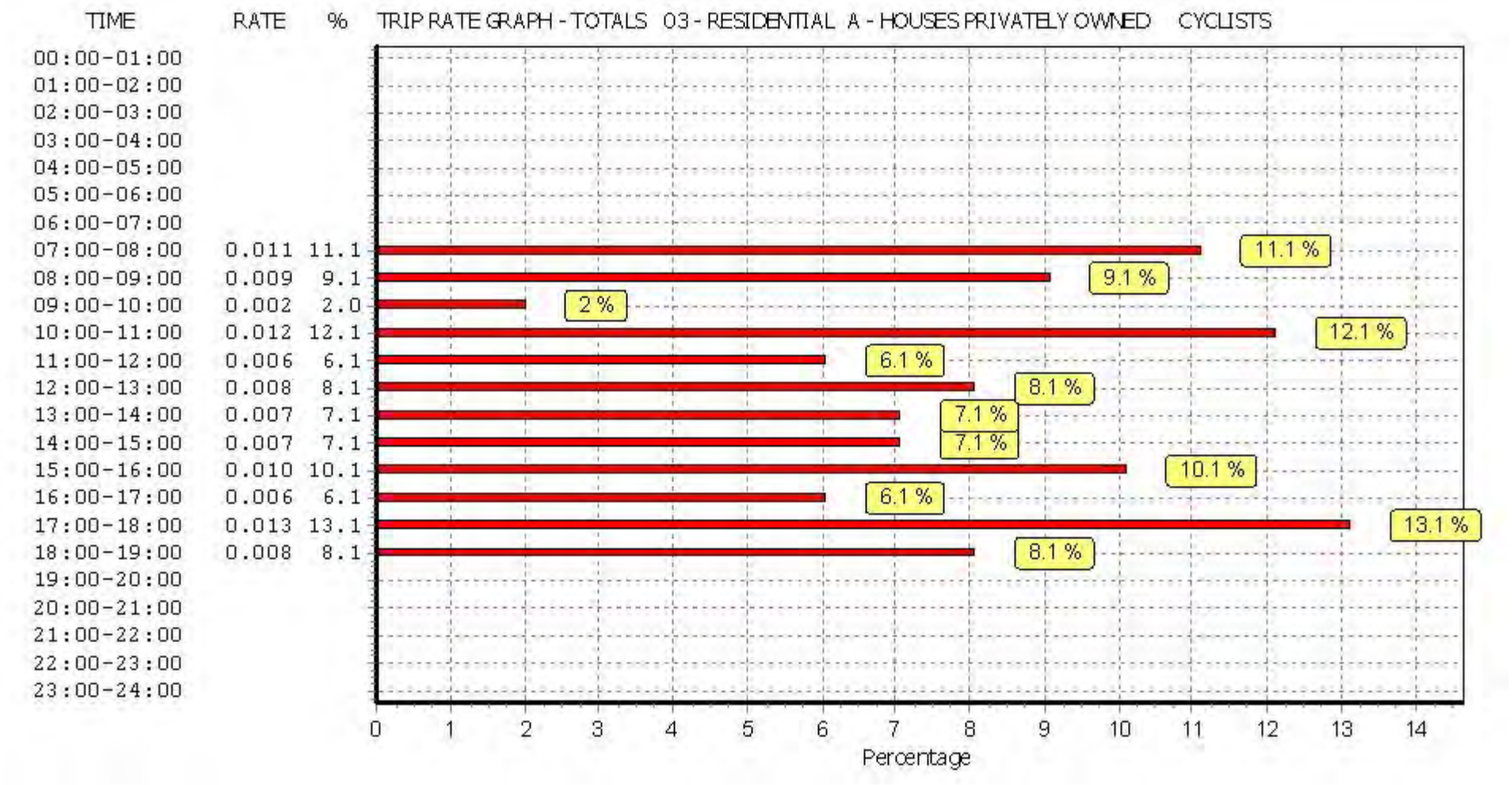
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.

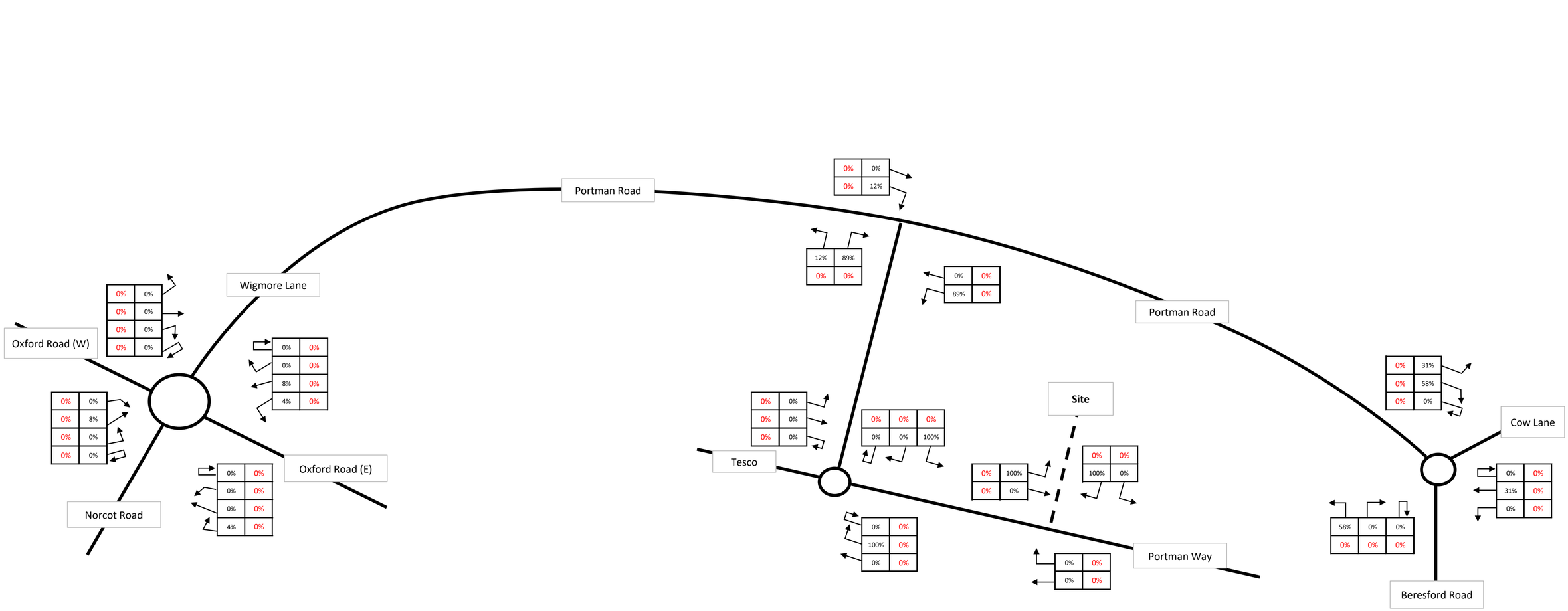


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through 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.

APPENDIX B DISTRIBUTION AND ASSIGNMENT MODEL



1-Transport	Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG Tel: 01256 338640	KEY
BATTLE HOSPITAL, READING		500 = TOTAL VEHICLES
TF1		25 = HGVs
Residential Development Distribution % Two Way		



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

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

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

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

APPENDIX B **TRANSPORT ASSESSMENT SCOPING CORRESPONDENCE**

Zane Beswick

From: Cook, Darren <Darren.Cook@reading.gov.uk> on behalf of TransportDevelopmentControl <Transport.DevelopmentControl@reading.gov.uk>
Sent: 15 December 2017 14:54
To: Zane Beswick; TransportDevelopmentControl
Cc: Jon Williams; Vigar, Stephen
Subject: RE: Battle Hospital - Transport Assessment Scoping Note

Hi Zane,

Thank you for the additional information to which I comments as follows:

- I note the accident data will be updated as previously suggested.
- You are proposing to submit actual trip rate data associated with the Battle Hospital site to represent the trips for the proposed residential use and in principle I am happy with this approach. I have reviewed the previous application for the Battle Hospital site and the car parking provision was agreed as a total of 1.2 spaces per unit with the smaller units having a provision of just 0.5 spaces and the larger units up to 1.5 spaces per unit. Although this mix of parking will differ from that being proposed I am happy that the proposed survey data would be acceptable.
- It is noted that you propose to submit updated information with regards the car parking provision and I look forward to reviewing this data.

I hope that the above is helpful but if you require any further information / clarification please let me know.

Kind regards,

Darren Cook
Transport Development Control Manager
Transport | Directorate of Environment and Neighbourhood Services (DENS)

Reading Borough Council
Civic Offices
Bridge Street
Reading
RG1 2LU

0118 937 2612 (72612)
07814 169457

Website | Facebook | Twitter | YouTube



From: Zane Beswick [mailto:zane.beswick@i-transport.co.uk]
Sent: 04 December 2017 16:54
To: TransportDevelopmentControl
Cc: Jon Williams; Vigar, Stephen
Subject: RE: Battle Hospital - Transport Assessment Scoping Note

Hi Darren,

Hope to find you well.

Thank you for your swift response to the Scoping Note and for the information / comments provided.

We have reviewed the points raised and provide the following comments for your consideration (addressing each point in turn).

Accident Data

Thank you, we have reviewed Crashmap which shows that there has only been one recorded accident within the Hospital site in the last five years. As such we have revised the area to include the remainder of the Battle Hospital Site. The attached updated plan now shows the area which the analysis will cover.

Trip Rates

We note that the TRICS data for the Industrial Unit is considered acceptable.

With regards to the residential trip rates, the Town Centre category of TRICS was included as it was considered that the Battle Hospital site shares many characteristics with town centre locations, such as good access to day to day facilities, on the doorstep of a large superstore, employment opportunities, proximity to rail stations and being on a quality bus corridor. All of these facilities mean that there are genuine opportunities for residents to use modes of travel which do not involve the use of a private car. This is backed up by the car ownership statistics which we have been reviewing (we will be providing an update on this shortly). The site is also contained within Zone 2 – Primary Core Area as identified in the RBC car parking standards which, it must be assumed are based on the accessibility to facilities and opportunities for travel by alternative modes. We therefore believe that the use of a mixture of town centre', 'edge of town centre' and 'edge of town' provides a robust trip rate to undertake the TA on.

Notwithstanding this, we appreciate that you have some concerns over the trip rates for the flats and houses. Given that the Battle Hospital site is well contained and that we have a traffic survey locally, we have undertaken a further assessment which looks at the traffic survey results obtained for the Tesco roundabout and compared these to the number of units built on the already developed parcel of land, as a way of providing a bespoke local trip rate. Table 1 below presents the results of this analysis, based on the recently undertaken survey and a total of 434 dwellings (185 houses and 249 flats).

Table 1: - Existing Battle Hospital Trip Generation

434 dwellings

Time	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	In	Out	Total	In	Out	Total
Observed Flows	48	83	131	93	40	133
Trip Rate	0.111	0.191	0.302	0.214	0.092	0.306

	Houses	Flats	Total
Breakdown =	185	249	434
	43%	57%	

As can be seen, the existing built up area generates 131 and 133 two-way morning and evening peak hour vehicle trips respectively. Given the site comprises of some 434 dwellings, trip rates of 0.302 and 0.306, for the morning and evening peak hours, can be calculated.

It can be seen that, of the 434 dwellings, some 43% are houses, with the remaining 57% being flats. It is generally accepted that houses generate more vehicle trips when compared to flats (given houses generally comprise a higher number of bedrooms / habitable rooms and generally higher occupancy rates, which, subsequently results in a higher proportion of vehicle movements). Therefore, given the proposed site comprises of a higher mix of flats than houses, with only 22% of proposed units being houses, there is likely to be a lower vehicle trip generation overall, i.e. the observed trip rate is robust when considering its use for the proposed scheme.

Therefore, rather than use generic trip rates which may or may not be representative of the location in Reading, it is proposed to use the observed data from the traffic survey. This leads to an increased trip generation for the proposal compared to the generation set out in the Scoping Note. The proposed vehicle trip rates and resultant trip generation is set out in Table 2 below.

Table 2: - Proposed Trip Generation

214 dwellings

	AM Peak (0800 – 0900)			PM Peak (1700 – 1800)		
	In	Out	Total	In	Out	Total
Trip Rate (per dwelling)	0.111	0.191	0.302	0.214	0.092	0.306
Trips	24	41	65	46	20	66

These rates are considered to be robust and provide a realistic approach to determining traffic generation from the site, as the proposed site will have very similar characteristics to the earlier phase of the development.

I hope you find the above acceptable and look forward to your response.

Should you have any questions or queries please do not hesitate to contact me.

Kind Regards
Zane

Zane Beswick MCIHT
Senior Consultant
for i-Transport LLP

Basingstoke Office: Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG

T: 01256 338 640 F: 01256 338644 E: zane.beswick@i-transport.co.uk **W:** www.i-transport.co.uk

---

From: Cook, Darren [mailto:Darren.Cook@reading.gov.uk] **On Behalf Of** TransportDevelopmentControl
Sent: 30 November 2017 12:39
To: Zane Beswick <zane.beswick@i-transport.co.uk>
Cc: Jon Williams <jon.williams@i-transport.co.uk>; Vigar, Stephen <Stephen.Vigar@reading.gov.uk>
Subject: RE: Battle Hospital - Transport Assessment Scoping Note

Hi Zane,

I have reviewed the TA Scope and my comments are as follows:

- The accident data assessment should include all the internal residential roads within the Battle Hospital Site.
- TRICS data has been obtained using 'Town Centre', 'Edge of Town Centre' and 'edge of town' locations however this does not comply with the requirements of the TRICS Good Practice Guide and therefore revised trip rates should be obtained. See following comments.
- The TRICS data for the Industrial Unit is acceptable although it should be noted that an assessment as a B1 Office (consented use) would result in an increased trip rate and therefore would increase the base flows.
- The TRICS data for the flats includes a site designated as town centre, I have reviewed TRICS and the site is in fact within the Centre of Manchester. This application site is not in the town centre and therefore cannot be included. I also have concerns regarding other sites, I have therefore undertaken my own assessment and this can be found attached.
- I do not agree with all the sites selected for the private houses, I have therefore undertaken my own assessment and this can be found attached.
- I am happy that no committed development would need to be included as part of the assessment.

If you have any questions regarding the above please do not hesitate to contact me.

Kind regards,

Darren Cook
Transport Development Control Manager
Transport | Directorate of Environment and Neighbourhood Services (DENS)

Reading Borough Council
Civic Offices
Bridge Street
Reading
RG1 2LU

0118 937 2612 (72612)
07814 169457

Website | **Facebook** | **Twitter** | **YouTube**

From: Zane Beswick [mailto:zane.beswick@i-transport.co.uk]
Sent: 24 November 2017 17:45
To: Cook, Darren
Cc: Jon Williams
Subject: Battle Hospital - Transport Assessment Scoping Note

This is an EXTERNAL EMAIL. STOP. THINK before you CLICK links or OPEN attachments.

Afternoon Darren,

Hope to find you well.

Following our previous correspondence, please find attached our Transport Assessment Scoping Note (i-Transport report number ITB12282-004 R) for your consideration. I trust that this clearly sets out our proposals and proposed approach to the TA.

Should you have any questions or queries we would be grateful for an opportunity to discuss this further with you and, should it be considered necessary, we would be happy to attend a meeting with yourself to go through our proposed strategy.

I look forward to your response.

Kind Regards
Zane

Zane Beswick MCIHT
Senior Consultant
for i-Transport LLP

Basingstoke Office: Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG

DD: 01256 316 518 T: 01256 338 640 F: 01256 338644 E: zane.beswick@i-transport.co.uk **W:** www.i-transport.co.uk

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APPENDIX C LOCAL BUS MAP

Central Reading

Kendrick School

simply Reading fare zone

simply Reading fare zone extends to Abbey RFC

25 to Peppard Common — Chiltern Edge School

X39 X40 to Woodcote, Wallingford & Oxford

142 to Whitchurch, Pangbourne & Goring

143 to Pangbourne & Upper Basildon

127 to Twyford & Maidenhead

128 129 to Twyford & Wokingham

850 to Twyford & High Wycombe

X80 800 to High Wycombe

1 to Thatcham & Newbury — Kennet School

2 2a to Burghfield, Mortimer & Tadley — Mortimer St Mary's Primary, Willink School

3 3b to Arborfield, Barkham & Wokingham & Bracknell — Bohunt School

4 X4 to Wokingham & Bracknell — The Forest School, Emmbrook School, St Crispins School, The Holt School

7 8 to Swallowfield, Riseley & Fleet — Oakbank School

10 to Spencers Wood

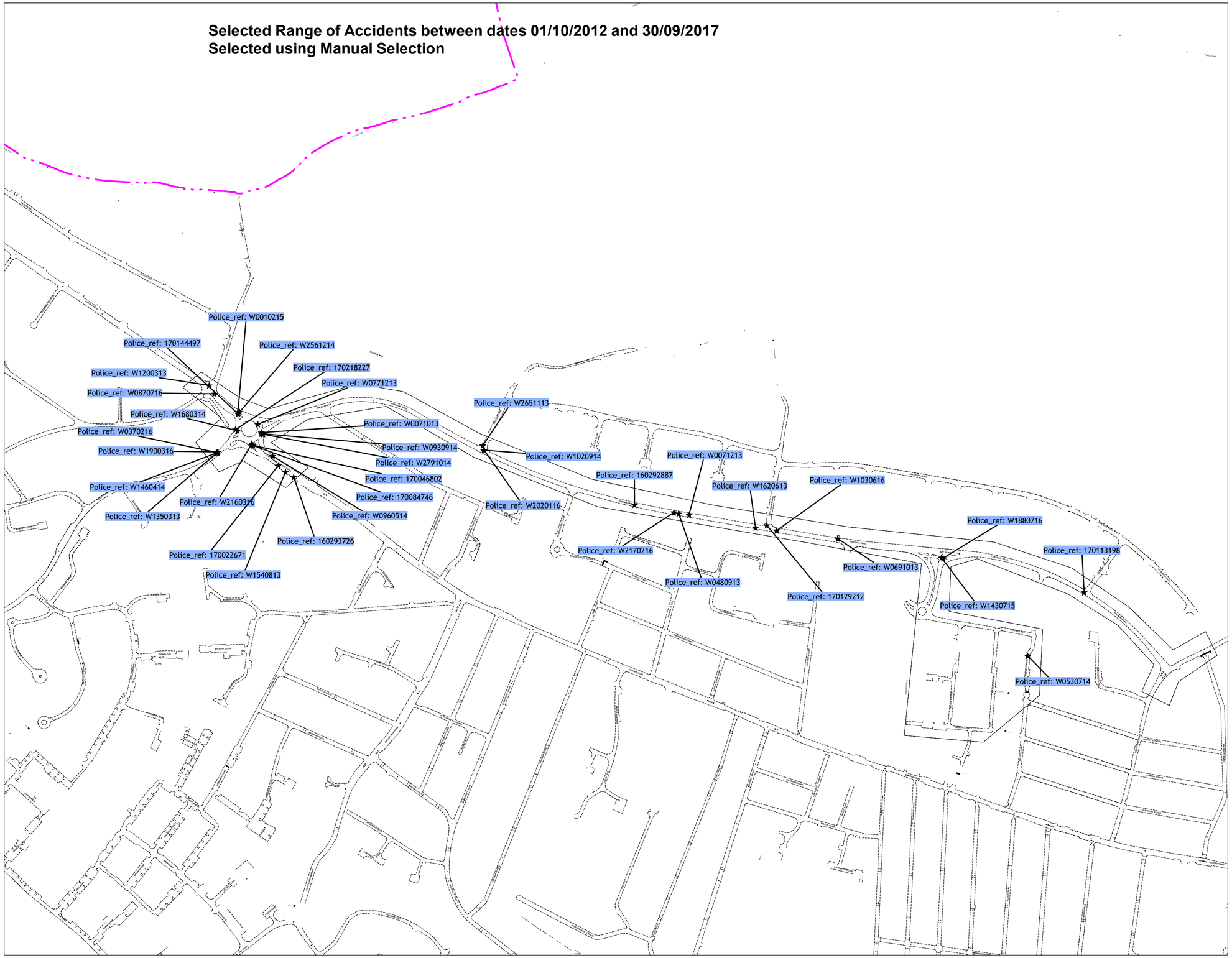
TR1 to Grazeley, Mortimer & Baughurst

Reading

Purley 16
Kentwood 16
Tilehurst 16
Tilehurst 17
Norcot 17
Tilehurst Triangle 33
Turnham's Farm 33
Dee Park 15 15a
Caversham Heights 22
Emmer Green 24
Caversham 23 28 28a
Caversham Park 23 28 28a
Lower Caversham 27 29
Rivermead Leisure Centre 28 28a 42 greenwave Sundays only
Tesco 28 28a 142
Reading Retail Park 17
Reading West 18
Lidl 18
Meadway Sports Centre 33 33a
Prospect Park 33 33a
Asda 28 28a
Prospect Park Hospital 28 28a
Prospect School 28
Aldi 28a
Beansheaf 26
Southcote 1 2
Coley 1 2
Coley Park 11
Calcot 15 26
Sainsbury's 1
IKEA 15 26
Theale 1
Arlington Business Park 1
Waterloo Meadows greenwave X3
Green Park greenwave
Madejski Stadium 6a
Kennet Island greenwave
Tesco Distribution Centre
Reading International Business Park
Mereoak park & ride greenwave
Three Mile Cross
Waitrose
Arthur Newbery Park
McIlroy Park
Co-op
Lidl
Water Tower
Meadway Sports Centre
Asda
Prospect Park Hospital
Prospect School
Aldi
Calcot Recreation Ground
Sainsbury's
IKEA
Theale Green School
Arlington Business Park
Burghfield Golf Course
Morrisons
Tesco
Christchurch Meadows
Cemetery
BBC
Highdown School & Sixth Form
Rivermead Leisure Centre
Reading Blue Coat School
Reading Cricket Club
Waingels College
Reading College
Royal Berks Hospital
The Abbey School
St Joseph's College
UTC Maiden Erlegh School
University of Reading
Leighton Park School
Reading Girls School
Crosfields School
Academy Sport
JMA
Foster Wheeler
Whitley Wood
Shinfield Park X3
Palmer Park Stadium
Bulmershe School
Maiden Erlegh School
Earley Gate
Laurel Park
Loddon Valley Leisure Centre
Thames Valley Police
Asda
Lidl
Waitrose
Cinema
Winnersh Triangle park & ride
Sonning
New Town
Thames Valley Park
Woodley
Woodley Airfield
Earley
Lower Earley
Winnersh
TVP Shuttle
Denefield School
Little Heath School
Little Heath Park
Calcot
Theale
Beansheaf
Southcote
Coley
Whitley
Shinfield
Earley
Woodley
Sonning
Winnersh
Kentwood
Tilehurst
Norcot
Dee Park
Caversham
Caversham Heights
Lower Caversham
Emmer Green
Purley
Turnham's Farm
Tilehurst Triangle
Whitley Wood
Shinfield
Lower Earley
Woodley Airfield
RIVER THAMES
RIVER KENNET
M4
A329
A33
A4155
A327
A3290
B3270
B3030
B4030
Oxford Rd
Bath Rd
Tilehurst Rd
Basingstoke Rd
Wokingham Rd
Reading Rd
Caversham Park Rd
Lower Earley Way
Black Boy Roundabout
Mereoak Park & Ride
Winnersh Triangle

APPENDIX D **PERSONAL INJURY ACCIDENT DATA**

Selected Range of Accidents between dates 01/10/2012 and 30/09/2017
Selected using Manual Selection



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Reading BOROUGH COUNCIL

DRAWING TITLE

Selected map area

SCALE	1 : 4590
DATE	05/12/2017
DRAWING No.	
DRAWN BY	

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

			Vehicles				Casualties		
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class				Sex / Age / Sev		
	Date								
Road No.	Time								
2nd Road No.									
Grid Ref.	D/L								
	R.S.C								
	Weather								
	Speed								
	Account of Accident								
Causation Factor:									

W1200313	Wednesday	A329 OXFORD RD J/W SCOURS LANE READING	Veh 1	Car	Going ahead	NW to SE				
	20/03/2013		Veh 2	Pedal cycle	Turning right	SE to N	Dri	M	35	Slight
R1: A 329	0730hrs									
R2: U 7201										
E 468,534	Dry									
N 174,279	Fine without high winds									
	30 mph									

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

PC2 TRND RT SE TO N,TRAFF IN LN2 HAD STOPPD BUT C1 TRAV SE IN LN1 COLL/W PC2

W1350313	Friday	NORCOT RD APP 60M SW RBT J/W OXFORD RD READING	Veh 1	Car	Stopping	SW to NE				
	22/03/2013		Veh 2	M/C < 125 cc	Wait go ahead held	SW to NE	Dri	M	34	Slight
R1: U 7201	1751hrs									
E 468,548	Wet/Damp									
N 174,165	Raining without high winds									
	30 mph									

Causation Factor:		**Participant:**	**Confidence:**
1st:	Sudden braking	Vehicle 1	Possible
2nd:	Stationary or parked vehicle	Vehicle 1	Possible
3rd:	Rain, sleet, snow, or fog	Vehicle 1	

MC2 TRAV NE SLWD AT PED XING, C1 TRAV BHND FTS & COLL/W REAR MC2

W1620613	Sunday	PORTMAN RD OPP J/W LITTLEJOHN'S LANE READING	Veh 1	Car	Going ahead	E to W	Ped	M	26	Slight
	16/06/2013									
R1: U 7201	0515hrs									
R2: U 7201										
E 469,464	Dry									
N 174,037	Fine without high winds									
	40 mph									

Causation Factor:		**Participant:**	**Confidence:**
1st:	Careless/Reckless/In a hurry	Casualty 1	Very Likely

PED CHASED BY MALES RAN INTO RD TO N FROM F/PATH & COLL/W N/S C1 TRAV W. C1 FTS

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

Police Ref. / **Road No.** / **2nd Road No.** / **Grid Ref.**	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
W1540813	Thursday 15/08/2013 2000hrs	A329 OXFORD RD APROX 90M SE RBT/W NORCOT RD, READING	Veh 1	Car	Going ahead	SE to NW RSP	M 79 Slight
			Veh 2	Car	Wait go ahead held	SE to NW	
R1: A 329	Darkness: street lights present b						
E 468,664	Dry						
N 174,132	Fine without high winds						
	30 mph						

Causation Factor: **Participant:** **Confidence:**

1st: Impaired by alcohol — Vehicle 1 — Very Likely
2nd: Failed to look properly — Vehicle 1 — Very Likely

BOTH VEHS TRAV SE TO NW. C1 COLL/W RR C2 STAT AT PED XING ATS. C1 DRIV INTOX

Police Ref. / **Road No.** / **2nd Road No.** / **Grid Ref.**	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
W0480913	Saturday 07/09/2013 1438hrs	PORTMAN RD O/S NO 42 150M W LITTLE JOHNS LN READING	Veh 1	Car	Going ahead	E to W FSP	F 55 Slight
			Veh 1	Car	Going ahead	E to W RSP	F 55 Serious
R1: U 7201	Daylight:street lights present		Veh 1	Car	Going ahead	E to W Dri	M 55 Slight
			Veh 2	Car	Going ahead	W to E Dri	F 19 Slight
E 469,333	Dry		Veh 2	Car	Going ahead	W to E FSP	F 19 Slight
N 174,061	Fine without high winds		Veh 3	Car	Going ahead	W to E	
	30 mph						

Causation Factor: **Participant:** **Confidence:**

1st: Illness or disability, mental or physical — Vehicle 1 — Very Likely

C1 TRAV E TO W DRIFTED TO RT & CLIPPED R/O/S C3 TRAV W TO E THEN COLL HEADON/W C2 TRAV W TO E

Police Ref. / **Road No.** / **2nd Road No.** / **Grid Ref.**	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
W0071013	Wednesday 02/10/2013 0703hrs	A329 OXFORD RD JNC WIGMORE LN READING	Veh 1	Car	Going ahead	NE to SW FSP	F 22 Slight
			Veh 2	Car	Going ahead	NW to SE Dri	M 63 Slight
R1: A 329							
R2: U 7201	Darkness: street lights present a						
E 468,623	Wet/Damp						
N 174,199	Raining without high winds						
	30 mph						

Causation Factor: **Participant:** **Confidence:**

1st: Tyres illegal, defective or under inflated — Vehicle 1 — Very Likely
2nd: Failed to look properly — Vehicle 1 — Very Likely

C2 TRAV NW TO SE ON RBT HIT BY C1 TRAV NE TO SW ENTG RBT WHO FAILD/T GWAY

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

Police Ref. / **Road No.** / **2nd Road No.** / **Grid Ref.**	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class					Casualties: Sex / Age / Sev
W0691013	Friday 11/10/2013 1119hrs	PORTMAN RD JNC TESCO DELIVERIES RD (APROX 120M E LITTLE JOHN'S LN) READING	Veh 1	M/C < 125 cc	Stopping	W to E Dri		M 22 Slight
			Veh 2	Car	Stopping	W to E Dri		F 52 Slight
R1: U 7201			Veh 3	Car	Stopping	W to E		
R2: U 7201	Daylight:street lights present		Veh 4	Goods < 3.5t	Turning right	W to S		
E 469,604	Dry							
N 174,018	Fine without high winds							
	40 mph							

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

LGV4 TRNG RT W TO S, C2 & C3 TRAV W TO E BRKG BHND LGV4, MC1 TRAV W TO E HIT RR C2, C2 HIT RR C3, LGV4 NOT HIT

W2651113	Friday 08/11/2013 0755hrs	PORTMAN RD J/W WIGMORE LANE READING	Veh 1	Goods < 3.5t	Going ahead	S to N		
			Veh 2	Pedal cycle	Going ahead	W to E Dri	M 43 Slight	
R1: U 7201								
R2: U 7201	Daylight:street lights present							
E 469,000	Dry							
N 174,177	Fine without high winds							
	40 mph							

Causation Factor:		**Participant:**	**Confidence:**
1st:	Failed to look properly	Vehicle 2	Very Likely

PC2 TRAV E RODE INTO RD FOM F/WAY & COLL/W LGV1 TRAV N

W0071213	Monday 02/12/2013 1809hrs	PORTMAN RD O/S 42 APP 200M E J/W BRIDGEWATER CLOSE READING	Veh 1	Car	Going ahead	W to E Dri	M 67 Slight	
			Veh 2	Car	Going ahead	E to W FSP	F 25 Slight	
R1: U 7201			Veh 2	Car	Going ahead	E to W Dri	M 25 Slight	
	Darkness: street lights present a							
E 469,351	Dry							
N 174,059	Fine without high winds							
	40 mph							

Causation Factor:		**Participant:**	**Confidence:**
1st:	Distraction in vehicle	Vehicle 1	Possible
2nd:	Inexperience with type of vehicle	Vehicle 1	Possible
3rd:	Loss of control	Vehicle 1	

C1 TRAV E FOR NK REASON DRIFTD INTO OPP C/WAY & COLL/W C2 TRAV IN OPP DIR

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

			Vehicles				Casualties		
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class				Sex / Age / Sev		
	Date								
Road No. **2nd Road No.**	Time								
Grid Ref.	D/L								
	R.S.C								
	Weather								
	Speed								
	Account of Accident								
Causation Factor:									

W0771213 Tuesday 03/12/2013 0846hrs — A329 OXFORD ROAD J/W WIGMORE LANE READING

Veh 1	Car	Going ahead	NW	to	SE			
Veh 2	Car	Going ahead	NW	to	SE	RSP	M 9	Slight

R1: A 329
R2: U 7201
E 468,617
N 174,213

Daylight:street lights present
Dry
Fine without high winds
30 mph

Causation Factor:		**Participant:**	**Confidence:**
1st:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
2nd:	Fatigue	Vehicle 1	Possible
3rd:	Failed to look properly	Vehicle 1	

C1 TRAV IN N/K DIR COLL/W RR C2 STAT ON RBT TRAV IN N/K DIR.

W1680314 Saturday 22/03/2014 0634hrs — A329 OXFORD RD RBT J/W NORCOT RD READING

Veh 1	Car	Going ahead	SW	to	SE			
Veh 2	Pedal cycle	Going ahead	SE	to	NW	Dri	M 28	Slight

R1: A 329
R2: U 7201
E 468,582
N 174,202

Daylight:street lights present
Dry
Fine without high winds
30 mph

C1 FAILD TO G/WAY PULLG ONTO RBT FROM SW TO TRAV IN NK DIR & COLL/W PC2 TRAV NW ON RBT

W1460414 Thursday 24/04/2014 1730hrs — NORCOT RD APP 45M SW RBT J/W OXFORD RD READING

Veh 1		Going ahead	SW	to	NE			
Veh 2	Car	Wait go ahead held	SW	to	NE	RSP	F 27	Slight
Veh 2	Car	Wait go ahead held	SW	to	NE	Dri	M 45	Slight

R1: U 7201
E 468,546
N 174,164

Daylight:street lights present
Dry
Fine without high winds
30 mph

C2 TRAV NE BUT HELD UP AT PED XING HIT IN REAR BY OMV1 (QUAD BIKE). OMV1 FTS

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

			Vehicles				Casualties		
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class				Sex / Age / Sev		
	Date								
Road No.	Time								
2nd Road No.	D/L								
Grid Ref.	R.S.C								
	Weather								
	Speed								
	Account of Accident								
Causation Factor:									

W0960514 Friday A329 OXFORD RD 15M E NORCOT RD (ENT TO SHELL GARAGE) READING
16/05/2014 1149hrs
R1: A 329
R2: U 7201
E 468,642
N 174,159
Daylight:street lights present
Dry
Fine without high winds
30 mph

Veh 1	Car	Turning left	NW	to	NE					
Veh 2	Pedal cycle	Going ahead	NW	to	SE	Dri	M	44	Slight	

Causation Factor:		Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Poor turn or manoevre	Vehicle 1	Possible

C1 TRNG LFT OFF MAIN RD NW TO NE CLIPPED PC2 TRAV NW TO SE

W0530714 Monday VALENTIA RD READING
07/07/2014 1700hrs
R1: U 7201
E 469,927
N 173,819
Daylight:street lights present
Dry
Fine without high winds
30 mph

Veh 1	Car	Going ahead	W	to	S					
Veh 2	Pedal cycle	Going ahead	S	to	N	Dri	M	7	Slight	

C1 TRAV IN NK DIR POSS JUST TRAV AROUND BND W TO S & COLL/W PC2 TRAV IN NK DIR

W0930914 Monday A329 OXFORD RD RBT J/W WIGMORE LN READING
15/09/2014 1545hrs
R1: A 329
R2: U 7201
E 468,623
N 174,197
Daylight:street lights present
Dry
Fine without high winds
30 mph

Veh 1	Car	Going ahead	NW	to	SE	Dri	F	53	Slight	
Veh 2	Car	Wait go ahead held	NW	to	SE	FSP	F	19	Slight	
Veh 2	Car	Wait go ahead held	NW	to	SE	Dri	M	24	Slight	

Causation Factor:		Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Stationary or parked vehicle	Vehicle 1	Very Likely
3rd:	Inexperience with type of vehicle	Vehicle 1	

C2 TRAV NW TO SE BUT HELD UP LEAVING RBT HIT IN REAR BY C1 TRAV SAME DIRECTN

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

Police Ref. / **Road No.** / **2nd Road No.** / **Grid Ref.**	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
W1020914	Friday 19/09/2014 1804hrs	PORTMAN RD J/W WIGMORE LN READING	Veh 1 Veh 2	M/C > 500 cc Car	O/take s/veh o/side Turning right	SE to NW Dri SE to NE	M 49 Slight
R1: U 7201							
R2: U 7201	Daylight:street lights present						
E 469,001	Dry						
N 174,169	Fine without high winds						
	40 mph						

Causation Factor:		**Participant:**	**Confidence:**
1st:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
2nd:	Poor turn or manoevre	Vehicle 1	Very Likely

C2 TRNG RT SE TO NE (STAT VEHS BHND C2) HIT BY MC1 TRAV SE TO NW OVTKNG STAT VEHS

W2791014	Tuesday 21/10/2014 2105hrs	A329 OXFORD ROAD J/W WIGMORE LANE READING	Veh 1 Veh 2	Car Pedal cycle	Going ahead Turning right	NE to SW SW to SE Dri	M	19	Serious
R1: A 329									
R2: U 7201	Darkness: street lighting unkno								
E 468,626	Dry								
N 174,196	Fine without high winds								
	30 mph								

Causation Factor:		**Participant:**	**Confidence:**
1st:	Failed to look properly	Vehicle 1	Possible

C1 TRAV NE TO N/K DIR ENT RBT & COLL/W PC2 TRN RT SW TO SE.

W2561214	Sunday 28/12/2014 1815hrs	A329 OXFORD RD RBT J/W WIGMORE RD READING	Veh 1	Car	Going ahead	NW to SE Ped	M	51	Slight
R1: A 329									
R2: U 7201	Darkness: street lights present a								
E 468,586	Wet/Damp								
N 174,234	Other								
	30 mph								

Causation Factor:		**Participant:**	**Confidence:**
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Visor or windscreen dirty or scratched	Vehicle 1	Very Likely

C1 TRAV SE COLL/W PED XING RD TO SW ON ZEBRA XING

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

Police Ref. / **Road No.** / **2nd Road No.** / **Grid Ref.**	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
W0010215	Sunday 01/02/2015 1500hrs	A329 OXFORD RD RBT J/W WIGMORE RD READING	Veh 1 Car Going ahead NW to SE Veh 2 Pedal cycle Going ahead S to N Dri				M 19 Slight
R1: A 329							
R2: U 7201	Daylight:street lights present						
E 468,583	Dry						
N 174,234	Fine without high winds						
	30 mph						

Causation Factor: **Participant:** **Confidence:**

1st: Failed to look properly — Vehicle 1 — Possible

C1 TRAV SE FTS AT PED XING & COLL/W PC2 TRAV N ON XING

W1430715	Saturday 18/07/2015 0910hrs	PORTMAN ROAD J/W PORTMAN WAY READING	Veh 1 Car Going ahead E to W Dri Veh 2 Car Turning right S to E RSP Veh 2 Car Turning right S to E Dri				F 60 Slight F 5 Slight F 33 Slight
R1: U 7201							
R2: U 7201	Daylight:street lights present						
E 469,780	Dry						
N 173,986	Fine without high winds						
	40 mph						

Causation Factor: **Participant:** **Confidence:**

1st: Disobeyed automatic traffic signal — Vehicle 1 — Very Likely

C1 TRAV W FAILD TO STP FOR ATS & COLL/W C2 TRNG RT S TO E

W0370216	Friday 05/02/2016 1839hrs	NORCOTT RD APP 40M SW OXFORD RD READING	Veh 1 Car Going ahead SW to NE Veh 2 Car Wait go ahead held SW to NE Ped				F 56 Slight
R1: U 7201							
	Darkness: street lights present a						
E 468,547	Wet/Damp						
N 174,165	Raining without high winds						
	30 mph						

Causation Factor: **Participant:** **Confidence:**

1st: Careless/Reckless/In a hurry — Vehicle 1 — Very Likely

2nd: Failed to judge other persons path or speed — Vehicle 1 — Possible

C1 TRAV NE FTS FOR C2 AHEAD BRKG FOR PED XING & COLL/W REAR C2 SHUNTG VEH INTO PED

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

Police Ref. / **Road No.** / **2nd Road No.** / **Grid Ref.**	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
W2170216	Wednesday 24/02/2016 0746hrs	PORTMAN ROAD APP 160M W J/W LITTLEJOHN'S LANE READING	Veh 1	Car	Going ahead	E to W Dri	F 40 Slight
			Veh 2	Car	Going ahead	W to E Dri	F 35 Slight
R1: U 7201			Veh 2	Car	Going ahead	W to E FSP	F 60 Serious
	Daylight:street lights present						
E 469,325	Wet/Damp						
N 174,063	Fine without high winds						
	40 mph						

Causation Factor:		**Participant:**	**Confidence:**
1st:	Illness or disability, mental or physical	Vehicle 1	Very Likely

C1 TRAV W BECAME ILL & BLACKED OUT & DRIFTED INTO PATH OF C2 TRAV IN OTHER DIRN

W2020116	Friday 29/01/2016 1440hrs	WIGMORE LANE J/W PORTMAN ROAD READING	Veh 1	Car	Turning right	NE to NW Dri	F 45 Slight
			Veh 2	Goods < 3.5t	Going ahead	NW to SE	
R1: U 7201							
R2: U 7201	Daylight:street lights present						
E 469,002	Dry						
N 174,169	Fine without high winds						
	40 mph						

Causation Factor:		**Participant:**	**Confidence:**
1st:	Poor turn or manoevre	Vehicle 1	Possible
2nd:	Junction restart	Vehicle 1	Very Likely
3rd:	Failed to signal/Misleading signal	Vehicle 2	

C1 FAILD TO GWAY TRNG RT NE TO NW & COLL/W LGV2 TRAV SE BUT LGV2 WAS INDICATG TO TRN LT NW TO NE

W1900316	Thursday 24/03/2016 1713hrs	NORCOT ROAD APP 65M SW RBT/W A329 OXFORD ROAD READING	Veh 1	Car	Going ahead	SW to NE	
			Veh 2	Car	Wait go ahead held	SW to NE Dri	F 20 Slight
R1: U 7201							
	Daylight:street lights present						
E 468,549	Wet/Damp						
N 174,166	Raining without high winds						
	30 mph						

Causation Factor:		**Participant:**	**Confidence:**
1st:	Slippery road (due to weather)	Vehicle 1	Very Likely
2nd:	Following too close	Vehicle 1	Very Likely

C2 TRAV NE STPD FOR ZEBRA XING & HIT IN REAR BY C1

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

			Vehicles				Casualties		
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class				Sex / Age / Sev		
	Date								
Road No.	Time								
2nd Road No.	D/L								
Grid Ref.	R.S.C								
	Weather								
	Speed								
	Account of Accident								
Causation Factor:									

W2160316 Wednesday 30/03/2016 1415hrs — A329 OXFORD ROAD RBT/W NORCOT ROAD/WIGMORE LANE READING

Veh 1	Car	Wait to turn right	SE to NE			
Veh 2	Car	Wait to turn right	SE to NE	Dri	F 26	Slight

R1: A 329
R2: U 7201
E 468,607
N 174,180
Daylight:street lights present
Dry
Fine without high winds
30 mph

Causation Factor:		**Participant:**	**Confidence:**
1st:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
2nd:	Failed to look properly	Vehicle 1	Very Likely

C2 WAITG TO TRN RT SE TO NE AT RBT WAS HIT IN REAR BY C1

W1030616 Monday 13/06/2016 1610hrs — PORTMAN ROAD J/W LITTLEJOHNS LANE READING

Veh 1	Car	Going ahead	E to W			
Veh 2	Car	Stopping	E to W			
Veh 3	Car	Stopping	E to W	FSP	M 46	Slight

R1: U 7201
R2: U 7201
E 469,500
N 174,032
Daylight:street lights present
Dry
Fine without high winds
30 mph

Causation Factor:		**Participant:**	**Confidence:**
1st:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely

C1 TRAV E TO W IN HEAVY TRAFF COLL/W RR LGV2 CAUSNG SHNT INTO C3. C1

W0870716 Saturday 09/07/2016 1514hrs — A329 OXFORD ROAD J/W SCOURS LANE READING

Veh 1	Car	Turning left	N to SE			
Veh 2	Car	Going ahead	SE to NW	FSP	F 45	Slight
Veh 2	Car	Going ahead	SE to NW	Dri	M 38	Slight

R1: A 329
R2: U 7201
E 468,543
N 174,265
Daylight:street lights present
Dry
Fine without high winds
30 mph

Causation Factor:		**Participant:**	**Confidence:**
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely

C1 TRNG LT N TO SE & BELIEVES THERE IS A RT TURN LANE & MOVS INTO THAT LANE & HIT C2 HD ON

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

			Vehicles					Casualties			
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class					Sex / Age / Sev			
	Date										
Road No.	Time										
2nd Road No.											
Grid Ref.	D/L										
	R.S.C										
	Weather										
	Speed										
	Account of Accident										
Causation Factor:											

W1880716 Friday 22/07/2016 1002hrs — PORTMAN RD J/W RD TO TESCO STORES READING

R1: U 7201 **R2: U 7201** **E 469,783** **N 173,985**

Daylight:street lights present; Dry; Fine without high winds; 40 mph

	Veh No	Type	Manv	Dir					
	Veh 1	Car	Going ahead	E	to	W	FSP	F	53 Slight
	Veh 1	Car	Going ahead	E	to	W	RSP	F	73 Slight
	Veh 2	Car	Turning right	W	to	S			

Causation Factor:		Participant:	Confidence:
1st:	Dazzling sun	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:	Failed to judge other persons path or speed	Vehicle 2	Possible
4th:	Disobeyed automatic traffic signal	Vehicle 1	Possible

C1 TRAV W FAILD TO STP AT R/ATS & COLL/W C2 TRNG RT W TO S

160292887 Saturday 15/10/2016 0130hrs — PORTMAN RD APP 220M W LITTLE JOHNS LANE READING

R1: U 7201 **E 469,258** **N 174,076**

Darkness: street lights present a; Dry; Fine without high winds; 40 mph

	Veh No	Type	Manv	Dir					
	Veh 1	Car	Going ahead	E	to	W	Dri	M	27 Slight

Causation Factor:		Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Vehicle 1	Possible
2nd:	Aggressive driving	Vehicle 1	Possible
3rd:	Impaired by drugs (illicit or medicinal)	Vehicle 1	Very Likely
4th:	Loss of control	Vehicle 1	Very Likely

C1 TRAV W, LST CONT POSS SWRVD TO AVOID FOX, COLL/W N/S KERB & OVTRND

160293726 Friday 07/10/2016 1920hrs — A329 OXFORD RD J/W RD TO READING RETAIL PARK READING

R1: A 329 **R2: U 7201** **E 468,678** **N 174,123**

Darkness: street lights present a; Dry; Fine without high winds; 30 mph

	Veh No	Type	Manv	Dir					
	Veh 1	Car	O/take m/veh o/side	SE	to	NW			
	Veh 2	Bus/coach	Going ahead	SE	to	NW	Stand	F	17 Slight
	Veh 2	Bus/coach	Going ahead	SE	to	NW	Stand	M	29 Slight

Causation Factor:		Participant:	Confidence:
1st:	Aggressive driving	Vehicle 1	Very Likely
2nd:	Poor turn or manoevre	Vehicle 1	Very Likely
3rd:	Failed to judge other persons path or speed	Vehicle 1	Possible
4th:	Poor or defective road surface	Vehicle 1	Possible
5th:	Inadequate/Masked signs or road markings	Vehicle 1	Possible

C1 TRAV NW ATTEMPTD OVTK OF PSV2 AS ITS PULLG AWAY FROM STP, C1 TRIED TO PULL BACK IN BUT COLL/W O/S PSV2.PSV2 BRKD HARD & 2 PASS FELL OVER

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

			Vehicles					Casualties		
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class					Sex / Age / Sev		
	Date									
Road No.	Time									
2nd Road No.										
Grid Ref.	D/L									
	R.S.C									
	Weather									
	Speed									
	Account of Accident									
Causation Factor:										

170022671 Friday 13/01/2017 1624hrs — A329 OXFORD ROAD APP 80M SE RBT/W NORCOT ROAD READING

R1: A 329

E 468,652

N 174,143

Daylight:street lights present
Dry
Fine without high winds
30 mph

Vehicles					Casualties		
Veh 1	Car	Going ahead	SE to NW	Ped	F	13	Slight

Causation Factor:		Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely

C1 TRAV NW IGNORD ATS AT PED X & COLL/W PED XING RD NE/B

170046802 Tuesday 07/02/2017 1620hrs — A329 OXFORD ROAD RBT/W NORCOT ROAD READING

R1: A 329

R2: U 7201

E 468,609

N 174,177

Daylight:street lights present
Dry
Fine without high winds
30 mph

Vehicles					Casualties		
Veh 1	Car	Going ahead	SE to NW				
Veh 2	Car	Wait go ahead held	SE to NW	Dri	F	19	Serious

Causation Factor:		Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
2nd:	Failed to look properly	Vehicle 1	Very Likely

C2 STAT IN TRAFF TRAV NW & HIT IN REAR BY C1

170084746 Friday 17/03/2017 1930hrs — A329 OXFORD RD RBT J/W NORCOT RD READING

R1: A 329

R2: U 7201

E 468,606

N 174,178

Darkness: street lights present a
Dry
Fine without high winds
30 mph

Vehicles					Casualties		
Veh 1	Car	Going ahead	SE to NW				
Veh 2	Car	Wait go ahead held	SE to NW	Dri	F	47	Slight

Causation Factor:		Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Possible

C2 TRAV NW BUT HELD UP WAITG TO ENT RBT HIT IN REAR BY C1.C1 FTS

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

			Vehicles					Casualties			
Police Ref.	Day	Location Description	Veh No	Type	Manv	Dir	Class	Sex	Age	Sev	
	Date										
Road No.											
2nd Road No.	Time										
Grid Ref.	D/L										
	R.S.C										
	Weather										
	Speed										
	Account of Accident										
Causation Factor:											

170113198 Sunday 19/03/2017 1357hrs — PORTMAN RD J/W ASHMERE TERRACE READING

Veh 1	Goods < 3.5t	O/take s/veh o/side	NW	to	SE			
Veh 2	Car	Going ahead	SE	to	NW			
Veh 3	Car	Wait go ahead held	NW	to	SE	Dri	F 28	Slight

R1: U 7201
R2: U 7201
E 470,023
N 173,927

Daylight:street lights present
Dry
Fine without high winds
40 mph

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

LGV1 TRAV SE WANTG TO TRN LFT, APP STAT TRAFF & OVTK C3 AHEAD TO WAIT IN HATCHD AREA. LGV1 COLL/W C2 TRAV IN OPP DIR

170129212 Wednesday 26/04/2017 0902hrs — PORTMAN ROAD J/W LITTLE JOHNS LANE READING

Veh 1	Car	Turning right	E	to	N			
Veh 2	Pedal cycle	Going ahead	E	to	W	Dri	M 43	Serious

R1: U 7201
R2: U 7201
E 469,483
N 174,041

Daylight:street lights present
Dry
Fine without high winds
40 mph

Causation Factor:		**Participant:**	**Confidence:**
1st:	Failed to look properly	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 2	Possible
3rd:	Cyclist entering road from pavement	Vehicle 2	

C1 TRNG RT E TO N HAD VIEW IMPEDD BY SLW MOVG TRAFF TRAV E & COLL/W PC2 XING RD ON CYCLEWAY TRAV W

170144497 Thursday 11/05/2017 1555hrs — A329 OXFORD RD RBT J/W NORCOT RD READING

Veh 1	Car	Going ahead	NW	to	SE			
Veh 2	Pedal cycle	Going ahead	SW	to	NE	Dri	M 16	Slight

R1: A 329
R2: U 7201
E 468,583
N 174,231

Daylight:street lights present
Dry
Fine without high winds
30 mph

Causation Factor:		**Participant:**	**Confidence:**
1st:	Cyclist entering road from pavement	Vehicle 2	Very Likely
2nd:	Disobeyed pedestrian crossing facility	Vehicle 1	Very Likely
3rd:	Failed to look properly	Vehicle 1	Possible
4th:	Failed to judge other persons path or speed	Vehicle 1	Possible
5th:	Other	Vehicle 2	Possible

C1 TRAV SE IN SLW MVG TRAFF PULLD ONTO XING & COLL/W PC2 AS IT RODE ACROSS XING TRAV NE

Details of Personal Injury Accidents for Period - **01/10/2012** **to** **30/09/2017** (60) months

Selection: **Notes:**

Selected using Pre-defined Query :

			Vehicles				Casualties		
Police Ref.	Day	Location Description	Veh No / Type / Manv / Dir / Class				Sex / Age / Sev		
	Date								
Road No.	Time								
2nd Road No.	D/L								
Grid Ref.	R.S.C								
	Weather								
	Speed								
	Account of Accident								
Causation Factor:									
170218227	Sunday	NORCOT ROAD RBT/W A329	Veh 1	Car	Stopping	SW to NE			
	09/07/2017	OXFORD ROAD READING	Veh 2	Car	Wait to turn left	SW to NW Dri	F	52	Slight
R1: U 7201	1130hrs								
R2: A 329	Daylight:street lights present								
E 468,579	Dry								
N 174,204	Fine without high winds								
	30 mph								

Causation Factor:		**Participant:**	**Confidence:**
1st:	Careless/Reckless/In a hurry	Vehicle 1	Possible
	C2 WAITG TO TRN LT AT RBT & HIT IN REAR BY C1		

APPENDIX E MASTERPLAN

Bellway

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Description	Qty
One Bedroom Apartment	45
Two Bedroom Apartment	105
Three Bedroom Apartment	14
Two Bedroom Coach House	2
Three Bedroom House	18
Three Bedroom Townhouse	31

TOTAL	215

031610-BEL TV-215-13.02.18 - JH.xlsx



presentation layout

dha architecture ltd

Brooklands Farm Business Park
Bottle Lane
Binfield
Berkshire
RG42 5QX

t. 0118 934 9666
e. *surname*@dhaarchitecture.co.uk
w. www.dhaarchitecture.co.uk

portman way, reading

rev date by details

Presentation Layout

29.01.2018 created
1:500 @ A1 scaling
JeH/PI contact

reference 031610-BEL-TV-01 - revision

Bellway

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LEGEND

- Root protection areas and classification of retained trees refer to Arboricultural details
- Existing trees to be removed refer to Arboricultural details
- Proposed trees and landscaping - shown indicatively - refer to Landscape Architects' details
- bs cs — Bin store/Cycle store
- Cycle stores for 2 cycles (2.0x2.0m)
- Vehicle turning - refuse vehicle and fire appliance

Generic turning and subject to Highways Consultants' swept path analysis

- Existing foul sewers
- 3m easement to exg foul sewers
- 2.0x2.0m pedestrian intervisibility
- E1 E2 E3 — House type elevation sheet references

Planning Stage Setting out
For the purposes of setting out, 350mm party and external walls have been used, which may be subject to review at detailed design stage.

LEGEND - PARKING ALLOCATION

- 51 — Allocated Parking (Houses) - 1 per house
- 47 — Unallocated for Visitors (Houses) - 0.9 per house
- 151 — Unallocated for Residents (Apartments) 0.8 per 1 Bed, 1 per 2 & 3 Bed
- 23 — Parking not included in parking calculations
- Communal cycle storage for apartments 0.5 cycle space per 1 and 2 bed apartment - 75 spaces req'd 1 cycle space per 3 bed apartment - 14 spaces req'd
- Cycle Storage 2 cycle spaces per house 102 total

EMERGENCY ACCESS:

Maximum 20m Fire Appliance reversing distance and 45m hose length to furthest point within dwelling.
Only dwellings furthest from Fire Appliance stopping point and apartments indicated.

- 17.8m — Max 20m Fire Appliance reversing distance from end of turning manoeuvre
- 43.5m — Max 45m hose length to furthest point within dwelling
- DR — Dry Riser inlet, within 18m from Fire Appliance



supporting layout

portman way, reading

dha architecture ltd

Brooklands Farm Business Park
Bottle Lane
Binfield
Berkshire
RG42 5QX

t. 0118 934 9666
e. *surname*@dhaarchitecture.co.uk
w. www.dhaarchitecture.co.uk

rev	date	by	details

Supporting Layout

29.01.2018 created
1:500 @ A1 scaling
JeH/PI contact

reference 031610-BEL-TV-02 - revision

APPENDIX F **RSA AND DESIGNERS RESPONSE**

Former Battle Hospital, Portman Way, Reading.
Proposed Highway Works

Road Safety Audit – Stage 1
(Preliminary Design)

Client: Bellway Homes

8th January 2018

Badingham
Transport & Infrastructure Consultants
16 Ashley Piece
Ramsbury, Marlborough
Wiltshire
SN8 2QE

T. +44(0)1672 521320
contact@badinghamuk.com
www.badinghamuk.com

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DOCUMENT ISSUE

Issue / Revision:	Issue 1				
Description / Status:	Final				
Date:	08/01/2018				
Prepared:	A. R. J. Setter				
Signature:					
Document Check:	D. F. Rogers				
Signature:					
Technical Check:	D. F. Rogers				
Signature:					
Authorised:	A. R. J. Setter				
Signature:					
File Reference:	0692 Battle Hospital - RSA1 - Issue 1.docx				

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SECTION 6:	STREET LIGHTING	7
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FIGURES

Figure 1	Site Location Plan
Figure 2	Aerial Photo
Figure 3	Audit Plan

APPENDICES

Appendix 1	Road Safety Audit Brief
Appendix 2	Designers Response (as written by Designer)

SECTION 1: INTRODUCTION

General

1.1 This Road Safety Audit Stage 1 (Preliminary Design) report has been undertaken at the request of the Highway Authority. It has been prepared on behalf of Bellway Homes. It relates to proposed highway works associated with the redevelopment of the former Battle Hospital site for residential use at Portman Way, Reading.

1.2 As a unitary authority Reading Borough Council is both the local planning authority for the area and the local highway authority.

Audit Team

1.3

A. R. J. Setter	BA (Hons) MSc CMILT MCIHT AMICE MSoRSA Highways England Certificate of Competence Badingham Limited
D. F. Rogers	JP CEng BEng (Hons) MICE MSoRSA FIHE Ashburn Partnership

Audit Brief

1.4 The Road Safety Audit has been undertaken in accordance with the Road Safety Audit Brief contained in Appendix 1.

1.5 The terms of reference for this Road Safety Audit are described in HD 19/15. The Audit Team has not been made aware of any departures from standard.

1.6 The Road Safety Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the design to any other criteria.

Main Parties to the Audit

1.7 The following are the main parties to the audit:

- Client Organisation: Bellway Homes
- Overseeing Organisation: Reading Borough Council
- Design Organisation: i-Transport

1.8 The Audit Team visited the site on Tuesday 9th January 2018 between 1.00pm and 1.30pm. The weather was cloudy and dry but with some surface damp. There were no adverse traffic conditions to affect the audit. Photographs of the site and surrounding area are included where relevant.

1.9 The location of the site is shown on Figure 1 Site Location Plan and Figure 2 Aerial Photo. The area of the audit extends solely to the works shown on the drawings included in the Audit Brief. Issues identified are cross-referenced by paragraph number to Figure 3 Audit Plan.

1.10 Formerly occupied by the Battle Hospital the site lies on the north side of Portman Road. The proposals comprise a new 6m-wide priority junction with Portman Way to serve a residential development. A 2m-wide footway will be provided on the eastern side of the access (separated by landscaping / off-street parking), which will provide a connection to the existing shared surface of Portman Way. A 3m-wide shared footway/cycleway will be provided on the western side of the access and will tie into the extents of the existing shared footway/cycleway at the south-western corner of the site.

1.11 The site is bounded to the north and west by Portman Road, residential housing to the east and Portman Way to the south. To the southwest of the site, Portman Way forms a roundabout junction with Portman Road, which in turn forms a signalised junction with Portman Road to the northwest. Portman Road forms a roundabout junction with Cow Lane to the east which, in turn provides a connection northbound through Cow Lane bridges (which are currently being improved) and southbound, via Beresford Road, to Oxford Road. To the west, Portman Road becomes Wigmore Lane and forms a roundabout junction with Oxford Road and Norcot Road.

1.12 Portman Way is a single lane, two-way carriageway highway with varying width (between 6.4m and 5.8m) and is subject to a 30mph speed limit along the site frontage. A 2m-wide footway is present on the southern side of the carriageway. To the west, Portman Road is a dual lane two-way carriageway, some 7m in width, and forms a roundabout junction with Portman Way to the south and a signalised junction with Portman Road to the north. A 2m-wide footway is present on the western side of the carriageway with a 3m wide shared footway / cycleway present on the eastern side of the carriageway. To the north, Portman Road is a single lane two-way carriageway some 7.3m in width and is subject to a 40mph speed limit along the site frontage. A 3m wide shared footway / cycleway is present on the northern side of the carriageway. Gradients in the area are minimal. A large Tesco store is situated a short distance to the west of the proposed access. Street lighting is provided. Portman Way is of block paved construction and has yellow line parking restrictions.

SECTION 2: ITEMS RAISED AT PREVIOUS AUDITS

2.1 No previous audits have been undertaken.

SECTION 3: VEHICULAR AND HIGHWAY ISSUES

3.1 PROBLEM

Location: Portman Way.

Summary: Eurobins creating an obstruction.

3.1.1 During the site inspection a dozen Eurobins were noted positioned on the north side of the Portman Way carriageway and close to the proposed access. These bins cause an obstruction to traffic and will inhibit visibility at the junction leading to possible collisions.

RECOMMENDATION

3.1.2 It is recommended that the Eurobins are removed from the carriageway and that appropriate unobstructed visibility splays are provided at the junction.



Photo 1 - Bins stored on carriageway causing an obstruction.

3.2 PROBLEM

Location: Proposed Access / Portman Way.

Summary: On-street parking.

3.2.1 On-street parking on the north side of Portman Way can obstruct intervisibility in this location leading to possible collisions between vehicles or cyclists.

RECOMMENDATION

3.2.2 It is recommended that appropriate unobstructed inter-visibility is provided possibly through the introduction of double yellow line markings.



Photo 2 - On-street parking on Portman Way.

SECTION 4: NON-MOTORISED USERS

4.1 PROBLEM

Location: Proposed access.

Summary: Lack of informal crossing.

4.1.1 The drawings show that the proposed footway on the east side of the access is to tie-in with the shared surface of Portman Way. Although characteristic of a low traffic speed environment the footway on the southern side of the highway suggests that this section of highway is not intended as a shared surface. The design may encourage footway users to walk in the highway where they are at risk of collision with vehicles.

RECOMMENDATION

4.1.2 It is recommended that an informal crossing with dropped kerbs and tactile paving is introduced in this location in an appropriate position in order to provide safe access to the footway on the southern side of the carriageway.



Photo 3 - Portman Way view west.

4.2 PROBLEM

Location: Proposed access.

Summary: Lack of tactile paving and dropped kerbs.

4.2.1 No dropped kerbs or tactile paving is shown across the proposed access to link between the footway on the eastern side of the highway and the proposed footway/cycleway extension on the west side. This can cause difficulties for vulnerable users such as the mobility and visually impaired leading to trips and falls and possible collisions with vehicles.

RECOMMENDATION

4.2.2 It is recommended that dropped kerbs and tactile paving is introduced in this location.



Photo 4 - Portman Way view west.

4.3 **PROBLEM**

Location: Proposed access.

Summary: Lack of tie-in for cyclists.

4.3.1 No facility is provided for cyclists travelling east on the proposed footway/cycleway to re-join the Portman Way carriageway. Cyclists will be required to 'bounce down' the kerb leading to possible loss-of-control type incidents and falls or collisions with traffic. Cyclists may seek to use the dropped kerb at the informal crossing (see 4.2 above) where they are at risk of colliding with pedestrians.

RECOMMENDATION

4.3.2 It is recommended that an appropriate 'return to carriageway' facility is provided for cyclists in this location.



Photo 5 - Portman Way view east.

4.4 PROBLEM

Location: Proposed footway / cycleway.

Summary: Potential for trees to obstruct cyclists.

4.4.1 If the semi-mature trees in this location are to be retained there is a risk that low branches could obstruct cyclists leading to loss of control type incidents and falls.

RECOMMENDATION

4.4.2 It is recommended that appropriate clearance is provided over the footway/cycleway extension to ensure cyclists are not obstructed if the semi-mature trees are to be retained.



Photo 6 - Trees situated within intended route of shared facility.

SECTION 5: ROAD MARKINGS AND SIGNAGE

5.1 No observations.

SECTION 6: STREET LIGHTING

6.1 PROBLEM

Location: Proposed footway / cycleway.

Summary: Potential for lighting columns to obstruct cyclists.

6.1.1 The existing lighting columns on the north side of Portman Way in this location have the potential to obstruct future users.

RECOMMENDATION

6.1.2 It is recommended that street lighting columns are located at the back edge of any footway or shared facility and at least 450mm from the edge-of-highway and outside of any vehicle strike zone.



Photo 7 - Potential for lighting columns to obstruct users of shared facility.

SECTION 7: DRAINAGE

7.1 No drainage information has been provided. A suitable drainage package will need to form part of any further detailed design.

SECTION 8: AUDIT STATEMENT

8.1 We certify that the documents and information listed in the Audit Brief have been examined. Site inspections have been undertaken to identify any features of the scheme that could be revised in order to improve safety.

8.2 Issues identified have been noted in this audit together with any associated safety recommendations. We confirm that we have not been involved with the design or construction of the scheme.

8.3 This audit has been undertaken in accordance with HD 19/15.

Road Safety Audit Team Leader

A. R. J. Setter BA (Hons) MSc CMILT MCIHT AMICE MSoRSA

Highways England Certificate of Competency

Director - Badingham Limited

16 Ashley Piece, Ramsbury, Marlborough, Wiltshire, SN8 2QE

Signed:  Date: 8th January 2018

Audit Team Member

D. F. Rogers JP, CEng BEng (Hons) MICE MSoRSA FIHE

Director - Ashburn Partnership

5 Mayfield, Upper Wanborough, Swindon, SN4 0ED

Signed:  Date: 8th January 2018

FIGURES

APPENDIX 1

Road Safety Audit Brief

APPENDIX 2

Designers Response

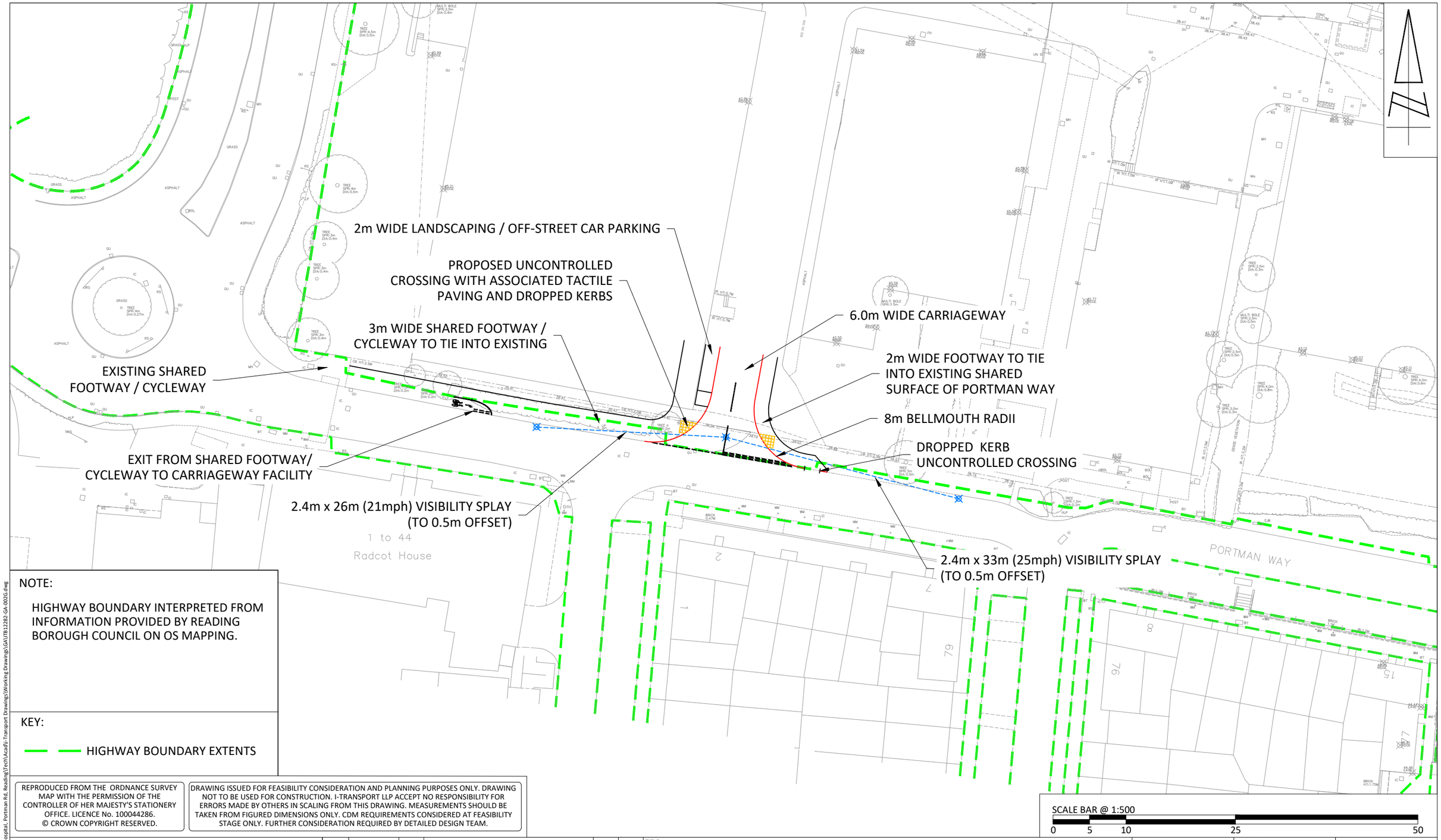
(As written by Designer upon receipt of RSA)

This response is to a Stage 1 (Preliminary Design) Road Safety Audit to the design standard detailed within HD19/15 of the Design Manual for Roads and Bridges, as detailed by Highways England.

Problem no. in safety audit report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measure (detail description)
3.1	**Y**	**Y**	**It is understood that these bins are related to the existing properties associated with the earlier development at Battle Square and have been placed here for either collection or left in the highway after being emptied. Either way it is assumed that there should be a satisfactory bin collection point for these bins and that they should not be located within the highway. In any event it is not anticipated that once the site is operational, that these bins would be placed in this location and as such visibility from the site access would not be impacted upon.**
3.2	**Y**	**Y**	**The identified parking is in the location of the proposed bellmouth junction and as such, with the introduction of the bellmouth access, the opportunity for vehicles to park in this section of Portman Way will be removed. As set out in the Highway Code vehicles should not park opposite or within 10 metres (32 feet) of a junction, except in an authorised parking space. However, it is**

			acknowledged that some vehicles may park within the visibility splays. **This is dealt with in the Manual for Streets 2 (Section B, subsection 10.7), which sets out that parking in visibility splays in built up areas is quite common and is not considered to create significant problems. Furthermore, in slow speed environments (which speed surveys confirm Portman Way is), some encroachment into the carriageway is acceptable.** **Notwithstanding this, a review of parking within the vicinity of the access could be undertaken upon occupation and, if considered necessary, parking restrictions introduced.**
4.1	**Y**	**Y**	**An uncontrolled dropped kerb crossing facility has been incorporated into the revised arrangement (as shown on drawing ITB12282-GA-002 Rev G attached).**
4.2	**Y**	**Y**	**An uncontrolled dropped kerb crossing with tactile paving has been shown on the revised arrangement across the bellmouth junction.**
4.3	**Y**	**Y**	**A dropped kerb 'return to carriageway' arrangement from the shared footway / cycleway onto Portman Way has been incorporated and has been shown on the revised drawing.**

4.4	**Y**	**Y**	**The existing trees are likely to be removed or relocated as part of the scheme to deliver the shared footway / cycleway however where street trees are retained appropriate vegetation clearances will be provided. Furthermore, any trees will be brought under the control of either the management company or the highway authority who would maintain these trees providing unobstructed clearance for pedestrians and cyclists.**
6.1	**Y**	**Y**	**While this will be considered at the detailed design stage, it is agreed that lamp columns should be located at the rear of any shared footway / cycleway and away from the vehicle 'strike zone'.**



NOTE:

HIGHWAY BOUNDARY INTERPRETED FROM INFORMATION PROVIDED BY READING BOROUGH COUNCIL ON OS MAPPING.

KEY:

HIGHWAY BOUNDARY EXTENTS

REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE. LICENCE No. 100044286.
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i-Transport
Grove House, Lutyens Close, Chineham
Basingstoke, Hampshire, RG24 8AG
Tel: 01256 338640
Fax: 01256 338644
www.i-transport.co.uk

REV	DATE	BY	DESCRIPTION	CHK	APD
G	12.01.18	JD	RSA COMMENTS INCORPORATED	ZB	ZB
F	04.01.18	JD	MINOR AMENDMENTS	ZB	JDW
E	03.01.18	ZB	ACCESS LOCATION REVISED	ZB	JDW

STATUS: DRAFT

TITLE: PROPOSED PORTMAN WAY SITE ACCESS

PROJECT: BATTLE HOSPITAL, PORTMAN ROAD, READING

CLIENT: BELLWAY HOMES LTD

SCALE @ A3:	CHECKED:	APPROVED:
1:500	ZB	JDW
FILE REF:	DRAWN:	DATE:
ITB12282	AB	07.02.17

DRAWING No: ITB12282-GA-002

PROJECT No: ITB12282

REV: G

T:\Projects\12000 Series Project Numbers\12282\TB Battle Hospital, Portman Rd, Reading\Tech\Acad\j-Transport Drawings\Working Drawings\GA\ITB12282-GA-002G.dwg

Zane Beswick

From: Anthony Setter <asetter@badinghamuk.com>
Sent: 18 January 2018 11:44
To: Zane Beswick
Subject: RE: Battle Hospital, Reading

Good morning Zane,

Thank you for the Designer's Response in respect of the above.

The Audit Team has reviewed the information provided together with the revised plan (ITB12282-GA-002 Revision G) and confirm that this appears an appropriate response to the issues raised.

However, the acceptability of the proposals ultimately rests with the local highway authority.

Kind regards,

Anthony

Anthony R. J. Setter

BA (Hons) MSc CMILT MCIHT AMICE MSoRSA Highways England Certificate of Competence

Badingham Limited

Transport & Infrastructure Consultants

16 Ashley Piece, Ramsbury, Marlborough, Wiltshire. SN8 2QE

T. +44(0)1672 521320 M. +44(0)7760 789659

E. asetter@badinghamuk.com W. www.badinghamuk.com

Registered Office: 43-45 Devizes Road, Swindon, SN1 4BG
Company No. 6961250 VAT No. 994 3305 95
BS EN ISO 9001:2008 Registered Firm. Certificate No. 2004112

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From: Zane Beswick [mailto:zane.beswick@i-transport.co.uk]
Sent: 18 January 2018 11:17
To: Anthony Setter <asetter@badinghamuk.com>
Subject: RE: Battle Hospital, Reading

Good Morning Anthony,

Following your below email and our subsequent telephone discussion, please find attached the RSA with associated Designers Response (Appendix 2) and updated site access junction arrangement (drawing ITB12282-GA-002 Revision G).

Please can you review these and confirm you are satisfied with the designers response and updated junction arrangement.

Should you have any questions or queries please do not hesitate to contact me.

Kind Regards
Zane

Zane Beswick MCIHT

Senior Consultant
for i-Transport LLP

Basingstoke Office: Grove House, Lutyens Close, Chineham Court, Basingstoke, RG24 8AG

T: 01256 338 640 F: 01256 338644 E: zane.beswick@i-transport.co.uk **W:** www.i-transport.co.uk

---

From: Anthony Setter [mailto:asetter@badinghamuk.com]
Sent: 11 January 2018 10:41
To: Zane Beswick <zane.beswick@i-transport.co.uk>
Subject: Battle Hospital, Reading

Good morning Zane,

Please find the RSA1 attached in respect of the above.

Kind regards,

Anthony

_____

Anthony R. J. Setter

BA (Hons) MSc CMILT MCIHT AMICE MSoRSA Highways England Certificate of Competence

Badingham Limited

Transport & Infrastructure Consultants

16 Ashley Piece, Ramsbury, Marlborough, Wiltshire. SN8 2QE

T. +44(0)1672 521320 M. +44(0)7760 789659

E. asetter@badinghamuk.com W. www.badinghamuk.com

Registered Office: 43-45 Devizes Road, Swindon, SN1 4BG
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APPENDIX G TRICS OUTPUT DATA

Calculation Reference: AUDIT-236601-171124-1103

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : C - INDUSTRIAL UNIT
VEHICLES

Selected regions and areas:

02	SOUTH EAST		
	RE	READING	1 days
03	SOUTH WEST		
	BR	BRISTOL CITY	1 days
04	EAST ANGLIA		
	SF	SUFFOLK	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: 645 to 1475 (units: sqm)
Range Selected by User: 300 to 1500 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 22/09/15

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

Selected survey days:

Tuesday	1 days
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	3 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 undertaking using machines.

Selected Locations:

Edge of Town	3

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

Selected Location Sub Categories:

Industrial Zone	3

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

Secondary Filtering selection:

Use Class:

B1	3 days

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

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	1 days

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

Population within 5 miles:

75,001 to 100,000	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	2 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	3 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	3 days

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

LIST OF SITES relevant to selection parameters

1 BR-02-C-02 STAINLESS FITTINGS BRISTOL CITY
SOUTH LIBERTY LANE

BRISTOL
Edge of Town
Industrial Zone
Total Gross floor area: 1475 sqm
Survey date: TUESDAY *22/09/15* *Survey Type: MANUAL*

2 RE-02-C-01 SHEET METAL FABRICATION READING
COMMERCIAL ROAD

READING
Edge of Town
Industrial Zone
Total Gross floor area: 645 sqm
Survey date: THURSDAY *22/11/12* *Survey Type: MANUAL*

3 SF-02-C-01 JOINERY SUFFOLK
ANSON ROAD
MARTLESHAM HEATH
IPSWICH
Edge of Town
Industrial Zone
Total Gross floor area: 1100 sqm
Survey date: FRIDAY *12/07/13* *Survey Type: MANUAL*

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

TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.093	3	1073	0.000	3	1073	0.093
07:30 - 08:00	3	1073	0.311	3	1073	0.000	3	1073	0.311
08:00 - 08:30	3	1073	0.248	3	1073	0.093	3	1073	0.341
08:30 - 09:00	3	1073	0.217	3	1073	0.062	3	1073	0.279
09:00 - 09:30	3	1073	0.124	3	1073	0.062	3	1073	0.186
09:30 - 10:00	3	1073	0.280	3	1073	0.062	3	1073	0.342
10:00 - 10:30	3	1073	0.311	3	1073	0.124	3	1073	0.435
10:30 - 11:00	3	1073	0.062	3	1073	0.124	3	1073	0.186
11:00 - 11:30	3	1073	0.062	3	1073	0.062	3	1073	0.124
11:30 - 12:00	3	1073	0.155	3	1073	0.186	3	1073	0.341
12:00 - 12:30	3	1073	0.248	3	1073	0.155	3	1073	0.403
12:30 - 13:00	3	1073	0.124	3	1073	0.186	3	1073	0.310
13:00 - 13:30	3	1073	0.217	3	1073	0.311	3	1073	0.528
13:30 - 14:00	3	1073	0.124	3	1073	0.093	3	1073	0.217
14:00 - 14:30	3	1073	0.062	3	1073	0.000	3	1073	0.062
14:30 - 15:00	3	1073	0.186	3	1073	0.248	3	1073	0.434
15:00 - 15:30	3	1073	0.093	3	1073	0.093	3	1073	0.186
15:30 - 16:00	3	1073	0.093	3	1073	0.155	3	1073	0.248
16:00 - 16:30	3	1073	0.062	3	1073	0.155	3	1073	0.217
16:30 - 17:00	3	1073	0.062	3	1073	0.155	3	1073	0.217
17:00 - 17:30	3	1073	0.000	3	1073	0.590	3	1073	0.590
17:30 - 18:00	3	1073	0.000	3	1073	0.155	3	1073	0.155
18:00 - 18:30	3	1073	0.031	3	1073	0.062	3	1073	0.093
18:30 - 19:00	3	1073	0.031	3	1073	0.000	3	1073	0.031
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:			3.196			3.133			6.329

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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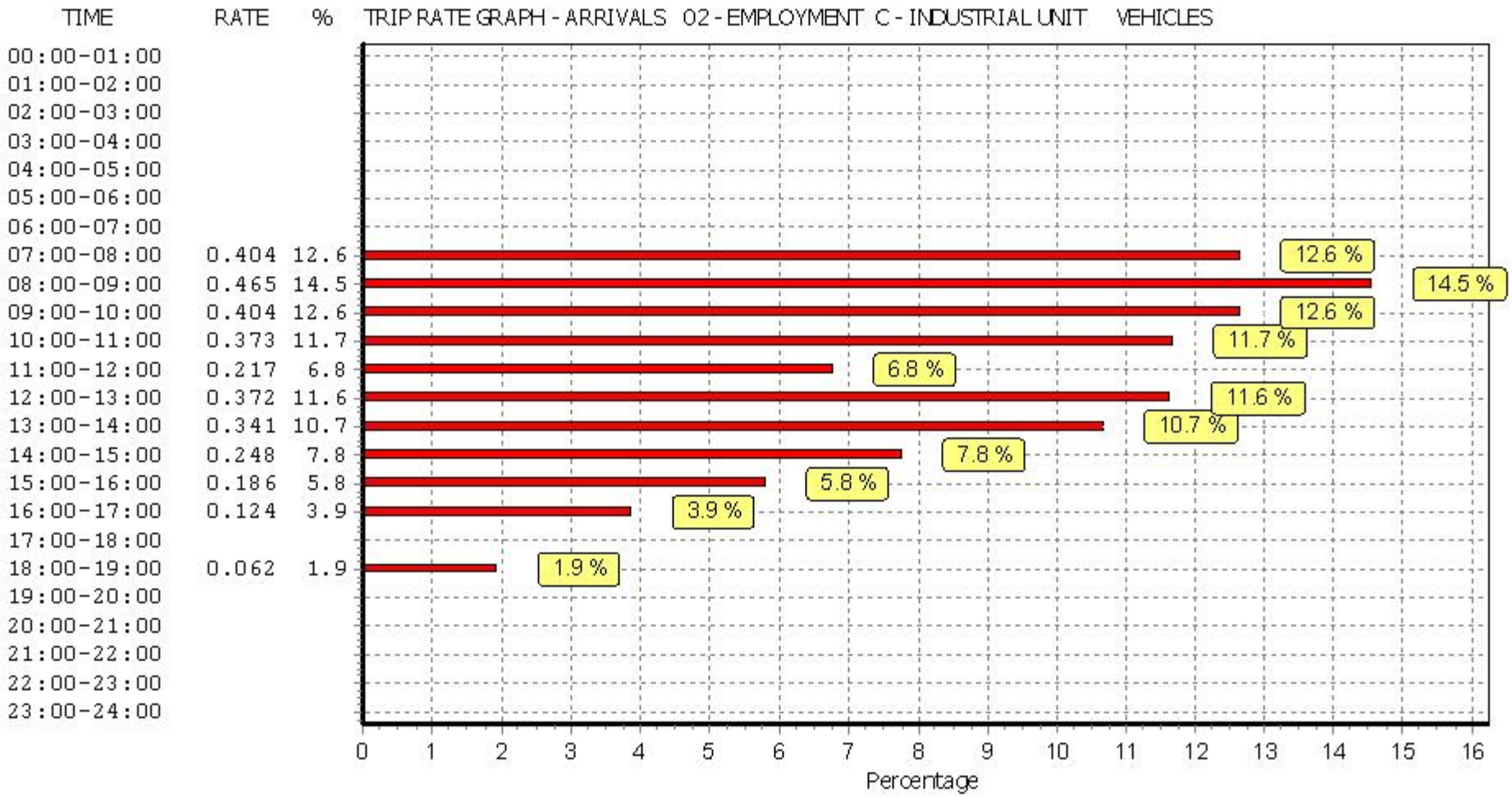
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Parameter summary

Trip rate parameter range selected:	645 - 1475 (units: sqm)
Survey date date range:	01/01/09 - 22/09/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

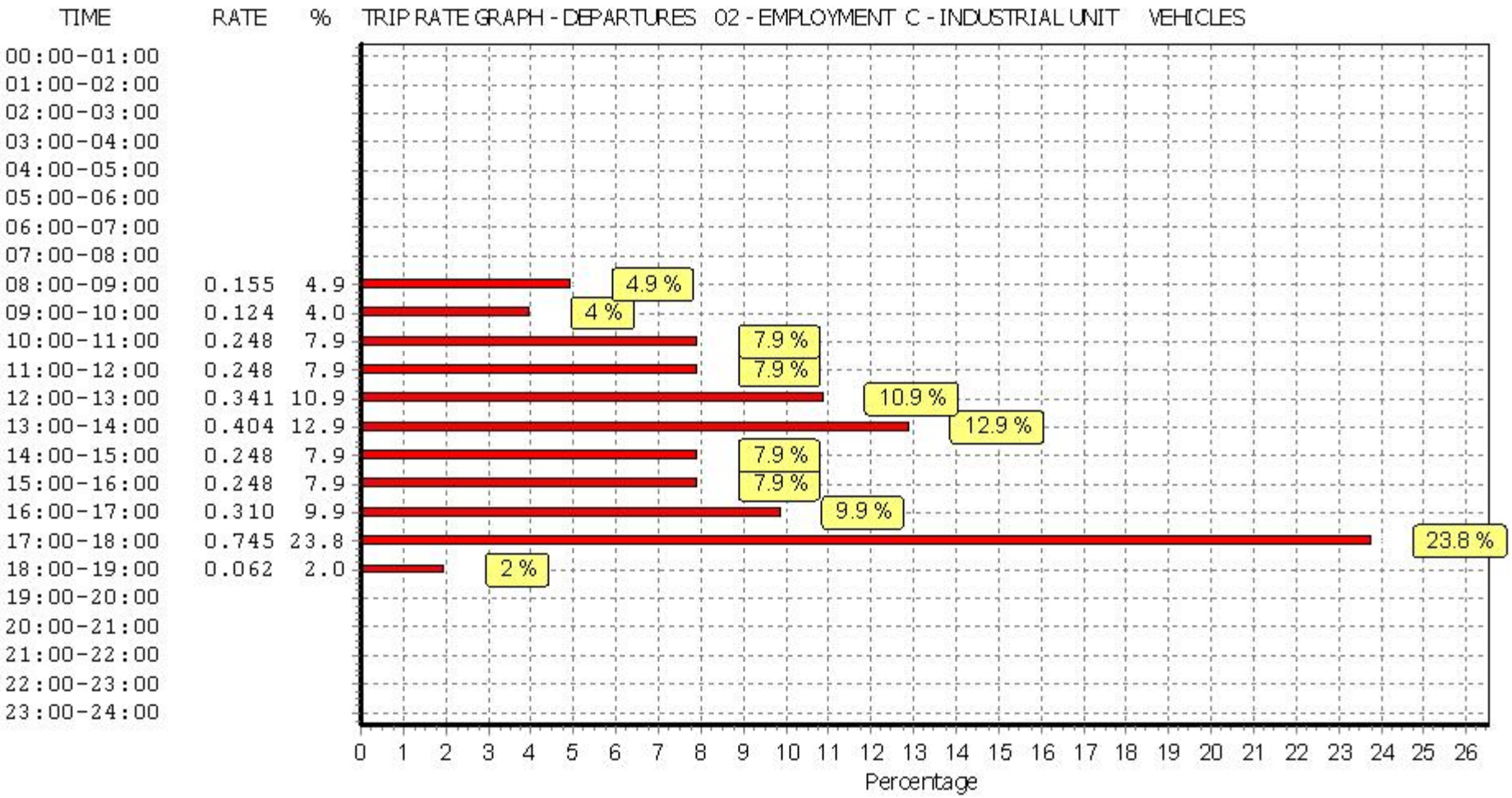
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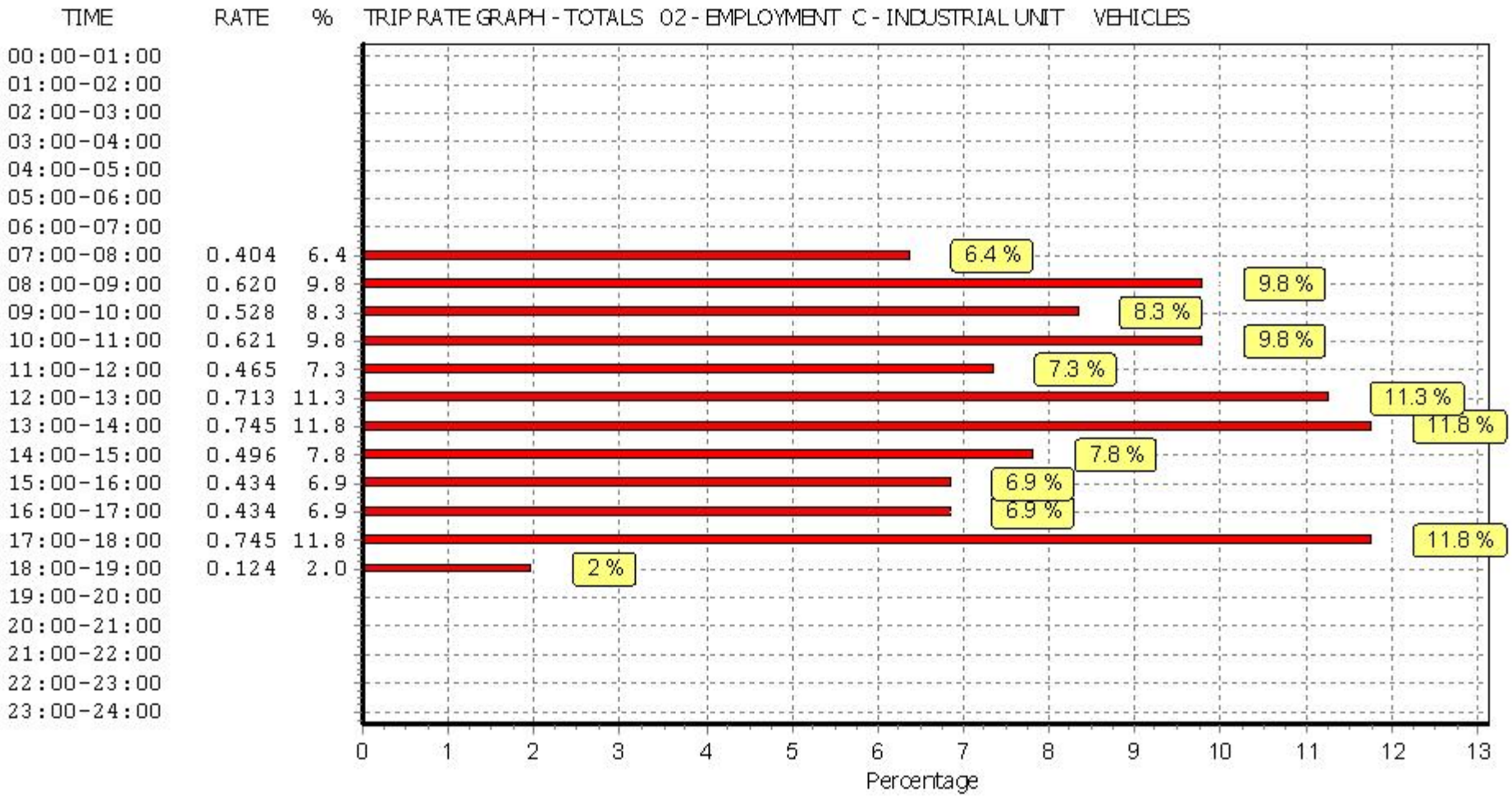
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TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
TAXIS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.000	3	1073	0.000	3	1073	0.000
07:30 - 08:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:00 - 08:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:30 - 09:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:00 - 09:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:30 - 10:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:00 - 10:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:30 - 11:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:00 - 11:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:30 - 12:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:00 - 12:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:30 - 13:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:00 - 13:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:30 - 14:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:00 - 14:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:30 - 15:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:00 - 15:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:30 - 16:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:00 - 16:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:30 - 17:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:00 - 17:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:30 - 18:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:00 - 18:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:30 - 19:00	3	1073	0.000	3	1073	0.000	3	1073	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:			0.000			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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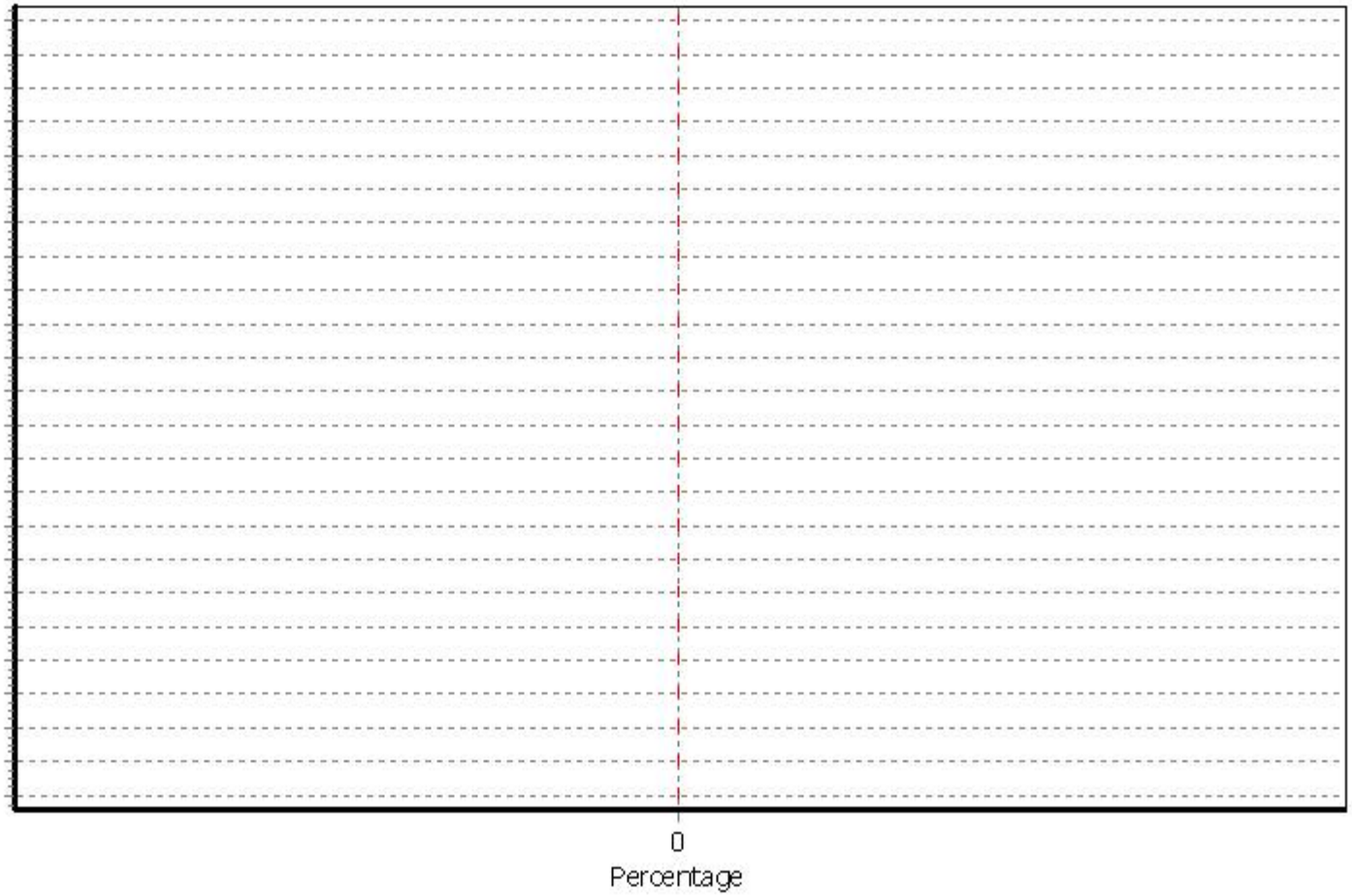
Parameter summary

Trip rate parameter range selected:	645 - 1475 (units: sqm)
Survey date date range:	01/01/09 - 22/09/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

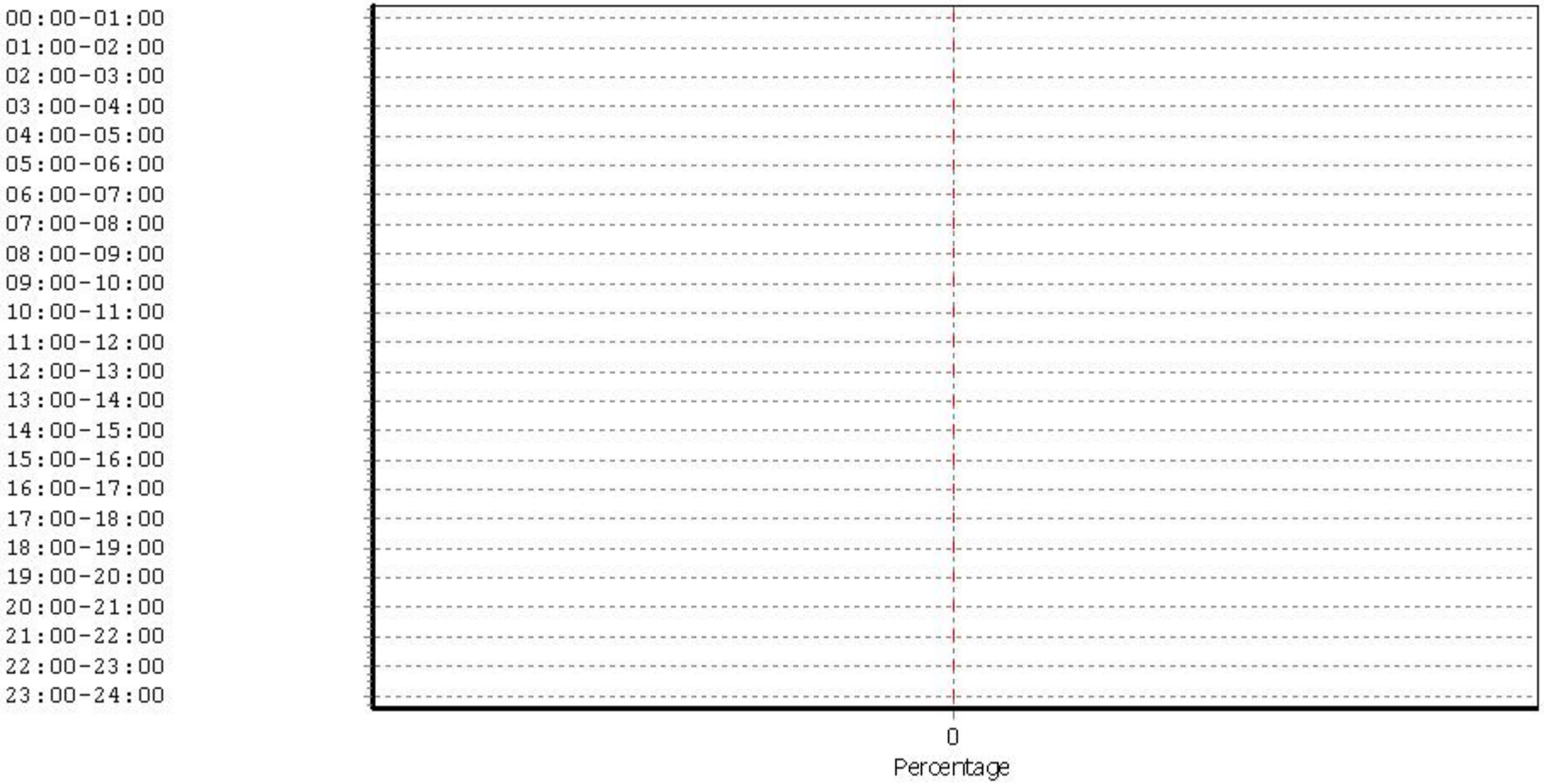
TRIP RATE GRAPH - ARRIVALS 02 - EMPLOYMENT C - INDUSTRIAL UNIT TAXIS

TIME	RATE	%
00:00-01:00		
01:00-02:00		
02:00-03:00		
03:00-04:00		
04:00-05:00		
05:00-06:00		
06:00-07:00		
07:00-08:00		
08:00-09:00		
09:00-10:00		
10:00-11:00		
11:00-12:00		
12:00-13:00		
13:00-14:00		
14:00-15:00		
15:00-16:00		
16:00-17:00		
17:00-18:00		
18:00-19:00		
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20:00-21:00		
21:00-22:00		
22:00-23:00		
23:00-24:00		



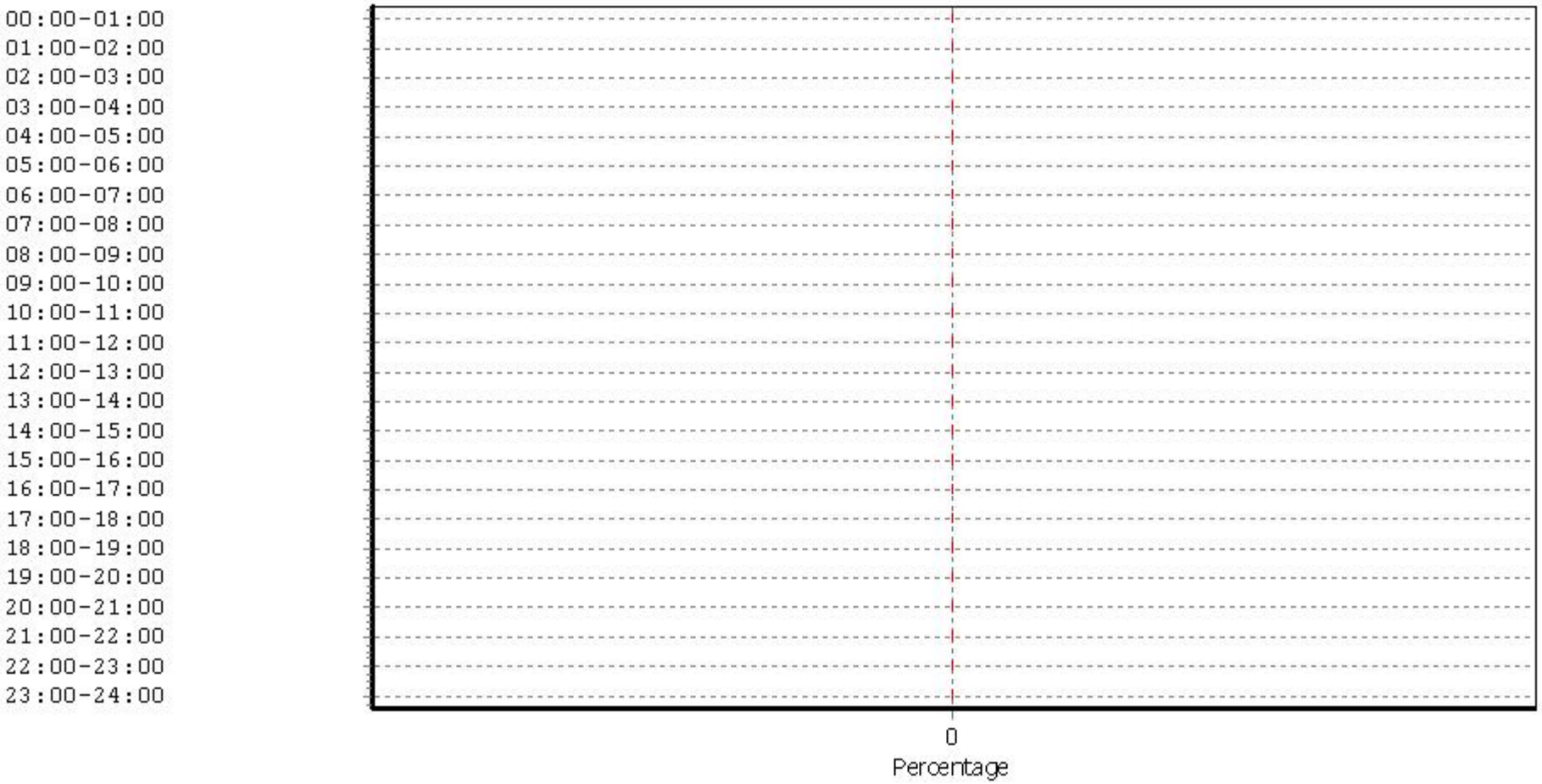
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TIME RATE % TRIP RATE GRAPH - DEPARTURES 02 - EMPLOYMENT C - INDUSTRIAL UNIT TAXIS



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.

TIME RATE % TRIP RATE GRAPH - TOTALS 02 - EMPLOYMENT C - INDUSTRIAL UNIT TAXIS



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/C - INDUSTRIAL UNIT
OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.000	3	1073	0.000	3	1073	0.000
07:30 - 08:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:00 - 08:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:30 - 09:00	3	1073	0.031	3	1073	0.000	3	1073	0.031
09:00 - 09:30	3	1073	0.000	3	1073	0.031	3	1073	0.031
09:30 - 10:00	3	1073	0.062	3	1073	0.031	3	1073	0.093
10:00 - 10:30	3	1073	0.031	3	1073	0.062	3	1073	0.093
10:30 - 11:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:00 - 11:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:30 - 12:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:00 - 12:30	3	1073	0.031	3	1073	0.031	3	1073	0.062
12:30 - 13:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:00 - 13:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:30 - 14:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:00 - 14:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:30 - 15:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:00 - 15:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:30 - 16:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:00 - 16:30	3	1073	0.031	3	1073	0.031	3	1073	0.062
16:30 - 17:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:00 - 17:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:30 - 18:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:00 - 18:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:30 - 19:00	3	1073	0.000	3	1073	0.000	3	1073	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:			0.186			0.186			0.372

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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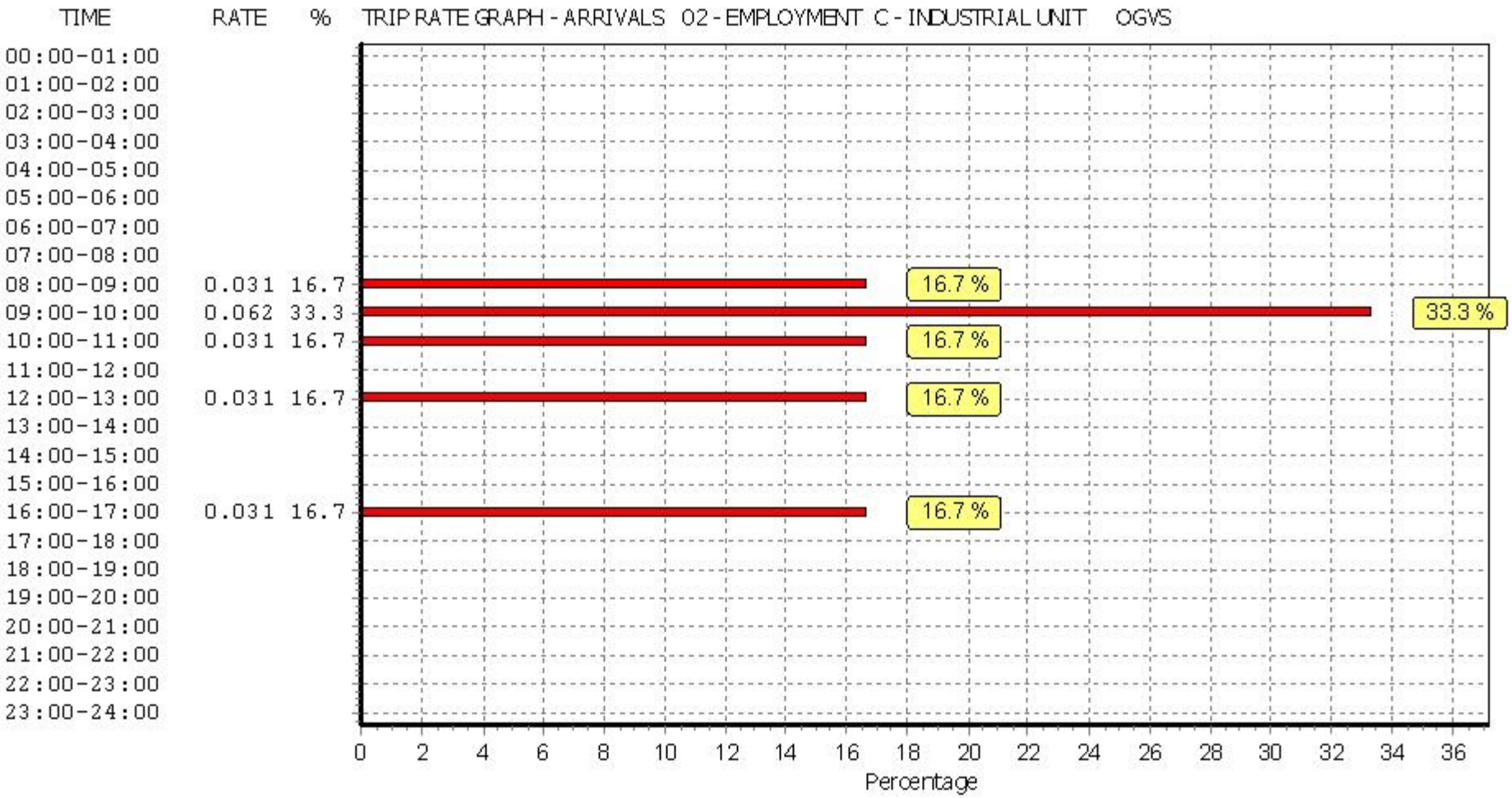
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Parameter summary

Trip rate parameter range selected:	645 - 1475 (units: sqm)
Survey date date range:	01/01/09 - 22/09/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

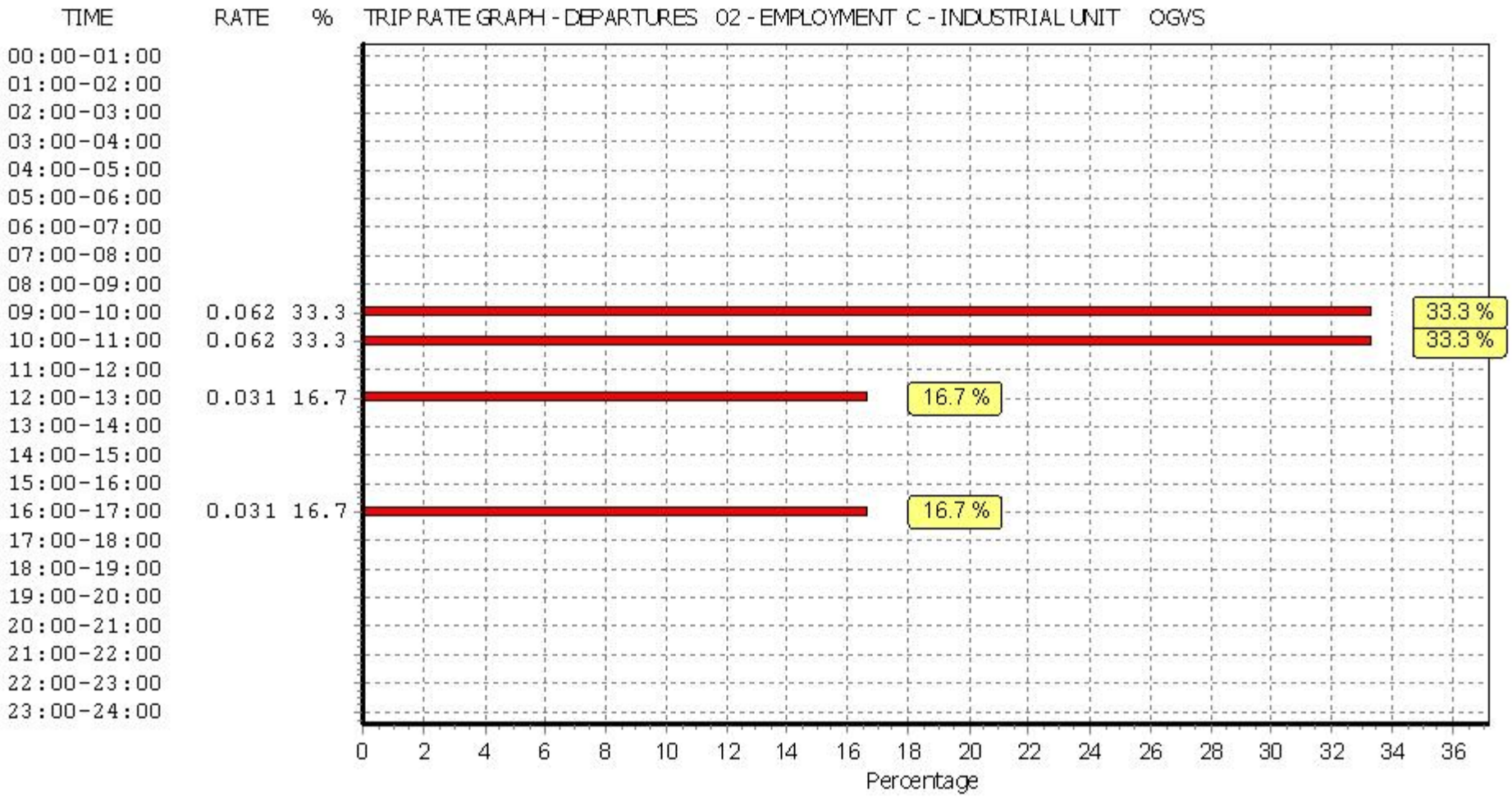
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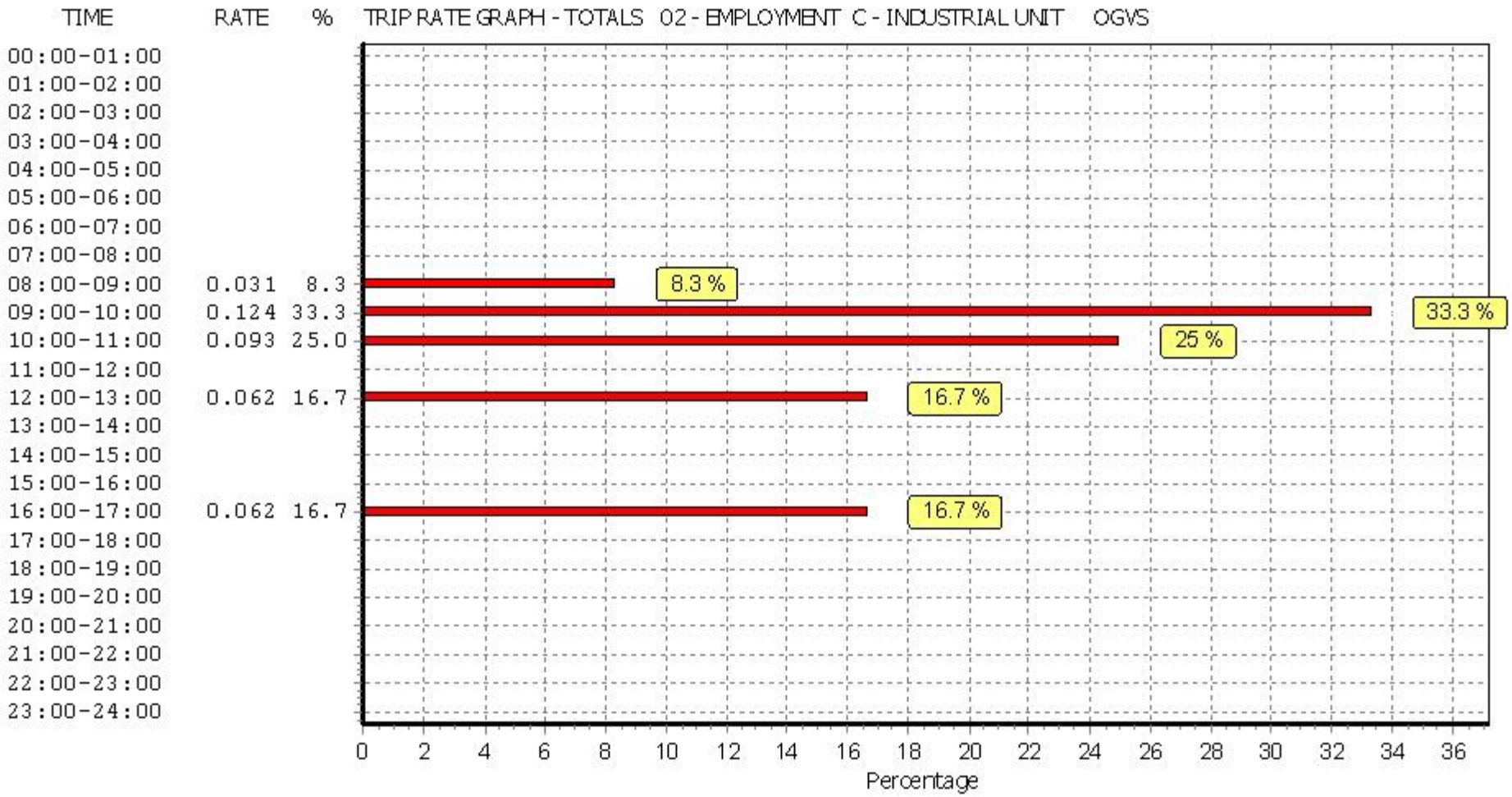
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TRIP RATE for Land Use 02 - EMPLOYMENT/C - INDUSTRIAL UNIT
PSVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.000	3	1073	0.000	3	1073	0.000
07:30 - 08:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:00 - 08:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:30 - 09:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:00 - 09:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:30 - 10:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:00 - 10:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:30 - 11:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:00 - 11:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:30 - 12:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:00 - 12:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:30 - 13:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:00 - 13:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:30 - 14:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:00 - 14:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:30 - 15:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:00 - 15:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:30 - 16:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:00 - 16:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:30 - 17:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:00 - 17:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:30 - 18:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:00 - 18:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:30 - 19:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
19:00 - 19:30									
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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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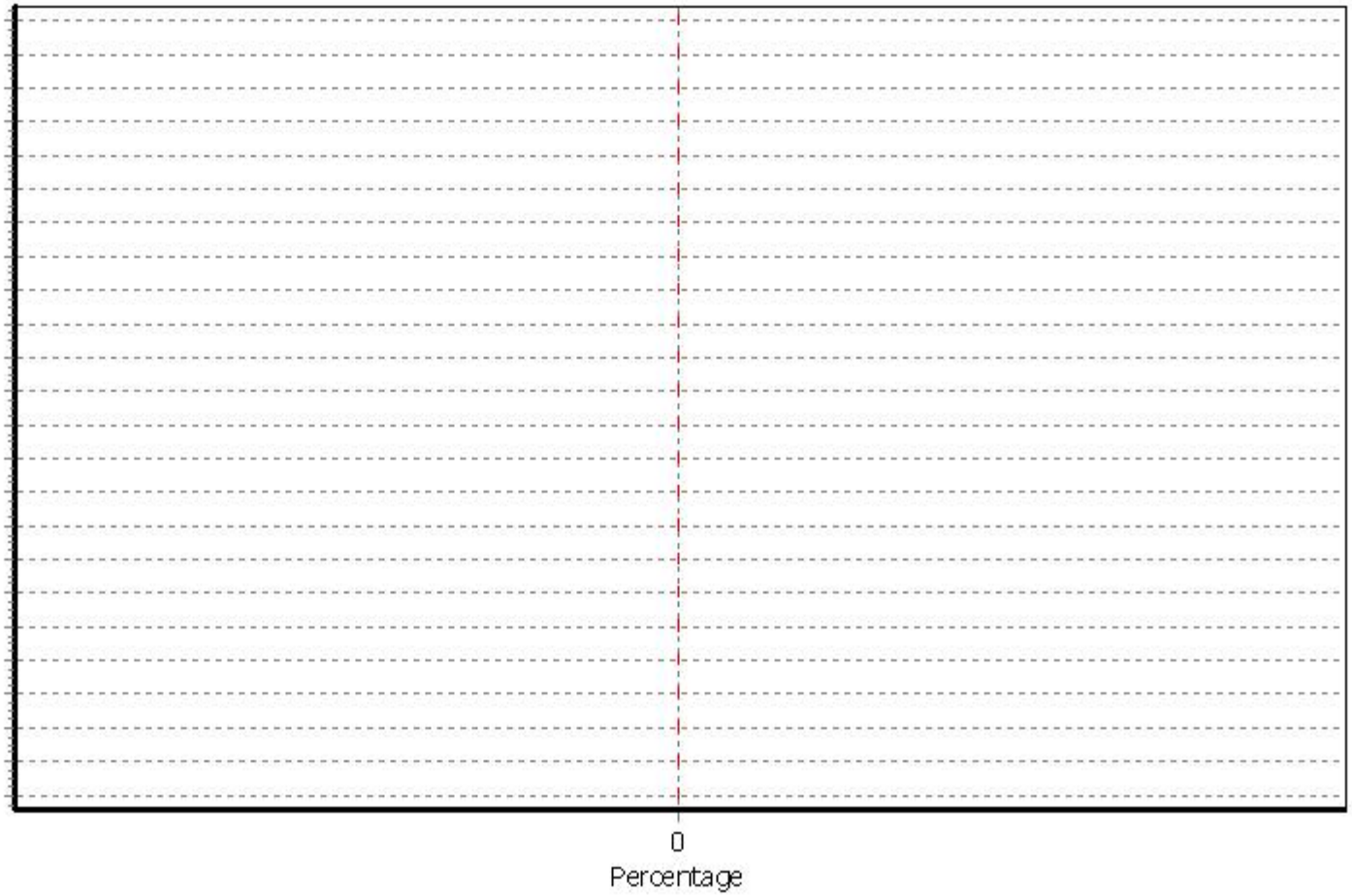
Parameter summary

Trip rate parameter range selected:	645 - 1475 (units: sqm)
Survey date date range:	01/01/09 - 22/09/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

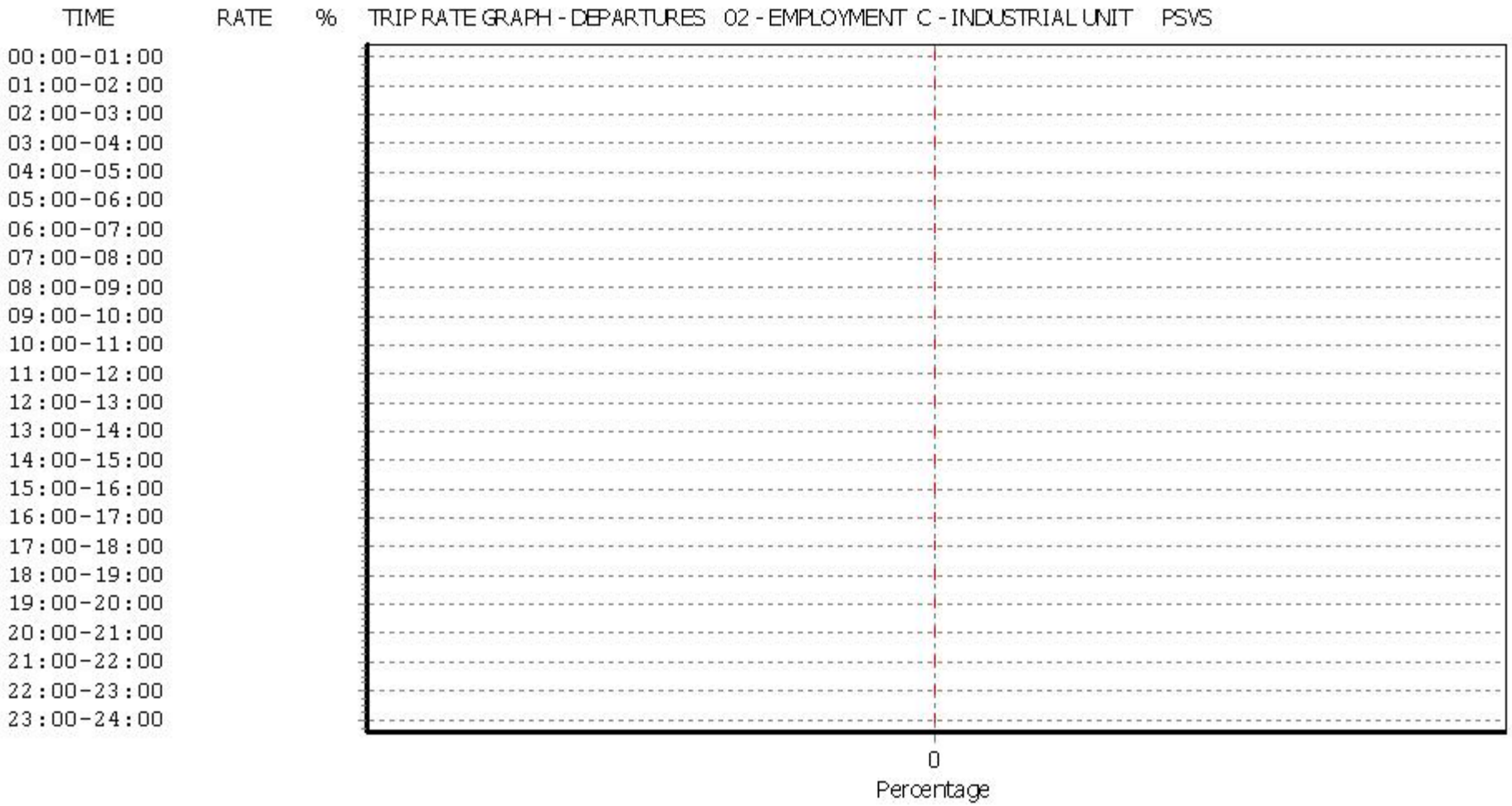
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TRIP RATE GRAPH - ARRIVALS 02 - EMPLOYMENT C - INDUSTRIAL UNIT PSVS

TIME	RATE	%
00:00-01:00		
01:00-02:00		
02:00-03:00		
03:00-04:00		
04:00-05:00		
05:00-06:00		
06:00-07:00		
07:00-08:00		
08:00-09:00		
09:00-10:00		
10:00-11:00		
11:00-12:00		
12:00-13:00		
13:00-14:00		
14:00-15:00		
15:00-16:00		
16:00-17:00		
17:00-18:00		
18:00-19:00		
19:00-20:00		
20:00-21:00		
21:00-22:00		
22:00-23:00		
23:00-24:00		

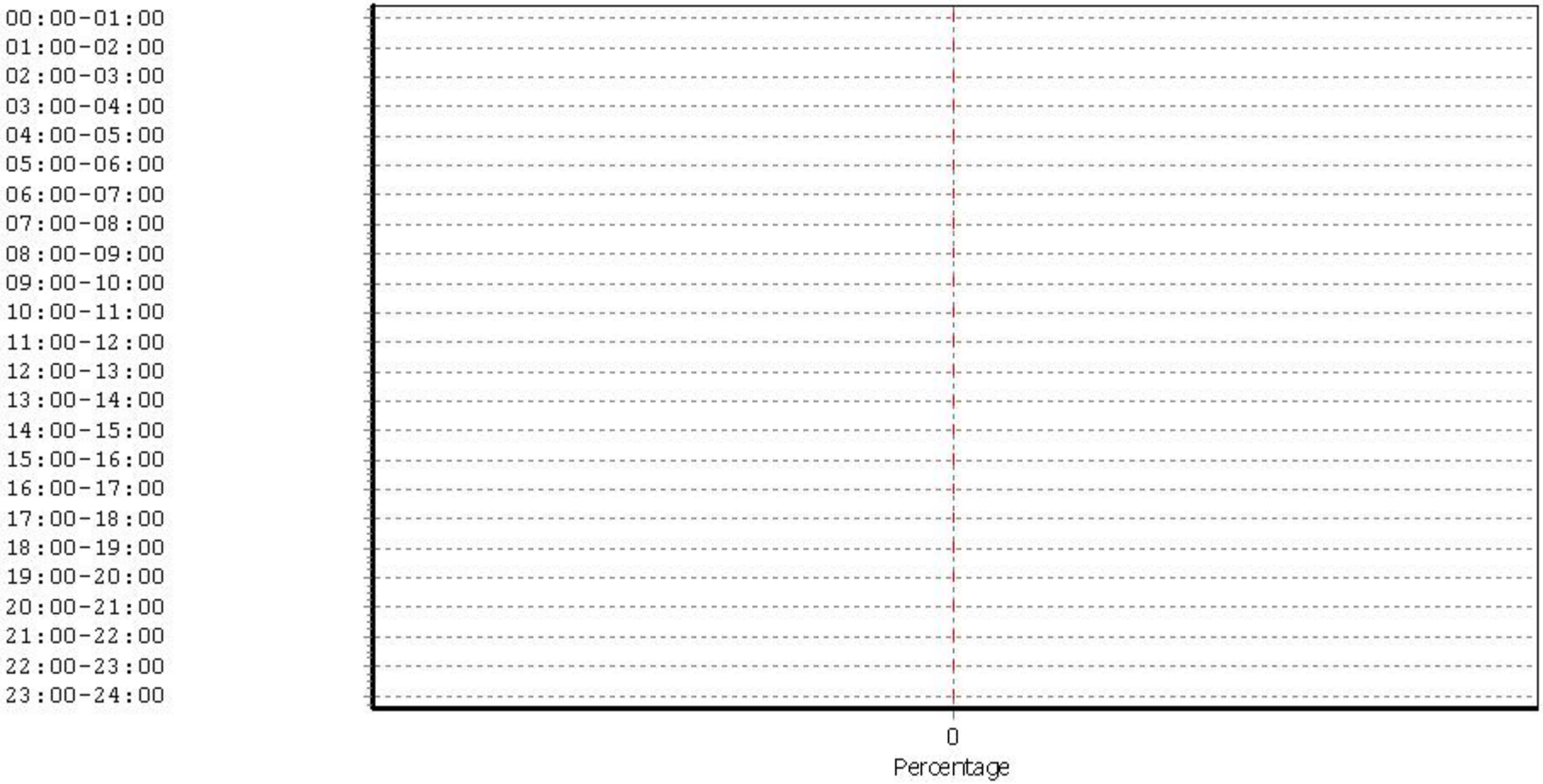


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through 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.

TIME RATE % TRIP RATE GRAPH - TOTALS 02 - EMPLOYMENT C - INDUSTRIAL UNIT PSVS



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/C - INDUSTRIAL UNIT
CYCLISTS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	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	3	1073	0.031	3	1073	0.000	3	1073	0.031
07:30 - 08:00	3	1073	0.062	3	1073	0.000	3	1073	0.062
08:00 - 08:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
08:30 - 09:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:00 - 09:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
09:30 - 10:00	3	1073	0.031	3	1073	0.000	3	1073	0.031
10:00 - 10:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
10:30 - 11:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:00 - 11:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
11:30 - 12:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:00 - 12:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
12:30 - 13:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
13:00 - 13:30	3	1073	0.031	3	1073	0.031	3	1073	0.062
13:30 - 14:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
14:00 - 14:30	3	1073	0.000	3	1073	0.031	3	1073	0.031
14:30 - 15:00	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:00 - 15:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
15:30 - 16:00	3	1073	0.000	3	1073	0.031	3	1073	0.031
16:00 - 16:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
16:30 - 17:00	3	1073	0.000	3	1073	0.062	3	1073	0.062
17:00 - 17:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
17:30 - 18:00	3	1073	0.031	3	1073	0.000	3	1073	0.031
18:00 - 18:30	3	1073	0.000	3	1073	0.000	3	1073	0.000
18:30 - 19:00	3	1073	0.000	3	1073	0.000	3	1073	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:			0.186			0.155			0.341

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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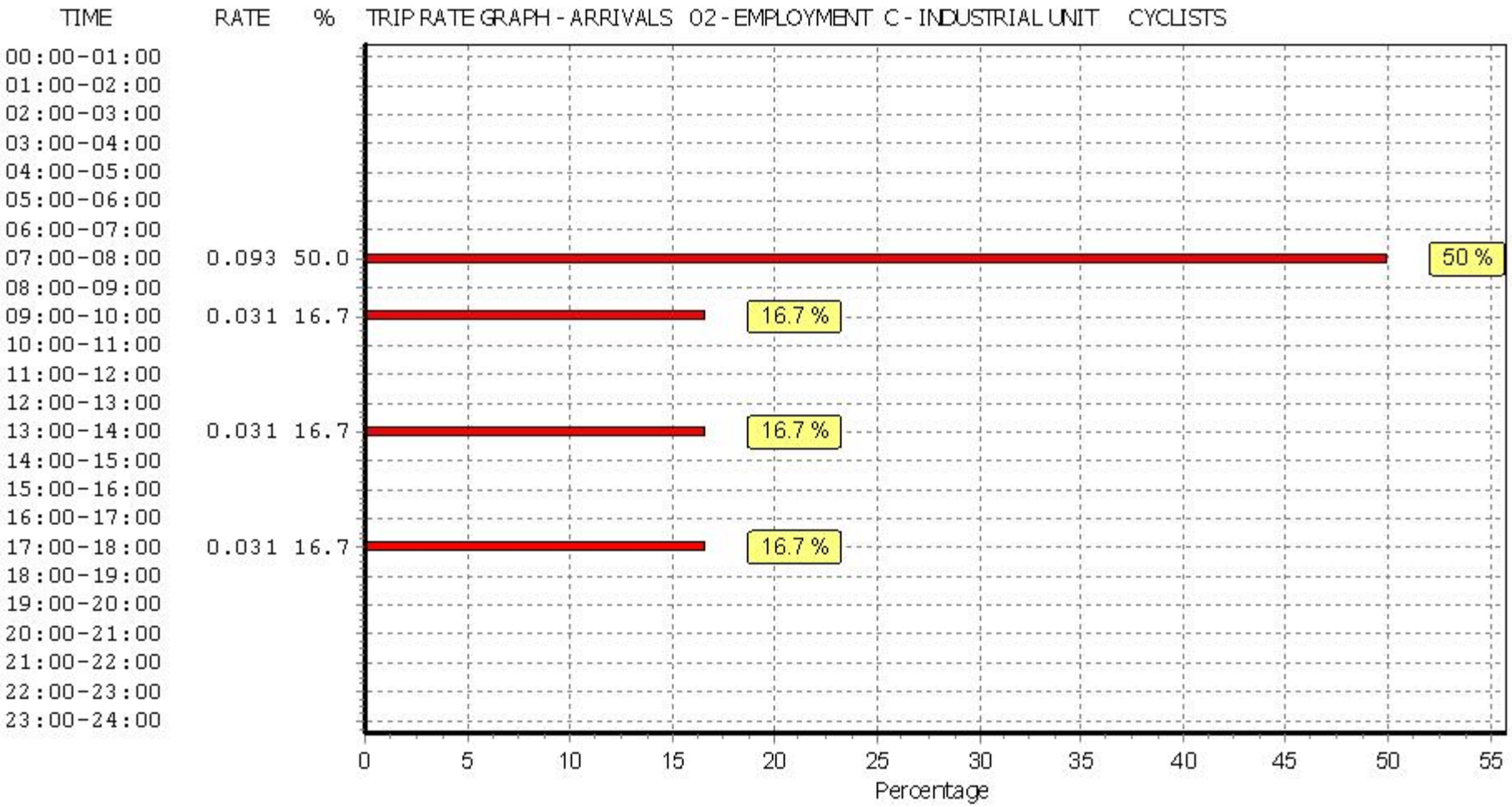
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Parameter summary

Trip rate parameter range selected:	645 - 1475 (units: sqm)
Survey date date range:	01/01/09 - 22/09/15
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

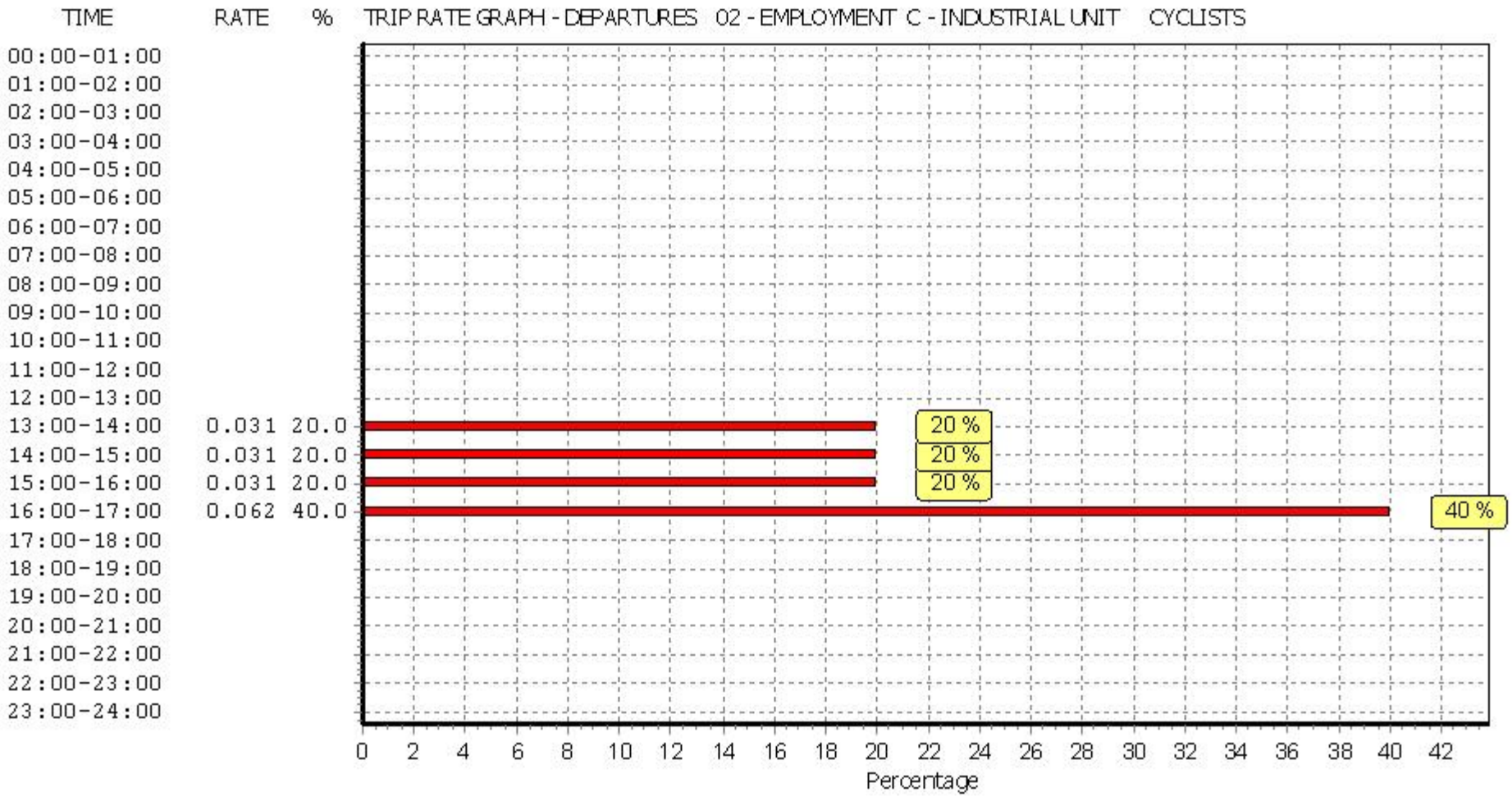
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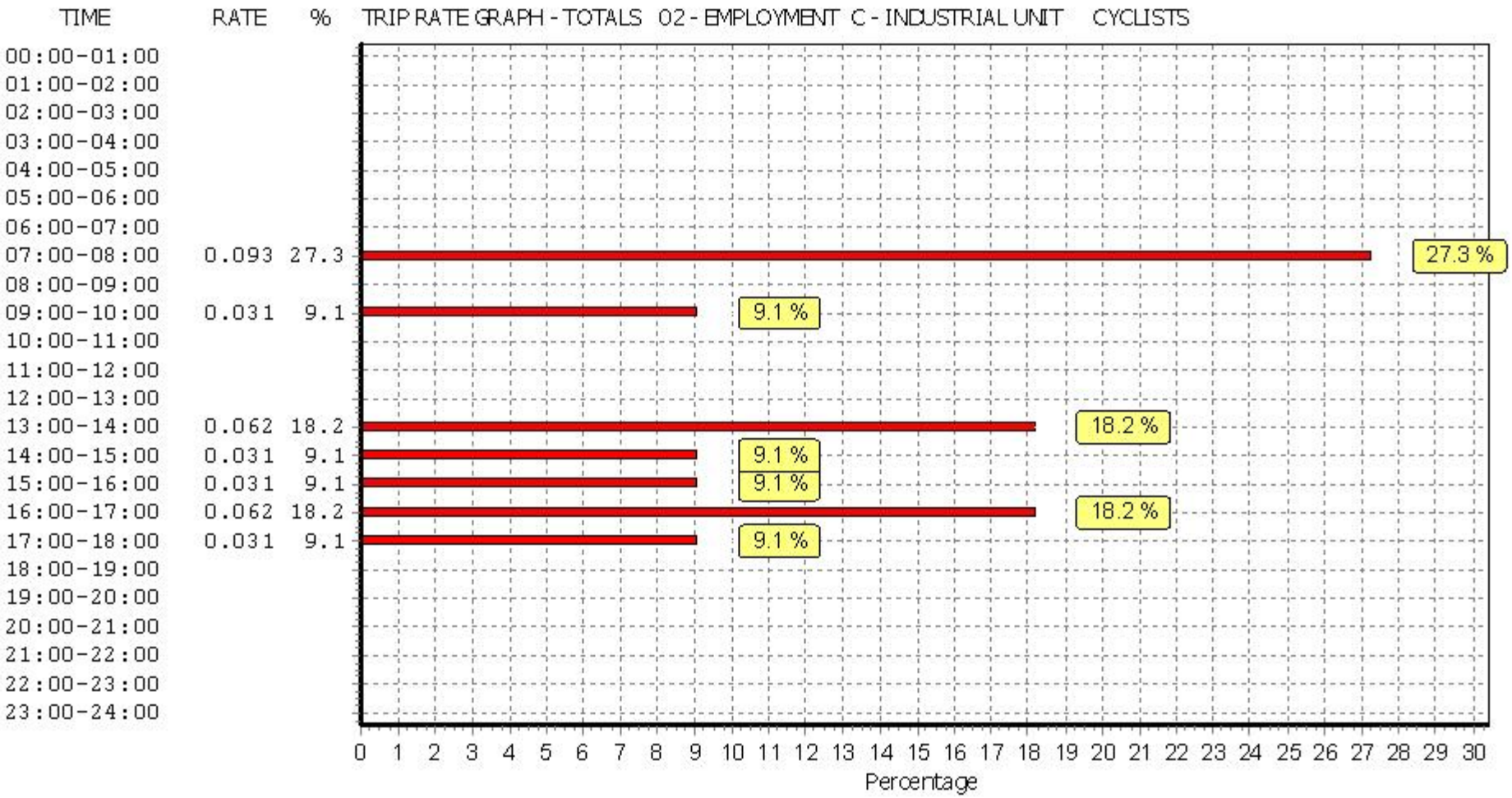
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

i-Transport Grove House Basingstoke Licence No: 236601



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i-Transport Grove House Basingstoke Licence No: 236601



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Calculation Reference: AUDIT-236601-171110-1114

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	EX	ESSEX	1 days
04	EAST ANGLIA		
	NF	NORFOLK	1 days
	SF	SUFFOLK	1 days
06	WEST MIDLANDS		
	WM	WEST MIDLANDS	1 days
08	NORTH WEST		
	GM	GREATER MANCHESTER	1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
Actual Range: 51 to 154 (units:)
Range Selected by User: 50 to 215 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 11/11/16

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:

Tuesday	1 days
Thursday	3 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 undertaking using machines.

Selected Locations:

Town Centre	1
Edge of Town Centre	4

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

Selected Location Sub Categories:

Residential Zone	2
Built-Up Zone	3

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

Secondary Filtering selection:

Use Class:

C3	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®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

10,001 to 15,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	3 days

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

Population within 5 miles:

50,001 to 75,000	2 days
125,001 to 250,000	1 days
250,001 to 500,000	1 days
500,001 or More	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	2 days
1.1 to 1.5	3 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 EX-03-C-02 BLOCK OF FLATS ESSEX
WESTCLIFF PARADE
WESTCLIFF
SOUTHEND-ON-SEA
Edge of Town Centre
Residential Zone
Total Number of dwellings: 94
Survey date: TUESDAY *22/10/13* *Survey Type: MANUAL*

2 GM-03-C-02 BLOCK OF FLATS GREATER MANCHESTER
WHITWORTH STREET W.

MANCHESTER
Town Centre
Built-Up Zone
Total Number of dwellings: 154
Survey date: THURSDAY *13/10/11* *Survey Type: MANUAL*

3 NF-03-C-01 BLOCKS OF FLATS NORFOLK
PAGE STAIR LANE

KING'S LYNN
Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 51
Survey date: THURSDAY *11/12/14* *Survey Type: MANUAL*

4 SF-03-C-01 BLOCKS OF FLATS SUFFOLK
STATION HILL

BURY ST EDMUNDS
Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 85
Survey date: THURSDAY *18/12/14* *Survey Type: MANUAL*

5 WM-03-C-04 BLOCKS OF FLATS WEST MIDLANDS
GILLQUART WAY
PARKSIDE
COVENTRY
Edge of Town Centre
Residential Zone
Total Number of dwellings: 55
Survey date: FRIDAY *11/11/16* *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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.032	5	88	0.064	5	88	0.096
08:00 - 09:00	5	88	0.039	5	88	0.107	5	88	0.146
09:00 - 10:00	5	88	0.052	5	88	0.064	5	88	0.116
10:00 - 11:00	5	88	0.080	5	88	0.091	5	88	0.171
11:00 - 12:00	5	88	0.075	5	88	0.068	5	88	0.143
12:00 - 13:00	5	88	0.098	5	88	0.071	5	88	0.169
13:00 - 14:00	5	88	0.084	5	88	0.103	5	88	0.187
14:00 - 15:00	5	88	0.077	5	88	0.080	5	88	0.157
15:00 - 16:00	5	88	0.052	5	88	0.064	5	88	0.116
16:00 - 17:00	5	88	0.084	5	88	0.064	5	88	0.148
17:00 - 18:00	5	88	0.114	5	88	0.066	5	88	0.180
18:00 - 19:00	5	88	0.098	5	88	0.048	5	88	0.146
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.885			0.890			1.775

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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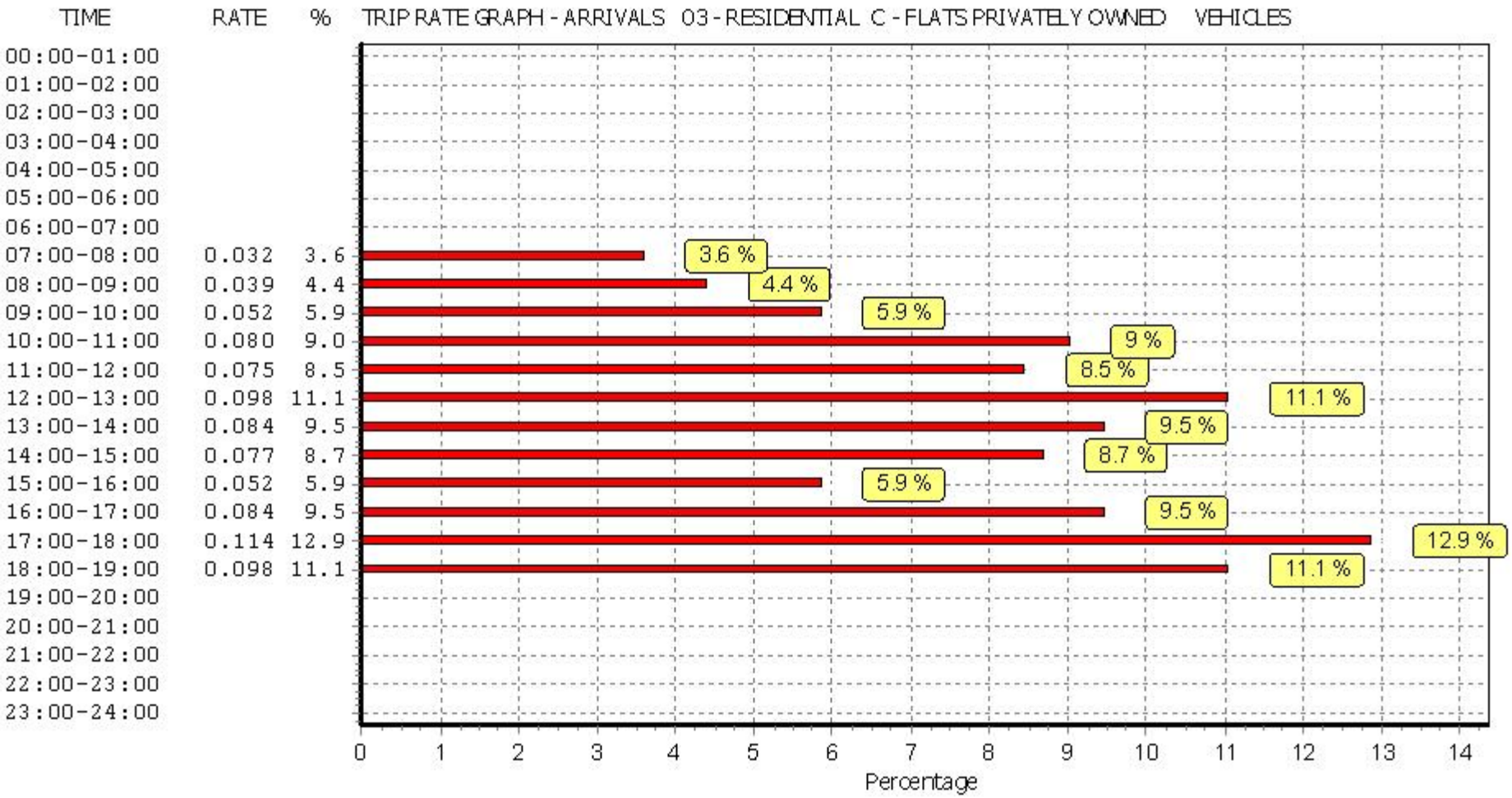
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Parameter summary

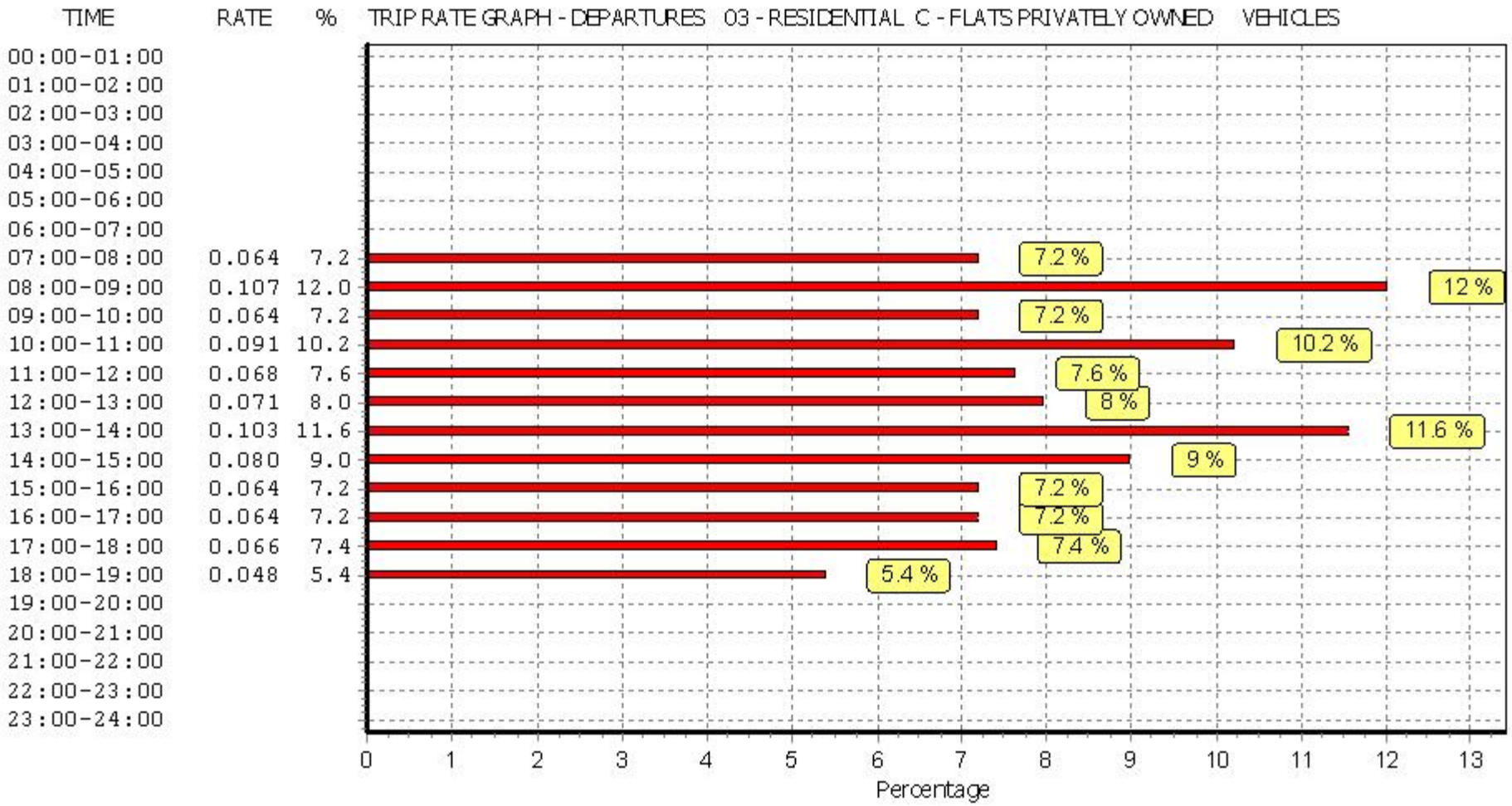
Trip rate parameter range selected:	51 - 154 (units:)
Survey date date range:	01/01/09 - 11/11/16
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

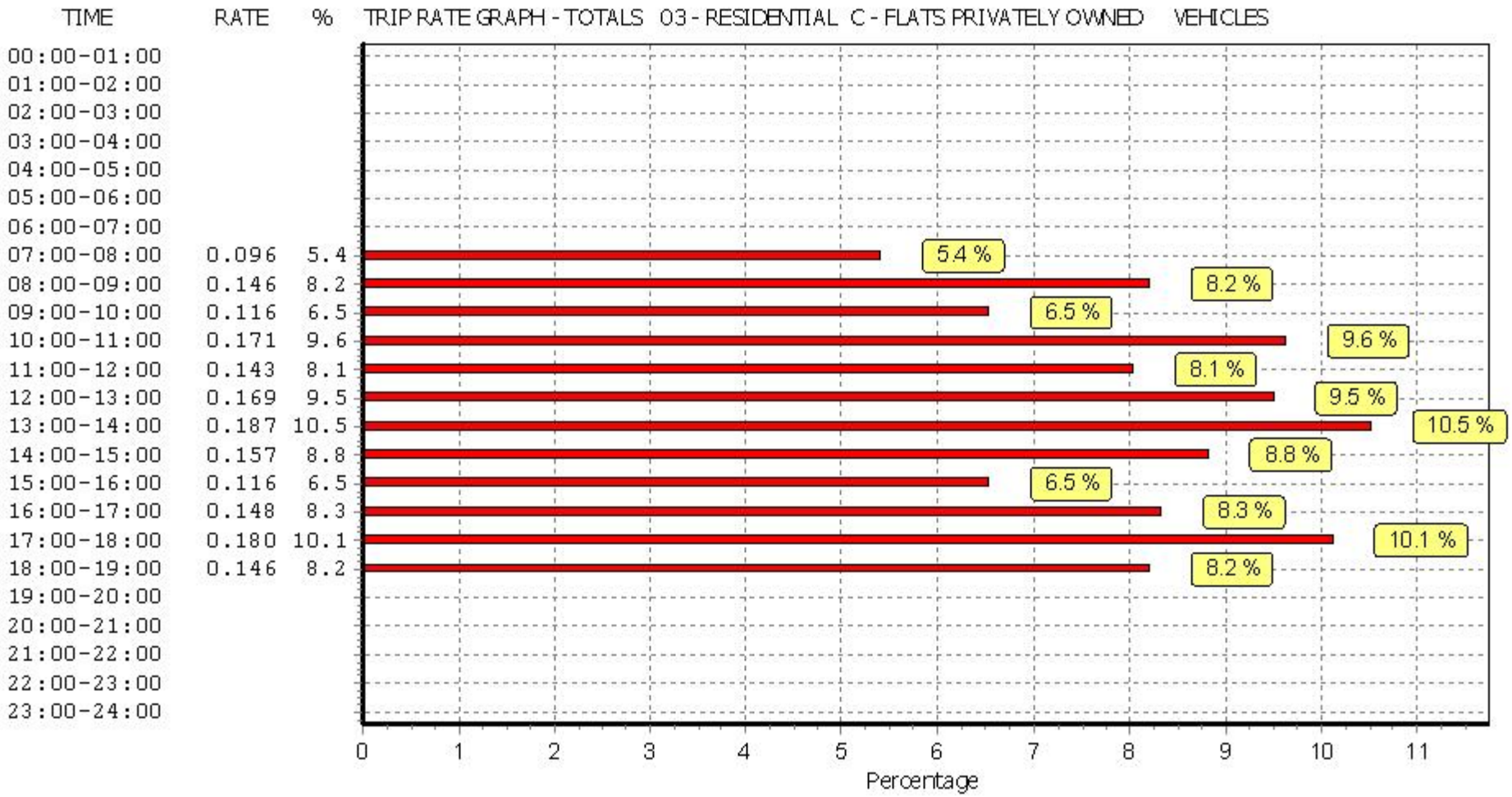
i-Transport Grove House Basingstoke Licence No: 236601



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 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
TAXIS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.002	5	88	0.002	5	88	0.004
08:00 - 09:00	5	88	0.000	5	88	0.000	5	88	0.000
09:00 - 10:00	5	88	0.000	5	88	0.000	5	88	0.000
10:00 - 11:00	5	88	0.002	5	88	0.002	5	88	0.004
11:00 - 12:00	5	88	0.007	5	88	0.007	5	88	0.014
12:00 - 13:00	5	88	0.002	5	88	0.002	5	88	0.004
13:00 - 14:00	5	88	0.005	5	88	0.005	5	88	0.010
14:00 - 15:00	5	88	0.000	5	88	0.000	5	88	0.000
15:00 - 16:00	5	88	0.000	5	88	0.000	5	88	0.000
16:00 - 17:00	5	88	0.007	5	88	0.007	5	88	0.014
17:00 - 18:00	5	88	0.002	5	88	0.002	5	88	0.004
18:00 - 19:00	5	88	0.005	5	88	0.002	5	88	0.007
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.032			0.029			0.061

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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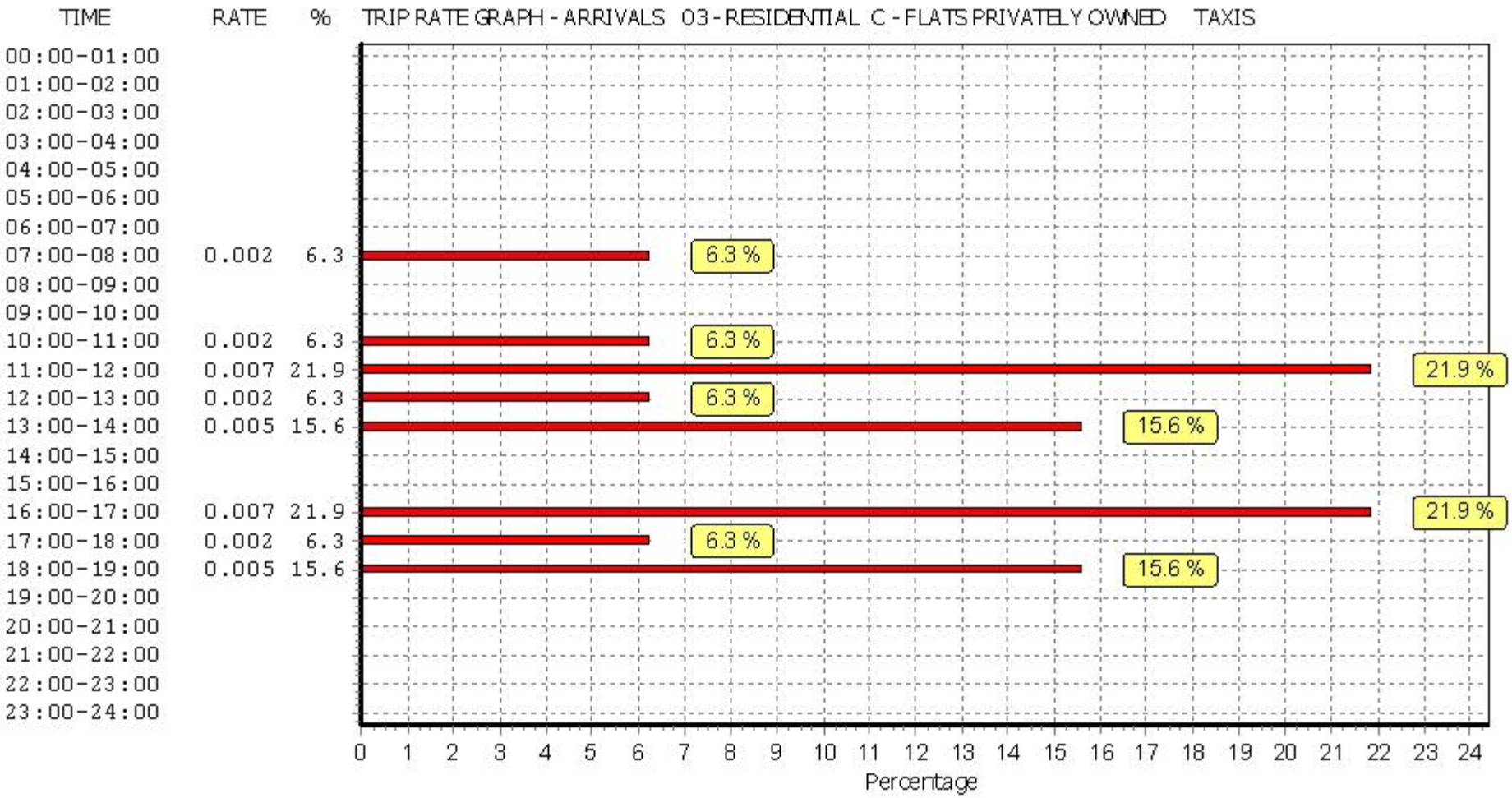
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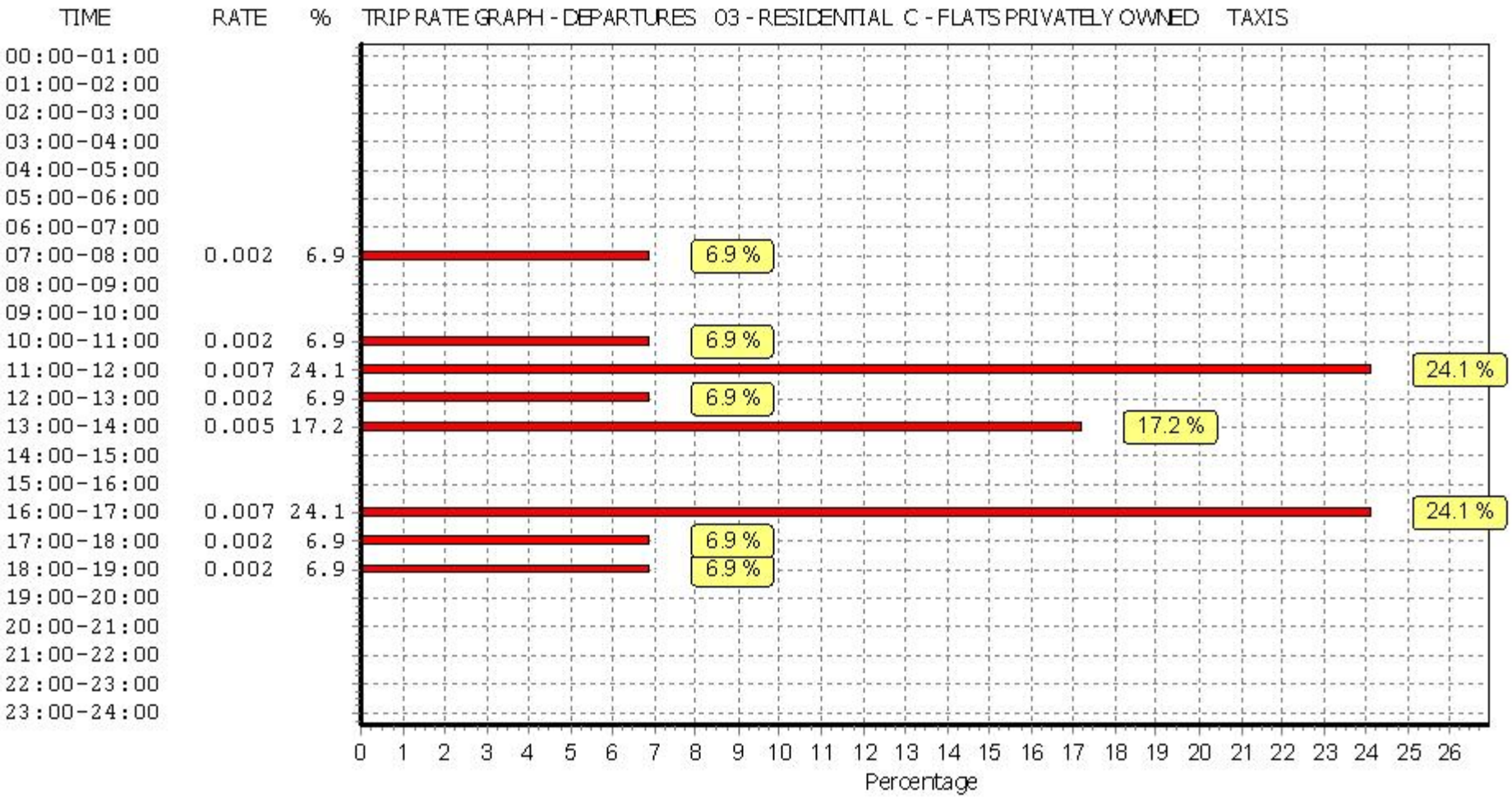
Parameter summary

Trip rate parameter range selected:	51 - 154 (units:)
Survey date date range:	01/01/09 - 11/11/16
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:	0

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

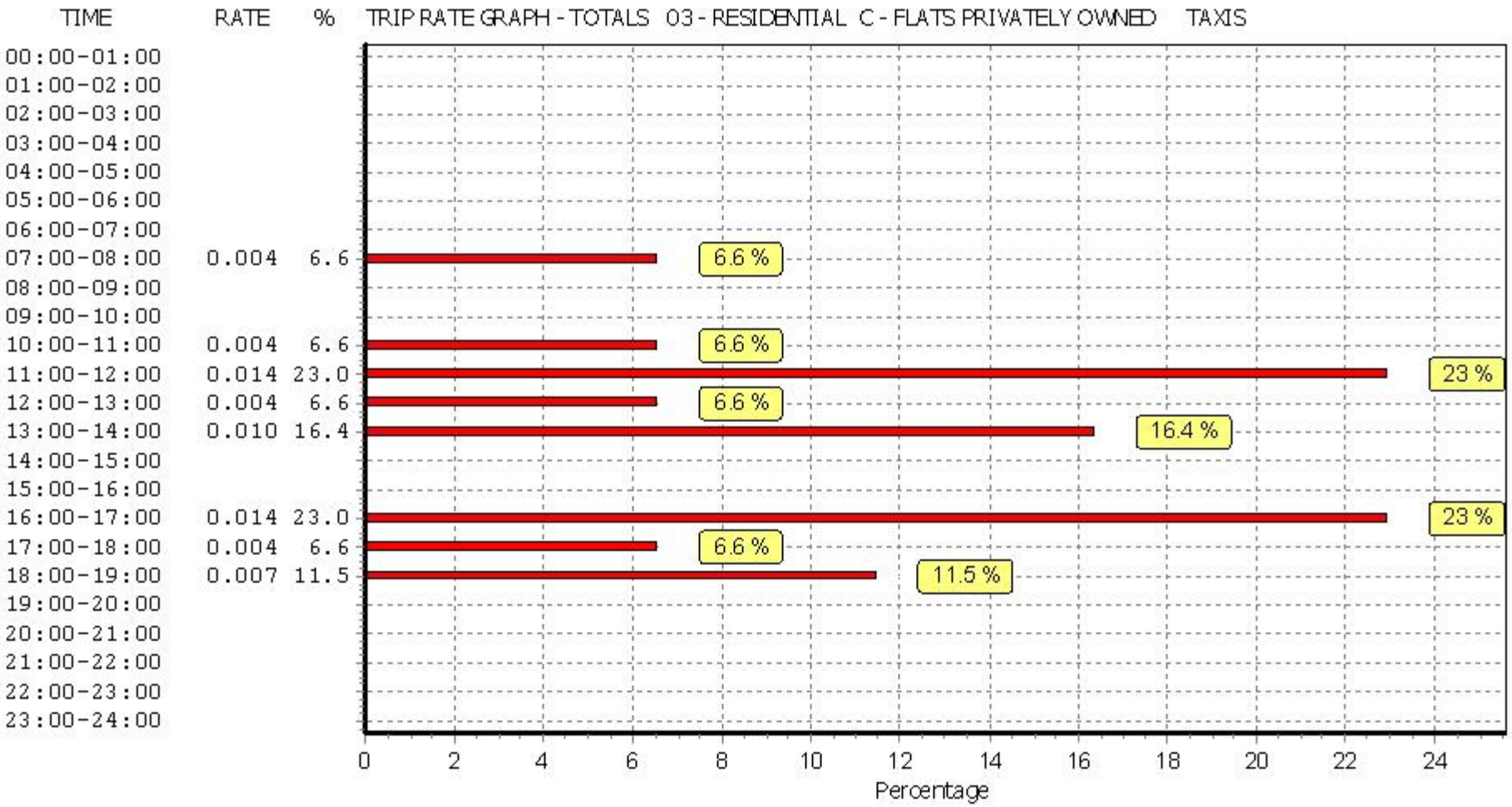


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TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.000	5	88	0.000	5	88	0.000
08:00 - 09:00	5	88	0.000	5	88	0.000	5	88	0.000
09:00 - 10:00	5	88	0.000	5	88	0.000	5	88	0.000
10:00 - 11:00	5	88	0.000	5	88	0.000	5	88	0.000
11:00 - 12:00	5	88	0.000	5	88	0.000	5	88	0.000
12:00 - 13:00	5	88	0.002	5	88	0.002	5	88	0.004
13:00 - 14:00	5	88	0.002	5	88	0.002	5	88	0.004
14:00 - 15:00	5	88	0.000	5	88	0.000	5	88	0.000
15:00 - 16:00	5	88	0.000	5	88	0.000	5	88	0.000
16:00 - 17:00	5	88	0.000	5	88	0.000	5	88	0.000
17:00 - 18:00	5	88	0.000	5	88	0.000	5	88	0.000
18:00 - 19:00	5	88	0.000	5	88	0.000	5	88	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.004			0.004			0.008

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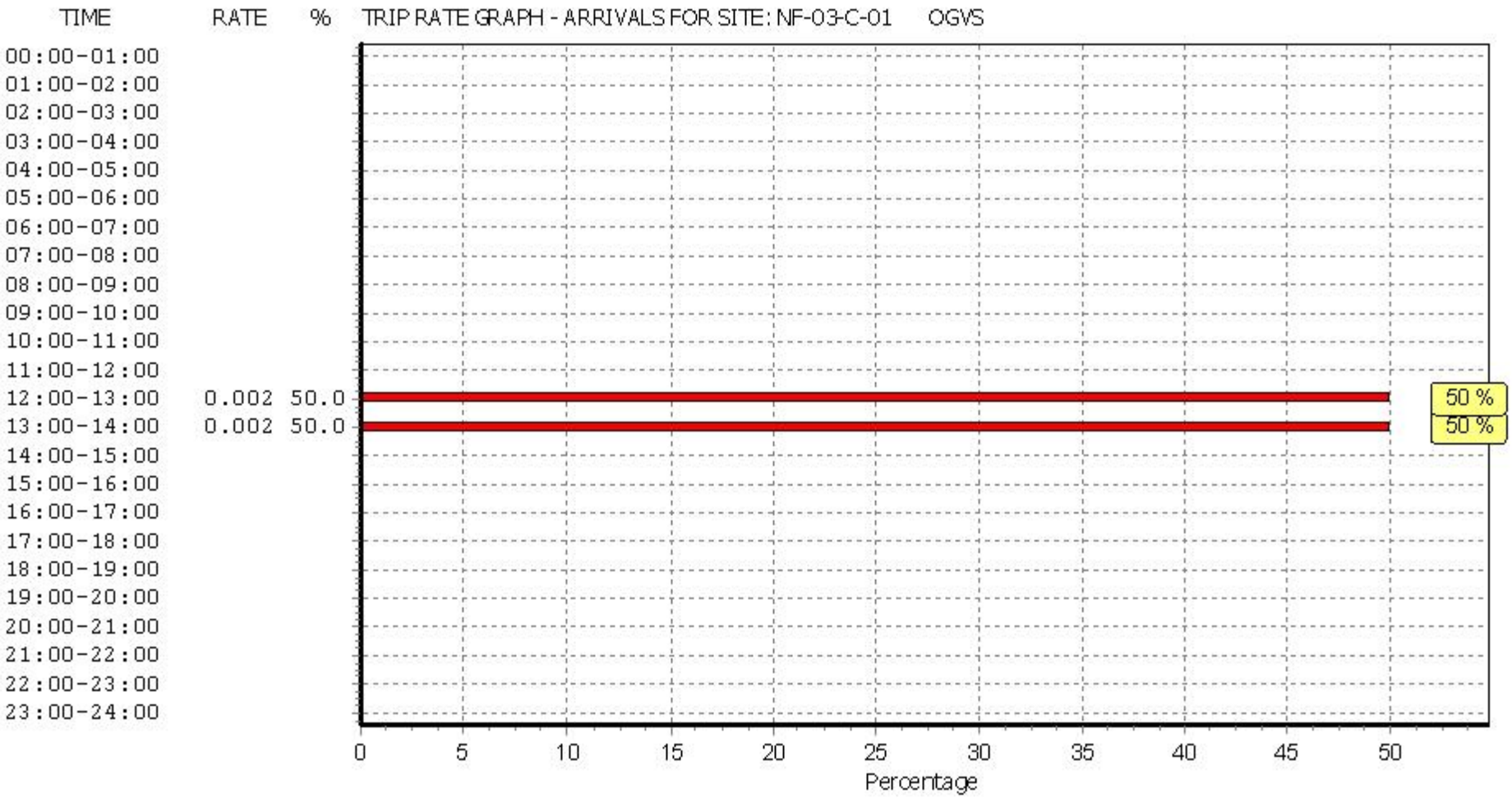
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Parameter summary

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Survey date date range:	01/01/09 - 11/11/16
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:	0

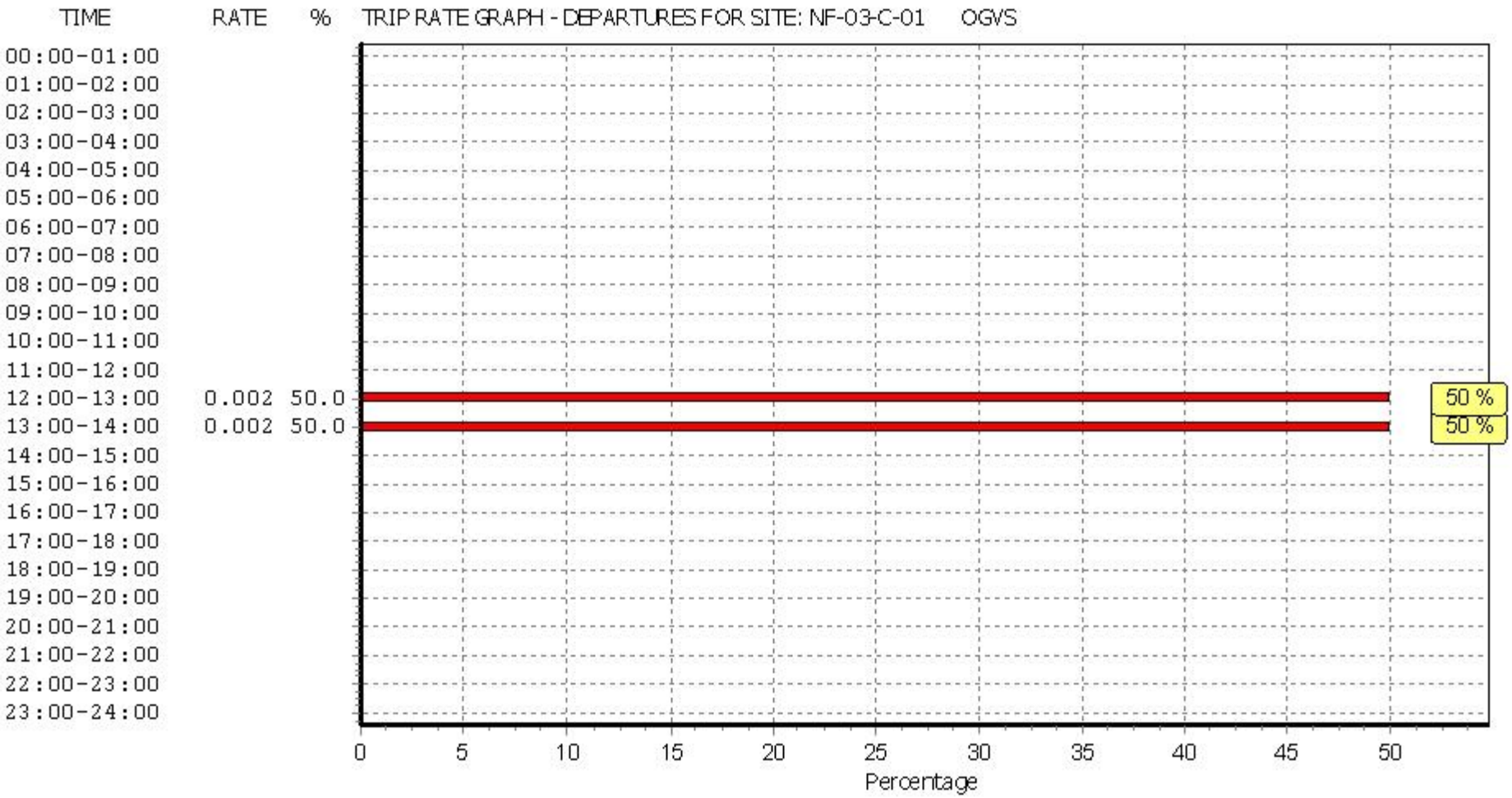
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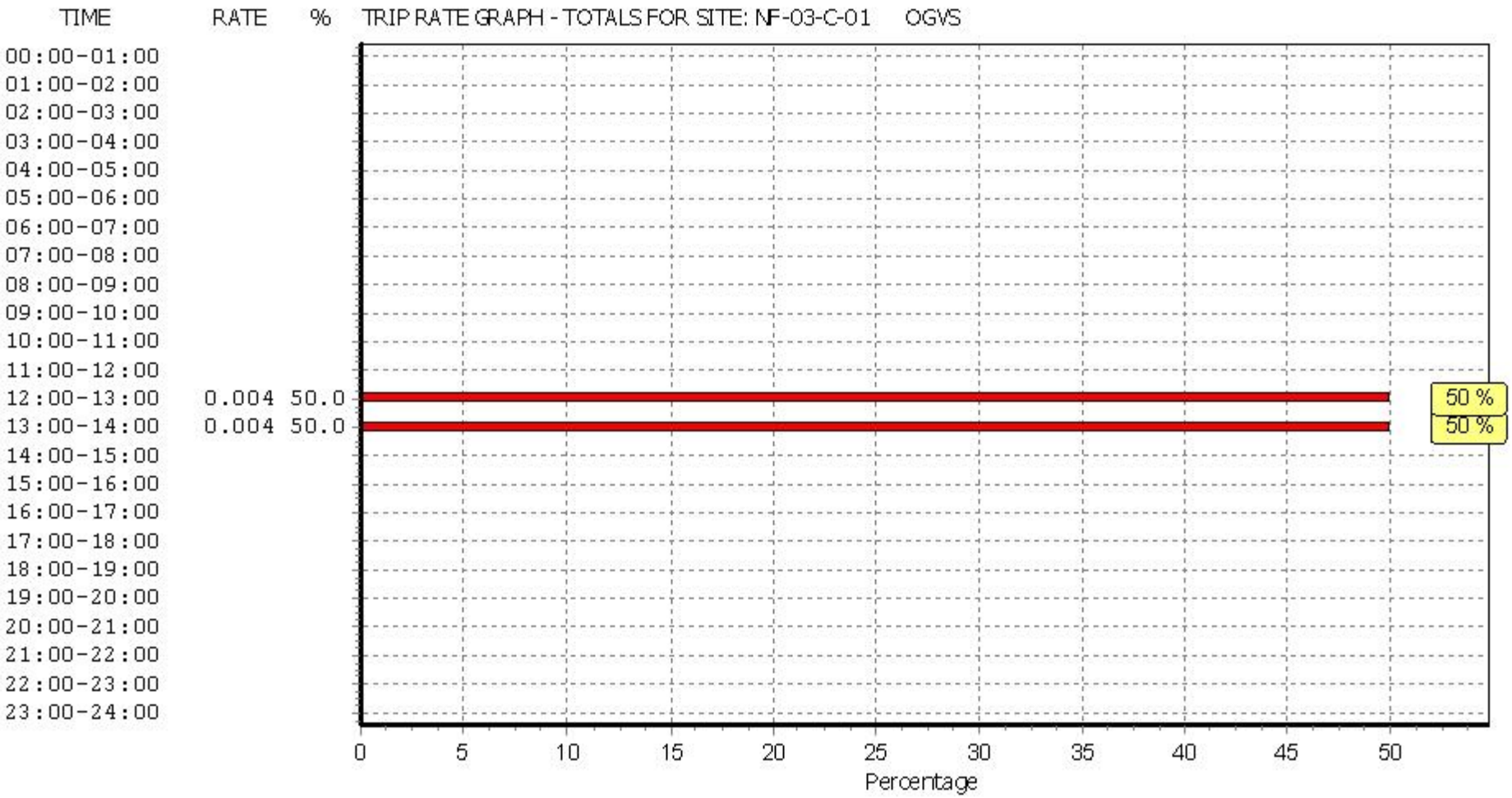
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TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.000	5	88	0.000	5	88	0.000
08:00 - 09:00	5	88	0.000	5	88	0.000	5	88	0.000
09:00 - 10:00	5	88	0.000	5	88	0.000	5	88	0.000
10:00 - 11:00	5	88	0.000	5	88	0.000	5	88	0.000
11:00 - 12:00	5	88	0.000	5	88	0.000	5	88	0.000
12:00 - 13:00	5	88	0.000	5	88	0.000	5	88	0.000
13:00 - 14:00	5	88	0.000	5	88	0.000	5	88	0.000
14:00 - 15:00	5	88	0.000	5	88	0.000	5	88	0.000
15:00 - 16:00	5	88	0.000	5	88	0.000	5	88	0.000
16:00 - 17:00	5	88	0.000	5	88	0.000	5	88	0.000
17:00 - 18:00	5	88	0.000	5	88	0.000	5	88	0.000
18:00 - 19:00	5	88	0.000	5	88	0.000	5	88	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			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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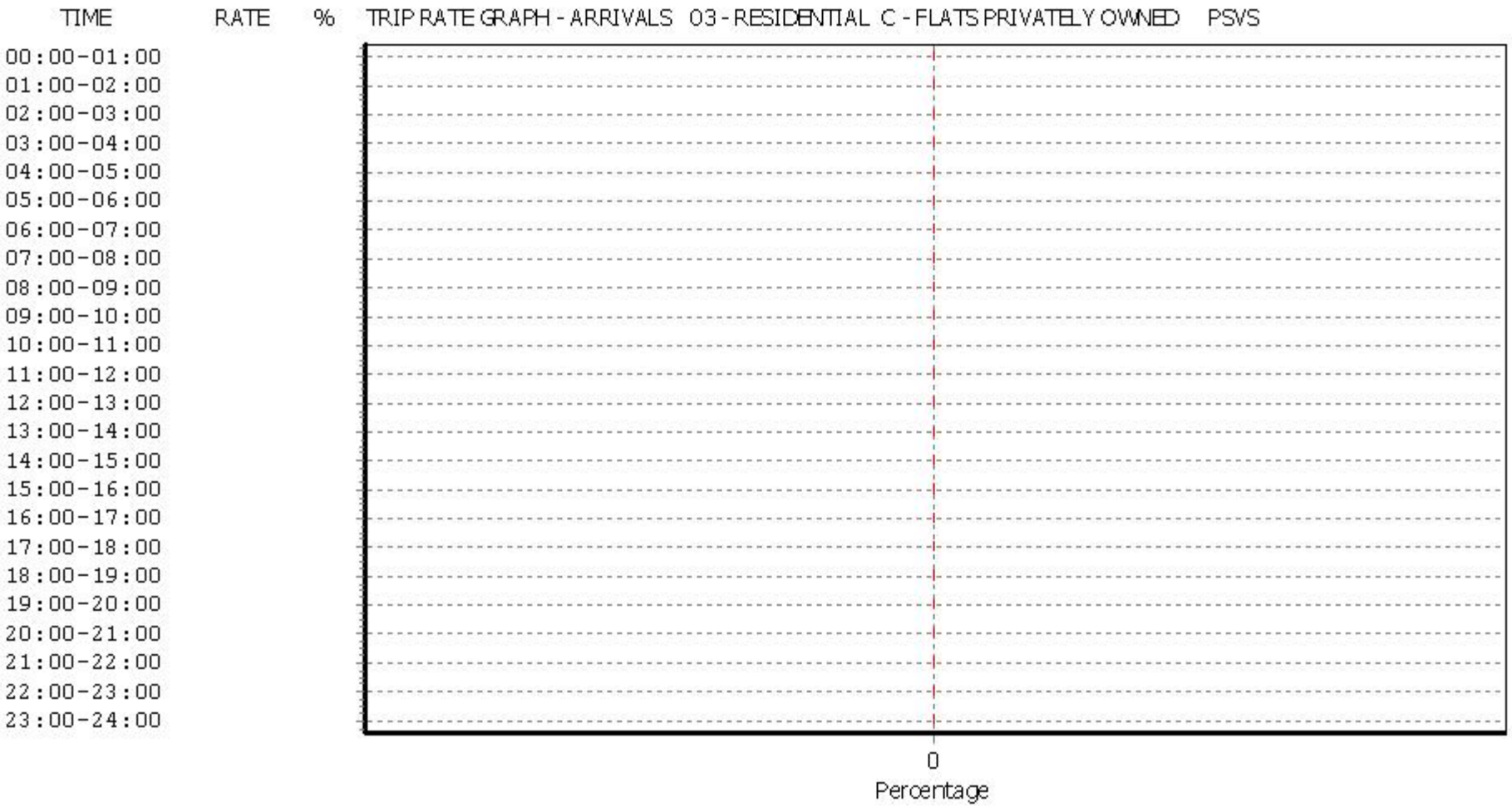
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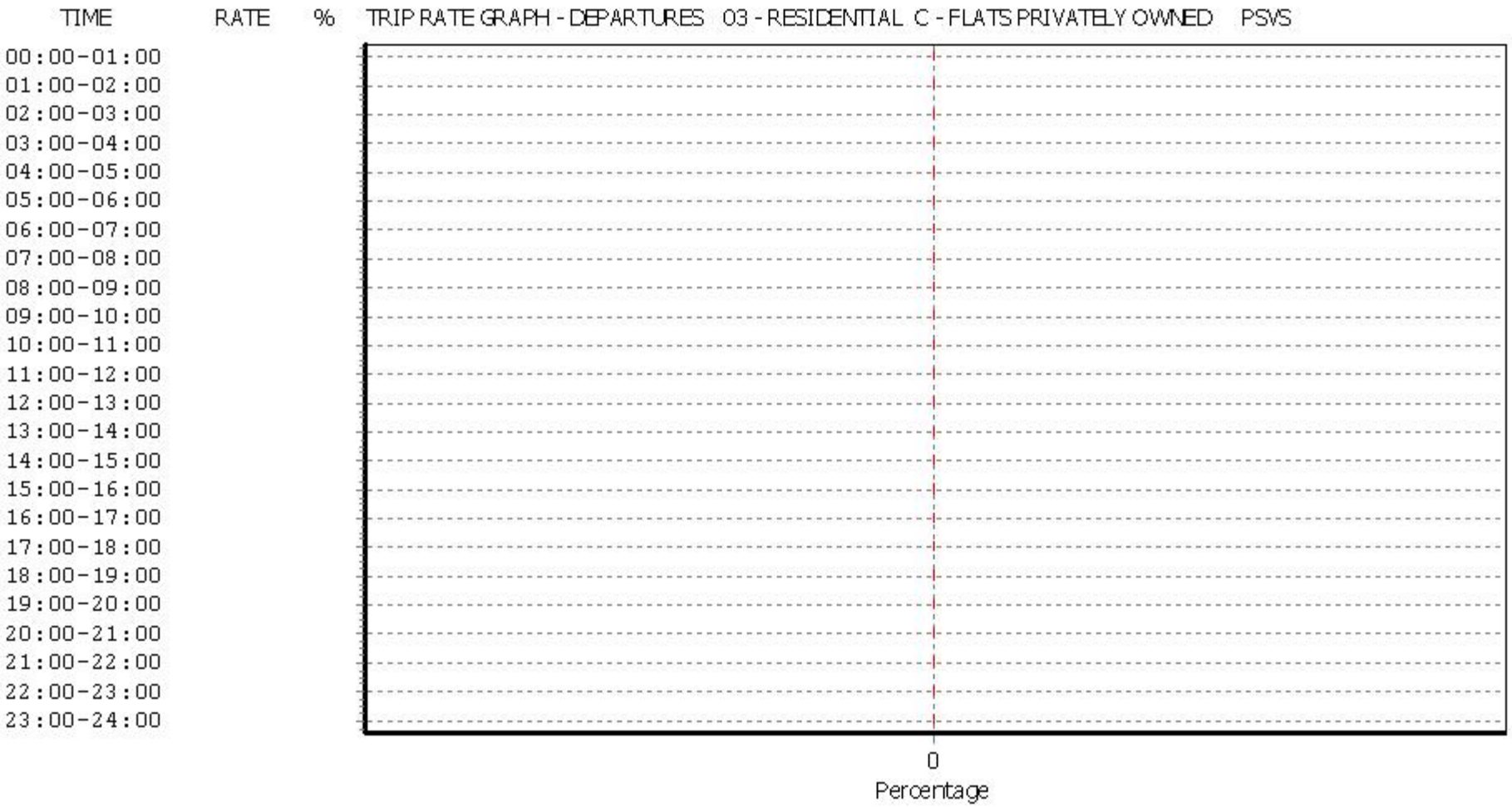
Parameter summary

Trip rate parameter range selected:	51 - 154 (units:)
Survey date date range:	01/01/09 - 11/11/16
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:	0

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

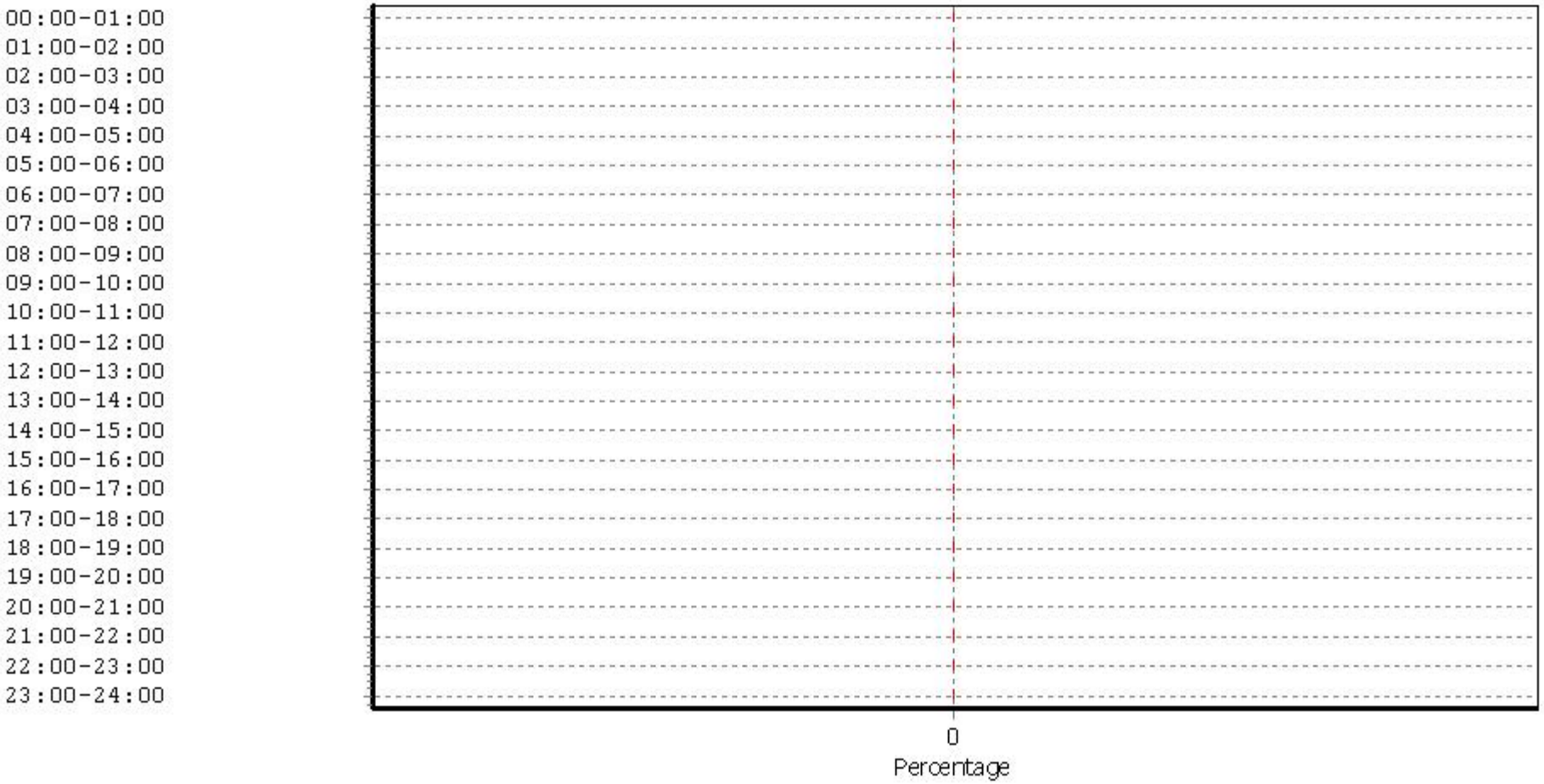


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TIME RATE % TRIP RATE GRAPH - TOTALS 03 - RESIDENTIAL C - FLATS PRIVATELY OWNED PSVS



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 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	88	0.000	5	88	0.007	5	88	0.007
08:00 - 09:00	5	88	0.002	5	88	0.005	5	88	0.007
09:00 - 10:00	5	88	0.005	5	88	0.005	5	88	0.010
10:00 - 11:00	5	88	0.002	5	88	0.009	5	88	0.011
11:00 - 12:00	5	88	0.007	5	88	0.002	5	88	0.009
12:00 - 13:00	5	88	0.002	5	88	0.009	5	88	0.011
13:00 - 14:00	5	88	0.000	5	88	0.000	5	88	0.000
14:00 - 15:00	5	88	0.000	5	88	0.000	5	88	0.000
15:00 - 16:00	5	88	0.005	5	88	0.002	5	88	0.007
16:00 - 17:00	5	88	0.000	5	88	0.002	5	88	0.002
17:00 - 18:00	5	88	0.009	5	88	0.000	5	88	0.009
18:00 - 19:00	5	88	0.005	5	88	0.000	5	88	0.005
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.037			0.041			0.078

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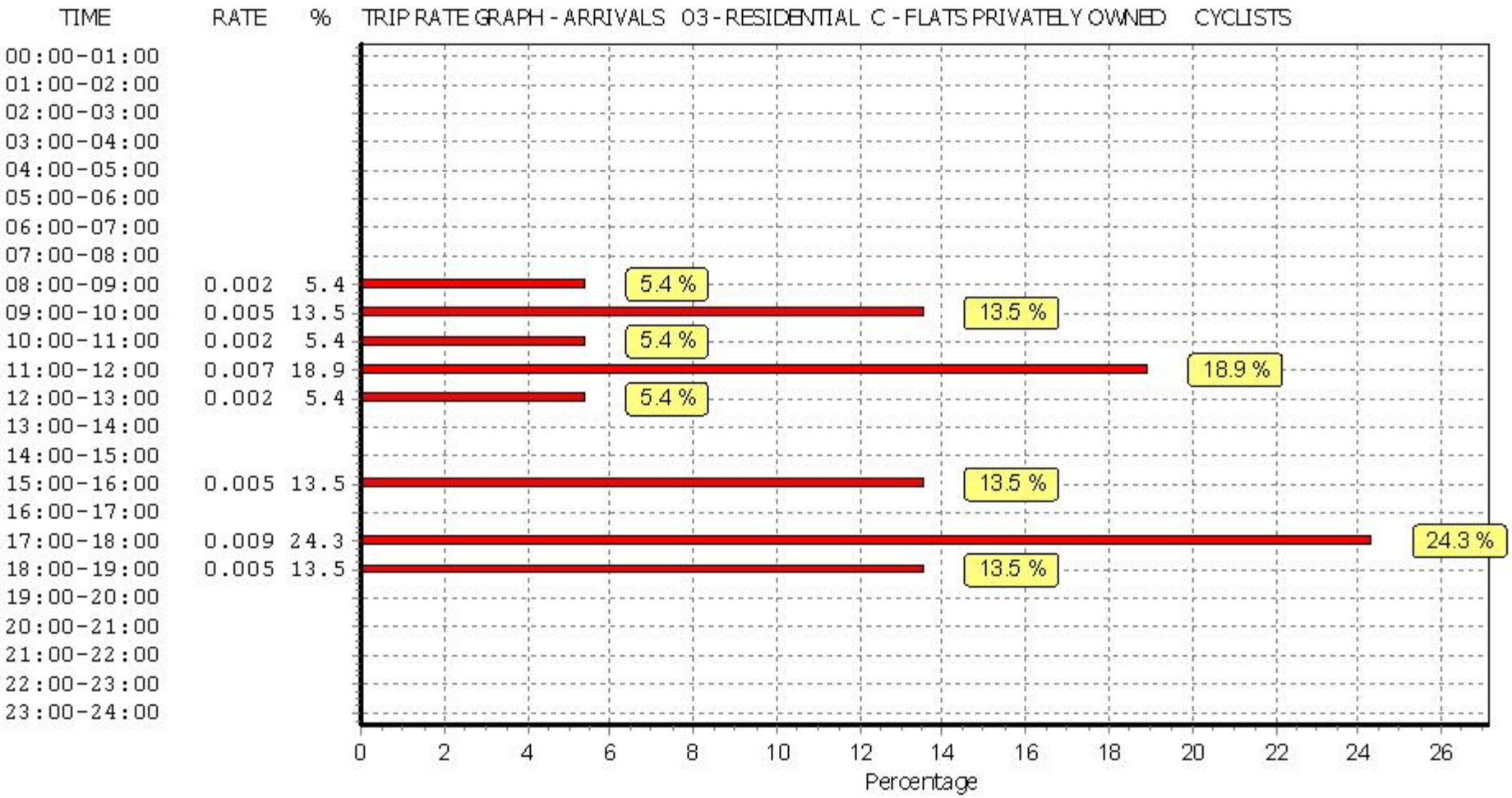
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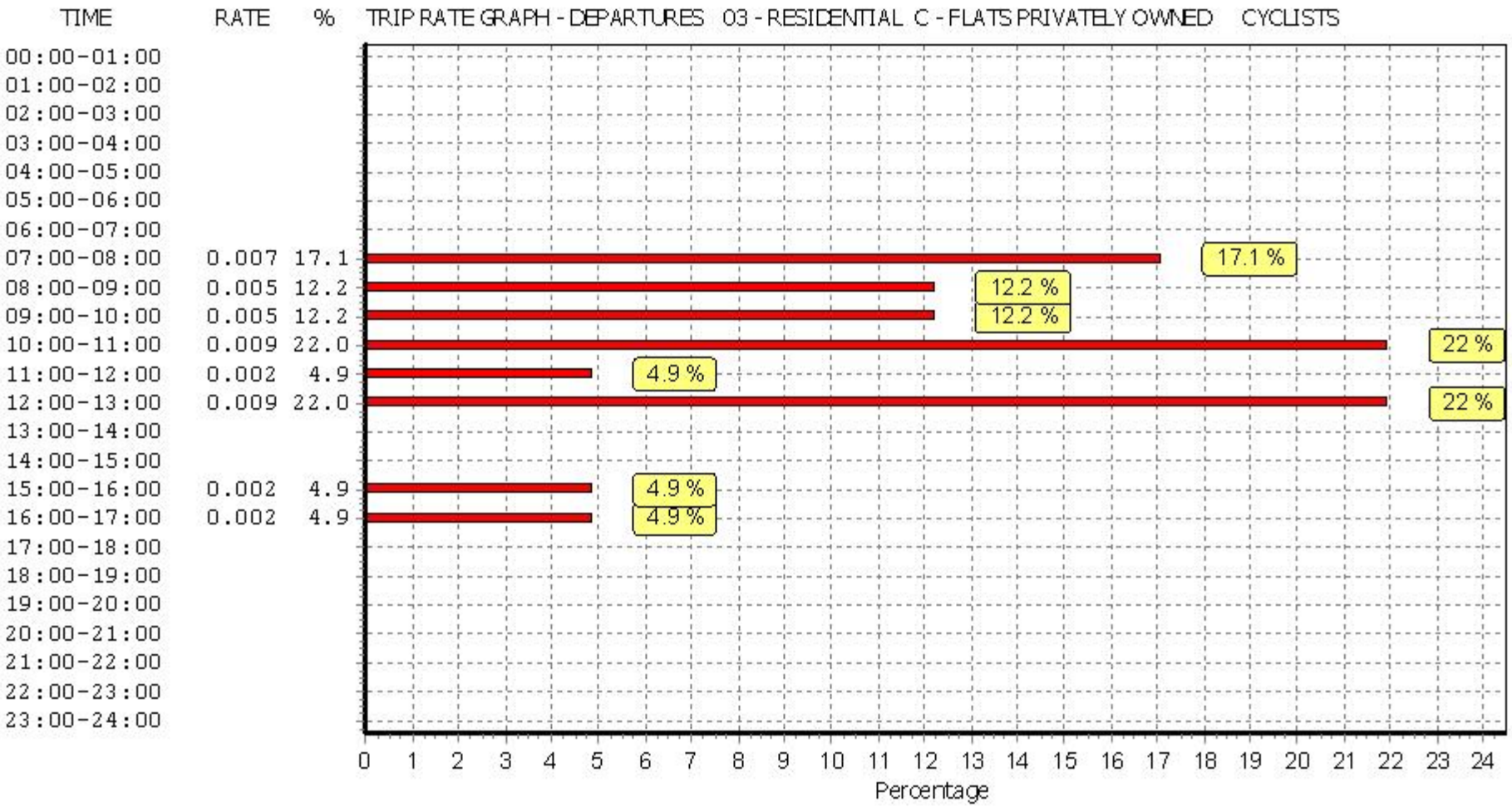
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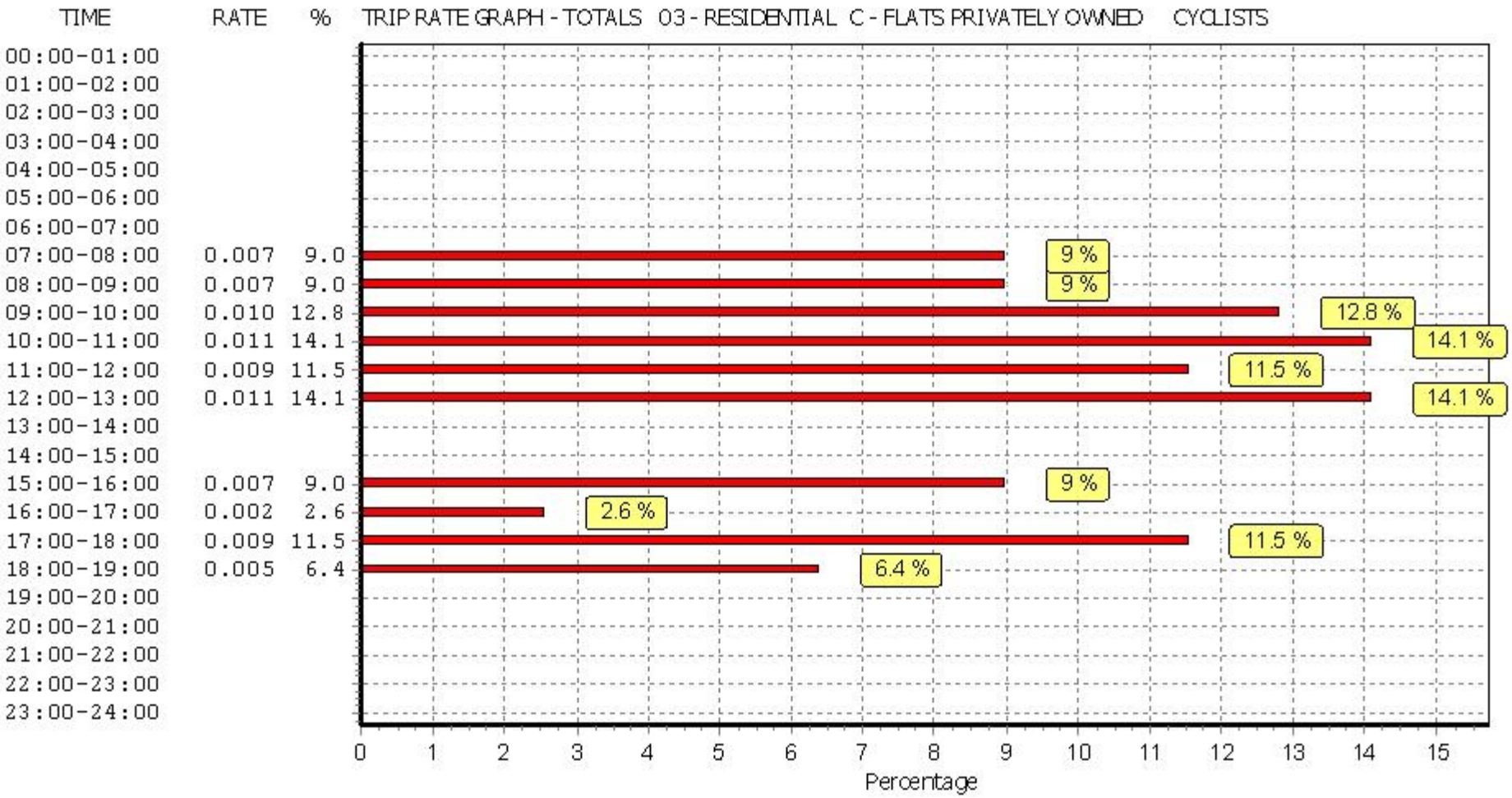


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i-Transport Grove House Basingstoke Licence No: 236601



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Calculation Reference: AUDIT-236601-171124-1136

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : H - NURSES HOMES
VEHICLES

Selected regions and areas:
02 SOUTH EAST
RE READING 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: Parking spaces
Actual Range: 25 to 25 (units:)
Range Selected by User: 25 to 120 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 03/12/09

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:
Thursday 1 days

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

Selected survey types:
Manual count 1 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 undertaking using machines.

Selected Locations:
Neighbourhood Centre (PPS6 Local Centre) 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:
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:
C2 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:
25,001 to 50,000 1 days

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

Secondary Filtering selection (Cont.):

Population within 5 miles:
125,001 to 250,000 1 days

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

Car ownership within 5 miles:
1.1 to 1.5 1 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 1 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 1 days

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

LIST OF SITES relevant to selection parameters

1 RE-03-H-01 NURSES STUDIOS READING
HONEY END LANE
TILEHURST
READING
Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total Parking spaces: 25
Survey date: THURSDAY *03/12/09* *Survey Type: MANUAL*

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

TRIP RATE for Land Use 03 - RESIDENTIAL/H - NURSES HOMES
VEHICLES
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	1	25	0.000	0.000	1	25	0.080	1.840	1	25	0.080	1.840
08:00 - 09:00	1	25	0.080	1.840	1	25	0.120	2.760	1	25	0.200	4.600
09:00 - 10:00	1	25	0.080	1.840	1	25	0.080	1.840	1	25	0.160	3.680
10:00 - 11:00	1	25	0.000	0.000	1	25	0.080	1.840	1	25	0.080	1.840
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.120	2.760	1	25	0.120	2.760	1	25	0.240	5.520
13:00 - 14:00	1	25	0.160	3.680	1	25	0.080	1.840	1	25	0.240	5.520
14:00 - 15:00	1	25	0.080	1.840	1	25	0.160	3.680	1	25	0.240	5.520
15:00 - 16:00	1	25	0.120	2.760	1	25	0.120	2.760	1	25	0.240	5.520
16:00 - 17:00	1	25	0.040	0.920	1	25	0.000	0.000	1	25	0.040	0.920
17:00 - 18:00	1	25	0.120	2.760	1	25	0.040	0.920	1	25	0.160	3.680
18:00 - 19:00	1	25	0.160	3.680	1	25	0.040	0.920	1	25	0.200	4.600
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.960	22.080			0.920	21.160			1.880	43.240

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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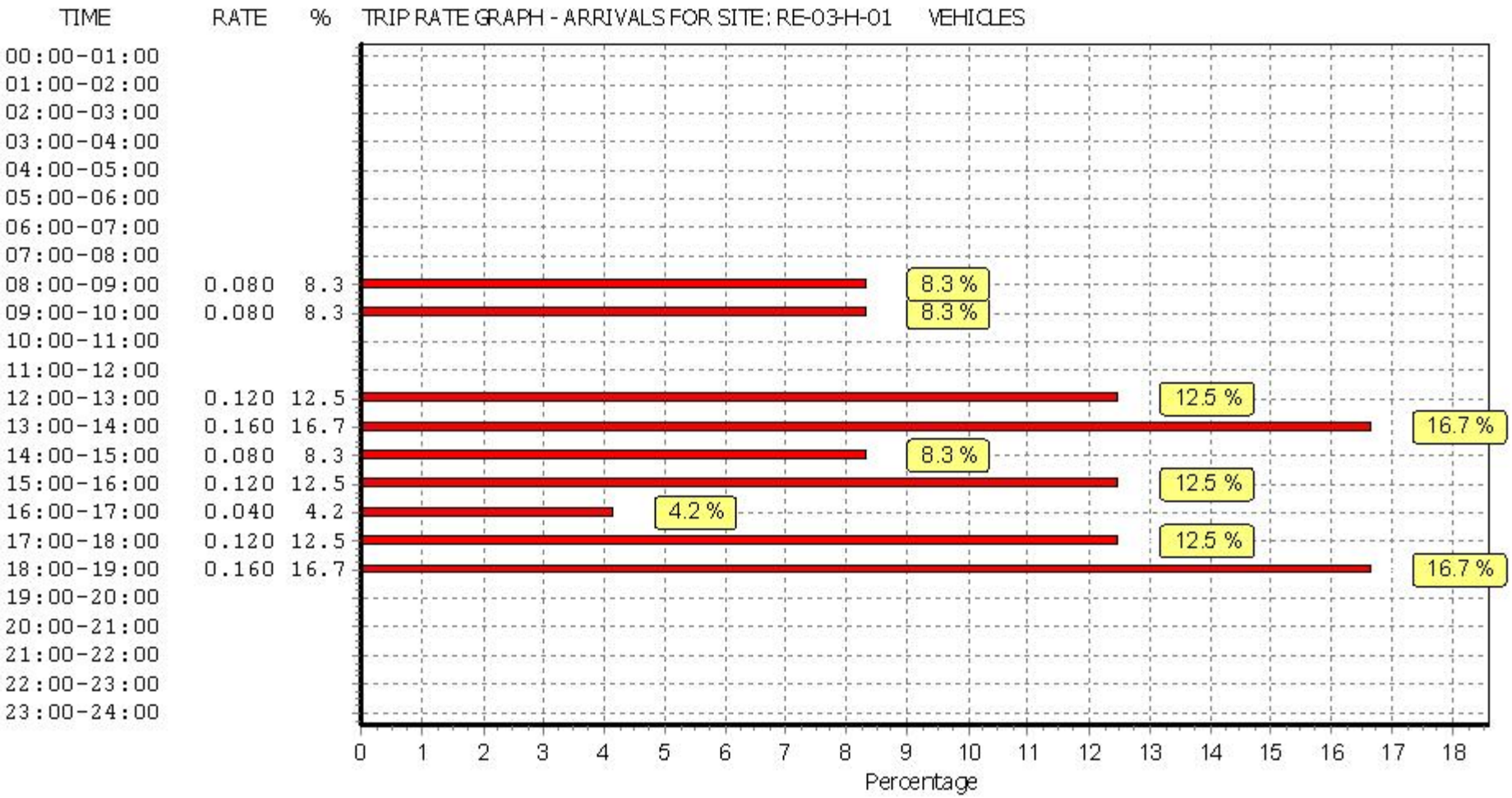
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Parameter summary

Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

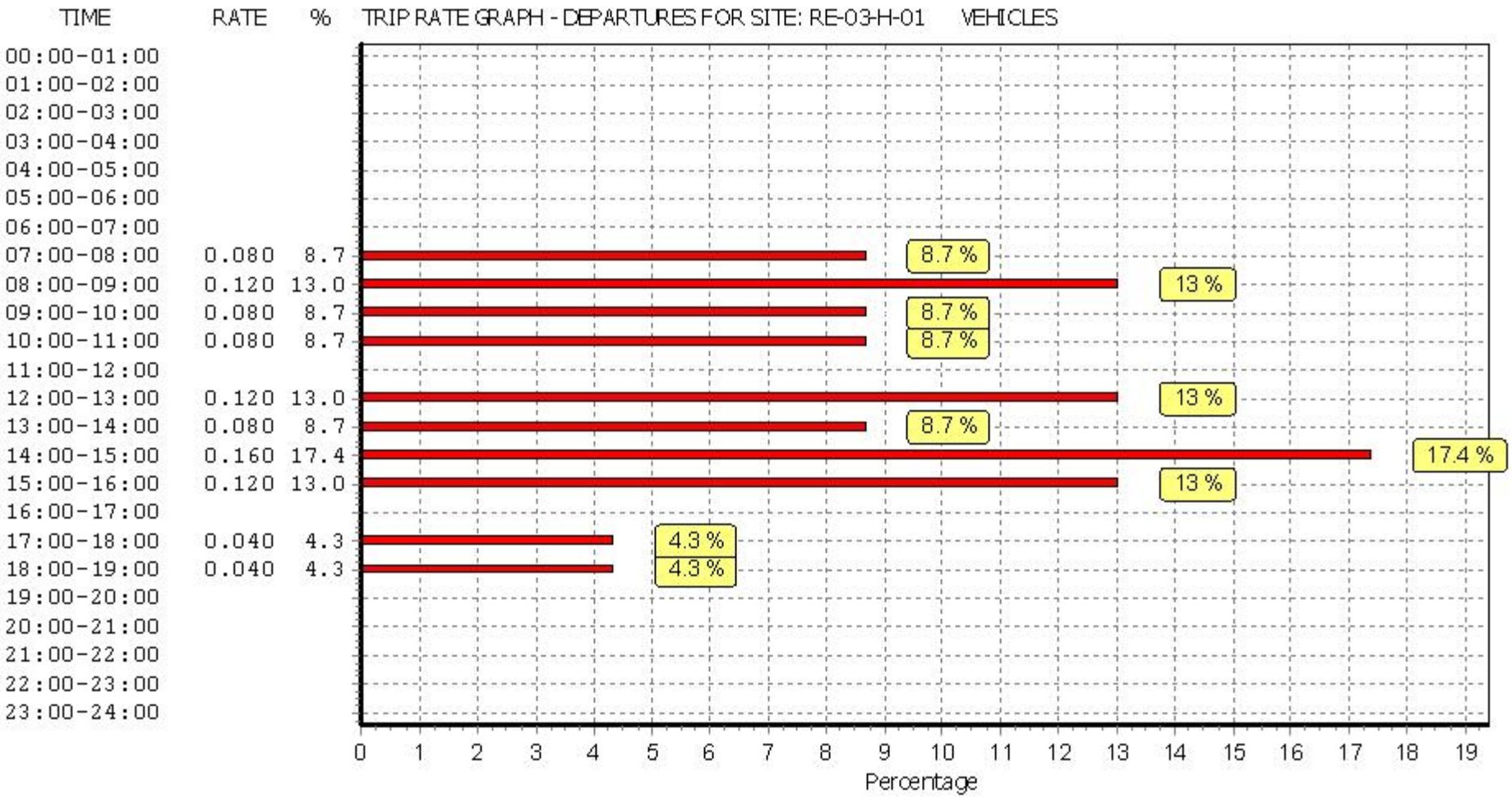
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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

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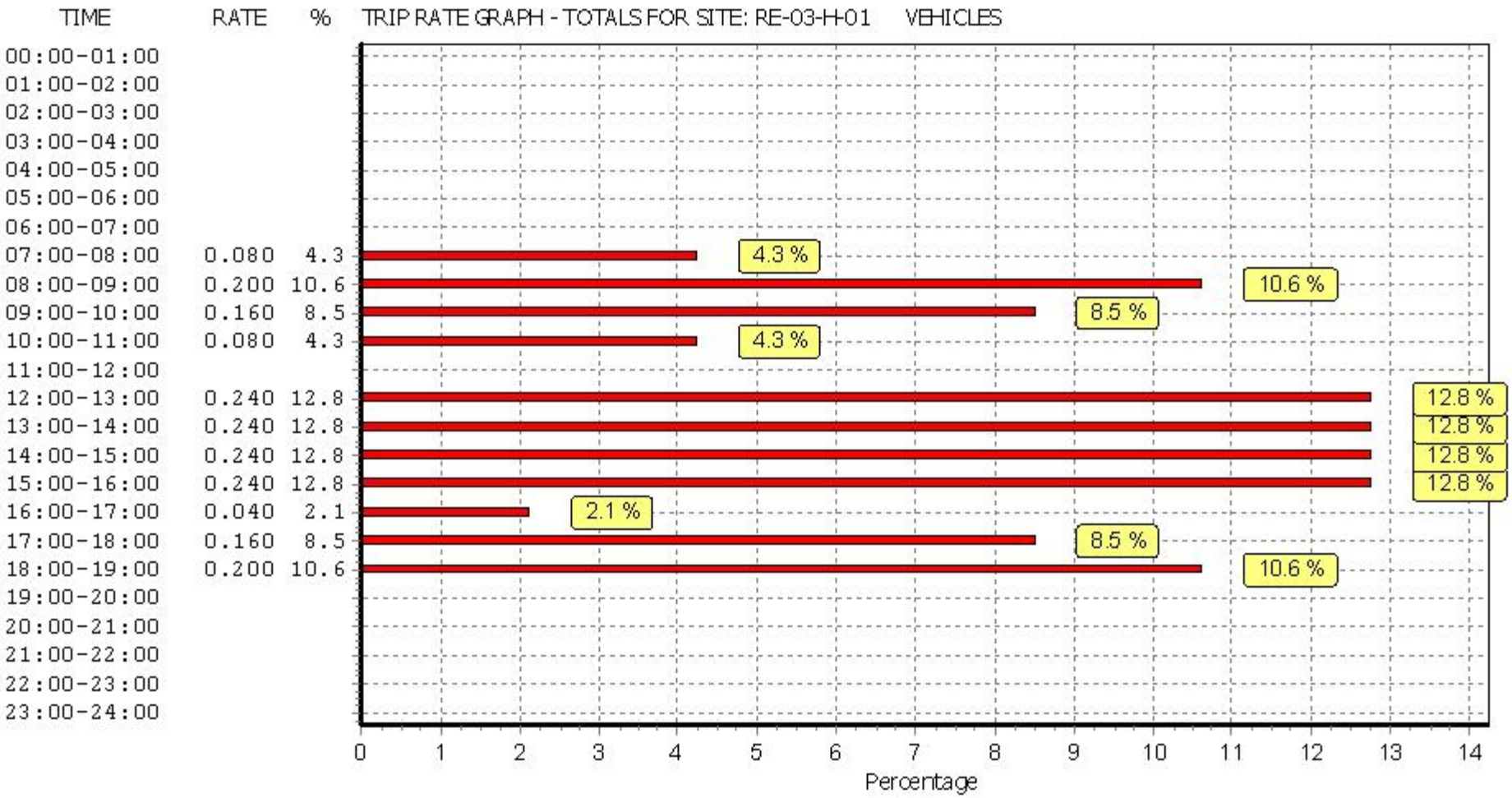
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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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.

i-Transport Grove House Basingstoke Licence No: 236601



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 03 - RESIDENTIAL/H - NURSES HOMES
TAXIS
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
08:00 - 09:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
09:00 - 10:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
10:00 - 11:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
13:00 - 14:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
14:00 - 15:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
15:00 - 16:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
16:00 - 17:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
17:00 - 18:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
18:00 - 19:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.000	0.000			0.000	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.

*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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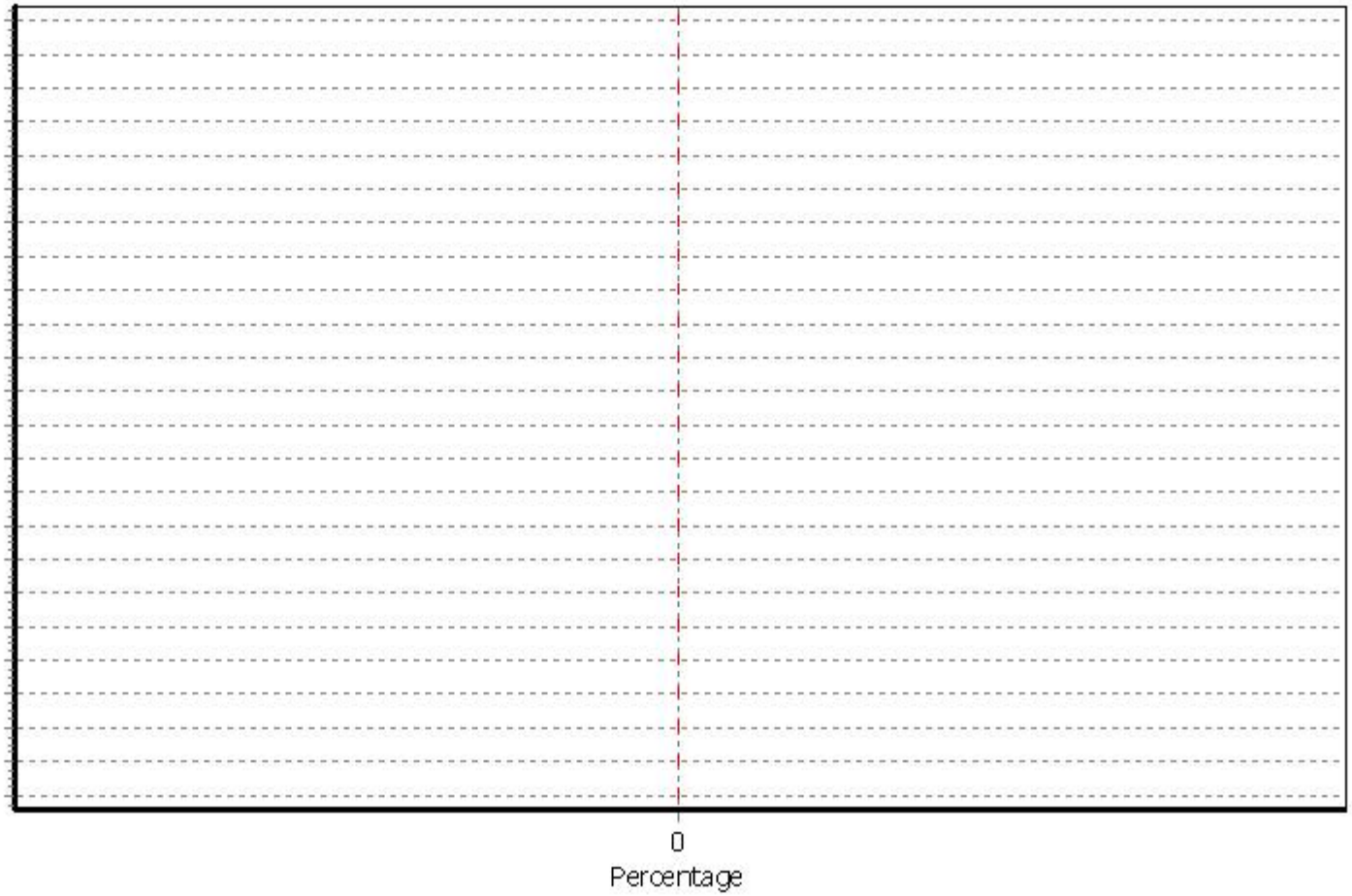
Parameter summary

Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

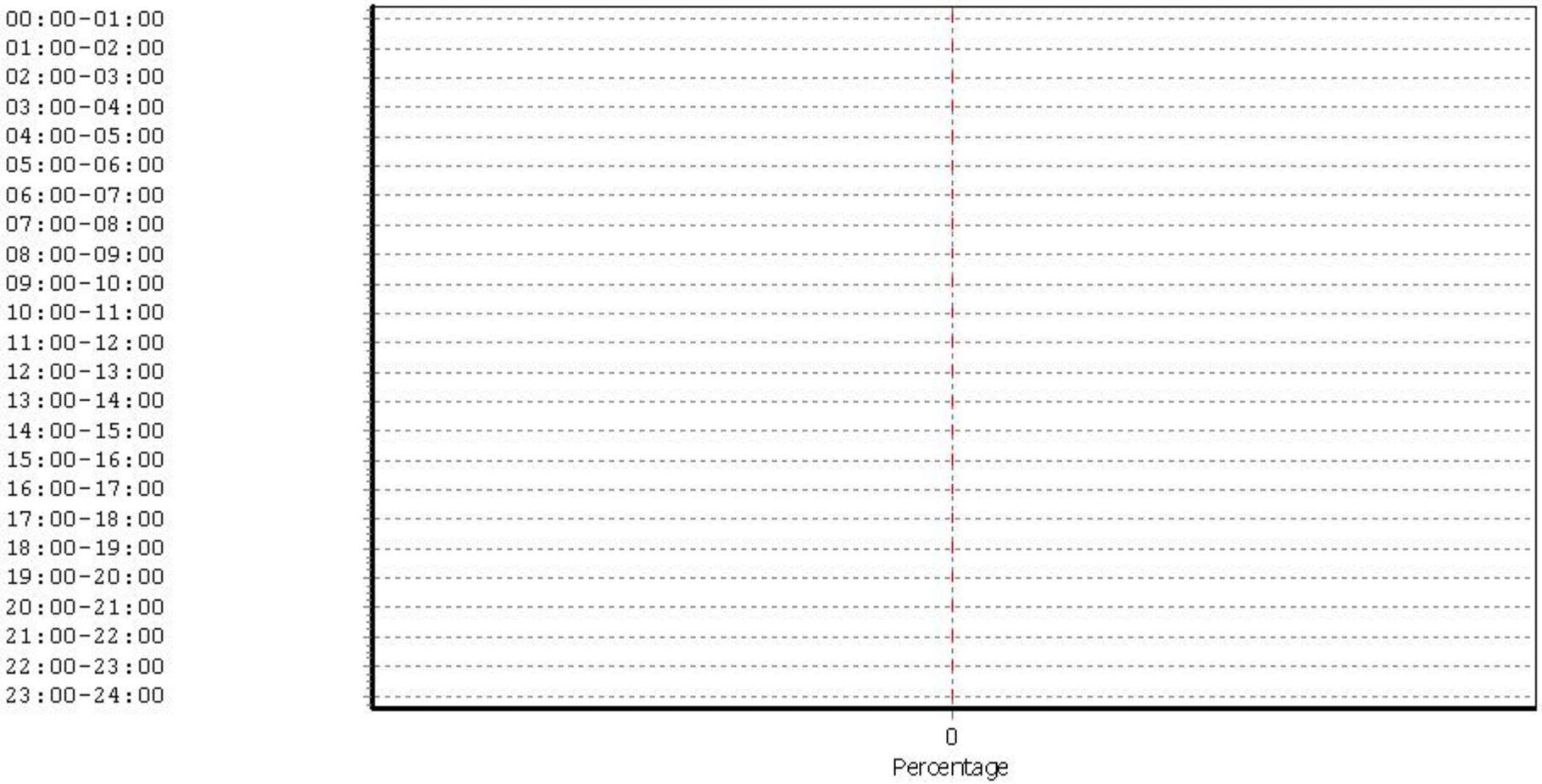
TRIP RATE GRAPH - ARRIVALS 03 - RESIDENTIAL H - NURSES HOMES TAXIS

TIME	RATE	%
00:00-01:00		
01:00-02:00		
02:00-03:00		
03:00-04:00		
04:00-05:00		
05:00-06:00		
06:00-07:00		
07:00-08:00		
08:00-09:00		
09:00-10:00		
10:00-11:00		
11:00-12:00		
12:00-13:00		
13:00-14:00		
14:00-15:00		
15:00-16:00		
16:00-17:00		
17:00-18:00		
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21:00-22:00		
22:00-23:00		
23:00-24:00		



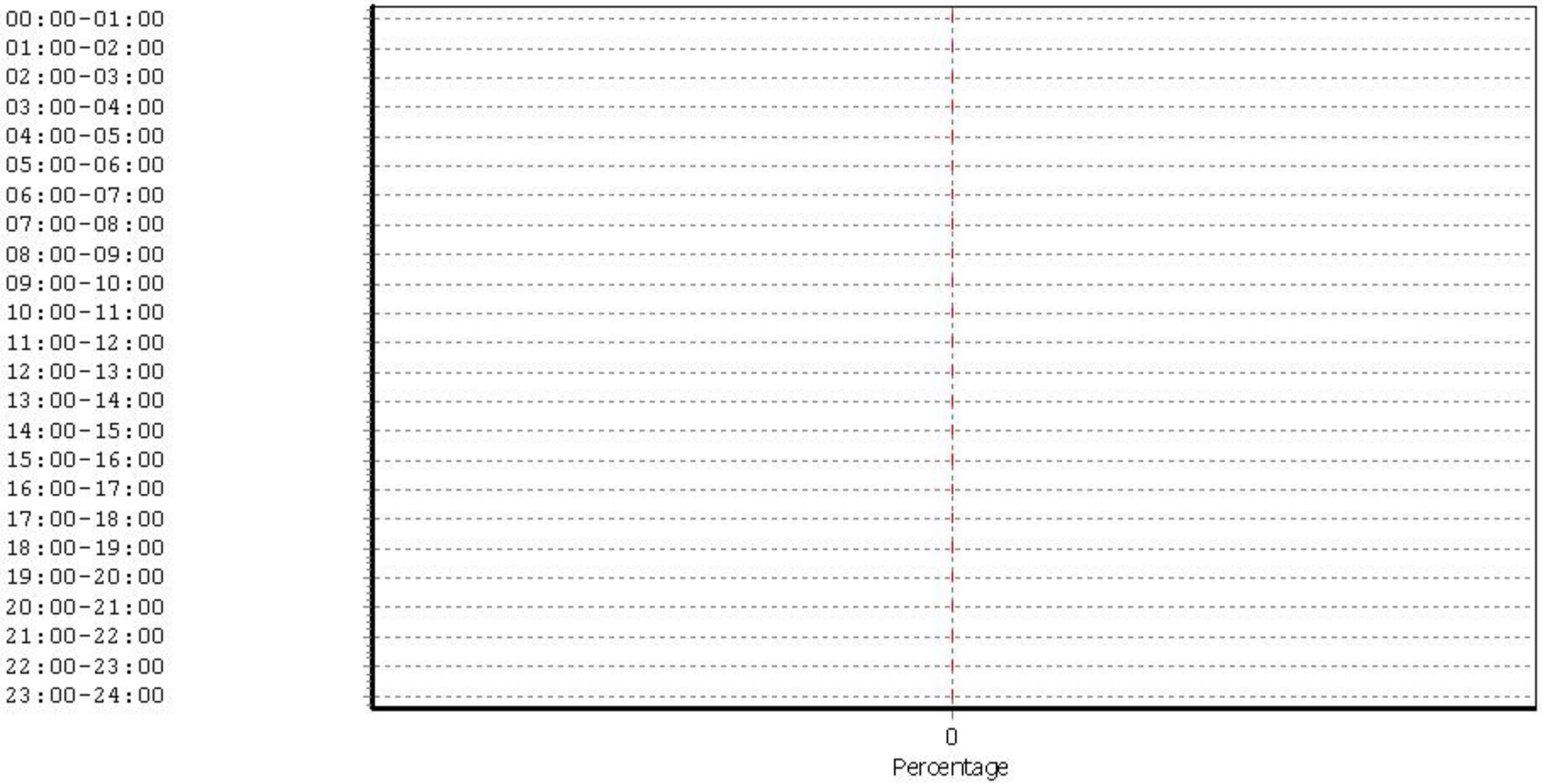
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TIME RATE % TRIP RATE GRAPH - DEPARTURES 03 - RESIDENTIAL H - NURSES HOMES TAXIS



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.

TIME RATE % TRIP RATE GRAPH - TOTALS 03 - RESIDENTIAL H - NURSES HOMES TAXIS



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 03 - RESIDENTIAL/H - NURSES HOMES
OGVS
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
08:00 - 09:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
09:00 - 10:00	1	25	0.040	0.920	1	25	0.000	0.000	1	25	0.040	0.920
10:00 - 11:00	1	25	0.000	0.000	1	25	0.040	0.920	1	25	0.040	0.920
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
13:00 - 14:00	1	25	0.040	0.920	1	25	0.000	0.000	1	25	0.040	0.920
14:00 - 15:00	1	25	0.000	0.000	1	25	0.040	0.920	1	25	0.040	0.920
15:00 - 16:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
16:00 - 17:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
17:00 - 18:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
18:00 - 19:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.080	1.840			0.080	1.840			0.160	3.680

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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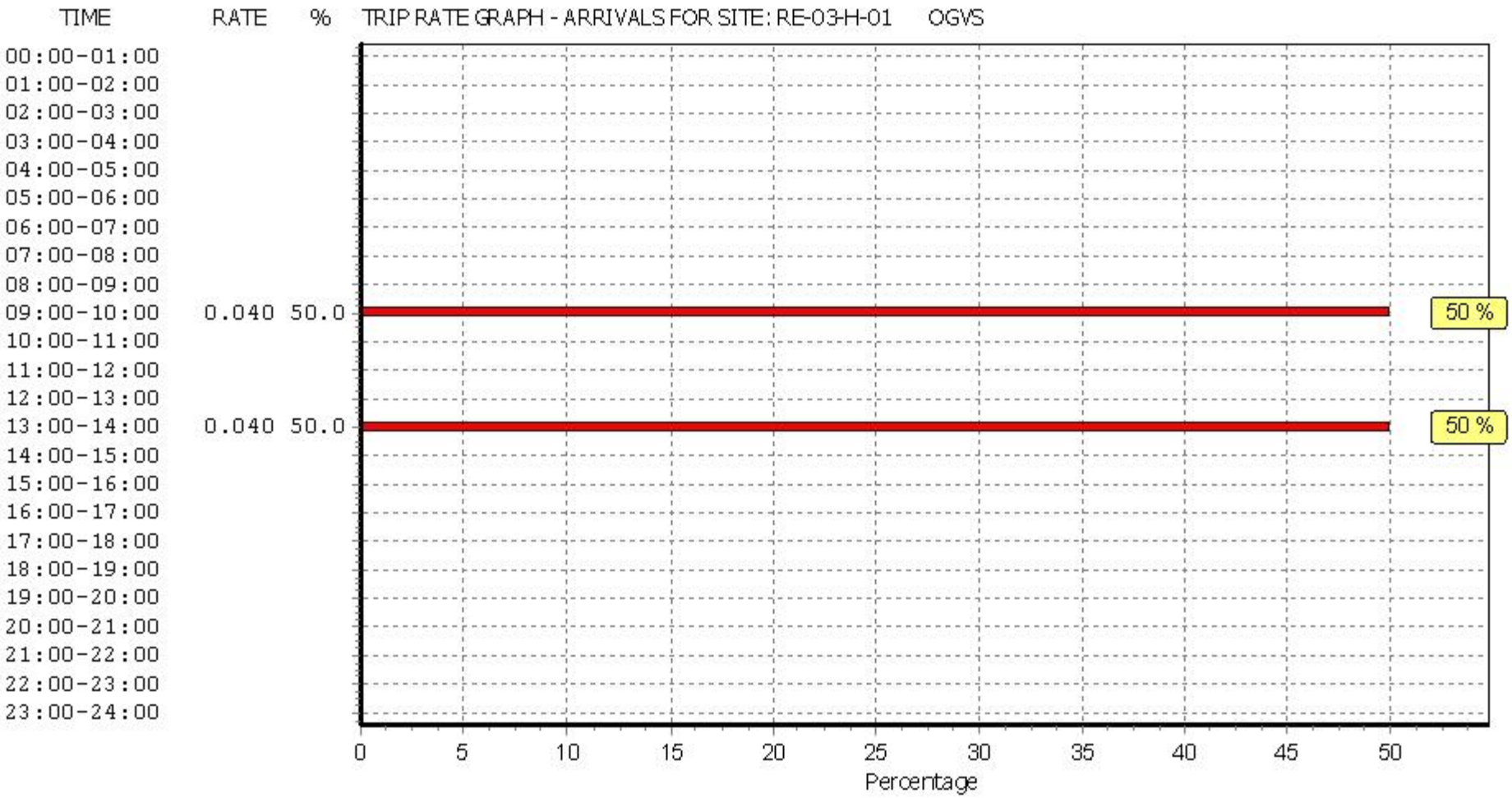
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Parameter summary

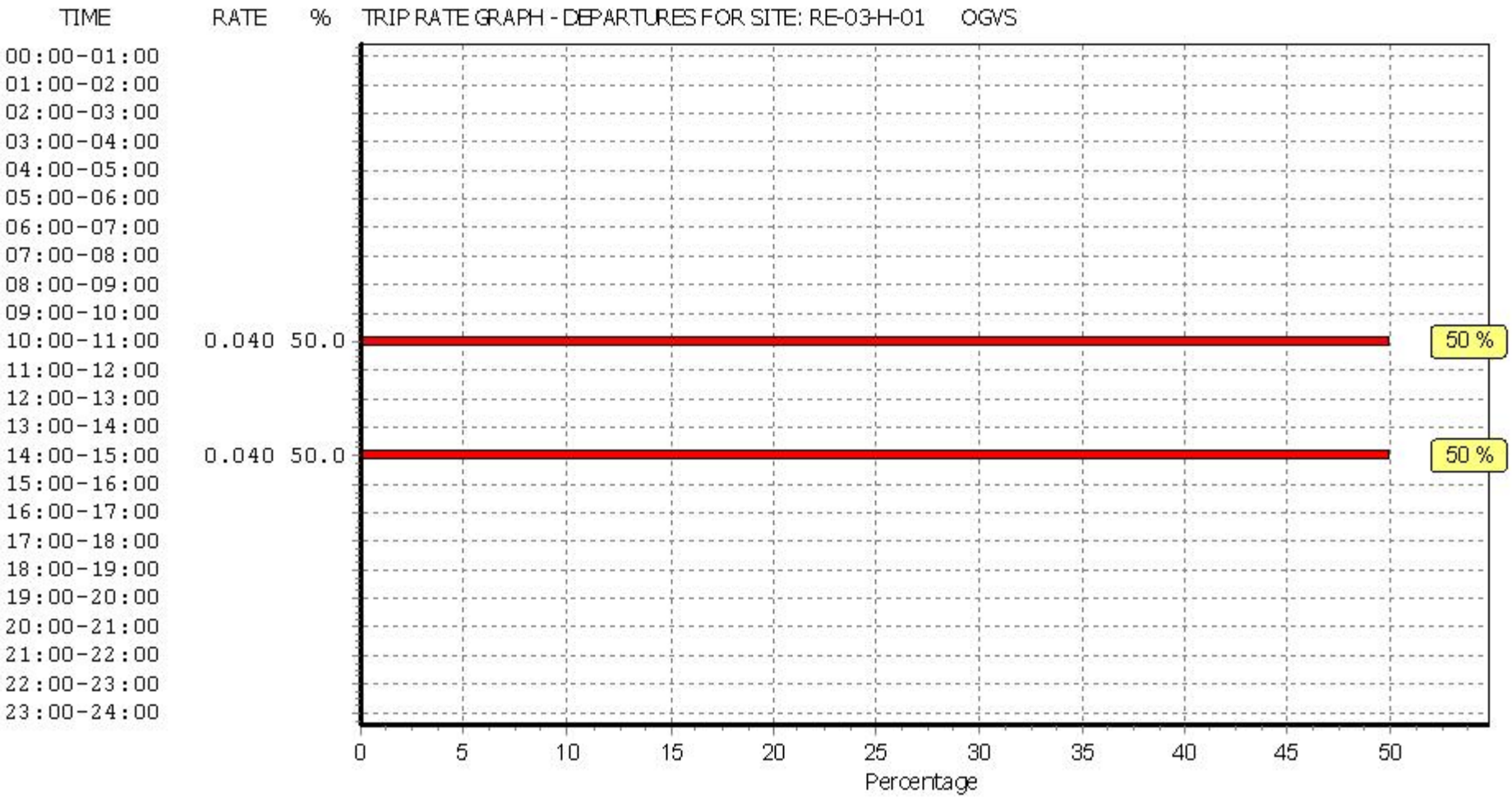
Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

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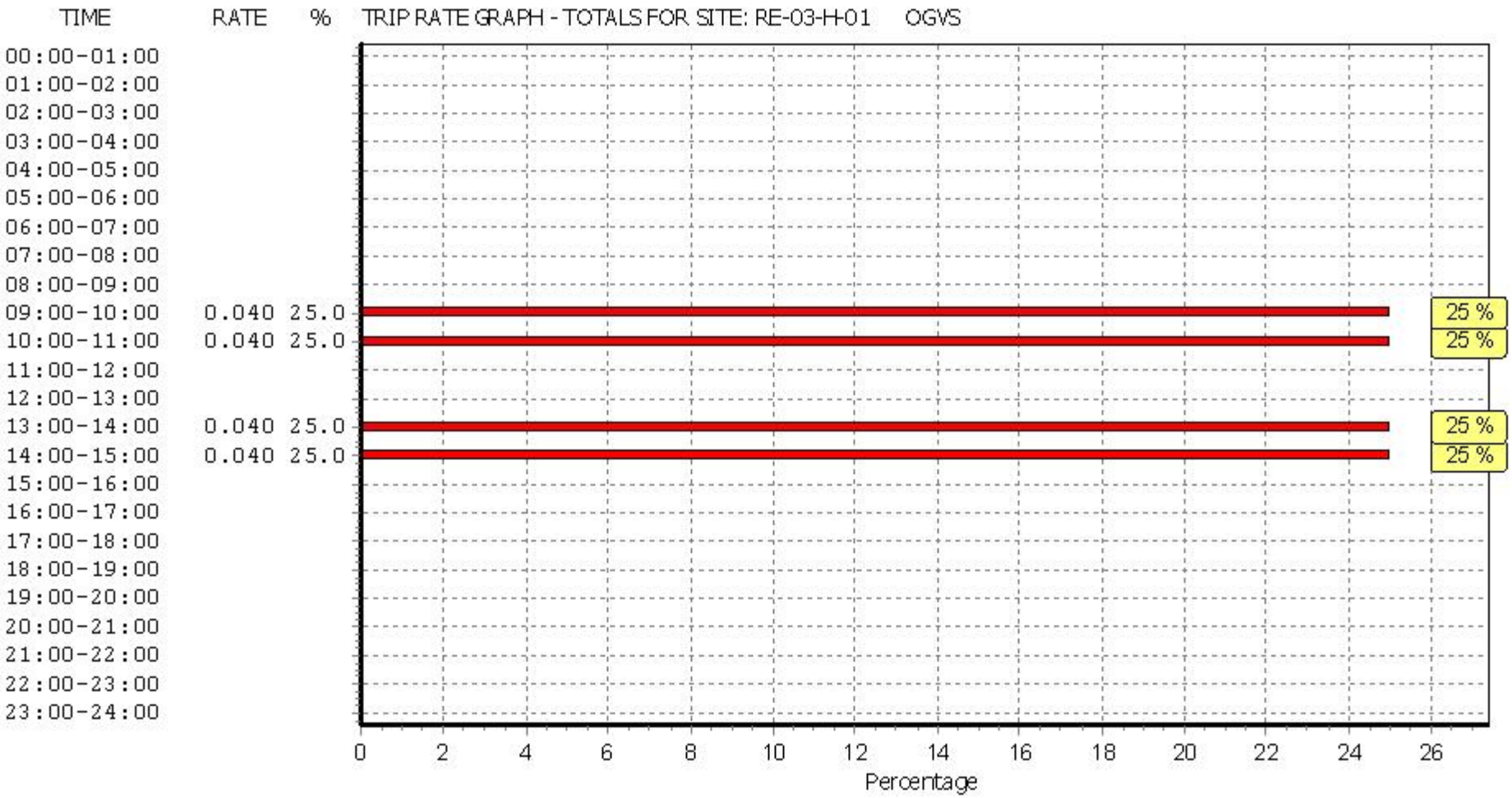


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through 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.

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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.

TRIP RATE for Land Use 03 - RESIDENTIAL/H - NURSES HOMES
PSVS
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
08:00 - 09:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
09:00 - 10:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
10:00 - 11:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
13:00 - 14:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
14:00 - 15:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
15:00 - 16:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
16:00 - 17:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
17:00 - 18:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
18:00 - 19:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.000	0.000			0.000	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.

*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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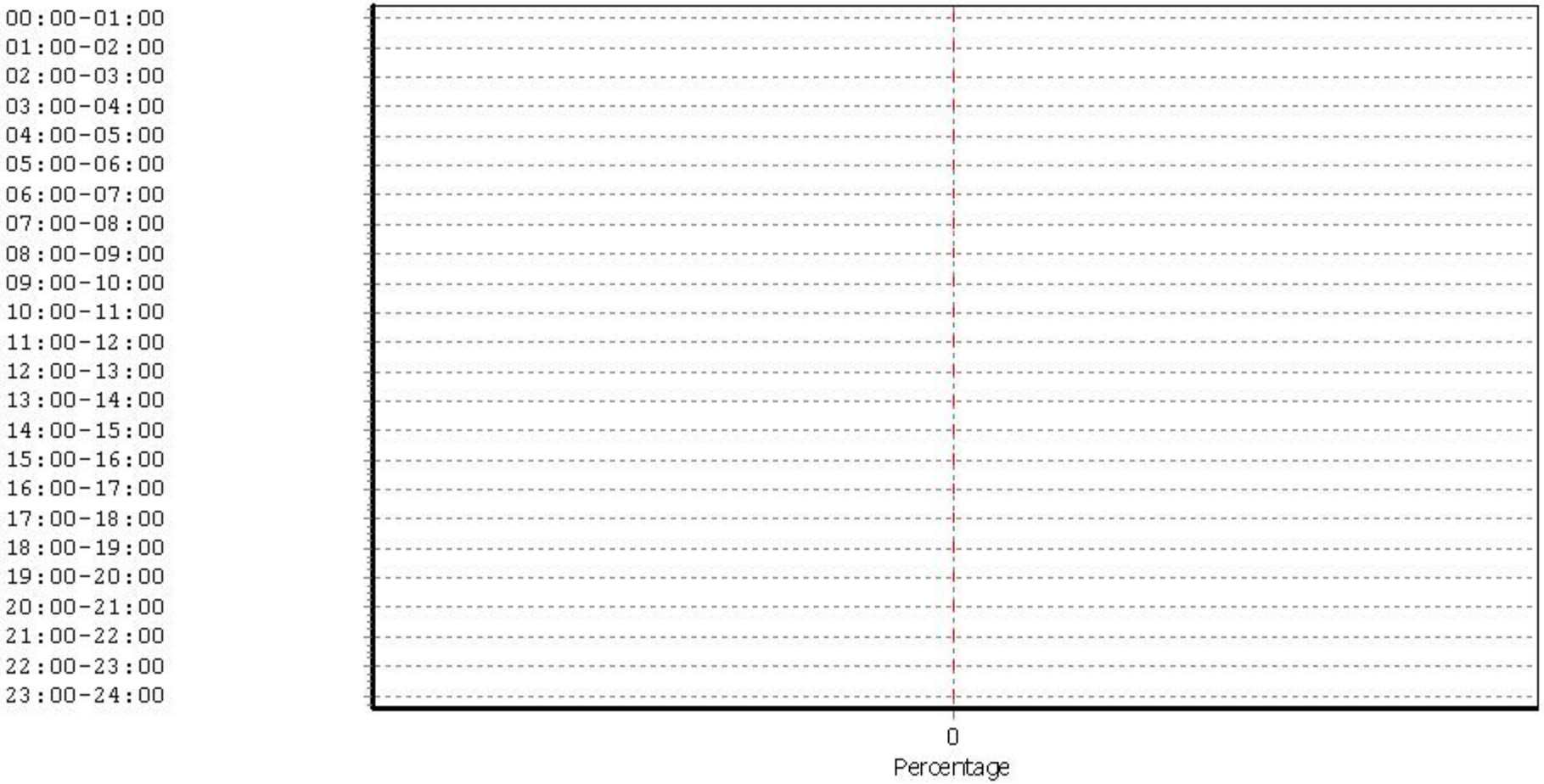
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Parameter summary

Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

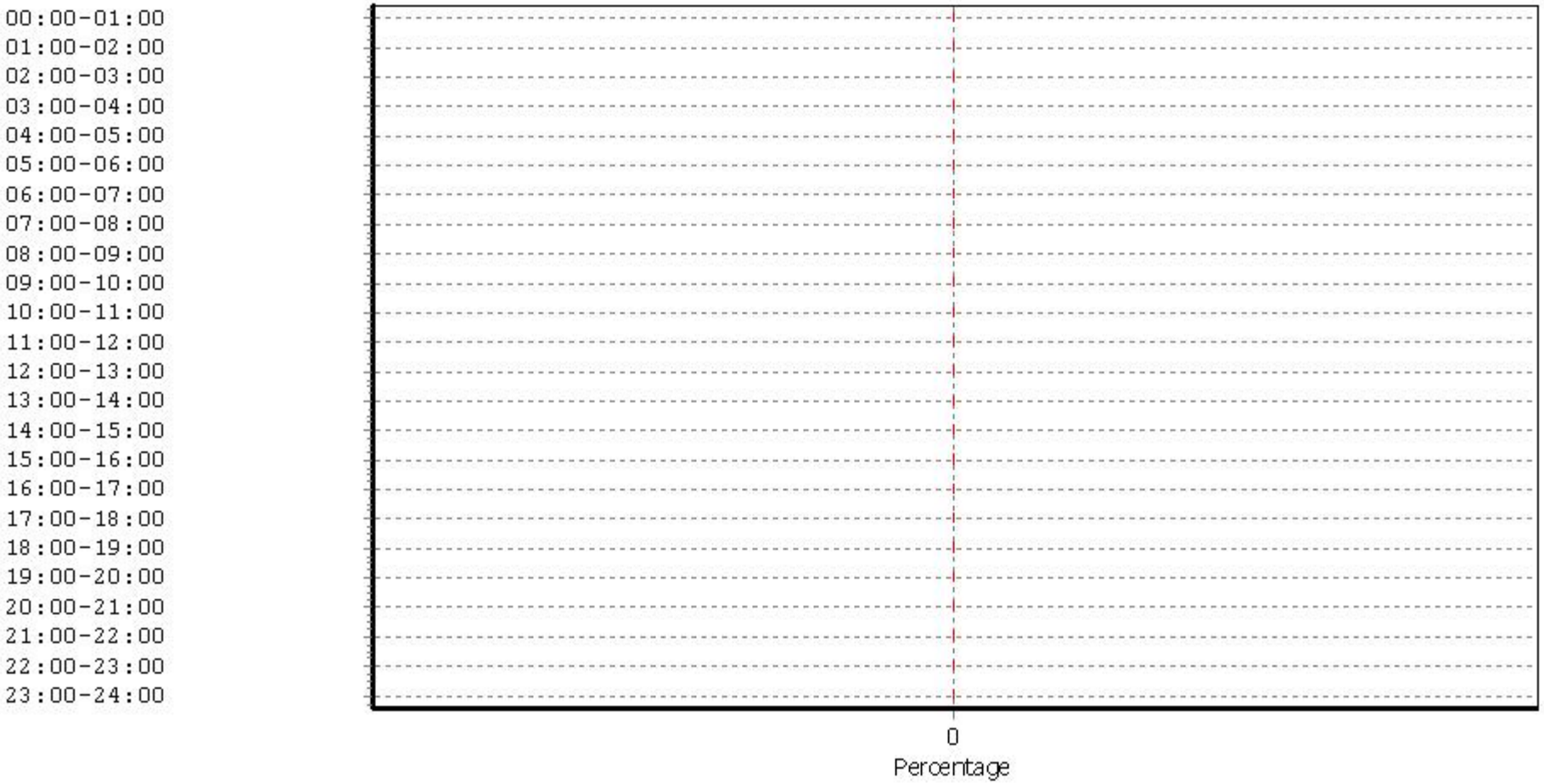
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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

TIME RATE % TRIP RATE GRAPH - ARRIVALS 03 - RESIDENTIAL H - NURSES HOMES PSVS

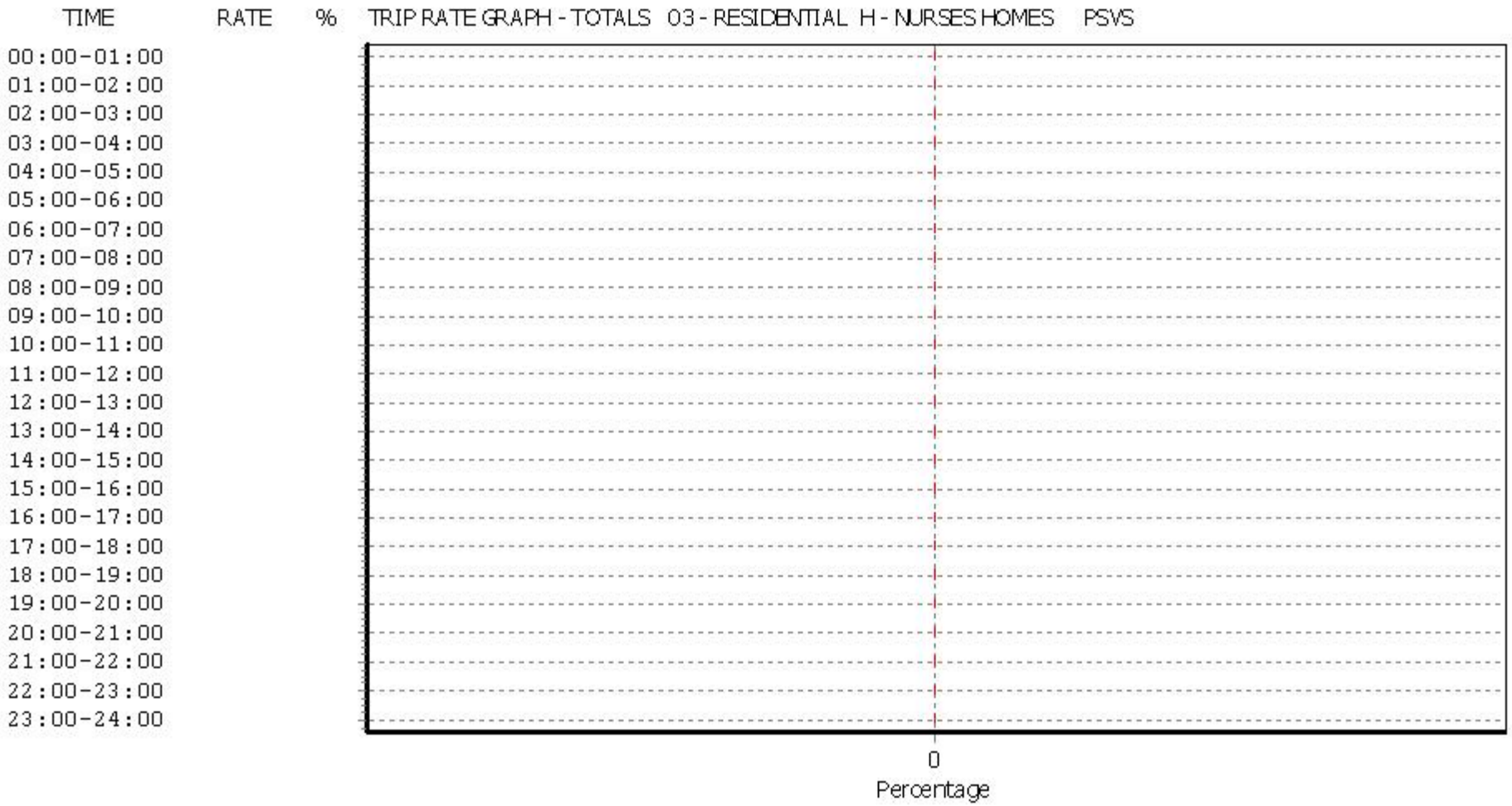


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TIME RATE % TRIP RATE GRAPH - DEPARTURES 03 - RESIDENTIAL H - NURSES HOMES PSVS



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 03 - RESIDENTIAL/H - NURSES HOMES
CYCLISTS
Calculation factor: 1 PARKING SPACES
Estimated TRIP rate value per 23 PARKING shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate	No. Days	Ave. PARKING	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
08:00 - 09:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
09:00 - 10:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
10:00 - 11:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
11:00 - 12:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
12:00 - 13:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
13:00 - 14:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
14:00 - 15:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
15:00 - 16:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
16:00 - 17:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
17:00 - 18:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
18:00 - 19:00	1	25	0.000	0.000	1	25	0.000	0.000	1	25	0.000	0.000
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.000	0.000			0.000	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.

*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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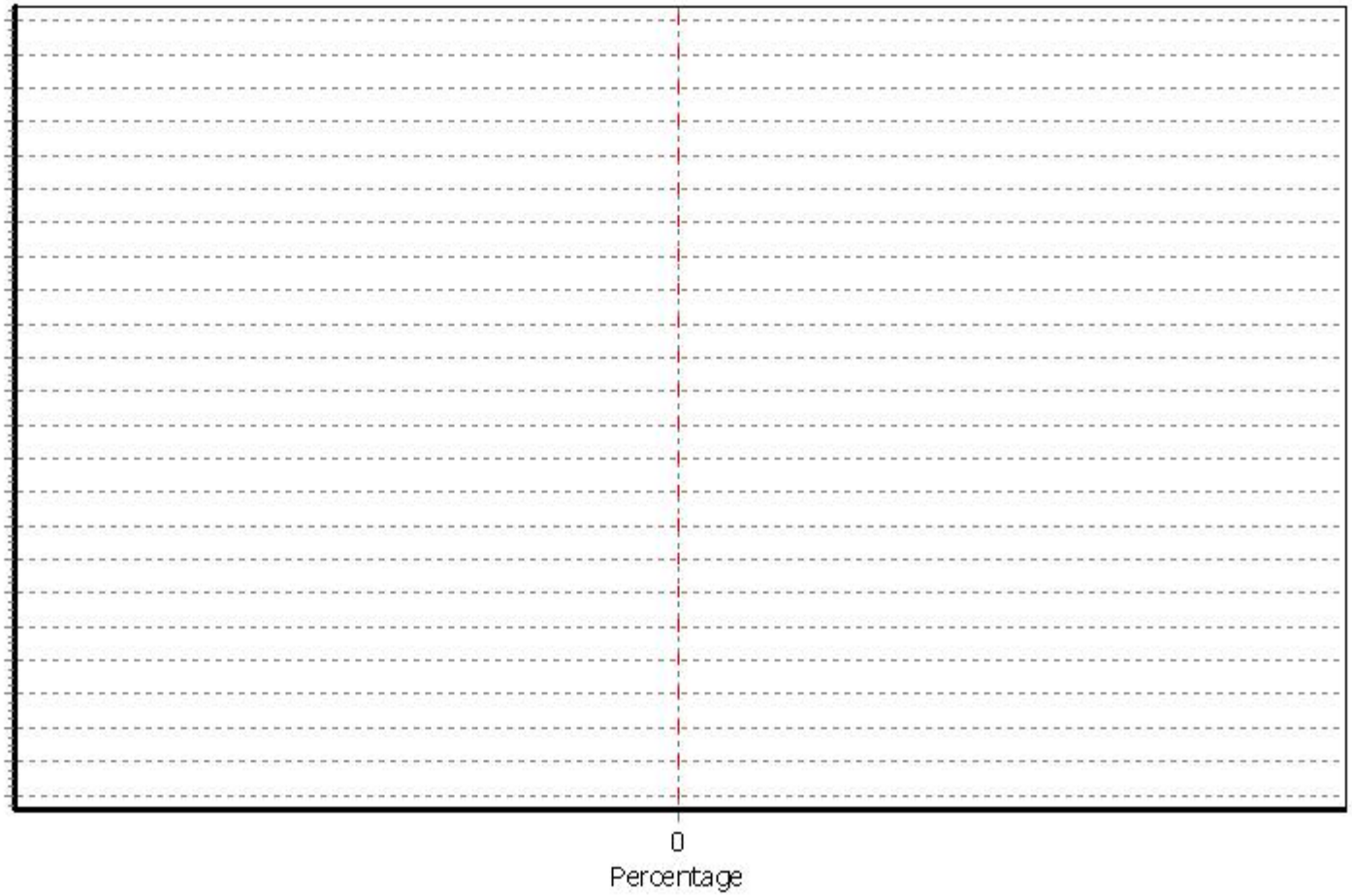
Parameter summary

Trip rate parameter range selected:	25 - 25 (units:)
Survey date date range:	01/01/09 - 03/12/09
Number of weekdays (Monday-Friday):	1
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE GRAPH - ARRIVALS 03 - RESIDENTIAL H - NURSES HOMES CYCLISTS

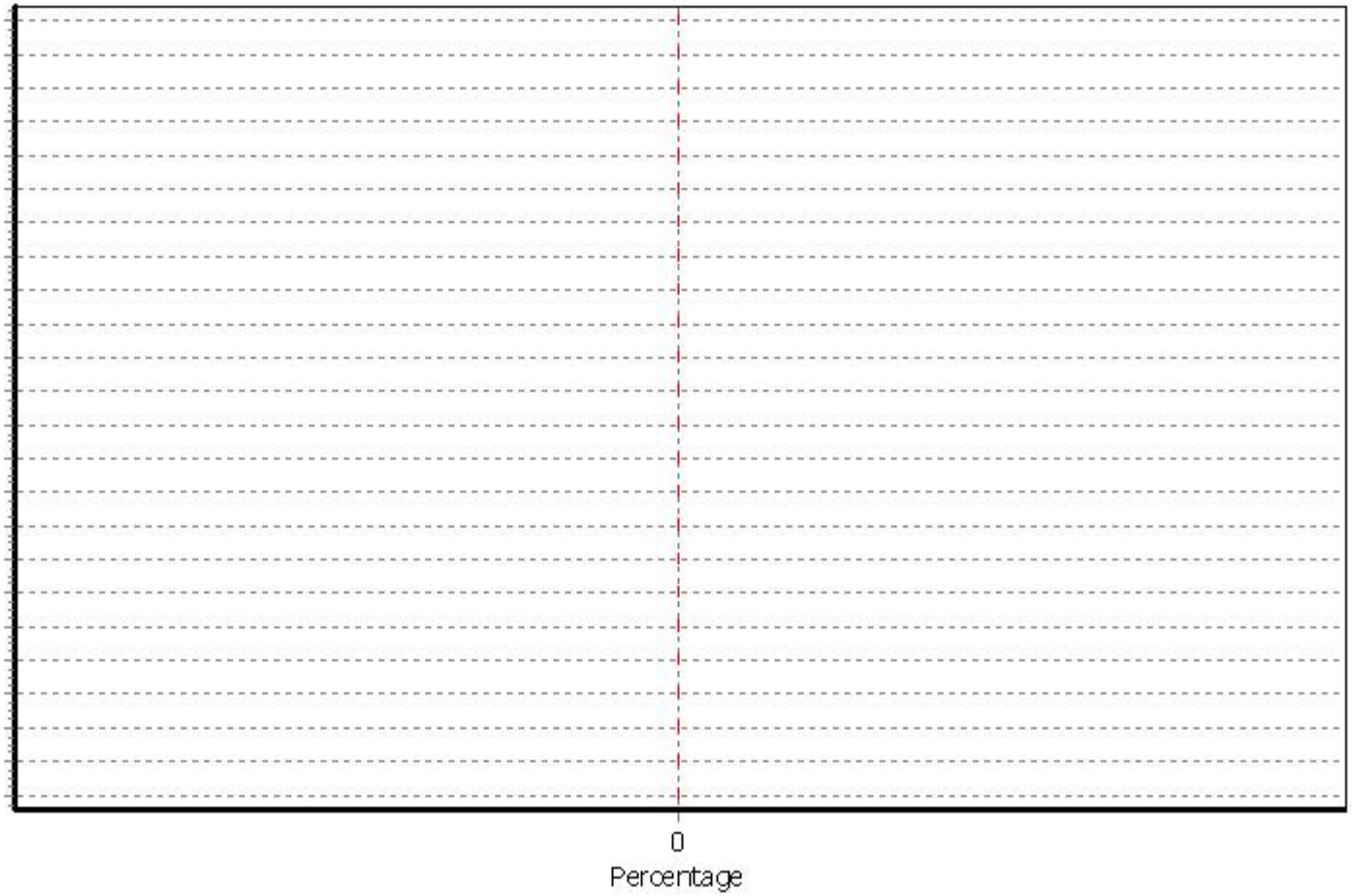
TIME	RATE	%
00:00-01:00		
01:00-02:00		
02:00-03:00		
03:00-04:00		
04:00-05:00		
05:00-06:00		
06:00-07:00		
07:00-08:00		
08:00-09:00		
09:00-10:00		
10:00-11:00		
11:00-12:00		
12:00-13:00		
13:00-14:00		
14:00-15:00		
15:00-16:00		
16:00-17:00		
17:00-18:00		
18:00-19:00		
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20:00-21:00		
21:00-22:00		
22:00-23:00		
23:00-24:00		



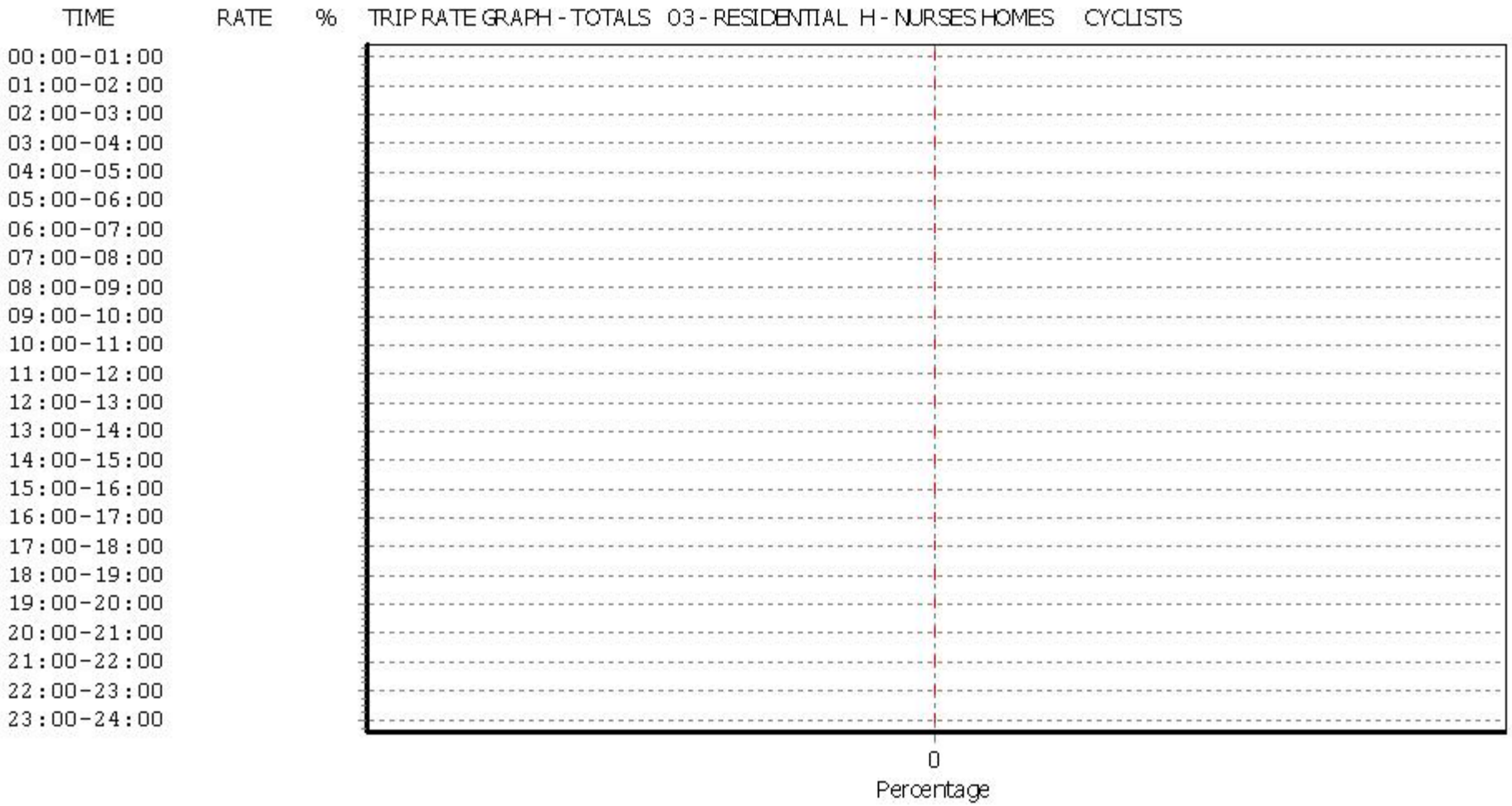
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

TRIP RATE GRAPH - DEPARTURES 03 - RESIDENTIAL H - NURSES HOMES CYCLISTS

TIME	RATE	%
00:00-01:00		
01:00-02:00		
02:00-03:00		
03:00-04:00		
04:00-05:00		
05:00-06:00		
06:00-07:00		
07:00-08:00		
08:00-09:00		
09:00-10:00		
10:00-11:00		
11:00-12:00		
12:00-13:00		
13:00-14:00		
14:00-15:00		
15:00-16:00		
16:00-17:00		
17:00-18:00		
18:00-19:00		
19:00-20:00		
20:00-21:00		
21:00-22:00		
22:00-23:00		
23:00-24:00		



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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Calculation Reference: AUDIT-236601-171110-1147

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	WS	WEST SUSSEX	1 days
03	SOUTH WEST		
	DV	DEVON	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NE	NORTH EAST LINCOLNSHIRE	2 days
	NY	NORTH YORKSHIRE	1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
Actual Range: 108 to 432 (units:)
Range Selected by User: 100 to 500 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 27/03/17

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
Thursday	2 days
Friday	2 days

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

Selected survey types:

Manual count	6 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 undertaking using machines.

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	2

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

Selected Location Sub Categories:

Residential Zone	4
No Sub Category	2

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

Secondary Filtering selection:

Use Class:

C3	6 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:

1,001 to 5,000	2 days
10,001 to 15,000	3 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	3 days
50,001 to 75,000	1 days
75,001 to 100,000	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	1 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:

Yes	1 days
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	6 days

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

LIST OF SITES relevant to selection parameters

1 DV-03-A-02 HOUSES & BUNGALOWS DEVON
MILLHEAD ROAD

HONITON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 116
Survey date: FRIDAY *25/09/15* *Survey Type: MANUAL*

2 NE-03-A-02 SEMI DETACHED & DETACHED NORTH EAST LINCOLNSHIRE
HANOVER WALK

SCUNTHORPE
Edge of Town
No Sub Category
Total Number of dwellings: 432
Survey date: MONDAY *12/05/14* *Survey Type: MANUAL*

3 NE-03-A-03 PRIVATE HOUSES NORTH EAST LINCOLNSHIRE
STATION ROAD

SCUNTHORPE
Edge of Town Centre
Residential Zone
Total Number of dwellings: 180
Survey date: TUESDAY *20/05/14* *Survey Type: MANUAL*

4 NY-03-A-06 BUNGALOWS & SEMI DET. NORTH YORKSHIRE
HORSEFAIR

BOROUGHBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 115
Survey date: FRIDAY *14/10/11* *Survey Type: MANUAL*

5 SH-03-A-04 TERRACED SHROPSHIRE
ST MICHAEL'S STREET

SHREWSBURY
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 108
Survey date: THURSDAY *11/06/09* *Survey Type: MANUAL*

6 WS-03-A-04 MIXED HOUSES WEST SUSSEX
HILLS FARM LANE
BROADBRIDGE HEATH
HORSHAM
Edge of Town
Residential Zone
Total Number of dwellings: 151
Survey date: THURSDAY *11/12/14* *Survey Type: MANUAL*

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.044	6	184	0.218	6	184	0.262
08:00 - 09:00	6	184	0.118	6	184	0.335	6	184	0.453
09:00 - 10:00	6	184	0.139	6	184	0.127	6	184	0.266
10:00 - 11:00	6	184	0.133	6	184	0.163	6	184	0.296
11:00 - 12:00	6	184	0.123	6	184	0.137	6	184	0.260
12:00 - 13:00	6	184	0.148	6	184	0.146	6	184	0.294
13:00 - 14:00	6	184	0.139	6	184	0.127	6	184	0.266
14:00 - 15:00	6	184	0.143	6	184	0.173	6	184	0.316
15:00 - 16:00	6	184	0.241	6	184	0.190	6	184	0.431
16:00 - 17:00	6	184	0.238	6	184	0.157	6	184	0.395
17:00 - 18:00	6	184	0.273	6	184	0.181	6	184	0.454
18:00 - 19:00	6	184	0.199	6	184	0.172	6	184	0.371
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.938			2.126			4.064

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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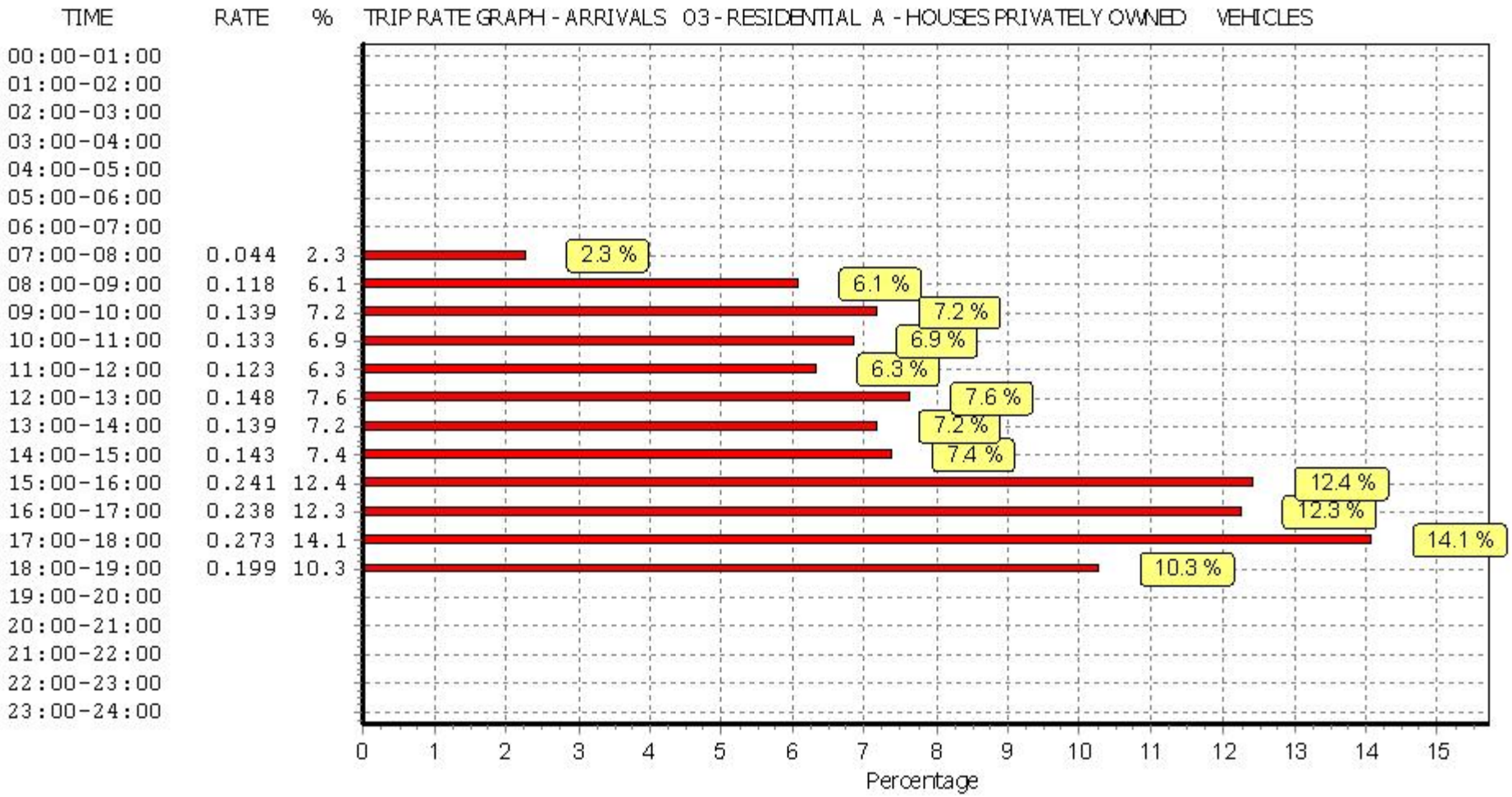
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Parameter summary

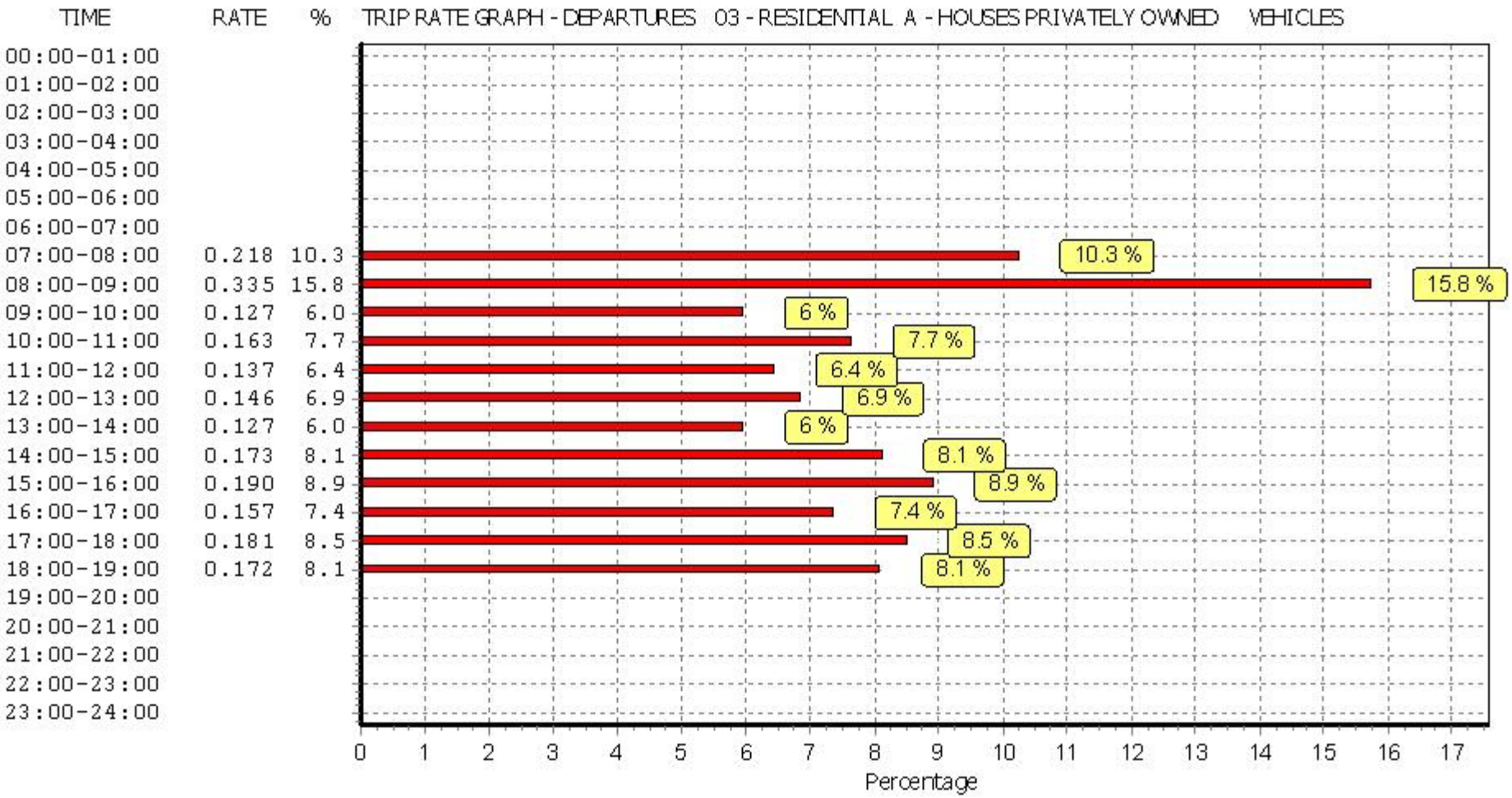
Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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.

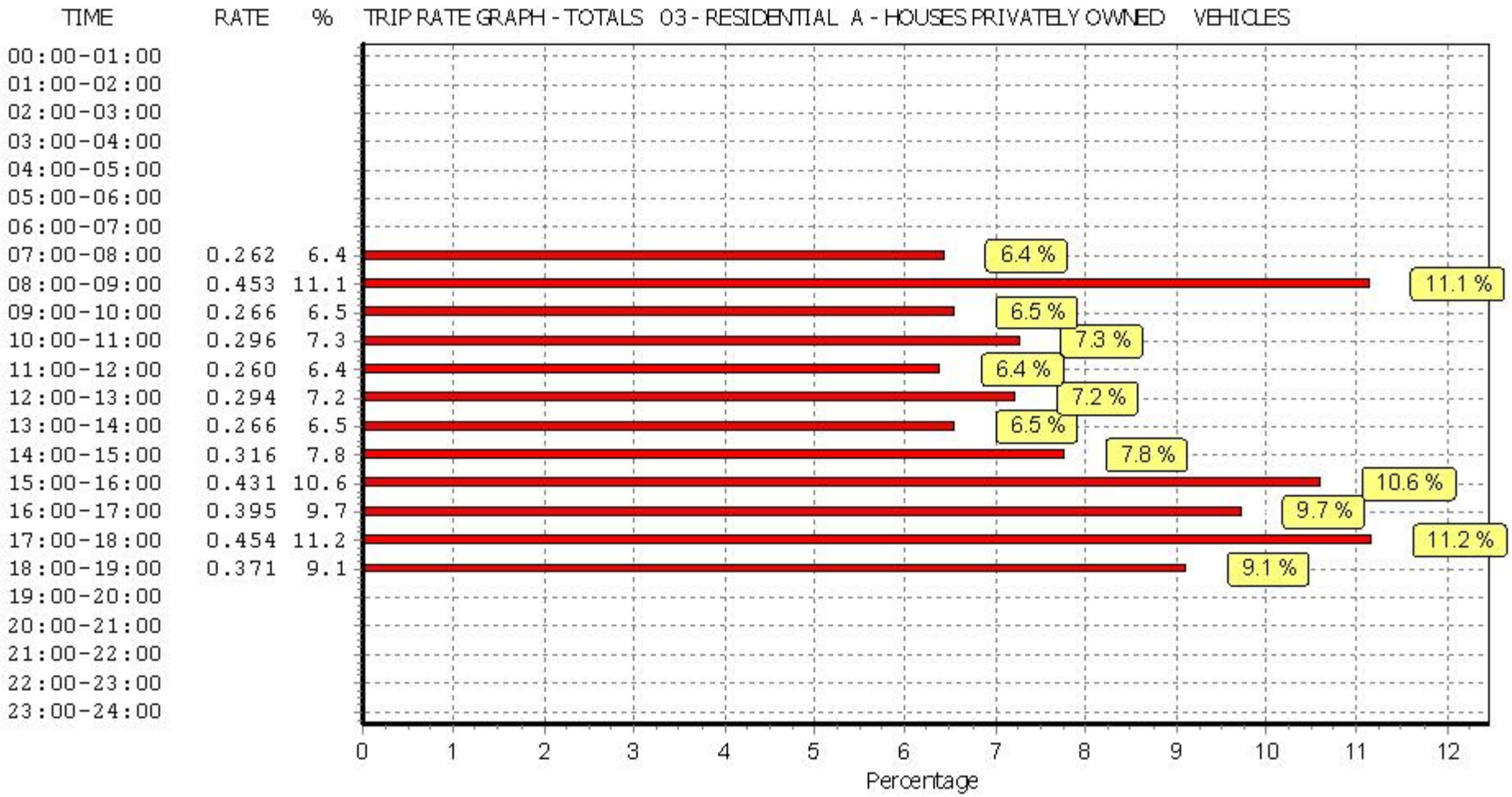
i-Transport Grove House Basingstoke Licence No: 236601



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.



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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.001	6	184	0.001	6	184	0.002
08:00 - 09:00	6	184	0.002	6	184	0.002	6	184	0.004
09:00 - 10:00	6	184	0.002	6	184	0.002	6	184	0.004
10:00 - 11:00	6	184	0.002	6	184	0.002	6	184	0.004
11:00 - 12:00	6	184	0.000	6	184	0.000	6	184	0.000
12:00 - 13:00	6	184	0.000	6	184	0.000	6	184	0.000
13:00 - 14:00	6	184	0.000	6	184	0.000	6	184	0.000
14:00 - 15:00	6	184	0.001	6	184	0.001	6	184	0.002
15:00 - 16:00	6	184	0.005	6	184	0.005	6	184	0.010
16:00 - 17:00	6	184	0.002	6	184	0.002	6	184	0.004
17:00 - 18:00	6	184	0.000	6	184	0.000	6	184	0.000
18:00 - 19:00	6	184	0.001	6	184	0.000	6	184	0.001
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.016			0.015			0.031

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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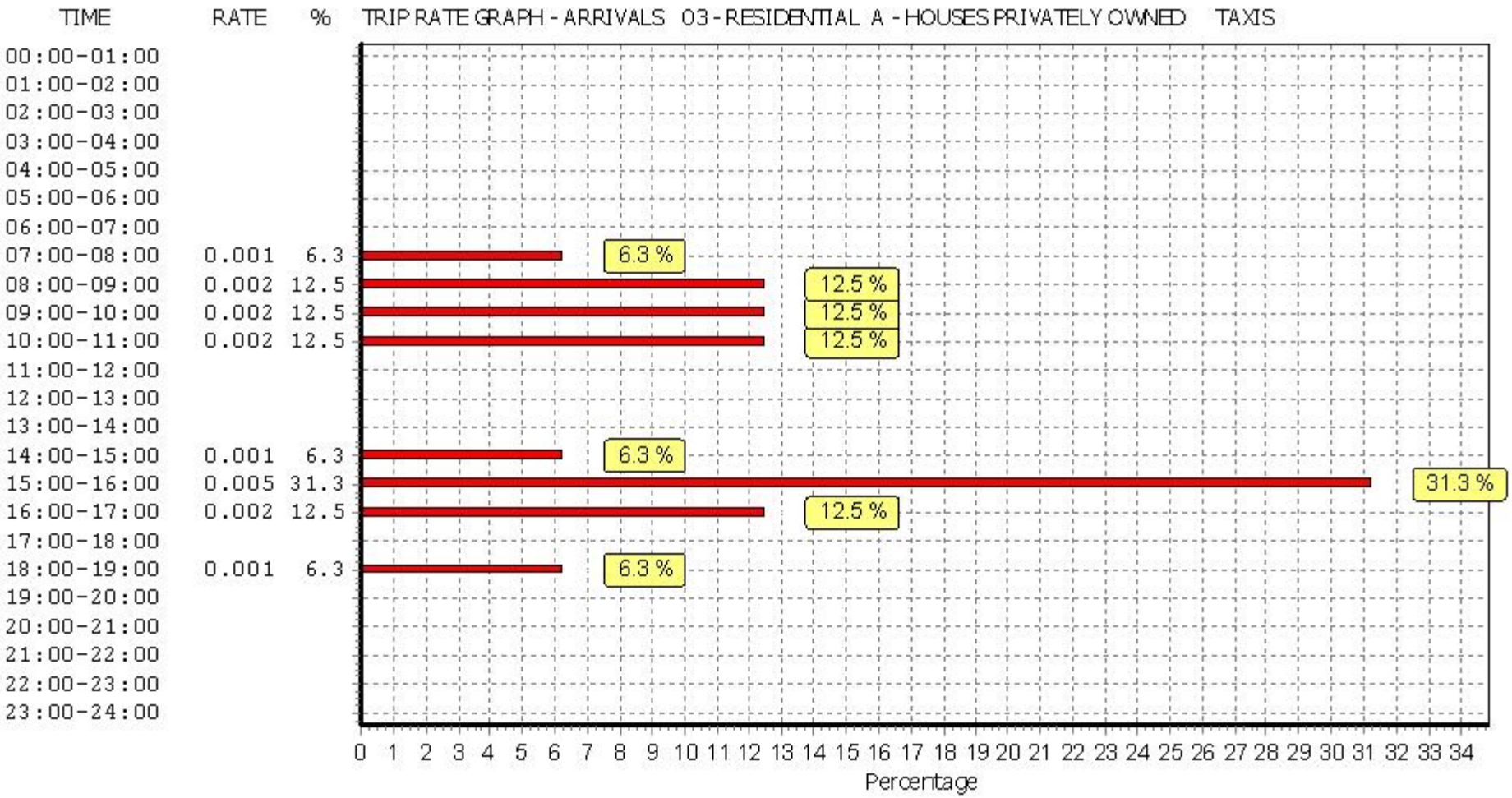
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Parameter summary

Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

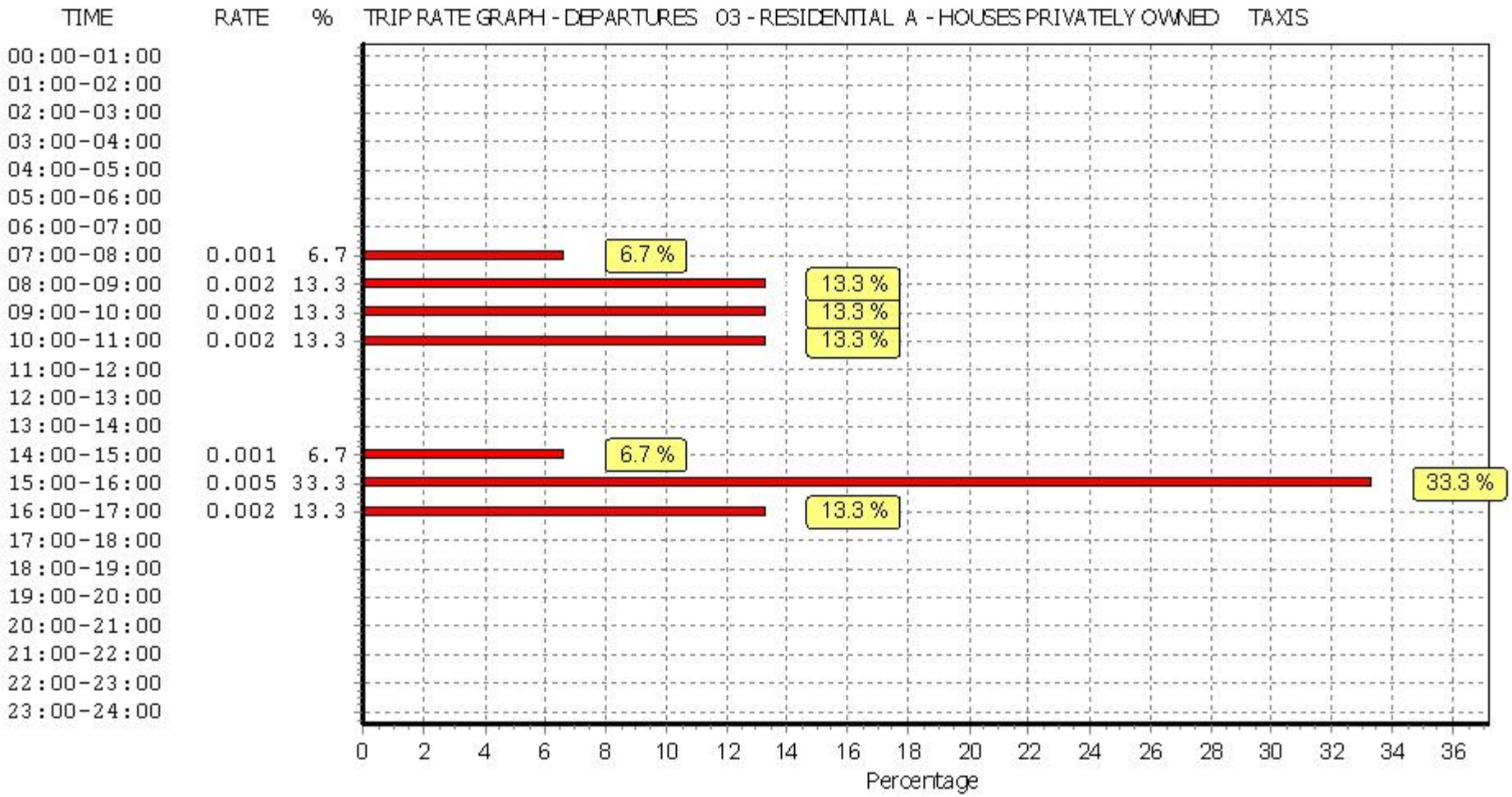
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected 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.

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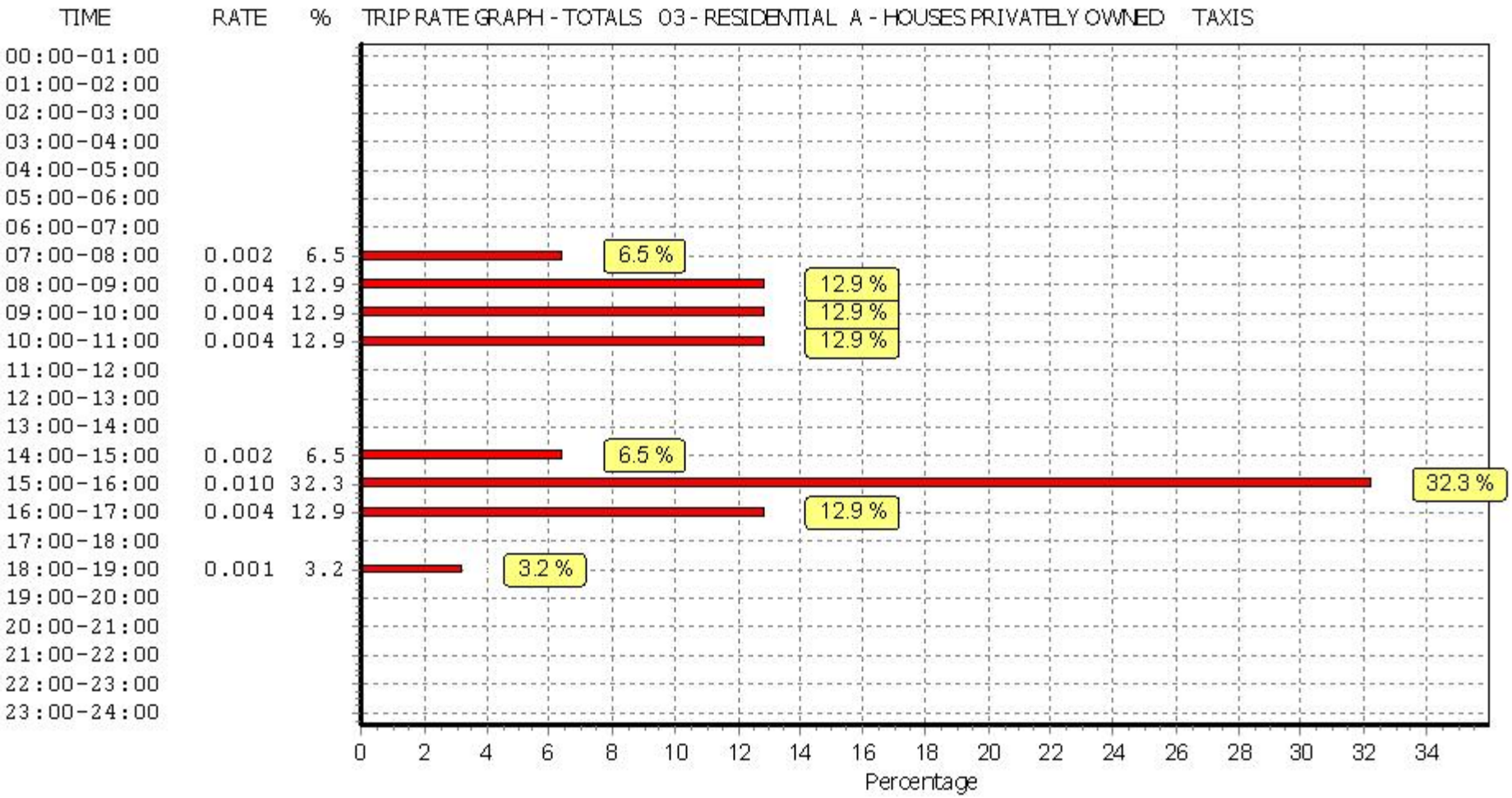


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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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.



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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.000	6	184	0.000	6	184	0.000
08:00 - 09:00	6	184	0.001	6	184	0.001	6	184	0.002
09:00 - 10:00	6	184	0.002	6	184	0.000	6	184	0.002
10:00 - 11:00	6	184	0.003	6	184	0.003	6	184	0.006
11:00 - 12:00	6	184	0.001	6	184	0.003	6	184	0.004
12:00 - 13:00	6	184	0.003	6	184	0.001	6	184	0.004
13:00 - 14:00	6	184	0.001	6	184	0.002	6	184	0.003
14:00 - 15:00	6	184	0.002	6	184	0.004	6	184	0.006
15:00 - 16:00	6	184	0.001	6	184	0.001	6	184	0.002
16:00 - 17:00	6	184	0.004	6	184	0.002	6	184	0.006
17:00 - 18:00	6	184	0.000	6	184	0.000	6	184	0.000
18:00 - 19:00	6	184	0.000	6	184	0.000	6	184	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.018			0.017			0.035

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.*

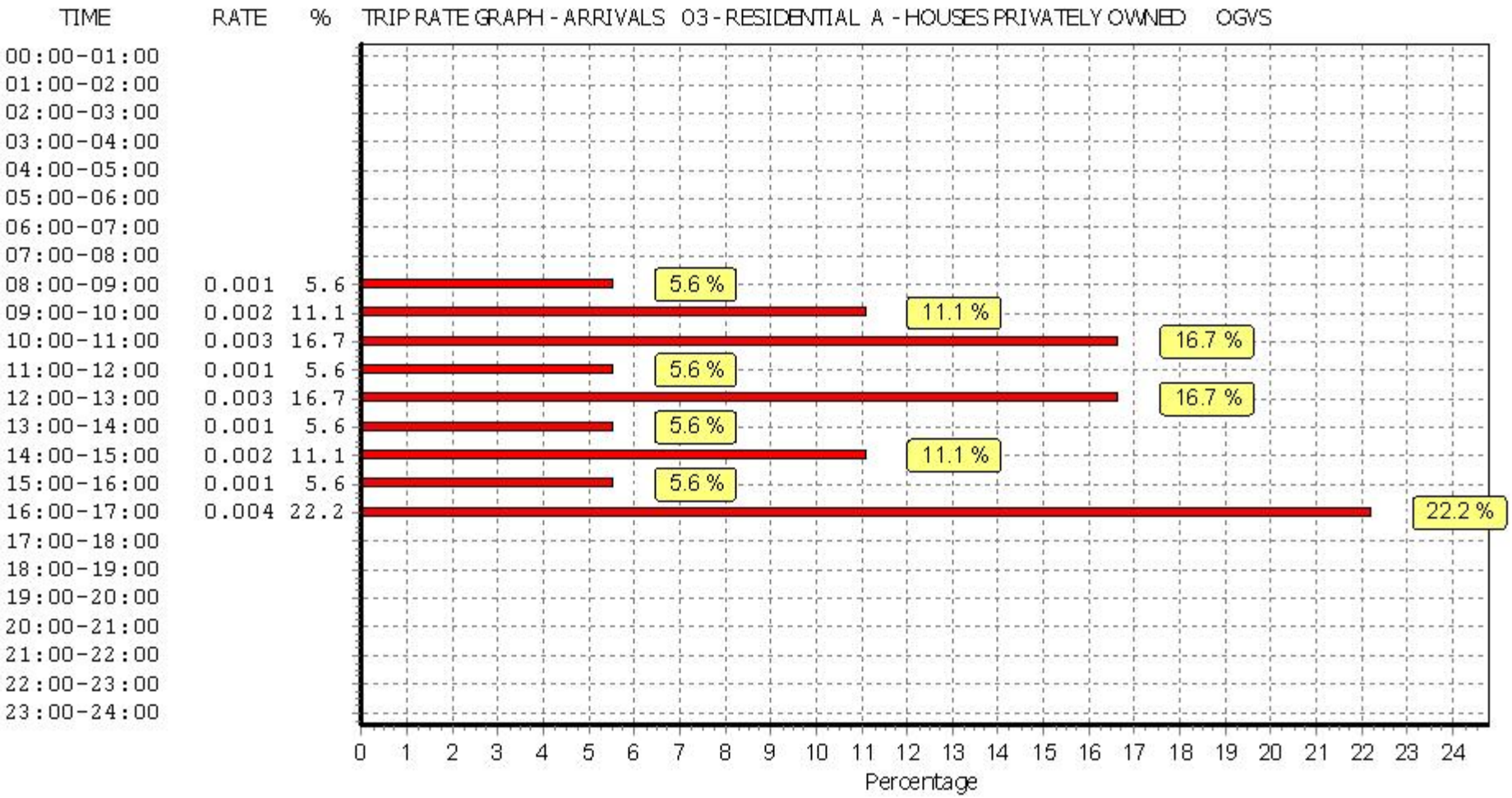
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Parameter summary

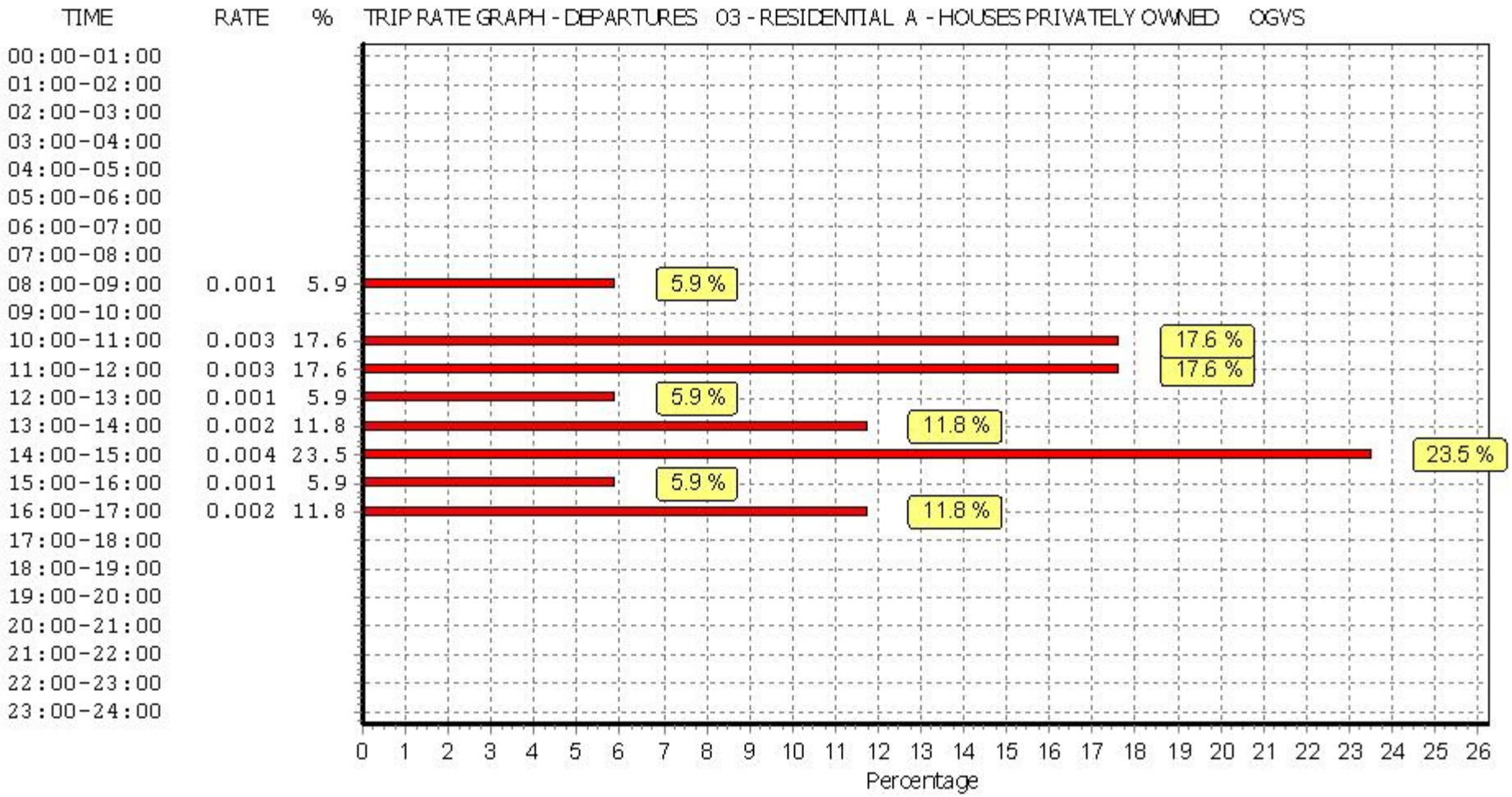
Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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.



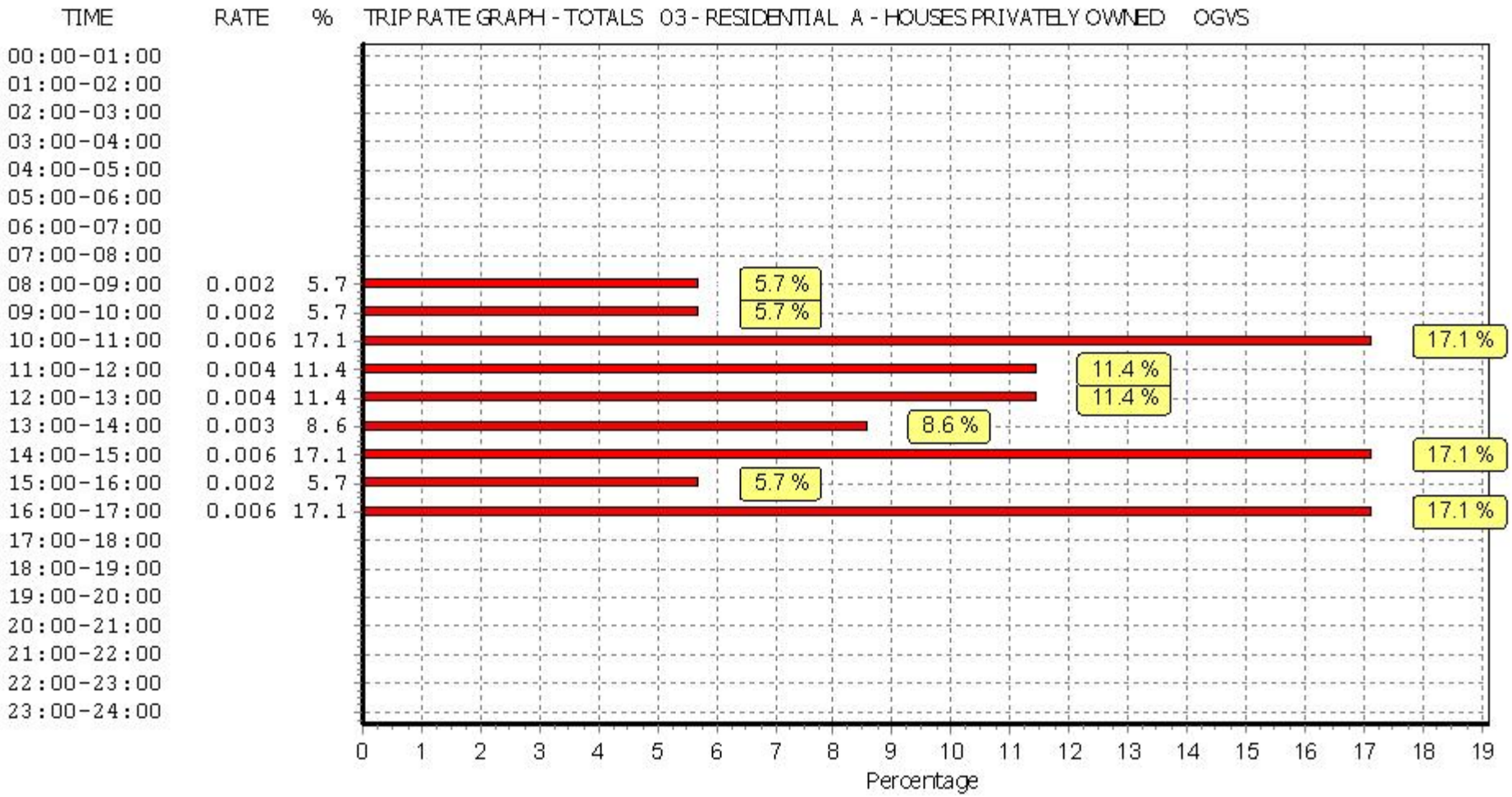
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i-Transport Grove House Basingstoke Licence No: 236601



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.

i-Transport Grove House Basingstoke Licence No: 236601



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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.000	6	184	0.000	6	184	0.000
08:00 - 09:00	6	184	0.000	6	184	0.000	6	184	0.000
09:00 - 10:00	6	184	0.000	6	184	0.000	6	184	0.000
10:00 - 11:00	6	184	0.000	6	184	0.000	6	184	0.000
11:00 - 12:00	6	184	0.000	6	184	0.000	6	184	0.000
12:00 - 13:00	6	184	0.000	6	184	0.000	6	184	0.000
13:00 - 14:00	6	184	0.000	6	184	0.000	6	184	0.000
14:00 - 15:00	6	184	0.000	6	184	0.000	6	184	0.000
15:00 - 16:00	6	184	0.000	6	184	0.000	6	184	0.000
16:00 - 17:00	6	184	0.000	6	184	0.000	6	184	0.000
17:00 - 18:00	6	184	0.000	6	184	0.000	6	184	0.000
18:00 - 19:00	6	184	0.000	6	184	0.000	6	184	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			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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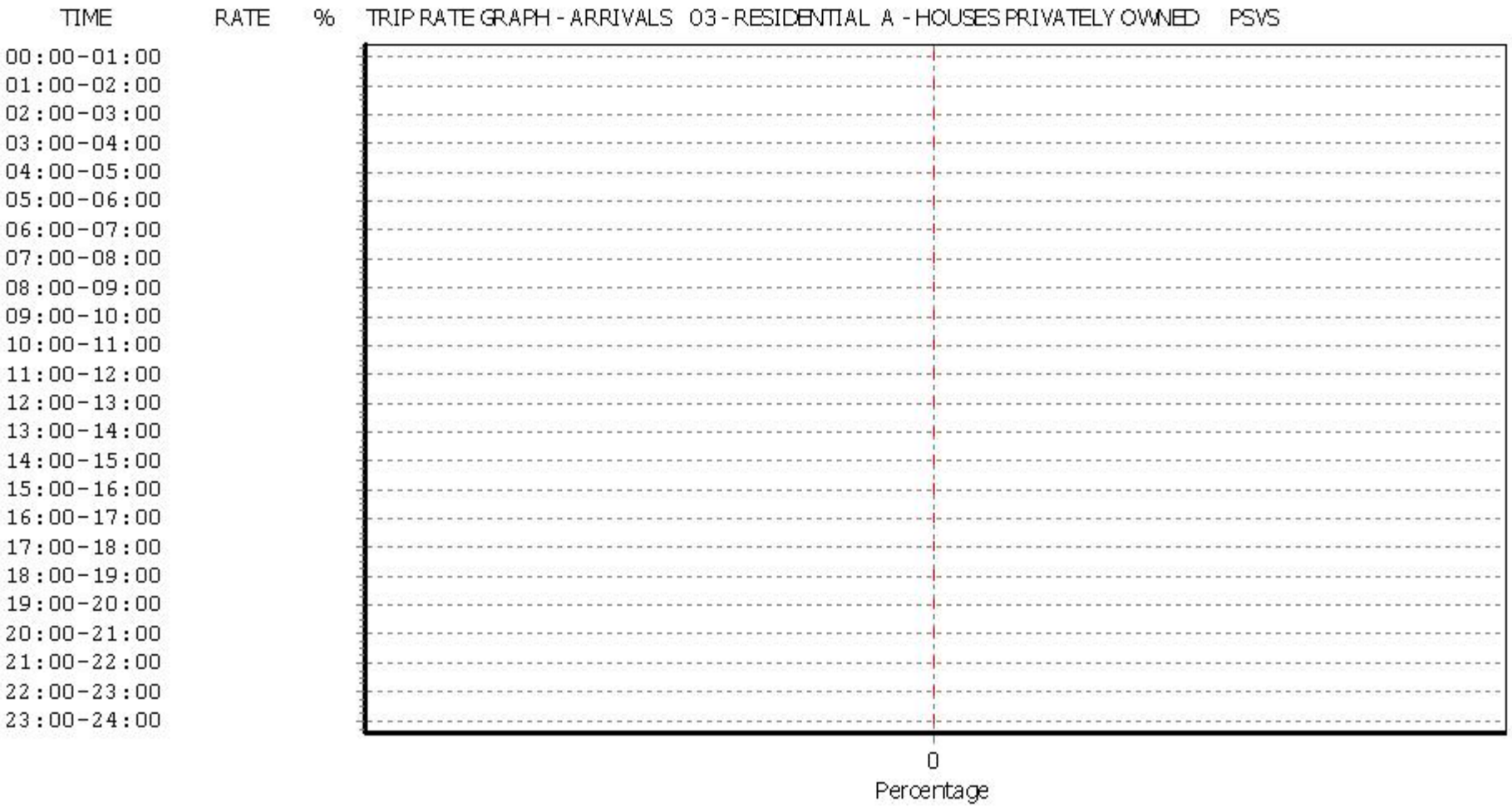
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Parameter summary

Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

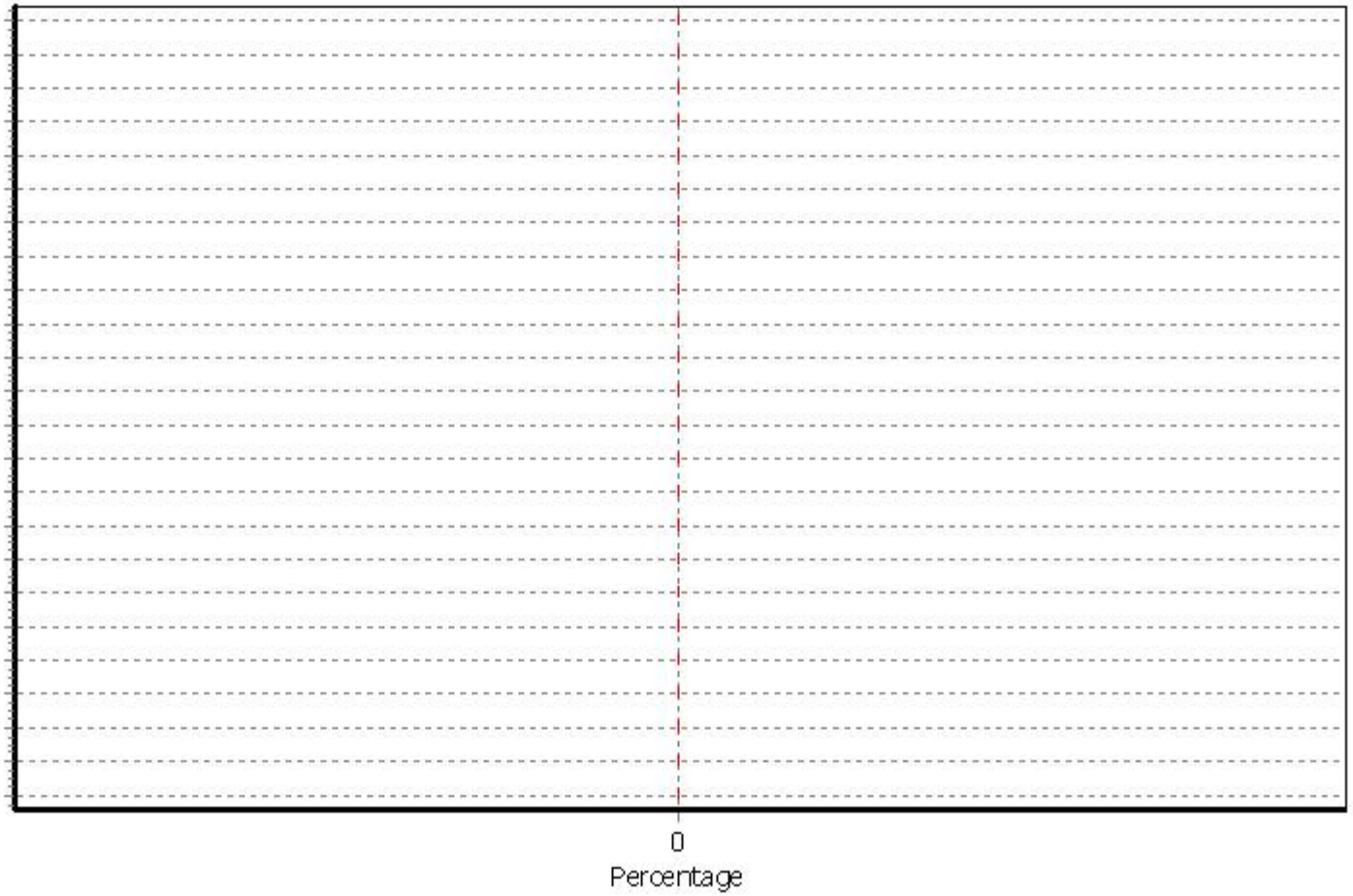
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This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, 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.

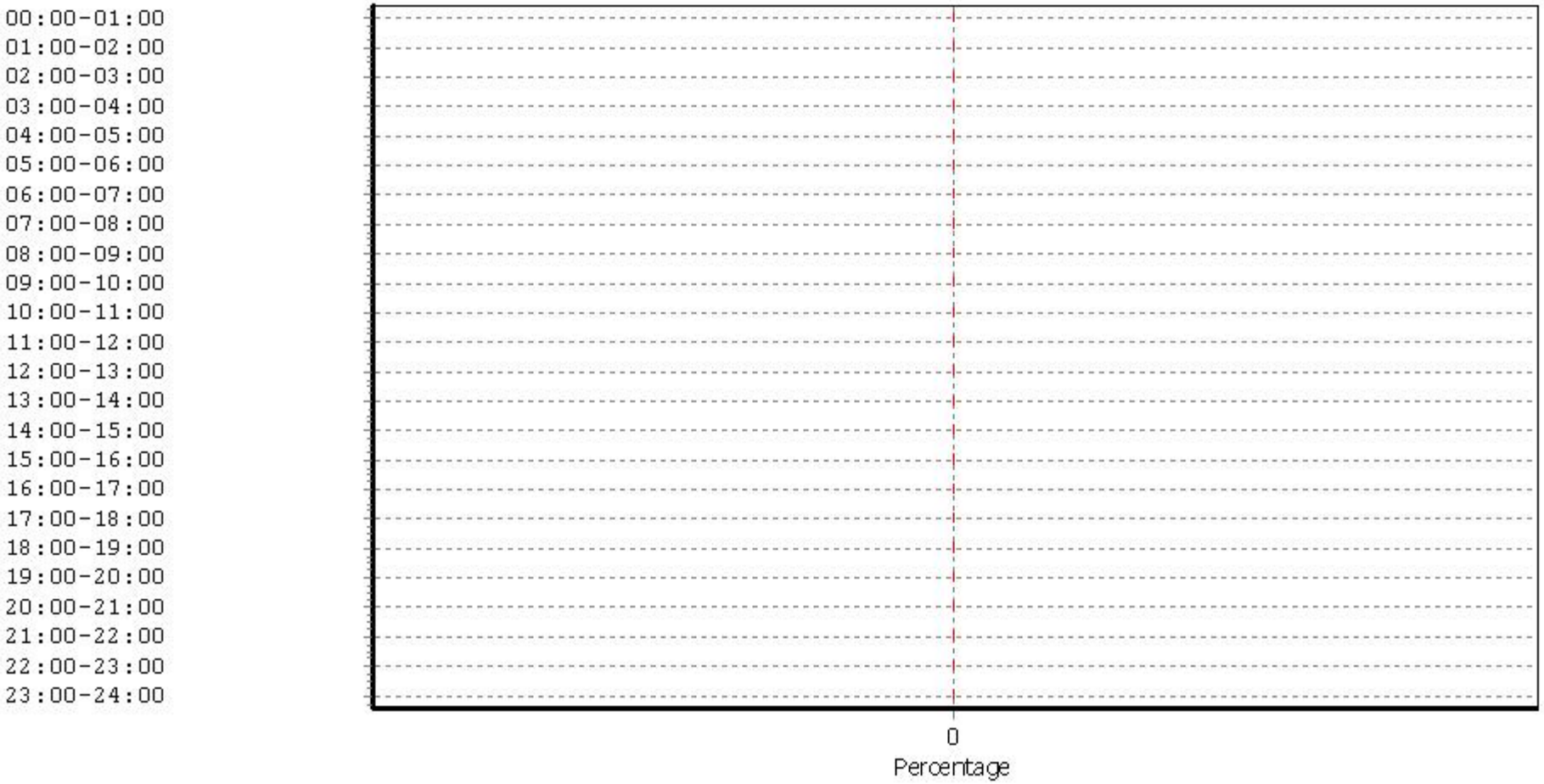
TRIP RATE GRAPH - DEPARTURES 03 - RESIDENTIAL A - HOUSES PRIVATELY OWNED PSVS

TIME	RATE	%
00:00-01:00		
01:00-02:00		
02:00-03:00		
03:00-04:00		
04:00-05:00		
05:00-06:00		
06:00-07:00		
07:00-08:00		
08:00-09:00		
09:00-10:00		
10:00-11:00		
11:00-12:00		
12:00-13:00		
13:00-14:00		
14:00-15:00		
15:00-16:00		
16:00-17:00		
17:00-18:00		
18:00-19:00		
19:00-20:00		
20:00-21:00		
21:00-22:00		
22:00-23:00		
23:00-24:00		



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.

TIME RATE % TRIP RATE GRAPH - TOTALS 03 - RESIDENTIAL A - HOUSES PRIVATELY OWNED PSVS



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 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	6	184	0.003	6	184	0.008	6	184	0.011
08:00 - 09:00	6	184	0.003	6	184	0.006	6	184	0.009
09:00 - 10:00	6	184	0.001	6	184	0.001	6	184	0.002
10:00 - 11:00	6	184	0.005	6	184	0.007	6	184	0.012
11:00 - 12:00	6	184	0.004	6	184	0.002	6	184	0.006
12:00 - 13:00	6	184	0.005	6	184	0.003	6	184	0.008
13:00 - 14:00	6	184	0.003	6	184	0.004	6	184	0.007
14:00 - 15:00	6	184	0.003	6	184	0.004	6	184	0.007
15:00 - 16:00	6	184	0.005	6	184	0.005	6	184	0.010
16:00 - 17:00	6	184	0.002	6	184	0.004	6	184	0.006
17:00 - 18:00	6	184	0.007	6	184	0.006	6	184	0.013
18:00 - 19:00	6	184	0.005	6	184	0.003	6	184	0.008
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.046			0.053			0.099

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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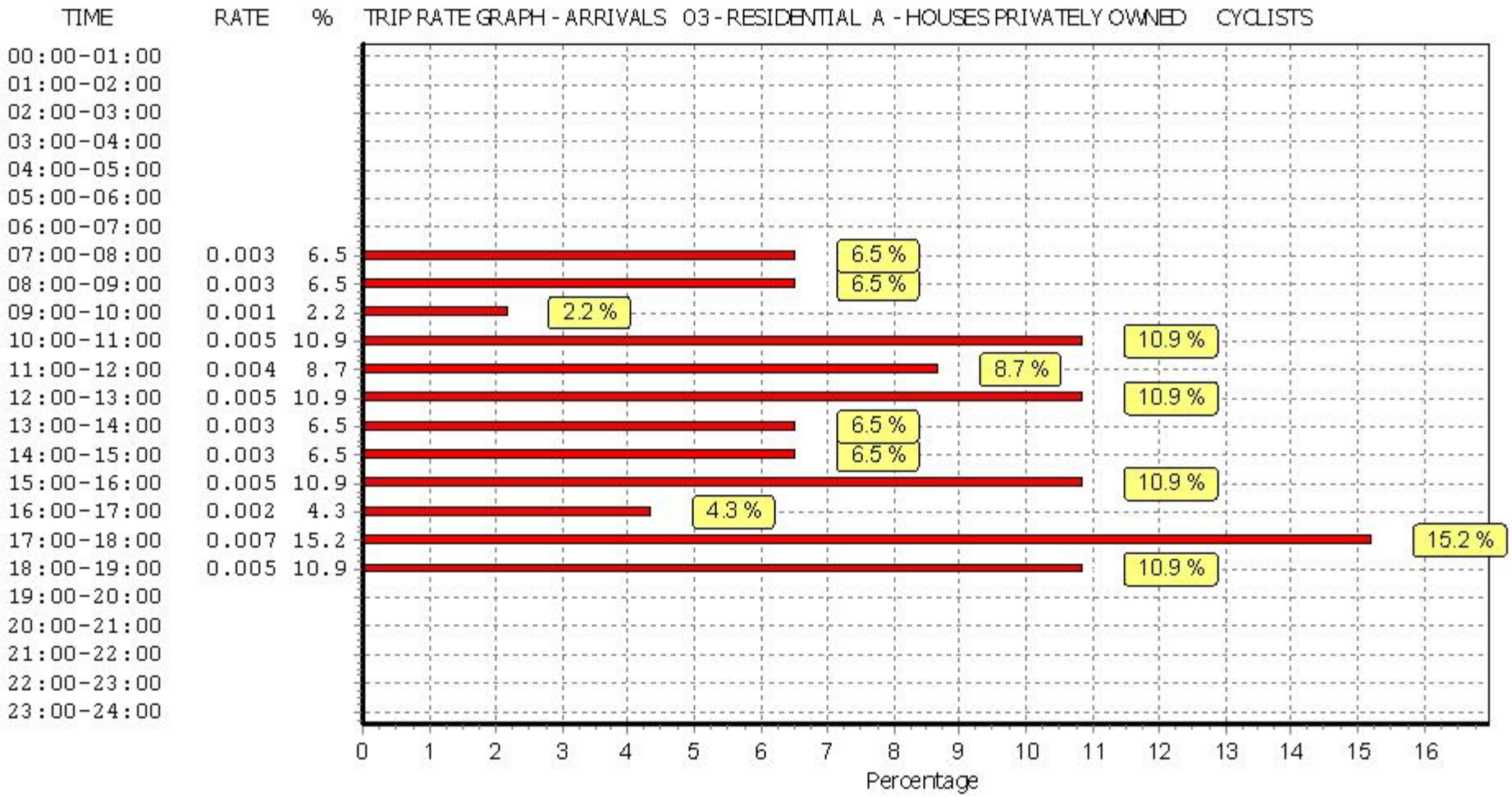
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Parameter summary

Trip rate parameter range selected:	108 - 432 (units:)
Survey date date range:	01/01/09 - 27/03/17
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

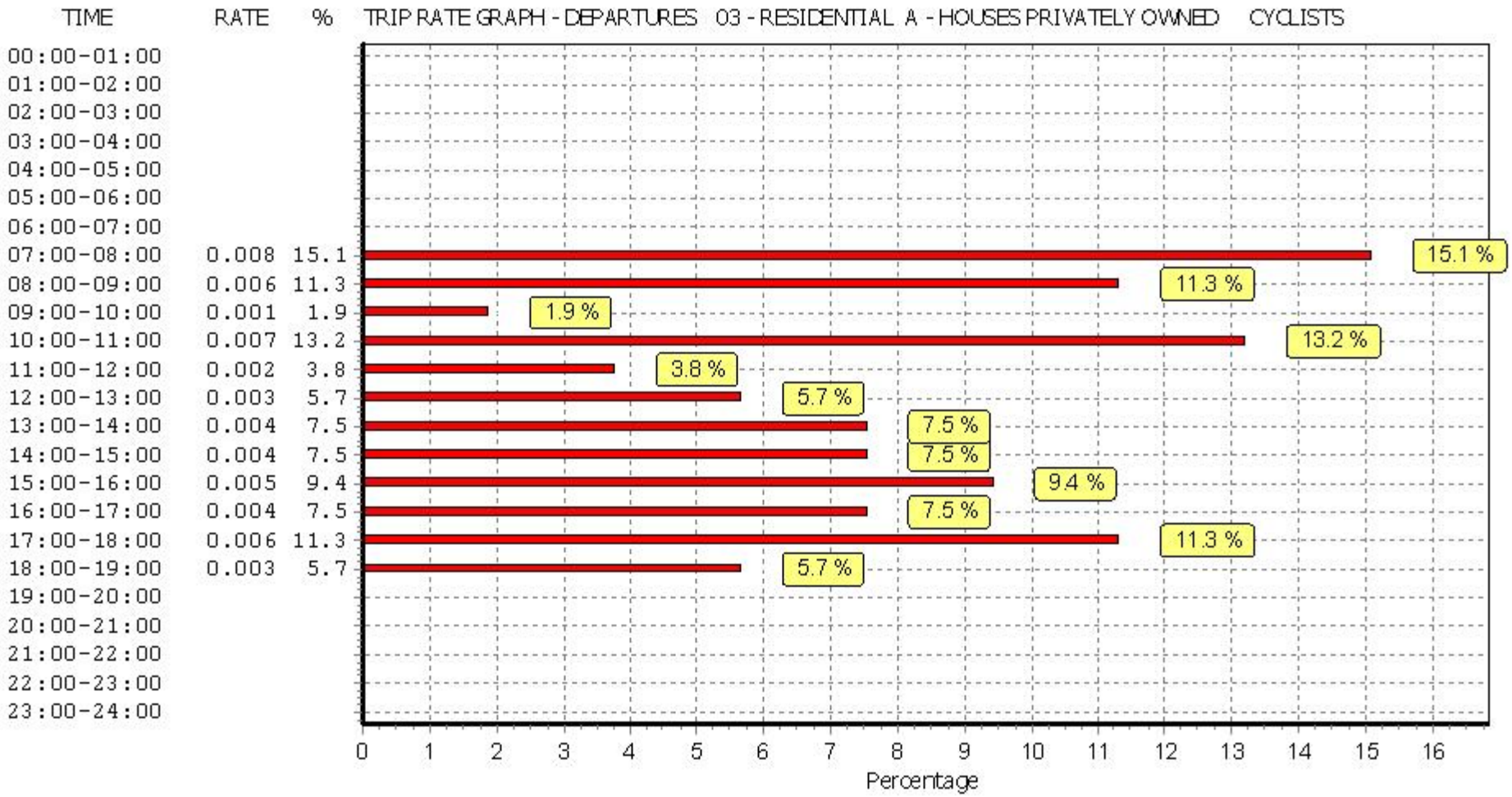
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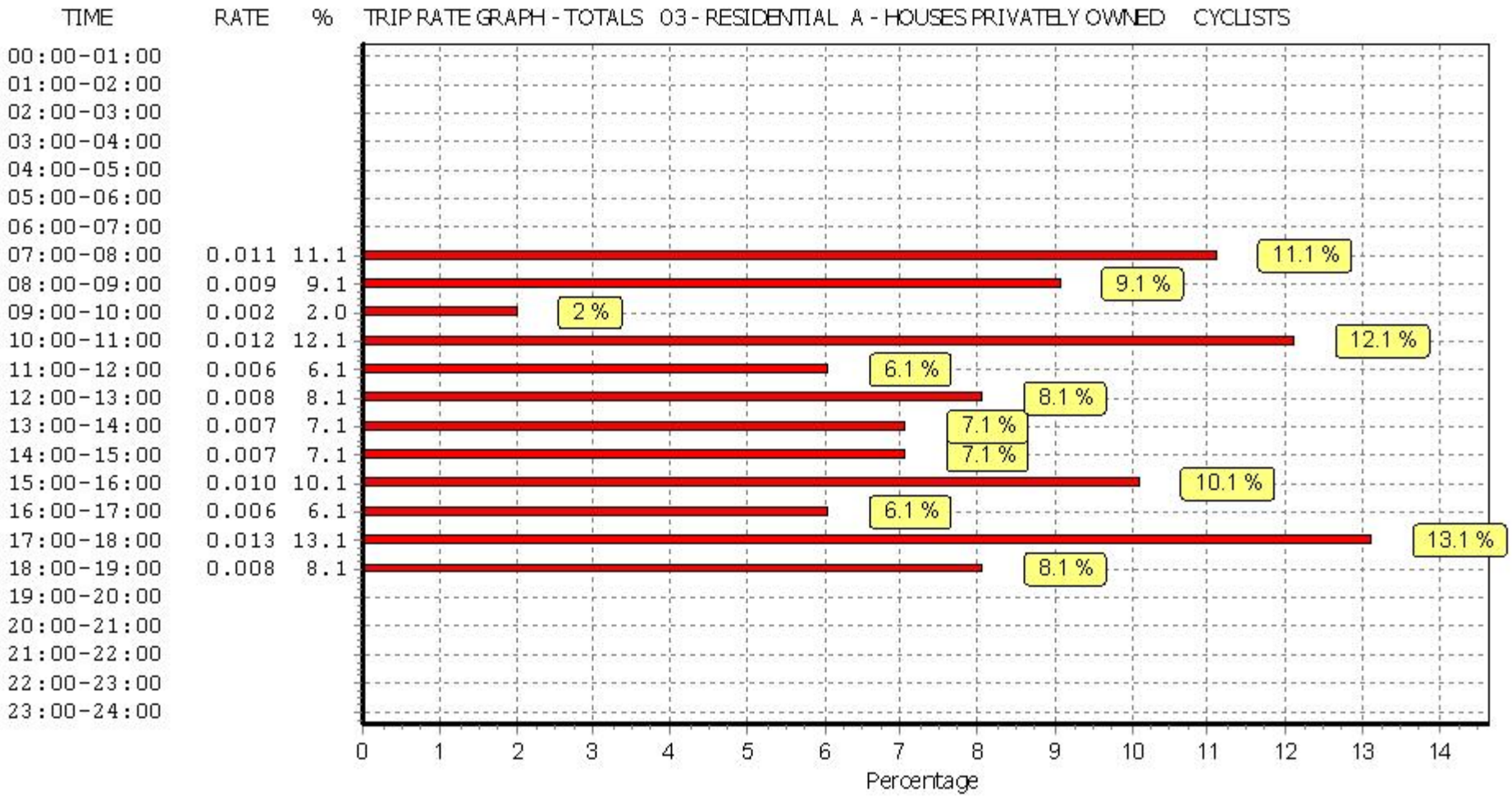
This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.

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APPENDIX H DISTRIBUTION AND ASSIGNMENT MODEL

Destination	% Car by Destination	Total Proportion by car	45%	Proportion per route	Route Proportion by Car	Route 1	Route 2	Route 3	Route 4
Abingdon	50.0%	1.6%	0.7%	10%	0.16%	Portman Road East	Cow Lane	A4074	*Lin*
				45%	0.72%	Portman Road West	Oxford Road West	*Lin*	*Lin*
				45%	0.72%	Portman Road West	Norcot Road	Church End Lane South	*Lin*
Addlestone	33.3%	0.1%	0.1%	100%	0.12%	Portman Road East	Cow Lane	A4155 East	*Lin*
Basingstoke	43.1%	1.7%	0.8%	33%	0.57%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
				33%	0.57%	Portman Road West	Norcot Road	Church End Lane South	*Lin*
				33%	0.57%	Portman Road East	Beresford Road South	Western Elms Avenue South	Tilehurst Road West
Beaconsfield and Iver Heath	100.0%	0.4%	0.2%	100%	0.43%	Portman Road East	Cow Lane	A4155 East	*Lin*
Blackwater and Minley	42.9%	0.2%	0.1%	50%	0.09%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
				50%	0.09%	Portman Road East	Cow Lane	A4155 East	*Lin*
Bracknell	52.9%	5.1%	2.3%	60%	3.05%	Portman Road East	Cow Lane	A4155 East	*Lin*
				40%	2.04%	Portman Road West	Norcot Road	Church End Lane South	*Lin*
Camberley	68.8%	0.7%	0.3%	50%	0.34%	Portman Road East	Cow Lane	A4155 East	*Lin*
				50%	0.34%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
Cobham	20.0%	0.1%	0.0%	50%	0.03%	Portman Road East	Cow Lane	A4155 East	*Lin*
				50%	0.03%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
Farnborough	40.9%	0.6%	0.2%	50%	0.28%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
				50%	0.28%	Portman Road East	Cow Lane	A4155 East	*Lin*
Fleet	50.0%	0.4%	0.2%	100%	0.37%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
Guildford	43.8%	0.4%	0.2%	50%	0.21%	Portman Road East	Cow Lane	A4155 East	*Lin*
				50%	0.21%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
Hook	70.0%	0.4%	0.2%	50%	0.21%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
				50%	0.21%	Portman Road East	Beresford Road South	Western Elms Avenue South	Tilehurst Road West
London	20.2%	4.0%	1.8%	100%	4.05%	Portman Road East	Cow Lane	A4155 East	*Lin*
Newbury/ Thatcham	58.8%	16.2%	7.3%	50%	8.12%	Portman Road West	Norcot Road	Church End Lane South	*Lin*
				50%	8.12%	Portman Road West	Oxford Road	*Lin*	*Lin*
Other East	60.7%	1.0%	0.5%	100%	1.04%	Portman Road East	Cow Lane	A4155 East	*Lin*
Other North	47.4%	1.7%	0.7%	50%	0.83%	Portman Road East	Cow Lane	A4155 East	*Lin*
				50%	0.83%	Portman Road East	Cow Lane	A4155 North	A4155
Other South	56.5%	0.8%	0.4%	33%	0.27%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
				33%	0.27%	Portman Road West	Norcot Road	Church End Lane South	*Lin*
				33%	0.27%	Portman Road East	Cow Lane	A4155 East	*Lin*
Other West	44.8%	0.8%	0.4%	100%	0.80%	Portman Road West	Norcot Road	Church End Lane South	*Lin*
Oxford	54.5%	6.7%	3.0%	50%	3.34%	Portman Road East	Cow Lane	A4074	*Lin*
				50%	3.34%	Portman Road West	Norcot Road	Church End Lane South	*Lin*
Reading	25.5%	36.5%	16.4%	40%	14.62%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
				40%	14.62%	Portman Road East	Beresford Road South	Tilehurst Road	Castle Hill
				20%	7.31%	Portman Road East	Cow Lane	A4155 East	Caversham Road
Slough	58.6%	2.5%	1.1%	50%	1.26%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
				50%	1.26%	Portman Road East	Cow Lane	A4155 East	*Lin*
Swindon	58.3%	0.9%	0.4%	100%	0.86%	Portman Road West	Norcot Road	Church End Lane South	*Lin*
Windsor and Maidenhead	50.6%	2.5%	1.1%	70%	1.76%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
				15%	0.38%	Portman Road East	Cow Lane	A4155 East	*Lin*
				15%	0.38%	Portman Road East	Cow Lane	A4155 North	*Lin*
Woking	60.0%	0.2%	0.1%	50%	0.09%	Portman Road East	Cow Lane	A4155 East	*Lin*
				50%	0.09%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
Wokingham	48.5%	13.2%	6.0%	50%	6.62%	Portman Road East	Cow Lane	A4155 East	*Lin*
				50%	6.62%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
Wycombe	80.0%	1.2%	0.6%	33%	0.41%	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East
				33%	0.41%	Portman Road East	Cow Lane	A4155 East	*Lin*
				33%	0.41%	Portman Road East	Cow Lane	A4074	*Lin*
		100.0%	**45.0%**		**100.00%**				

Route 1		
Portman Road East	74.4%	33.5%
Portman Road West	25.6%	11.5%
	100.0%	**45.0%**
		45.0%

Route 2		
Beresford Road South	42.5%	19.1%
Cow Lane	31.9%	14.4%
Norcot Road	16.7%	7.5%
Oxford Road	8.1%	3.7%
Oxford Road West	0.7%	0.3%
	100.0%	**45.0%**
		45.0%

Route 3		
A4074	3.9%	1.8%
A4155 East	26.8%	12.1%
A4155 North	1.2%	0.5%
Church End Lane South	16.7%	7.5%
Oxford Road East	27.1%	12.2%
Tilehurst Road	14.6%	6.6%
Western Elms Avenue South	0.8%	0.4%
Lin	8.8%	4.0%
	100.0%	**45.0%**
		45.0%

Route 4		
A4155	0.8%	0.4%
Castle Hill	14.6%	6.6%
Caversham Road	7.3%	3.3%
Chatham Street East	27.1%	12.2%
Tilehurst Road West	0.8%	0.4%
Lin	49.3%	22.2%
	100.0%	**45.0%**
		45.0%

i-Transport Project Title - Battle Hospital, Reading

Gravity Model

Location	Route 1	Route 2	Route 3	Route 4	Time (mins)	2011 Census Total Population	P/T	P/T^2	% of total	Car driver mode split		% of Car Driver	% of Car Driver by Route	55%		
Ascot	Portman Road East	Cow Lane	A4155 East	*Lin*	34	18,091	532	16	0.5%	44.8%	0%	0%	0.21%	0.11%	**0.23%**	0.55
	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East									0.21%	0.11%		0.55
Bracknell	Portman Road East	Cow Lane	A4155 East	*Lin*	28	64,135	2,291	82	2.7%	52.9%	1%	3%	1.29%	0.71%	**1.41%**	0.55
	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East									1.29%	0.71%		0.55
Cobham	Portman Road East	Cow Lane	A4155 East	*Lin*	35	9,489	271	8	0.3%	50.0%	0%	0%	0.11%	0.06%	**0.13%**	0.55
	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East									0.11%	0.06%		0.55
Fleet	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East	35	21,858	625	18	0.6%	50.0%	0%	1%	0.53%	0.29%	**0.29%**	0.55
Henley-on-Thames	Portman Road East	Cow Lane	A4155 North	*Lin*	28	97,812	3,493	125	4.1%	47.4%	2%	4%	3.50%	1.93%	**1.93%**	0.55
Hook	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East	35	7,770	222	6	0.2%	70.0%	0%	0%	0.13%	0.07%	**0.14%**	0.55
	Portman Road East	Beresford Road South	Western Elms Avenue South	Tilehurt Road West									0.13%	0.07%		0.55
Maidenhead	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East	35	101,770	2,908	83	2.8%	25.5%	1%	1%	0.63%	0.35%	**0.69%**	0.55
	Portman Road East	Cow Lane	A4155 East	*Lin*									0.31%	0.17%		0.55
	Portman Road East	Cow Lane	A4155 North	*Lin*									0.31%	0.17%		0.55
Reading	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East	8	155,698	19,462	2,433	80.9%	58.6%	47%	84%	42.20%	23.21%	**46.42%**	0.55
	Portman Road East	Beresford Road South	Tilehurst Road	Castle Hill									21.10%	11.60%		0.55
	Portman Road East	Cow Lane	A4155 East	Caversham Road									21.10%	11.60%		0.55
Slough	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East	35	134,048	3,830	109	3.6%	48.5%	2%	3%	1.58%	0.87%	**1.74%**	0.55
	Portman Road East	Cow Lane	A4155 East	*Lin*									1.58%	0.87%		0.55
Wokingham	Portman Road East	Cow Lane	A4155 East	*Lin*	28	101,114	3,611	129	4.3%	48.5%	2%	4%	1.85%	1.02%	**2.04%**	0.55
	Portman Road East	Beresford Road South	Oxford Road East	Chatham Street East									1.85%	1.02%		0.55
						711,785	**37,245**	**3,008**	**100.0%**			**100.0%**	**100.0%**	55.02%	55.02%	

Route 1		
Portman Road East	100.0%	55.0%
Portman Road West	0.0%	0.0%
	100.0%	**55.0%**
		55.0%

Route 2		
Beresford Road South	69.8%	38.4%
Cow Lane	30.3%	16.6%
Norcot Road	0.0%	0.0%
Oxford Road	0.0%	0.0%
Oxford Road West	0.0%	0.0%
	100.0%	**55.0%**
		55.0%

Route 3		
A4074	0.0%	0.0%
A4155 East	26.5%	14.6%
A4155 North	3.8%	2.1%
Church End Lane South	0.0%	0.0%
Oxford Road East	48.5%	26.7%
Tilehurst Road	21.1%	11.6%
Western Elms Avenue South	0.1%	0.1%
Lin	0.0%	0.0%
	100.0%	**55.0%**
		55.0%

Route 4		
A4155	0.0%	0.0%
Castle Hill	21.1%	11.6%
Caversham Road	21.1%	11.6%
Chatham Street East	48.5%	26.7%
Tilehurt Road West	0.1%	0.1%
Lin	9.2%	5.0%
	100.0%	**55.0%**
		55.0%

Route 1	JtW	Gravity	100%
Portman Road East	33.5%	55.0%	88.5%
Portman Road West	11.5%	0.0%	11.5%
Total	**45.0%**	**55.0%**	**100.0%**

Route 2	JtW	Gravity	100%
Beresford Road South	19.1%	38.4%	57.5%
Cow Lane	14.4%	16.6%	31.0%
Norcot Road	7.5%	0.0%	7.5%
Oxford Road	3.7%	0.0%	3.7%
Oxford Road West	0.3%	0.0%	0.3%
Total	**45.0%**	**55.0%**	**100.0%**

Route 3	JtW	Gravity	100%
A4074	1.8%	0.0%	1.8%
A4155 East	12.1%	14.6%	26.6%
A4155 North	0.5%	2.1%	2.6%
Church End Lane South	7.5%	0.0%	7.5%
Oxford Road East	12.2%	26.7%	38.9%
Tilehurst Road	6.6%	11.6%	18.2%
Western Elms Avenue South	0.4%	0.1%	0.4%
Lin	4.0%	0.0%	4.0%
Total	**45.0%**	**55.0%**	**100.0%**

Route 4	JtW	Gravity	100%
A4155	0.4%	0.0%	0.4%
Castle Hill	6.6%	11.6%	18.2%
Caversham Road	3.3%	11.6%	14.9%
Chatham Street East	12.2%	26.7%	38.9%
Tilehurt Road West	0.4%	0.1%	0.4%
Lin	22.2%	5.0%	27.2%
Total	**45.0%**	**55.0%**	**100.0%**

Destination	Employment Trips %	Non Commuter Trips %	All Trips Combined %
Abingdon	0.7%	-	0.72%
Ascot	0.0%	0.23%	0.23%
Basingstoke	0.8%	-	0.80%
Beaconsfield and Iver Heath	0.2%	-	0.20%
Blackwater and Minley	0.1%	-	0.10%
Bracknell	2.3%	1.41%	3.71%
Camberley	0.3%	-	0.30%
Cobham	0.0%	0.13%	0.13%
Farnborough	0.2%	-	0.20%
Fleet	0.2%	0.29%	0.49%
Guildford	0.2%	-	0.20%
Henley-on-Thames	0.0%	1.93%	1.93%
Hook	0.2%	0.14%	0.34%
London	1.8%	-	1.80%
Newbury/ Thatcham	7.3%	-	7.30%
Other East	0.5%	-	0.50%
Other North	0.7%	-	0.70%
Other South	0.4%	-	0.40%
Other West	0.4%	-	0.40%
Oxford	3.0%	-	3.00%
Reading	16.4%	46.42%	62.82%
Slough	1.1%	1.74%	2.84%
Swindon	0.4%	-	0.40%
Maidenhead	1.1%	0.69%	1.79%
Woking	0.1%	-	0.10%
Wokingham	6.0%	2.04%	8.04%
Wycombe	0.6%	-	0.60%
Total	**45.0%**	**55.0%**	**100.0%**

APPENDIX I **OPERATIONAL ANALYSIS OUTPUT**

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

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Filename: Portman Rd - Norcot Rd Rbt - AM.j9
Path: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Tech\Junct Ass\Arcady\Portman Rd - Norcot Rd Rbt\Non-Cal
Report generation date: 05/01/2018 17:15:29

»2017 Observed, AM
»2021 Base, AM
»2021 + Development, AM

Summary of junction performance

	AM			
	Queue (Veh)	Delay (s)	RFC	LOS
	2017 Observed			
1 - Portman Road	0.7	5.06	0.42	A
2 - Oxford Road (E)	1.2	5.12	0.55	A
3 - Norcot Road	2.9	17.01	0.75	C
4 - Oxford Road (W)	3.9	14.19	0.81	B
	2021 Base			
1 - Portman Road	0.9	5.60	0.46	A
2 - Oxford Road (E)	1.5	5.73	0.60	A
3 - Norcot Road	4.5	24.82	0.84	C
4 - Oxford Road (W)	6.6	22.40	0.89	C
	2021 + Development			
1 - Portman Road	0.9	5.64	0.47	A
2 - Oxford Road (E)	1.5	5.75	0.60	A
3 - Norcot Road	4.5	24.87	0.84	C
4 - Oxford Road (W)	6.6	22.45	0.89	C

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	11/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	Existing Arrangement

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:15	09:15	60	15	✓
D2	2021 Base	AM	DIRECT	08:15	09:15	60	15	✓
D3	2021 + Development	AM	DIRECT	08:15	09:15	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2017 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	10.68	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Portman Road	
2	Oxford Road (E)	
3	Norcot Road	
4	Oxford Road (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Portman Road	3.30	7.50	27.0	20.0	46.0	31.0	
2 - Oxford Road (E)	4.55	7.50	16.0	20.0	45.5	19.0	
3 - Norcot Road	2.70	7.50	8.0	24.5	46.0	26.0	
4 - Oxford Road (W)	4.80	8.50	4.0	68.0	45.5	18.5	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - Portman Road	0.651	460.785
2 - Oxford Road (E)	0.699	503.725
3 - Norcot Road	0.562	336.568
4 - Oxford Road (W)	0.681	466.704

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Portman Road		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

08:15 - 08:30

Demand (Veh/TS)

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	27.00	39.00	40.00
	2 - Oxford Road (E)	53.00	6.00	50.00	99.00
	3 - Norcot Road	61.00	54.00	0.00	17.00
	4 - Oxford Road (W)	110.00	105.00	18.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	38.00	44.00	51.00
	2 - Oxford Road (E)	54.00	7.00	62.00	95.00
	3 - Norcot Road	73.00	56.00	0.00	26.00
	4 - Oxford Road (W)	103.00	104.00	13.00	1.00

08:45 - 09:00

Demand (Veh/TS)

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	42.00	40.00	36.00
	2 - Oxford Road (E)	42.00	11.00	40.00	64.00
	3 - Norcot Road	86.00	62.00	0.00	21.00
	4 - Oxford Road (W)	130.00	113.00	6.00	3.00

09:00 - 09:15

Demand (Veh/TS)

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0.00	36.00	40.00	49.00
	2 - Oxford Road (E)	45.00	15.00	31.00	75.00
	3 - Norcot Road	78.00	47.00	0.00	22.00
	4 - Oxford Road (W)	106.00	126.00	9.00	3.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0	15	0	6
	2 - Oxford Road (E)	8	3	7	9
	3 - Norcot Road	0	6	0	2
	4 - Oxford Road (W)	1	7	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Portman Road	0.42	5.06	0.7	A	121.25	485.00
2 - Oxford Road (E)	0.55	5.12	1.2	A	187.25	749.00
3 - Norcot Road	0.75	17.01	2.9	C	150.75	603.00
4 - Oxford Road (W)	0.81	14.19	3.9	B	237.50	950.00

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	107.00	107.00	181.09	317.04	0.338	106.49	222.89	0.0	0.5	4.264	A
2 - Oxford Road (E)	208.00	208.00	97.44	401.36	0.518	206.94	190.14	0.0	1.1	4.604	A
3 - Norcot Road	132.00	132.00	198.00	211.22	0.625	130.39	106.38	0.0	1.6	10.930	B
4 - Oxford Road (W)	233.00	233.00	173.29	330.34	0.705	230.69	155.10	0.0	2.3	8.839	A

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	134.00	134.00	180.62	315.88	0.424	133.78	230.39	0.5	0.7	4.936	A
2 - Oxford Road (E)	218.00	218.00	109.89	393.35	0.554	217.84	204.50	1.1	1.2	5.122	A
3 - Norcot Road	155.00	155.00	208.83	205.37	0.755	153.74	118.89	1.6	2.9	17.010	C
4 - Oxford Road (W)	221.00	221.00	189.98	319.09	0.693	221.03	172.60	2.3	2.3	9.185	A

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	119.00	119.00	194.41	305.32	0.390	119.09	258.22	0.7	0.6	4.836	A
2 - Oxford Road (E)	157.00	157.00	86.11	410.22	0.383	157.60	227.38	1.2	0.6	3.573	A
3 - Norcot Road	169.00	169.00	157.46	236.16	0.716	169.26	86.26	2.9	2.6	13.528	B
4 - Oxford Road (W)	252.00	252.00	202.23	312.16	0.807	250.39	124.48	2.3	3.9	14.190	B

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	125.00	125.00	200.31	302.74	0.413	124.95	229.79	0.6	0.7	5.061	A
2 - Oxford Road (E)	166.00	166.00	100.90	400.14	0.415	165.92	224.35	0.6	0.7	3.842	A
3 - Norcot Road	147.00	147.00	186.83	219.35	0.670	147.51	79.99	2.6	2.1	12.626	B
4 - Oxford Road (W)	244.00	244.00	185.46	322.10	0.758	244.63	148.87	3.9	3.3	11.730	B

2021 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	15.35	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2021 Base	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Portman Road		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/TS)

08:15 - 08:30

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	29.00	42.00	43.00
	2 - Oxford Road (E)	57.00	6.00	53.00	106.00
	3 - Norcot Road	65.00	58.00	0.00	18.00
	4 - Oxford Road (W)	117.00	112.00	19.00	0.00

Demand (Veh/TS)

08:30 - 08:45

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	41.00	47.00	54.00
	2 - Oxford Road (E)	58.00	7.00	66.00	101.00
	3 - Norcot Road	78.00	60.00	0.00	28.00
	4 - Oxford Road (W)	110.00	111.00	14.00	1.00

Demand (Veh/TS)

08:45 - 09:00

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	45.00	43.00	38.00
	2 - Oxford Road (E)	45.00	12.00	43.00	68.00
	3 - Norcot Road	92.00	66.00	0.00	22.00
	4 - Oxford Road (W)	139.00	121.00	6.00	3.00

Demand (Veh/TS)

09:00 - 09:15

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0.00	38.00	43.00	52.00
	2 - Oxford Road (E)	48.00	16.00	33.00	80.00
	3 - Norcot Road	83.00	50.00	0.00	23.00
	4 - Oxford Road (W)	113.00	135.00	10.00	3.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0	15	0	6
	2 - Oxford Road (E)	8	3	7	9
	3 - Norcot Road	0	6	0	2
	4 - Oxford Road (W)	1	7	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Portman Road	0.46	5.60	0.9	A	129.50	518.00
2 - Oxford Road (E)	0.60	5.73	1.5	A	199.75	799.00
3 - Norcot Road	0.84	24.82	4.5	C	160.75	642.99
4 - Oxford Road (W)	0.89	22.40	6.6	C	253.50	1014.01

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	115.00	115.00	192.41	309.63	0.371	114.41	237.19	0.0	0.6	4.596	A
2 - Oxford Road (E)	222.00	222.00	104.32	396.73	0.560	220.75	202.50	0.0	1.3	5.079	A
3 - Norcot Road	141.00	141.00	211.82	203.02	0.695	138.84	113.25	0.0	2.2	13.604	B
4 - Oxford Road (W)	248.00	248.00	184.75	322.48	0.769	244.85	165.91	0.0	3.2	11.181	B

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	143.00	143.00	192.23	308.23	0.464	142.73	245.85	0.6	0.9	5.429	A
2 - Oxford Road (E)	232.00	232.00	116.87	388.65	0.597	231.80	218.09	1.3	1.5	5.728	A
3 - Norcot Road	166.00	166.00	221.79	197.68	0.840	163.66	126.87	2.2	4.5	24.821	C
4 - Oxford Road (W)	236.00	236.00	202.09	310.83	0.759	236.00	183.36	3.2	3.2	12.026	B

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	127.00	127.00	206.70	297.37	0.427	127.10	275.38	0.9	0.8	5.290	A
2 - Oxford Road (E)	168.00	168.00	91.10	406.94	0.413	168.75	242.69	1.5	0.7	3.789	A
3 - Norcot Road	180.00	180.00	167.55	230.21	0.782	180.68	92.30	4.5	3.8	18.496	C
4 - Oxford Road (W)	269.00	269.00	216.56	302.43	0.889	265.51	131.68	3.2	6.6	22.402	C

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	133.00	133.00	214.61	293.55	0.453	132.93	245.48	0.8	0.8	5.600	A
2 - Oxford Road (E)	177.00	177.00	107.86	395.49	0.448	176.90	239.69	0.7	0.8	4.115	A
3 - Norcot Road	156.00	156.00	198.80	212.27	0.735	156.90	85.96	3.8	2.9	16.537	C
4 - Oxford Road (W)	261.00	261.00	197.81	313.73	0.832	262.28	157.88	6.6	5.4	18.000	C

2021 + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	15.39	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2021 + Development	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Portman Road		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/TS)

08:15 - 08:30

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	29.00	42.00	43.00
	2 - Oxford Road (E)	57.00	6.00	53.00	106.00
	3 - Norcot Road	66.00	58.00	0.00	18.00
	4 - Oxford Road (W)	118.00	112.00	19.00	0.00

Demand (Veh/TS)

08:30 - 08:45

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	41.00	48.00	54.00
	2 - Oxford Road (E)	58.00	7.00	66.00	101.00
	3 - Norcot Road	78.00	60.00	0.00	28.00
	4 - Oxford Road (W)	110.00	111.00	14.00	1.00

Demand (Veh/TS)

08:45 - 09:00

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	45.00	43.00	38.00
	2 - Oxford Road (E)	45.00	12.00	43.00	68.00
	3 - Norcot Road	92.00	66.00	0.00	22.00
	4 - Oxford Road (W)	139.00	121.00	6.00	3.00

Demand (Veh/TS)

09:00 - 09:15

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0.00	39.00	43.00	52.00
	2 - Oxford Road (E)	48.00	16.00	33.00	80.00
	3 - Norcot Road	84.00	50.00	0.00	23.00
	4 - Oxford Road (W)	113.00	135.00	10.00	3.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0	15	0	6
	2 - Oxford Road (E)	8	3	7	9
	3 - Norcot Road	0	6	0	2
	4 - Oxford Road (W)	1	7	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Portman Road	0.47	5.64	0.9	A	130.00	520.00
2 - Oxford Road (E)	0.60	5.75	1.5	A	199.75	799.00
3 - Norcot Road	0.84	24.87	4.5	C	161.25	644.99
4 - Oxford Road (W)	0.89	22.45	6.6	C	253.75	1015.01

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	115.00	115.00	192.36	309.66	0.371	114.41	239.12	0.0	0.6	4.595	A
2 - Oxford Road (E)	222.00	222.00	104.32	396.73	0.560	220.75	202.46	0.0	1.3	5.079	A
3 - Norcot Road	142.00	142.00	211.82	203.05	0.699	139.79	113.24	0.0	2.2	13.787	B
4 - Oxford Road (W)	249.00	249.00	185.71	321.89	0.774	245.77	165.90	0.0	3.2	11.386	B

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	144.00	144.00	192.25	308.34	0.467	143.72	245.90	0.6	0.9	5.458	A
2 - Oxford Road (E)	232.00	232.00	117.86	388.01	0.598	231.79	218.11	1.3	1.5	5.752	A
3 - Norcot Road	166.00	166.00	221.79	197.69	0.840	163.70	127.86	2.2	4.5	24.868	C
4 - Oxford Road (W)	236.00	236.00	202.13	310.80	0.759	236.02	183.36	3.2	3.2	12.052	B

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	127.00	127.00	206.72	297.36	0.427	127.11	275.40	0.9	0.8	5.289	A
2 - Oxford Road (E)	168.00	168.00	91.11	406.93	0.413	168.76	242.72	1.5	0.7	3.789	A
3 - Norcot Road	180.00	180.00	167.56	230.21	0.782	180.68	92.31	4.5	3.8	18.497	C
4 - Oxford Road (W)	269.00	269.00	216.56	302.43	0.889	265.56	131.68	3.2	6.6	22.445	C

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	134.00	134.00	214.56	293.41	0.457	133.92	246.41	0.8	0.8	5.640	A
2 - Oxford Road (E)	177.00	177.00	107.85	395.49	0.448	176.90	240.63	0.7	0.8	4.115	A
3 - Norcot Road	157.00	157.00	198.79	212.30	0.739	157.82	85.96	3.8	3.0	16.798	C
4 - Oxford Road (W)	261.00	261.00	198.75	313.12	0.834	262.22	157.87	6.6	5.4	18.186	C

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

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Filename: Portman Rd - Norcot Rd Rbt - PM.j9
Path: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Tech\Junct Ass\Arcady\Portman Rd - Norcot Rd Rbt\Non-Cal
Report generation date: 05/01/2018 17:18:24

»2017 Observed, PM
»2021 Base, PM
»2021 + Development, PM

Summary of junction performance

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
2017 Observed				
1 - Portman Road	2.7	10.26	0.73	B
2 - Oxford Road (E)	1.9	7.36	0.66	A
3 - Norcot Road	2.5	18.31	0.73	C
4 - Oxford Road (W)	1.5	6.28	0.61	A
2021 Base				
1 - Portman Road	3.8	13.67	0.81	B
2 - Oxford Road (E)	2.4	9.04	0.72	A
3 - Norcot Road	4.0	26.96	0.82	D
4 - Oxford Road (W)	1.9	7.20	0.66	A
2021 + Development				
1 - Portman Road	3.8	13.67	0.81	B
2 - Oxford Road (E)	2.4	9.04	0.72	A
3 - Norcot Road	4.1	27.65	0.83	D
4 - Oxford Road (W)	1.9	7.24	0.66	A

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	11/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	Existing Arrangement

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	PM	DIRECT	17:30	18:30	60	15	✓
D2	2021 Base	PM	DIRECT	17:30	18:30	60	15	✓
D3	2021 + Development	PM	DIRECT	17:30	18:30	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2017 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	9.60	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Portman Road	
2	Oxford Road (E)	
3	Norcot Road	
4	Oxford Road (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Portman Road	3.30	7.50	27.0	20.0	46.0	31.0	
2 - Oxford Road (E)	4.55	7.50	16.0	20.0	45.5	19.0	
3 - Norcot Road	2.70	7.50	8.0	24.5	46.0	26.0	
4 - Oxford Road (W)	4.80	8.50	4.0	68.0	45.5	18.5	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - Portman Road	0.651	460.785
2 - Oxford Road (E)	0.699	503.725
3 - Norcot Road	0.562	336.568
4 - Oxford Road (W)	0.681	466.704

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Portman Road		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

17:30 - 17:45

Demand (Veh/TS)

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	62.00	73.00	93.00
	2 - Oxford Road (E)	34.00	16.00	37.00	100.00
	3 - Norcot Road	51.00	43.00	0.00	22.00
	4 - Oxford Road (W)	54.00	115.00	44.00	7.00

17:45 - 18:00

Demand (Veh/TS)

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	2.00	58.00	74.00	96.00
	2 - Oxford Road (E)	30.00	12.00	60.00	129.00
	3 - Norcot Road	54.00	47.00	0.00	27.00
	4 - Oxford Road (W)	65.00	97.00	20.00	3.00

18:00 - 18:15

Demand (Veh/TS)

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	57.00	77.00	95.00
	2 - Oxford Road (E)	33.00	22.00	44.00	99.00
	3 - Norcot Road	43.00	42.00	0.00	20.00
	4 - Oxford Road (W)	68.00	113.00	18.00	3.00

18:15 - 18:30

Demand (Veh/TS)

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0.00	54.00	78.00	89.00
	2 - Oxford Road (E)	33.00	23.00	54.00	110.00
	3 - Norcot Road	30.00	46.00	1.00	18.00
	4 - Oxford Road (W)	69.00	91.00	14.00	2.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0	0	0	1
	2 - Oxford Road (E)	12	0	5	2
	3 - Norcot Road	2	5	0	1
	4 - Oxford Road (W)	0	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Portman Road	0.73	10.26	2.7	B	227.50	910.00
2 - Oxford Road (E)	0.66	7.36	1.9	A	209.00	836.00
3 - Norcot Road	0.73	18.31	2.5	C	111.00	444.00
4 - Oxford Road (W)	0.61	6.28	1.5	A	195.75	783.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	229.00	229.00	223.16	311.63	0.735	226.35	138.70	0.0	2.7	10.260	B
2 - Oxford Road (E)	187.00	187.00	215.71	337.58	0.554	185.78	233.79	0.0	1.2	5.882	A
3 - Norcot Road	116.00	116.00	248.88	187.79	0.618	114.44	152.60	0.0	1.6	12.032	B
4 - Oxford Road (W)	220.00	220.00	143.40	360.26	0.611	218.46	219.92	0.0	1.5	6.280	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	230.00	230.00	179.12	340.33	0.676	230.52	150.59	2.7	2.1	8.238	A
2 - Oxford Road (E)	231.00	231.00	195.56	351.94	0.656	230.36	214.08	1.2	1.9	7.362	A
3 - Norcot Road	128.00	128.00	271.81	175.13	0.731	127.02	154.11	1.6	2.5	18.315	C
4 - Oxford Road (W)	185.00	185.00	144.24	359.83	0.514	185.47	254.59	1.5	1.1	5.175	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	230.00	230.00	198.21	327.85	0.702	229.84	145.51	2.1	2.3	9.160	A
2 - Oxford Road (E)	198.00	198.00	193.88	352.65	0.561	198.57	234.18	1.9	1.3	5.864	A
3 - Norcot Road	105.00	105.00	253.33	185.25	0.567	106.19	139.12	2.5	1.3	11.551	B
4 - Oxford Road (W)	202.00	202.00	141.90	361.12	0.559	201.82	217.62	1.1	1.3	5.642	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	221.00	221.00	177.24	341.70	0.647	221.42	132.25	2.3	1.9	7.513	A
2 - Oxford Road (E)	220.00	220.00	184.34	359.35	0.612	219.75	214.32	1.3	1.6	6.435	A
3 - Norcot Road	95.00	95.00	257.05	182.71	0.520	95.24	147.04	1.3	1.1	10.319	B
4 - Oxford Road (W)	176.00	176.00	133.17	367.37	0.479	176.32	219.12	1.3	0.9	4.720	A

2021 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	12.65	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2021 Base	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Portman Road		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/TS)

17:30 - 17:45

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	66.00	78.00	99.00
	2 - Oxford Road (E)	36.00	17.00	39.00	106.00
	3 - Norcot Road	54.00	46.00	0.00	23.00
	4 - Oxford Road (W)	57.00	122.00	47.00	7.00

Demand (Veh/TS)

17:45 - 18:00

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	2.00	62.00	79.00	102.00
	2 - Oxford Road (E)	32.00	13.00	64.00	137.00
	3 - Norcot Road	57.00	50.00	0.00	29.00
	4 - Oxford Road (W)	69.00	103.00	21.00	3.00

Demand (Veh/TS)

18:00 - 18:15

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	61.00	82.00	101.00
	2 - Oxford Road (E)	35.00	23.00	47.00	105.00
	3 - Norcot Road	46.00	45.00	0.00	21.00
	4 - Oxford Road (W)	72.00	120.00	19.00	3.00

Demand (Veh/TS)

18:15 - 18:30

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0.00	57.00	83.00	95.00
	2 - Oxford Road (E)	35.00	24.00	57.00	117.00
	3 - Norcot Road	32.00	49.00	1.00	19.00
	4 - Oxford Road (W)	73.00	97.00	15.00	2.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0	0	0	1
	2 - Oxford Road (E)	12	0	5	2
	3 - Norcot Road	2	5	0	1
	4 - Oxford Road (W)	0	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Portman Road	0.81	13.67	3.8	B	242.25	969.00
2 - Oxford Road (E)	0.72	9.04	2.4	A	221.75	887.00
3 - Norcot Road	0.82	26.96	4.0	D	118.00	472.00
4 - Oxford Road (W)	0.66	7.20	1.9	A	207.50	830.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	244.00	244.00	236.68	302.66	0.806	240.16	146.35	0.0	3.8	13.665	B
2 - Oxford Road (E)	198.00	198.00	228.76	328.84	0.602	196.52	248.08	0.0	1.5	6.730	A
3 - Norcot Road	123.00	123.00	263.18	179.71	0.684	120.94	162.10	0.0	2.1	14.842	B
4 - Oxford Road (W)	233.00	233.00	151.91	354.24	0.658	231.12	232.20	0.0	1.9	7.204	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	245.00	245.00	189.91	333.17	0.735	245.96	159.20	3.8	2.9	10.440	B
2 - Oxford Road (E)	246.00	246.00	207.93	343.62	0.716	245.05	227.94	1.5	2.4	9.040	A
3 - Norcot Road	136.00	136.00	288.78	165.58	0.821	134.08	164.20	2.1	4.0	26.958	D
4 - Oxford Road (W)	196.00	196.00	152.49	354.00	0.554	196.62	270.37	1.9	1.3	5.740	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	245.00	245.00	210.51	319.67	0.766	244.73	154.93	2.9	3.2	11.939	B
2 - Oxford Road (E)	210.00	210.00	205.79	344.63	0.609	210.85	249.46	2.4	1.6	6.769	A
3 - Norcot Road	112.00	112.00	268.48	176.71	0.634	114.18	148.16	4.0	1.8	14.854	B
4 - Oxford Road (W)	214.00	214.00	151.69	354.22	0.604	213.76	230.97	1.3	1.5	6.395	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	235.00	235.00	188.33	334.32	0.703	235.72	140.36	3.2	2.4	9.199	A
2 - Oxford Road (E)	233.00	233.00	196.56	351.12	0.664	232.66	227.48	1.6	1.9	7.573	A
3 - Norcot Road	101.00	101.00	273.11	173.68	0.582	101.37	156.11	1.8	1.4	12.514	B
4 - Oxford Road (W)	187.00	187.00	141.26	361.63	0.517	187.42	233.22	1.5	1.1	5.178	A

2021 + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	12.78	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2021 + Development	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Portman Road		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/TS)

17:30 - 17:45

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	66.00	78.00	99.00
	2 - Oxford Road (E)	36.00	17.00	39.00	106.00
	3 - Norcot Road	55.00	46.00	0.00	23.00
	4 - Oxford Road (W)	57.00	122.00	47.00	7.00

Demand (Veh/TS)

17:45 - 18:00

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	2.00	62.00	79.00	102.00
	2 - Oxford Road (E)	32.00	13.00	64.00	137.00
	3 - Norcot Road	58.00	50.00	0.00	29.00
	4 - Oxford Road (W)	69.00	103.00	21.00	3.00

Demand (Veh/TS)

18:00 - 18:15

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	1.00	61.00	82.00	101.00
	2 - Oxford Road (E)	35.00	23.00	47.00	105.00
	3 - Norcot Road	46.00	45.00	0.00	21.00
	4 - Oxford Road (W)	72.00	120.00	19.00	3.00

Demand (Veh/TS)

18:15 - 18:30

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0.00	58.00	83.00	95.00
	2 - Oxford Road (E)	35.00	24.00	57.00	117.00
	3 - Norcot Road	33.00	49.00	1.00	19.00
	4 - Oxford Road (W)	73.00	97.00	15.00	2.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Portman Road	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Portman Road	0	0	0	1
	2 - Oxford Road (E)	12	0	5	2
	3 - Norcot Road	2	5	0	1
	4 - Oxford Road (W)	0	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Portman Road	0.81	13.67	3.8	B	242.50	970.00
2 - Oxford Road (E)	0.72	9.04	2.4	A	221.75	887.00
3 - Norcot Road	0.83	27.65	4.1	D	118.75	475.00
4 - Oxford Road (W)	0.66	7.24	1.9	A	207.50	830.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	244.00	244.00	236.66	302.68	0.806	240.16	147.32	0.0	3.8	13.665	B
2 - Oxford Road (E)	198.00	198.00	228.76	328.84	0.602	196.52	248.06	0.0	1.5	6.730	A
3 - Norcot Road	124.00	124.00	263.18	179.72	0.690	121.89	162.10	0.0	2.1	15.065	C
4 - Oxford Road (W)	233.00	233.00	152.87	353.59	0.659	231.11	232.20	0.0	1.9	7.236	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	245.00	245.00	189.89	333.18	0.735	245.96	160.16	3.8	2.9	10.439	B
2 - Oxford Road (E)	246.00	246.00	207.93	343.62	0.716	245.05	227.91	1.5	2.4	9.040	A
3 - Norcot Road	137.00	137.00	288.78	165.59	0.827	134.99	164.20	2.1	4.1	27.648	D
4 - Oxford Road (W)	196.00	196.00	153.42	353.36	0.555	196.62	270.35	1.9	1.3	5.766	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	245.00	245.00	210.55	319.64	0.766	244.73	155.00	2.9	3.2	11.943	B
2 - Oxford Road (E)	210.00	210.00	205.79	344.63	0.609	210.85	249.50	2.4	1.6	6.771	A
3 - Norcot Road	112.00	112.00	268.48	176.71	0.634	114.31	148.16	4.1	1.8	14.917	B
4 - Oxford Road (W)	214.00	214.00	151.80	354.15	0.604	213.76	230.99	1.3	1.5	6.398	A

18:15 - 18:30

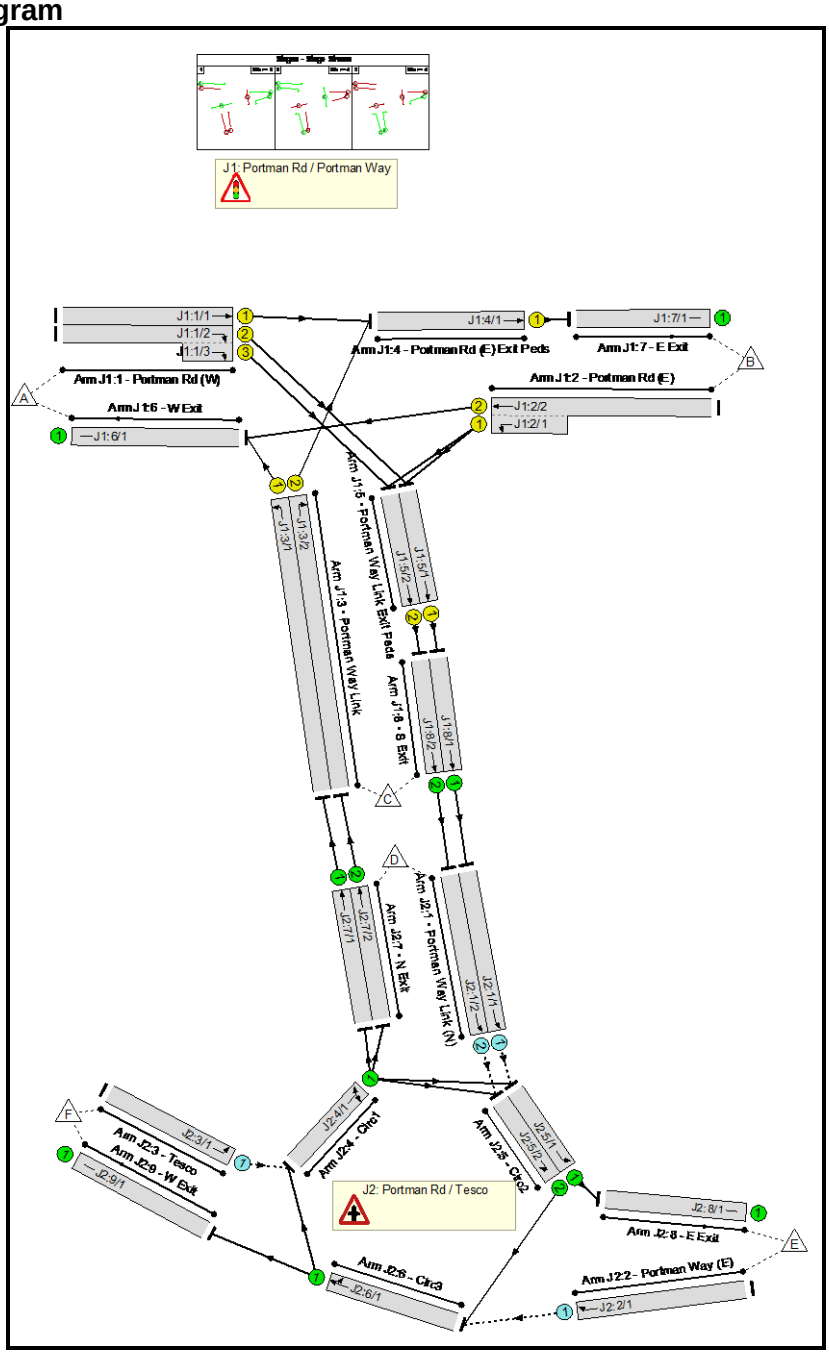
Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Portman Road	236.00	236.00	188.31	334.33	0.706	236.68	141.33	3.2	2.5	9.287	A
2 - Oxford Road (E)	233.00	233.00	196.55	351.14	0.664	232.66	228.45	1.6	1.9	7.572	A
3 - Norcot Road	102.00	102.00	273.10	173.71	0.587	102.34	156.10	1.8	1.5	12.677	B
4 - Oxford Road (W)	187.00	187.00	142.23	360.97	0.518	187.41	233.21	1.5	1.1	5.199	A

Full Input Data And Results

User and Project Details

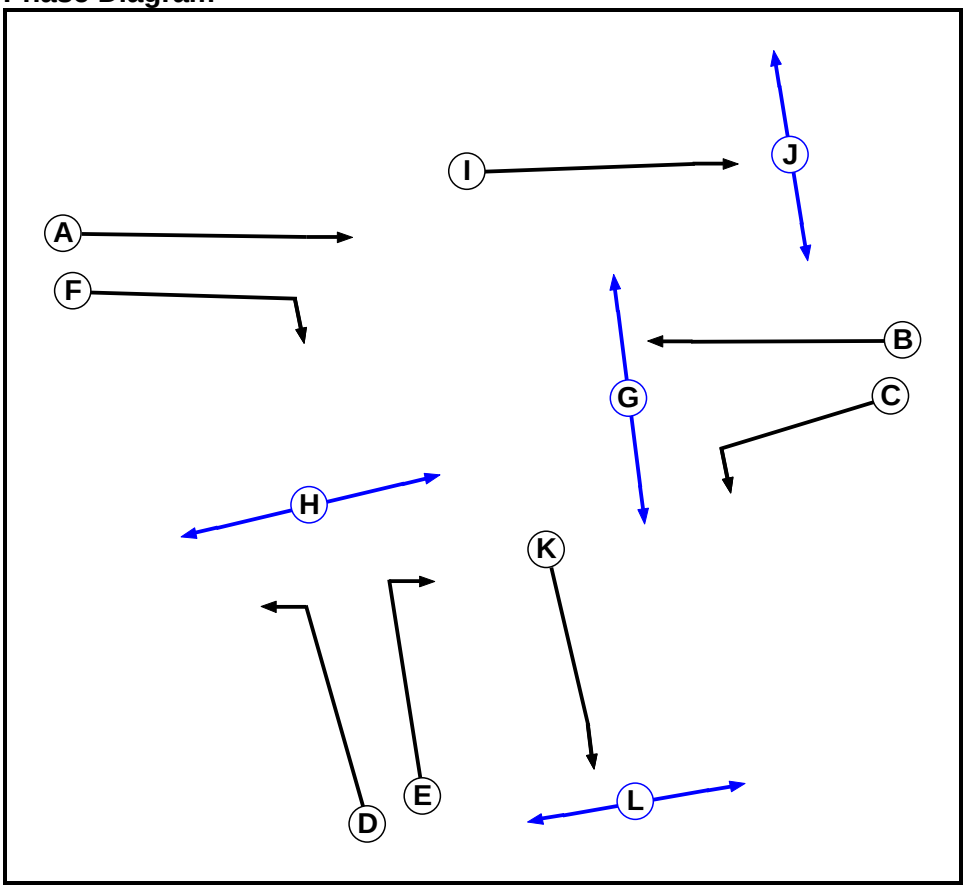
Project:	**ITB12282 Battle Hospital Site, Reading**
Title:	**Portman Rd / Portman Way / Tesco**
Location:	
Additional detail:	
File name:	Portman Rd_Portman Way_Tesco.lsg3x
Author:	AL
Company:	i-T
Address:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		-9999	7
B	Traffic	1		-9999	7
C	Traffic	1		-9999	7
D	Traffic	1		-9999	7
E	Traffic	1		-9999	7
F	Traffic	1		-9999	7
G	Pedestrian	1		-9999	5
H	Pedestrian	1		-9999	5
I	Traffic	2		-9999	7
J	Pedestrian	2		-9999	5
K	Traffic	3		-9999	7
L	Pedestrian	3		-9999	5

Full Input Data And Results

Phase Intergreens Matrix

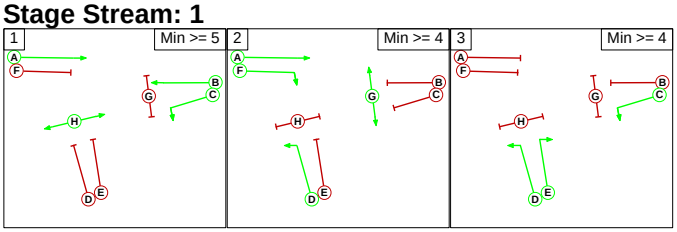
Terminating Phase \ Starting Phase	A	B	C	D	E	F	G	H	I	J	K	L
A		-	-	-	5	-	-	-	-	-	-	-
B	-		-	8	7	5	5	-	-	-	-	-
C	-	-		-	-	5	5	-	-	-	-	-
D	-	5	-		-	-	-	5	-	-	-	-
E	7	5	-	-		7	-	5	-	-	-	-
F	-	7	8	-	5		-	-	-	-	-	-
G	-	7	7	-	-	-		-	-	-	-	-
H	-	-	-	7	7	-	-		-	-	-	-
I	-	-	-	-	-	-	-	-		5	-	-
J	-	-	-	-	-	-	-	-	7		-	-
K	-	-	-	-	-	-	-	-	-	-		5
L	-	-	-	-	-	-	-	-	-	-	7	

Phases in Stage

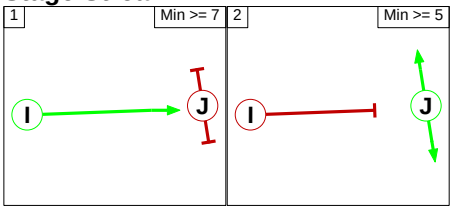
Stream	Stage No.	Phases in Stage
1	1	A B C H
1	2	A D F G
1	3	C D E
2	1	I
2	2	J
3	1	K
3	2	L

Stage Diagram

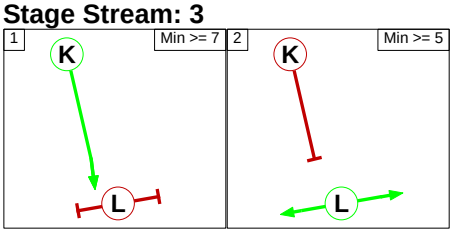
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Full Input Data And Results

Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Stage Stream: 3

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

Prohibited Stage Change

Stage Stream: 1

	To Stage			
From Stage		1	2	3
	1		8	8
	2	8		8
	3	7	7	

Stage Stream: 2

	To Stage		
From Stage		1	2
	1		5
	2	7	

Stage Stream: 3

	To Stage		
From Stage		1	2
	1		5
	2	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: Portman Rd / Portman Way
There are no Opposed Lanes in this Junction

Junction: J2: Portman Rd / Tesco											
Lane	**Movement**	**Max Flow when Giving Way (PCU/Hr)**	**Min Flow when Giving Way (PCU/Hr)**	**Opposing Lane**	**Opp. Lane Coeff.**	**Opp. Mvmnts.**	**Right Turn Storage (PCU)**	**Non-Blocking Storage (PCU)**	**RTF**	**Right Turn Move up (s)**	**Max Turns in Intergreen (PCU)**
J2:1/1 (Portman Way Link (N))	J2:5/1 (Ahead)	1067	0	J2:4/1	1.09	To J2:5/1 (Right) To J2:5/2 (Right)	-	-	-	-	-
J2:1/2 (Portman Way Link (N))	J2:5/2 (Ahead)	1067	0	J2:4/1	0.60	To J2:5/1 (Right) To J2:5/2 (Right)	-	-	-	-	-
J2:2/1 (Portman Way (E))	J2:6/1 (Ahead)	1301	0	J2:5/2	0.58	All	-	-	-	-	-
J2:3/1 (Tesco)	J2:4/1 (Left)	1371	0	J2:6/1	0.60	To J2:4/1 (Right)	-	-	-	-	-

Full Input Data And Results

Lane Input Data

Junction: J1: Portman Rd / Portman Way												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
J1:1/1 (Portman Rd (W))	U	A	2	3	60.0	User	1900	-	-	-	-	-
J1:1/2 (Portman Rd (W))	U	F	2	3	15.8	User	1900	-	-	-	-	-
J1:1/3 (Portman Rd (W))	U	F	2	3	4.2	User	1900	-	-	-	-	-
J1:2/1 (Portman Rd (E))	U	C	2	3	6.3	User	1900	-	-	-	-	-
J1:2/2 (Portman Rd (E))	U	B	2	3	60.0	User	1900	-	-	-	-	-
J1:3/1 (Portman Way Link)	U	D	2	3	8.3	User	1900	-	-	-	-	-
J1:3/2 (Portman Way Link)	U	E	2	3	8.3	User	1900	-	-	-	-	-
J1:4/1 (Portman Rd (E) Exit Peds)	U	I	2	3	7.0	Geom	-	3.50	0.00	N	Arm J1:7 Ahead	Inf
J1:5/1 (Portman Way Link Exit Peds)	U	K	2	3	8.3	Geom	-	3.65	0.00	N	Arm J1:8 Ahead	Inf
J1:5/2 (Portman Way Link Exit Peds)	U	K	2	3	8.3	Geom	-	3.65	0.00	N	Arm J1:8 Ahead	Inf
J1:6/1 (W Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:7/1 (E Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J1:8/1 (S Exit)	U		2	3	4.3	Inf	-	-	-	-	-	-
J1:8/2 (S Exit)	U		2	3	4.3	Inf	-	-	-	-	-	-

Full Input Data And Results

Junction: J2: Portman Rd / Tesco

Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J2:1/1 (Portman Way Link (N))	O		2	3	6.7	Inf	-	-	-	-	-	-
J2:1/2 (Portman Way Link (N))	O		2	3	6.7	Inf	-	-	-	-	-	-
J2:2/1 (Portman Way (E))	O		2	3	60.0	Inf	-	-	-	-	-	-
J2:3/1 (Tesco)	O		2	3	60.0	Inf	-	-	-	-	-	-
J2:4/1 (Circ1)	U		2	3	3.3	Inf	-	-	-	-	-	-
J2:5/1 (Circ2)	U		2	3	3.0	Inf	-	-	-	-	-	-
J2:5/2 (Circ2)	U		2	3	3.0	Inf	-	-	-	-	-	-
J2:6/1 (Circ3)	U		2	3	5.8	Inf	-	-	-	-	-	-
J2:7/1 (N Exit)	U		2	3	2.5	Inf	-	-	-	-	-	-
J2:7/2 (N Exit)	U		2	3	2.5	Inf	-	-	-	-	-	-
J2:8/1 (E Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:9/1 (W Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2017 AM Observed'	08:15	09:15	01:00	
2: '2017 PM Observed'	17:30	18:30	01:00	
3: '2021 AM Future Traffic'	08:15	09:15	01:00	
4: '2021 PM Future Traffic '	17:30	18:30	01:00	
5: '2021 AM with redistributed site traffic + development'	08:15	09:15	01:00	
6: '2021 PM with redistributed site traffic + development'	17:30	18:30	01:00	

Scenario 1: '1' (FG1: '2017 AM Observed', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	657	153	0	0	0	810
	B	349	0	100	0	0	0	449
	C	96	107	0	0	0	0	203
	D	0	0	0	6	47	201	254
	E	0	0	0	72	0	12	84
	F	0	0	0	133	4	0	137
	Tot.	445	764	253	211	51	213	1937

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 1
Junction: J1: Portman Rd / Portman Way	
J1:1/1	657
J1:1/2 (with short)	153(In) 30(Out)
J1:1/3 (short)	123
J1:2/1 (short)	100
J1:2/2 (with short)	449(In) 349(Out)
J1:3/1	96
J1:3/2	107
J1:4/1	764
J1:5/1	49
J1:5/2	204
J1:6/1	445
J1:7/1	764
J1:8/1	49
J1:8/2	204
Junction: J2: Portman Rd / Tesco	
J2:1/1	47
J2:1/2	207
J2:2/1	84
J2:3/1	137
J2:4/1	215
J2:5/1	51
J2:5/2	207
J2:6/1	291
J2:7/1	96
J2:7/2	115
J2:8/1	51
J2:9/1	213

Full Input Data And Results

Lane Saturation Flows

Junction: J1: Portman Rd / Portman Way								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Portman Rd (W) Lane 1)	This lane uses a directly entered Saturation Flow						1856	1856
J1:1/2 (Portman Rd (W) Lane 2)	This lane uses a directly entered Saturation Flow						2240	2240
J1:1/3 (Portman Rd (W) Lane 3)	This lane uses a directly entered Saturation Flow						2240	2240
J1:2/1 (Portman Rd (E) Lane 1)	This lane uses a directly entered Saturation Flow						2151	2151
J1:2/2 (Portman Rd (E) Lane 2)	This lane uses a directly entered Saturation Flow						1920	1920
J1:3/1 (Portman Way Link Lane 1)	This lane uses a directly entered Saturation Flow						2075	2075
J1:3/2 (Portman Way Link Lane 2)	This lane uses a directly entered Saturation Flow						2019	2019
J1:4/1 (Portman Rd (E) Exit Peds)	3.50	0.00	N	Arm J1:7 Ahead	Inf	100.0 %	2105	2105
J1:5/1 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:5/2 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:6/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (S Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: Portman Rd / Tesco								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Portman Way Link (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:1/2 (Portman Way Link (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:2/1 (Portman Way (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Tesco Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:4/1 (Circ1 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (Circ3 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (N Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:8/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:9/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2' (FG2: '2017 PM Observed', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	398	174	0	0	0	572
	B	540	0	206	0	0	0	746
	C	209	111	0	0	0	0	320
	D	0	0	0	2	88	292	382
	E	0	0	0	36	1	3	40
	F	0	0	0	284	7	0	291
	Tot.	749	509	380	322	96	295	2351

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2
Junction: J1: Portman Rd / Portman Way	
J1:1/1	398
J1:1/2 (with short)	174(In) 40(Out)
J1:1/3 (short)	134
J1:2/1 (short)	206
J1:2/2 (with short)	746(In) 540(Out)
J1:3/1	209
J1:3/2	111
J1:4/1	509
J1:5/1	87
J1:5/2	293
J1:6/1	749
J1:7/1	509
J1:8/1	87
J1:8/2	293
Junction: J2: Portman Rd / Tesco	
J2:1/1	88
J2:1/2	294
J2:2/1	40
J2:3/1	291
J2:4/1	330
J2:5/1	96
J2:5/2	294
J2:6/1	334
J2:7/1	211
J2:7/2	111
J2:8/1	96
J2:9/1	295

Full Input Data And Results

Lane Saturation Flows

Junction: J1: Portman Rd / Portman Way								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Portman Rd (W) Lane 1)	This lane uses a directly entered Saturation Flow						2006	2006
J1:1/2 (Portman Rd (W) Lane 2)	This lane uses a directly entered Saturation Flow						2057	2057
J1:1/3 (Portman Rd (W) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
J1:2/1 (Portman Rd (E) Lane 1)	This lane uses a directly entered Saturation Flow						2267	2267
J1:2/2 (Portman Rd (E) Lane 2)	This lane uses a directly entered Saturation Flow						1914	1914
J1:3/1 (Portman Way Link Lane 1)	This lane uses a directly entered Saturation Flow						2075	2075
J1:3/2 (Portman Way Link Lane 2)	This lane uses a directly entered Saturation Flow						2234	2234
J1:4/1 (Portman Rd (E) Exit Peds)	3.50	0.00	N	Arm J1:7 Ahead	Inf	100.0 %	2105	2105
J1:5/1 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:5/2 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:6/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (S Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: Portman Rd / Tesco								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Portman Way Link (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:1/2 (Portman Way Link (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:2/1 (Portman Way (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Tesco Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:4/1 (Circ1 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (Circ3 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (N Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:8/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:9/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 3: '3' (FG3: '2021 AM Future Traffic', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	702	163	0	0	0	865
	B	373	0	107	0	0	0	480
	C	103	114	0	0	0	0	217
	D	0	0	0	6	50	215	271
	E	0	0	0	77	0	13	90
	F	0	0	0	142	4	0	146
	Tot.	476	816	270	225	54	228	2069

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: 3
Junction: J1: Portman Rd / Portman Way	
J1:1/1	702
J1:1/2 (with short)	163(In) 30(Out)
J1:1/3 (short)	133
J1:2/1 (short)	107
J1:2/2 (with short)	480(In) 373(Out)
J1:3/1	103
J1:3/2	114
J1:4/1	816
J1:5/1	50
J1:5/2	220
J1:6/1	476
J1:7/1	816
J1:8/1	50
J1:8/2	220
Junction: J2: Portman Rd / Tesco	
J2:1/1	50
J2:1/2	221
J2:2/1	90
J2:3/1	146
J2:4/1	229
J2:5/1	54
J2:5/2	221
J2:6/1	311
J2:7/1	111
J2:7/2	114
J2:8/1	54
J2:9/1	228

Full Input Data And Results

Lane Saturation Flows

Junction: J1: Portman Rd / Portman Way								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Portman Rd (W) Lane 1)	This lane uses a directly entered Saturation Flow						1856	1856
J1:1/2 (Portman Rd (W) Lane 2)	This lane uses a directly entered Saturation Flow						2240	2240
J1:1/3 (Portman Rd (W) Lane 3)	This lane uses a directly entered Saturation Flow						2240	2240
J1:2/1 (Portman Rd (E) Lane 1)	This lane uses a directly entered Saturation Flow						2151	2151
J1:2/2 (Portman Rd (E) Lane 2)	This lane uses a directly entered Saturation Flow						1920	1920
J1:3/1 (Portman Way Link Lane 1)	This lane uses a directly entered Saturation Flow						2075	2075
J1:3/2 (Portman Way Link Lane 2)	This lane uses a directly entered Saturation Flow						2019	2019
J1:4/1 (Portman Rd (E) Exit Peds)	3.50	0.00	N	Arm J1:7 Ahead	Inf	100.0 %	2105	2105
J1:5/1 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:5/2 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:6/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (S Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: Portman Rd / Tesco								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Portman Way Link (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:1/2 (Portman Way Link (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:2/1 (Portman Way (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Tesco Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:4/1 (Circ1 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (Circ3 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (N Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:8/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:9/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 4: '4' (FG4: '2021 PM Future Traffic ', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	423	185	0	0	0	608
	B	573	0	219	0	0	0	792
	C	222	118	0	0	0	0	340
	D	0	0	0	2	93	310	405
	E	0	0	0	38	1	3	42
	F	0	0	0	302	7	0	309
	Tot.	795	541	404	342	101	313	2496

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 4
Junction: J1: Portman Rd / Portman Way	
J1:1/1	423
J1:1/2 (with short)	185(In) 42(Out)
J1:1/3 (short)	143
J1:2/1 (short)	219
J1:2/2 (with short)	792(In) 573(Out)
J1:3/1	222
J1:3/2	118
J1:4/1	541
J1:5/1	92
J1:5/2	312
J1:6/1	795
J1:7/1	541
J1:8/1	92
J1:8/2	312
Junction: J2: Portman Rd / Tesco	
J2:1/1	93
J2:1/2	312
J2:2/1	42
J2:3/1	309
J2:4/1	350
J2:5/1	101
J2:5/2	312
J2:6/1	354
J2:7/1	224
J2:7/2	118
J2:8/1	101
J2:9/1	313

Full Input Data And Results

Lane Saturation Flows

Junction: J1: Portman Rd / Portman Way								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Portman Rd (W) Lane 1)	This lane uses a directly entered Saturation Flow						2006	2006
J1:1/2 (Portman Rd (W) Lane 2)	This lane uses a directly entered Saturation Flow						2057	2057
J1:1/3 (Portman Rd (W) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
J1:2/1 (Portman Rd (E) Lane 1)	This lane uses a directly entered Saturation Flow						2267	2267
J1:2/2 (Portman Rd (E) Lane 2)	This lane uses a directly entered Saturation Flow						1914	1914
J1:3/1 (Portman Way Link Lane 1)	This lane uses a directly entered Saturation Flow						2075	2075
J1:3/2 (Portman Way Link Lane 2)	This lane uses a directly entered Saturation Flow						2234	2234
J1:4/1 (Portman Rd (E) Exit Peds)	3.50	0.00	N	Arm J1:7 Ahead	Inf	100.0 %	2105	2105
J1:5/1 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:5/2 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:6/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (S Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: Portman Rd / Tesco								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Portman Way Link (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:1/2 (Portman Way Link (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:2/1 (Portman Way (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Tesco Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:4/1 (Circ1 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (Circ3 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (N Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:8/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:9/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 5: '5' (FG5: '2021 AM with redistributed site traffic + development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	699	169	0	0	0	868
	B	372	0	126	0	0	0	498
	C	107	141	0	0	0	0	248
	D	0	0	0	6	74	215	295
	E	0	0	0	108	0	13	121
	F	0	0	0	142	4	0	146
	Tot.	479	840	295	256	78	228	2176

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: 5
Junction: J1: Portman Rd / Portman Way	
J1:1/1	699
J1:1/2 (with short)	169(In) 85(Out)
J1:1/3 (short)	84
J1:2/1 (short)	126
J1:2/2 (with short)	498(In) 372(Out)
J1:3/1	107
J1:3/2	141
J1:4/1	840
J1:5/1	209
J1:5/2	86
J1:6/1	479
J1:7/1	840
J1:8/1	209
J1:8/2	86
Junction: J2: Portman Rd / Tesco	
J2:1/1	74
J2:1/2	221
J2:2/1	121
J2:3/1	146
J2:4/1	260
J2:5/1	78
J2:5/2	221
J2:6/1	342
J2:7/1	128
J2:7/2	128
J2:8/1	78
J2:9/1	228

Full Input Data And Results

Lane Saturation Flows

Junction: J1: Portman Rd / Portman Way								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Portman Rd (W) Lane 1)	This lane uses a directly entered Saturation Flow						1856	1856
J1:1/2 (Portman Rd (W) Lane 2)	This lane uses a directly entered Saturation Flow						2240	2240
J1:1/3 (Portman Rd (W) Lane 3)	This lane uses a directly entered Saturation Flow						2240	2240
J1:2/1 (Portman Rd (E) Lane 1)	This lane uses a directly entered Saturation Flow						2151	2151
J1:2/2 (Portman Rd (E) Lane 2)	This lane uses a directly entered Saturation Flow						1920	1920
J1:3/1 (Portman Way Link Lane 1)	This lane uses a directly entered Saturation Flow						2075	2075
J1:3/2 (Portman Way Link Lane 2)	This lane uses a directly entered Saturation Flow						2019	2019
J1:4/1 (Portman Rd (E) Exit Peds)	3.50	0.00	N	Arm J1:7 Ahead	Inf	100.0 %	2105	2105
J1:5/1 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:5/2 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:6/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (S Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Junction: J2: Portman Rd / Tesco								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Portman Way Link (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:1/2 (Portman Way Link (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:2/1 (Portman Way (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Tesco Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:4/1 (Circ1 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (Circ3 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (N Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:8/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:9/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 6: '6' (FG6: '2021 PM with redistributed site traffic + development', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	423	189	0	0	0	612
	B	570	0	253	0	0	0	823
	C	228	147	0	0	0	0	375
	D	0	0	0	2	132	310	444
	E	0	0	0	73	1	3	77
	F	0	0	0	302	7	0	309
	Tot.	798	570	442	377	140	313	2640

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: 6
Junction: J1: Portman Rd / Portman Way	
J1:1/1	423
J1:1/2 (with short)	189(In) 96(Out)
J1:1/3 (short)	93
J1:2/1 (short)	253
J1:2/2 (with short)	823(In) 570(Out)
J1:3/1	228
J1:3/2	147
J1:4/1	570
J1:5/1	255
J1:5/2	187
J1:6/1	798
J1:7/1	570
J1:8/1	255
J1:8/2	187
Junction: J2: Portman Rd / Tesco	
J2:1/1	132
J2:1/2	312
J2:2/1	77
J2:3/1	309
J2:4/1	385
J2:5/1	140
J2:5/2	312
J2:6/1	389
J2:7/1	189
J2:7/2	188
J2:8/1	140
J2:9/1	313

Full Input Data And Results

Lane Saturation Flows

Junction: J1: Portman Rd / Portman Way								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J1:1/1 (Portman Rd (W) Lane 1)	This lane uses a directly entered Saturation Flow						2006	2006
J1:1/2 (Portman Rd (W) Lane 2)	This lane uses a directly entered Saturation Flow						2057	2057
J1:1/3 (Portman Rd (W) Lane 3)	This lane uses a directly entered Saturation Flow						2000	2000
J1:2/1 (Portman Rd (E) Lane 1)	This lane uses a directly entered Saturation Flow						2267	2267
J1:2/2 (Portman Rd (E) Lane 2)	This lane uses a directly entered Saturation Flow						1914	1914
J1:3/1 (Portman Way Link Lane 1)	This lane uses a directly entered Saturation Flow						2075	2075
J1:3/2 (Portman Way Link Lane 2)	This lane uses a directly entered Saturation Flow						2234	2234
J1:4/1 (Portman Rd (E) Exit Peds)	3.50	0.00	N	Arm J1:7 Ahead	Inf	100.0 %	2105	2105
J1:5/1 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:5/2 (Portman Way Link Exit Peds)	3.65	0.00	N	Arm J1:8 Ahead	Inf	100.0 %	2120	2120
J1:6/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:7/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/1 (S Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J1:8/2 (S Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

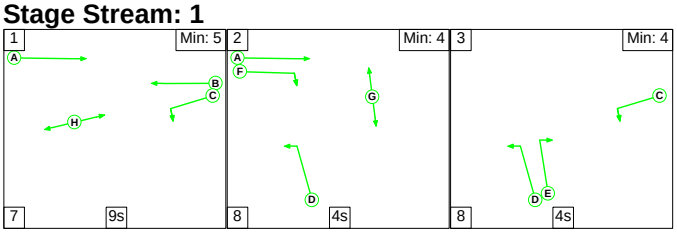
Full Input Data And Results

Junction: J2: Portman Rd / Tesco								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
J2:1/1 (Portman Way Link (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:1/2 (Portman Way Link (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:2/1 (Portman Way (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:3/1 (Tesco Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:4/1 (Circ1 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/1 (Circ2 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:5/2 (Circ2 Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:6/1 (Circ3 Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/1 (N Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:7/2 (N Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
J2:8/1 (E Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
J2:9/1 (W Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

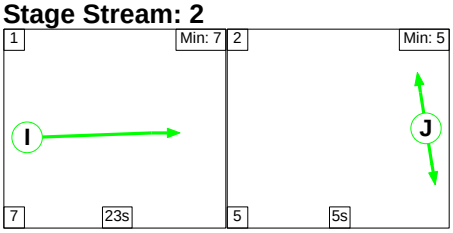
Scenario 1: '1' (FG1: '2017 AM Observed', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

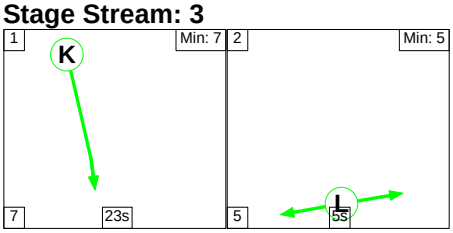
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Full Input Data And Results

Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	9	4	4
Change Point	4	20	32

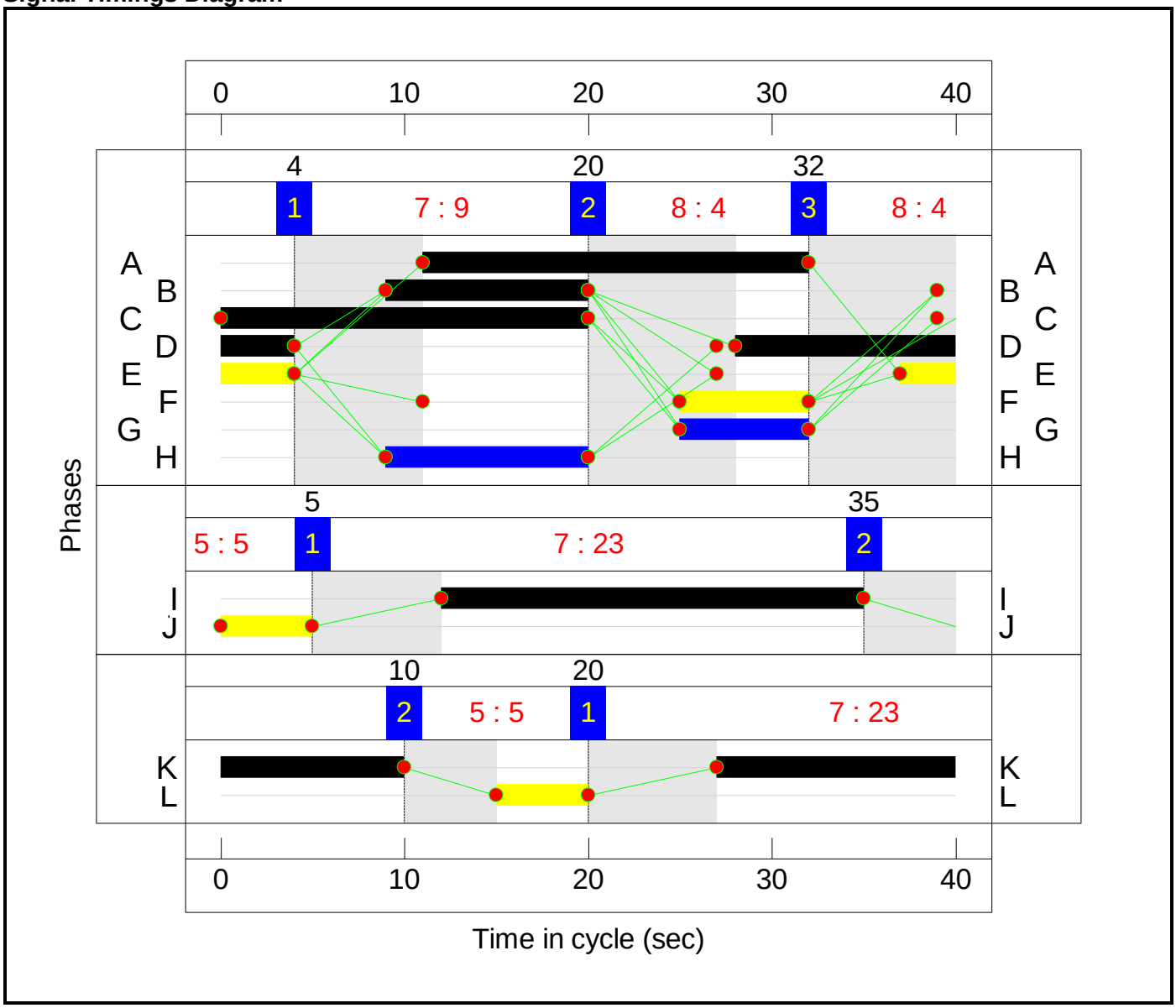
Stage Stream: 2

Stage	1	2
Duration	23	5
Change Point	5	35

Stage Stream: 3

Stage	1	2
Duration	23	5
Change Point	20	10

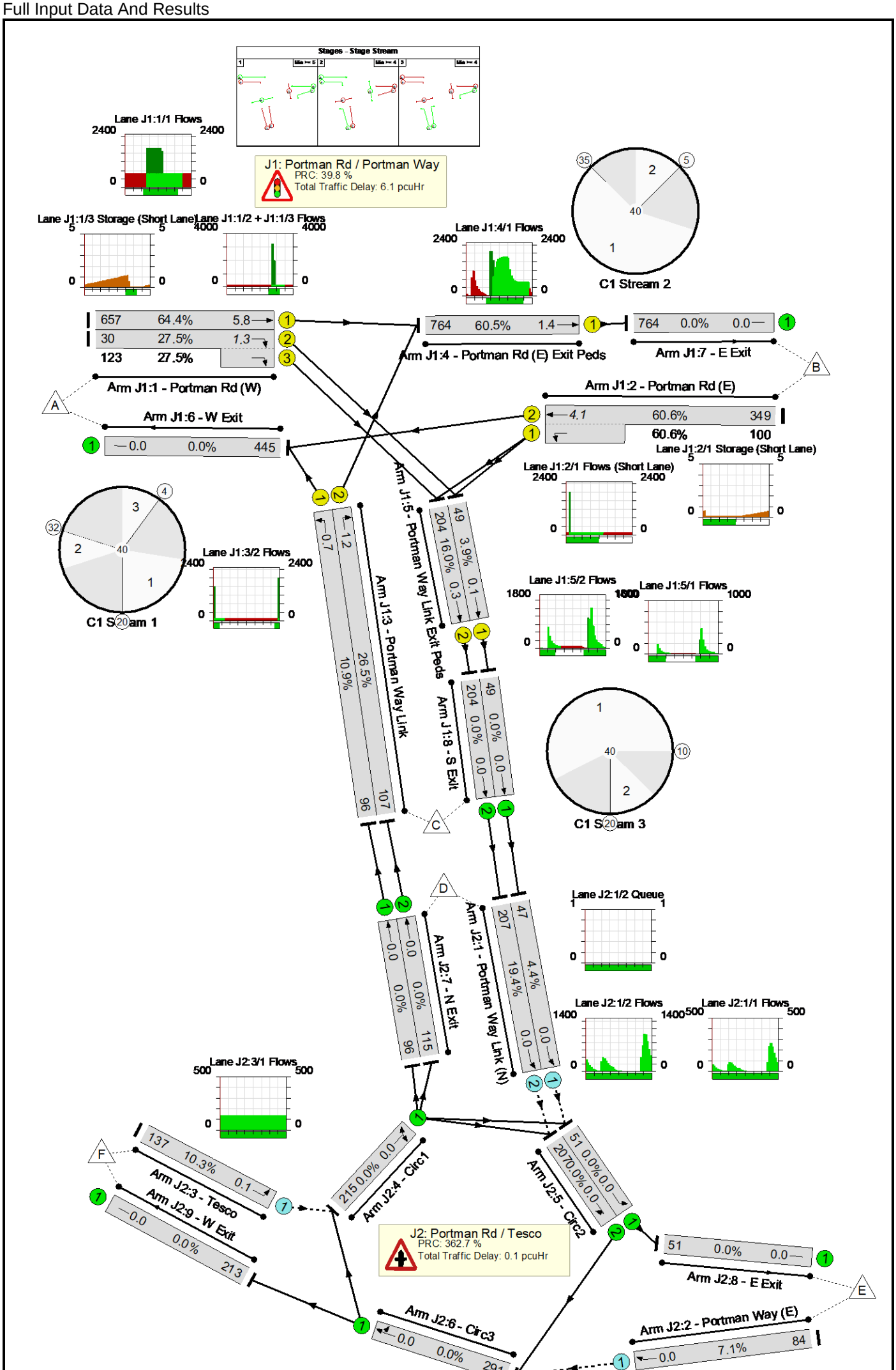
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results



Full Input Data And Results

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**64.4%**
J1: Portman Rd / Portman Way	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**64.4%**
1/1	Portman Rd (W) Ahead	U	1	N/A	A		1	21	-	657	1856	1021	64.4%
1/2+1/3	Portman Rd (W) Right	U	1	N/A	F		1	7	-	153	2240:2240	109+448	27.5 : 27.5%
2/2+2/1	Portman Rd (E) Left Ahead	U	1	N/A	B C		1	11:20	-	449	1920:2151	576+165	60.6 : 60.6%
3/1	Portman Way Link Left	U	1	N/A	D		1	16	-	96	2075	882	10.9%
3/2	Portman Way Link Right	U	1	N/A	E		1	7	-	107	2019	404	26.5%
4/1	Portman Rd (E) Exit Peds Ahead	U	2	N/A	I		1	23	-	764	2105	1263	60.5%
5/1	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	23	-	49	2120	1272	3.9%
5/2	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	23	-	204	2120	1272	16.0%
6/1	W Exit	U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%
7/1	E Exit	U	N/A	N/A	-		-	-	-	764	Inf	Inf	0.0%
8/1	S Exit Ahead	U	N/A	N/A	-		-	-	-	49	Inf	Inf	0.0%
8/2	S Exit Ahead	U	N/A	N/A	-		-	-	-	204	Inf	Inf	0.0%
J2: Portman Rd / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**19.4%**
1/1	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	47	Inf	1062	4.4%
1/2	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	207	Inf	1064	19.4%

Full Input Data And Results

2/1	Portman Way (E) Ahead	O	N/A	N/A	-		-	-	-	84	Inf	1181	7.1%
3/1	Tesco Left	O	N/A	N/A	-		-	-	-	137	Inf	1324	10.3%
4/1	Circ1 Right Left	U	N/A	N/A	-		-	-	-	215	Inf	Inf	0.0%
5/1	Circ2 Left	U	N/A	N/A	-		-	-	-	51	Inf	Inf	0.0%
5/2	Circ2 U-Turn	U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
6/1	Circ3 Right Ahead	U	N/A	N/A	-		-	-	-	291	Inf	Inf	0.0%
7/1	N Exit Ahead	U	N/A	N/A	-		-	-	-	96	Inf	Inf	0.0%
7/2	N Exit Ahead	U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
8/1	E Exit	U	N/A	N/A	-		-	-	-	51	Inf	Inf	0.0%
9/1	W Exit	U	N/A	N/A	-		-	-	-	213	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**475**	**0**	**0**	**4.1**	**2.2**	**0.0**	**6.2**	**-**	**-**	**-**	**-**
J1: Portman Rd / Portman Way	**-**	**-**	**0**	**0**	**0**	**4.1**	**2.1**	**0.0**	**6.1**	**-**	**-**	**-**	**-**
1/1	657	657	-	-	-	1.1	0.9	-	2.0	11.2	4.9	0.9	5.8
1/2+1/3	153	153	-	-	-	0.6	0.2	-	0.8 (0.1+0.6)	17.9 (17.6:18.0)	1.1	0.2	1.3
2/2+2/1	449	449	-	-	-	1.3	0.8	-	2.1 (1.8+0.3)	16.5 (18.1:10.9)	3.3	0.8	4.1
3/1	96	96	-	-	-	0.2	0.1	-	0.3	9.5	0.6	0.1	0.7
3/2	107	107	-	-	-	0.4	0.2	-	0.6	19.8	1.0	0.2	1.2
4/1	764	764	-	-	-	0.4	0.0	-	0.4	1.7	1.4	0.0	1.4
5/1	49	49	-	-	-	0.0	0.0	-	0.0	1.3	0.1	0.0	0.1
5/2	204	204	-	-	-	0.1	0.0	-	0.1	1.3	0.3	0.0	0.3
6/1	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	764	764	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	49	49	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	204	204	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Portman Rd / Tesco	**-**	**-**	**475**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
1/1	47	47	47	0	0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	207	207	207	0	0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	84	84	84	0	0	0.0	0.0	-	0.0	1.6	0.0	0.0	0.0
3/1	137	137	137	0	0	0.0	0.1	-	0.1	1.5	0.0	0.1	0.1
4/1	215	215	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	51	51	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	291	291	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

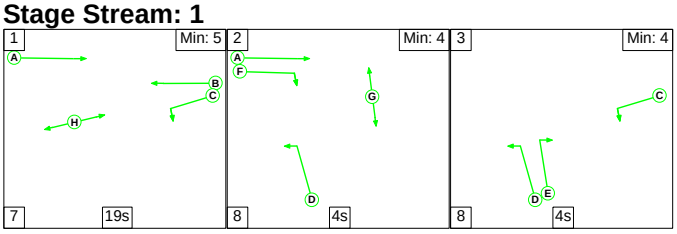
7/1	96	96	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	51	51	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	213	213	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	39.8	Total Delay for Signalled Lanes (pcuHr):	5.71	Cycle Time (s):	40
C1	Stream: 2 PRC for Signalled Lanes (%):	48.8	Total Delay for Signalled Lanes (pcuHr):	0.35	Cycle Time (s):	40
C1	Stream: 3 PRC for Signalled Lanes (%):	461.2	Total Delay for Signalled Lanes (pcuHr):	0.09	Cycle Time (s):	40
	PRC Over All Lanes (%):	39.8	Total Delay Over All Lanes(pcuHr):	6.25		

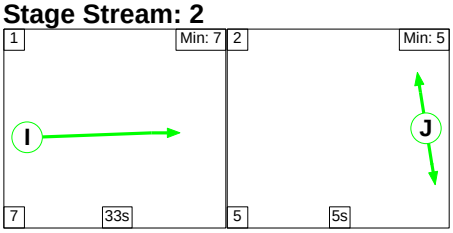
Full Input Data And Results
Scenario 2: '2' (FG2: '2017 PM Observed', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

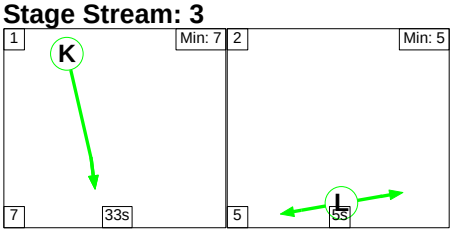
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	19	4	4
Change Point	3	29	41

Stage Stream: 2

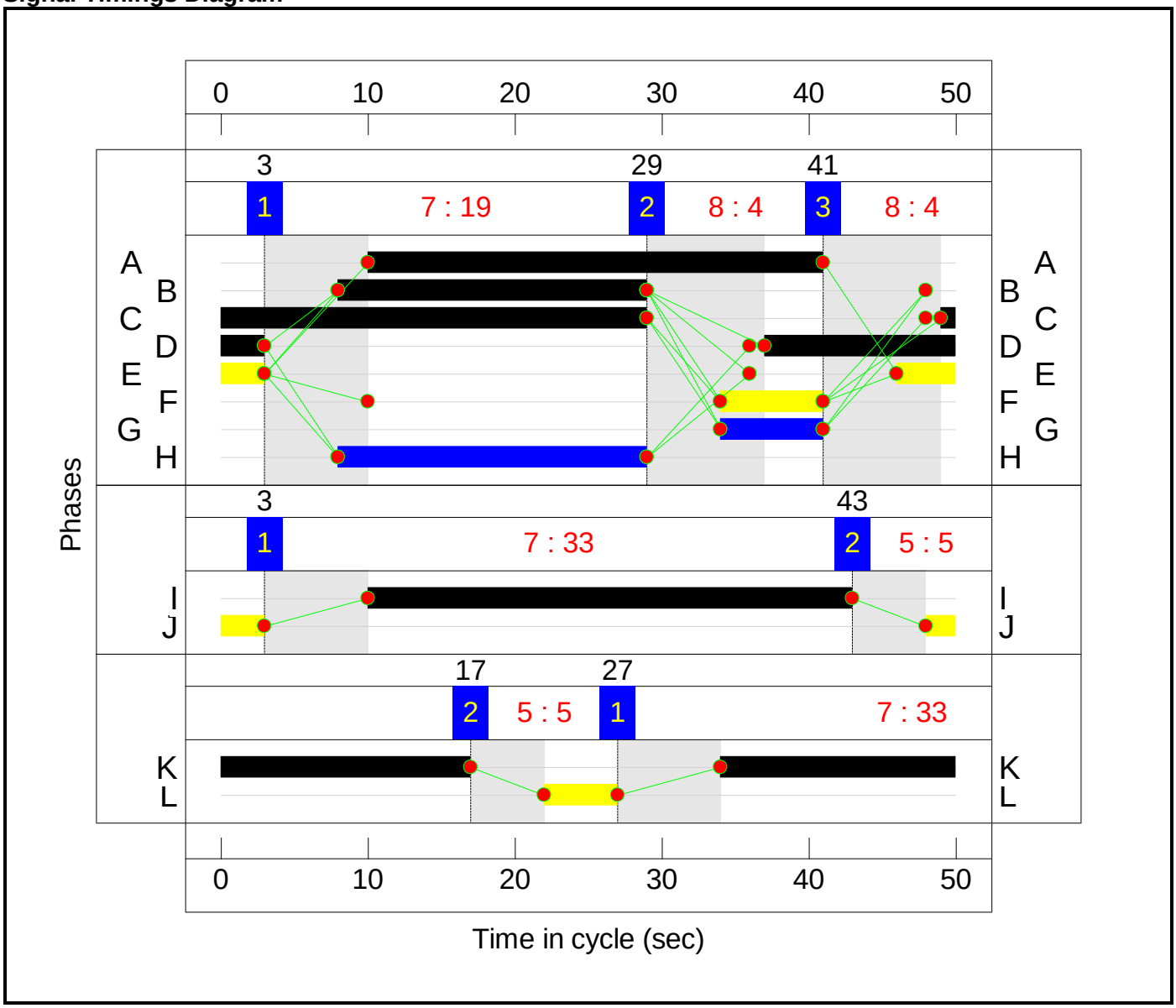
Stage	1	2
Duration	33	5
Change Point	3	43

Stage Stream: 3

Stage	1	2
Duration	33	5
Change Point	27	17

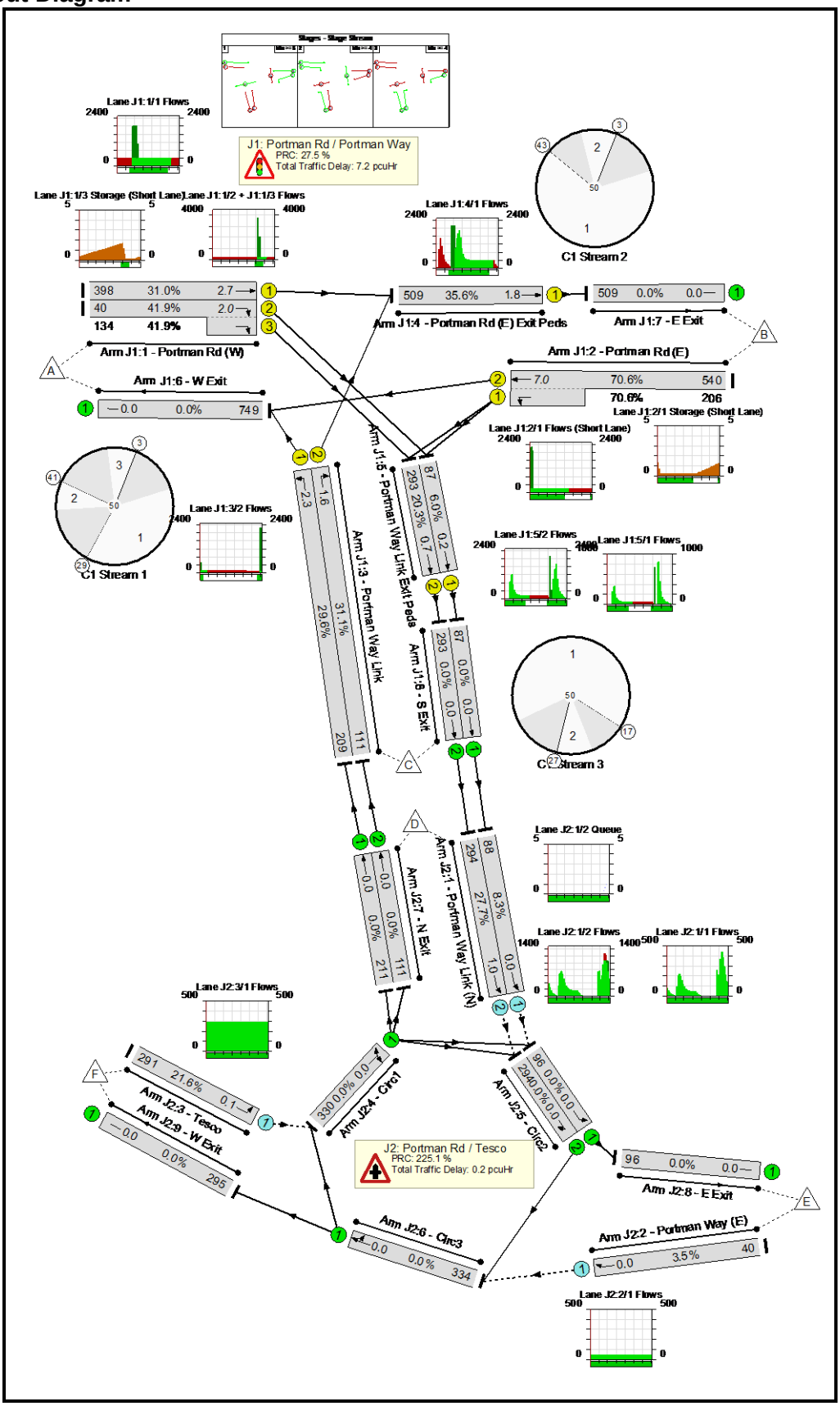
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**70.6%**
J1: Portman Rd / Portman Way	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**70.6%**
1/1	Portman Rd (W) Ahead	U	1	N/A	A		1	31	-	398	2006	1284	31.0%
1/2+1/3	Portman Rd (W) Right	U	1	N/A	F		1	7	-	174	2057:2000	96+320	41.9 : 41.9%
2/2+2/1	Portman Rd (E) Left Ahead	U	1	N/A	B C		1	21:30	-	746	1914:2267	765+292	70.6 : 70.6%
3/1	Portman Way Link Left	U	1	N/A	D		1	16	-	209	2075	705	29.6%
3/2	Portman Way Link Right	U	1	N/A	E		1	7	-	111	2234	357	31.1%
4/1	Portman Rd (E) Exit Peds Ahead	U	2	N/A	I		1	33	-	509	2105	1431	35.6%
5/1	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	33	-	87	2120	1442	6.0%
5/2	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	33	-	293	2120	1442	20.3%
6/1	W Exit	U	N/A	N/A	-		-	-	-	749	Inf	Inf	0.0%
7/1	E Exit	U	N/A	N/A	-		-	-	-	509	Inf	Inf	0.0%
8/1	S Exit Ahead	U	N/A	N/A	-		-	-	-	87	Inf	Inf	0.0%
8/2	S Exit Ahead	U	N/A	N/A	-		-	-	-	293	Inf	Inf	0.0%
J2: Portman Rd / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**27.7%**
1/1	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	88	Inf	1058	8.3%
1/2	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	294	Inf	1062	27.7%

Full Input Data And Results

2/1	Portman Way (E) Ahead	O	N/A	N/A	-		-	-	-	40	Inf	1130	3.5%
3/1	Tesco Left	O	N/A	N/A	-		-	-	-	291	Inf	1347	21.6%
4/1	Circ1 Right Left	U	N/A	N/A	-		-	-	-	330	Inf	Inf	0.0%
5/1	Circ2 Left	U	N/A	N/A	-		-	-	-	96	Inf	Inf	0.0%
5/2	Circ2 U-Turn	U	N/A	N/A	-		-	-	-	294	Inf	Inf	0.0%
6/1	Circ3 Right Ahead	U	N/A	N/A	-		-	-	-	334	Inf	Inf	0.0%
7/1	N Exit Ahead	U	N/A	N/A	-		-	-	-	211	Inf	Inf	0.0%
7/2	N Exit Ahead	U	N/A	N/A	-		-	-	-	111	Inf	Inf	0.0%
8/1	E Exit	U	N/A	N/A	-		-	-	-	96	Inf	Inf	0.0%
9/1	W Exit	U	N/A	N/A	-		-	-	-	295	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**713**	**0**	**0**	**5.0**	**2.4**	**0.0**	**7.4**	**-**	**-**	**-**	**-**
J1: Portman Rd / Portman Way	**-**	**-**	**0**	**0**	**0**	**5.0**	**2.2**	**0.0**	**7.2**	**-**	**-**	**-**	**-**
1/1	398	398	-	-	-	0.4	0.2	-	0.7	6.1	2.4	0.2	2.7
1/2+1/3	174	174	-	-	-	0.9	0.4	-	1.3 (0.3+1.0)	26.1 (25.5:26.3)	1.7	0.4	2.0
2/2+2/1	746	746	-	-	-	1.9	1.2	-	3.1 (2.5+0.6)	14.8 (16.7:9.7)	5.9	1.2	7.0
3/1	209	209	-	-	-	0.7	0.2	-	0.9	15.8	2.1	0.2	2.3
3/2	111	111	-	-	-	0.6	0.2	-	0.8	26.0	1.4	0.2	1.6
4/1	509	509	-	-	-	0.3	0.0	-	0.3	2.4	1.8	0.0	1.8
5/1	87	87	-	-	-	0.0	0.0	-	0.0	1.5	0.2	0.0	0.2
5/2	293	293	-	-	-	0.1	0.0	-	0.1	1.5	0.7	0.0	0.7
6/1	749	749	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	509	509	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	87	87	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	293	293	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Portman Rd / Tesco	**-**	**-**	**713**	**0**	**0**	**0.0**	**0.2**	**0.0**	**0.2**	**-**	**-**	**-**	**-**
1/1	88	88	88	0	0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	294	294	294	0	0	0.0	0.0	-	0.0	0.1	1.0	0.0	1.0
2/1	40	40	40	0	0	0.0	0.0	-	0.0	1.7	0.0	0.0	0.0
3/1	291	291	291	0	0	0.0	0.1	-	0.1	1.7	0.0	0.1	0.1
4/1	330	330	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	96	96	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	294	294	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	334	334	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

7/1	211	211	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	111	111	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	96	96	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	295	295	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

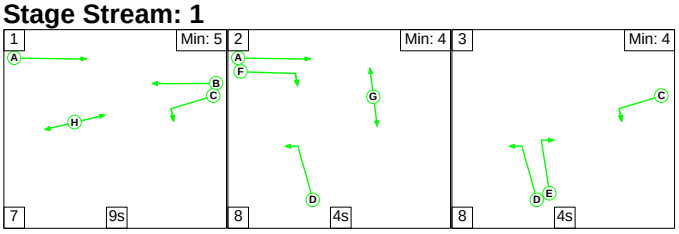
C1	Stream: 1 PRC for Signalled Lanes (%):	27.5	Total Delay for Signalled Lanes (pcuHr):	6.71	Cycle Time (s):	50
C1	Stream: 2 PRC for Signalled Lanes (%):	153.1	Total Delay for Signalled Lanes (pcuHr):	0.34	Cycle Time (s):	50
C1	Stream: 3 PRC for Signalled Lanes (%):	342.8	Total Delay for Signalled Lanes (pcuHr):	0.16	Cycle Time (s):	50
	PRC Over All Lanes (%):	27.5	Total Delay Over All Lanes(pcuHr):	7.36		

Full Input Data And Results

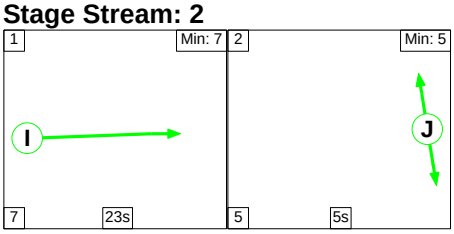
Scenario 3: '3' (FG3: '2021 AM Future Traffic', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

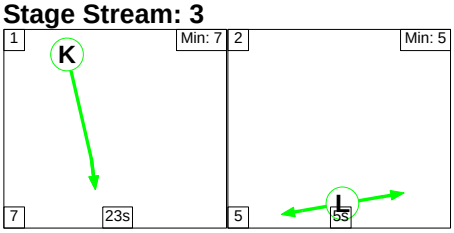
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	9	4	4
Change Point	4	20	32

Stage Stream: 2

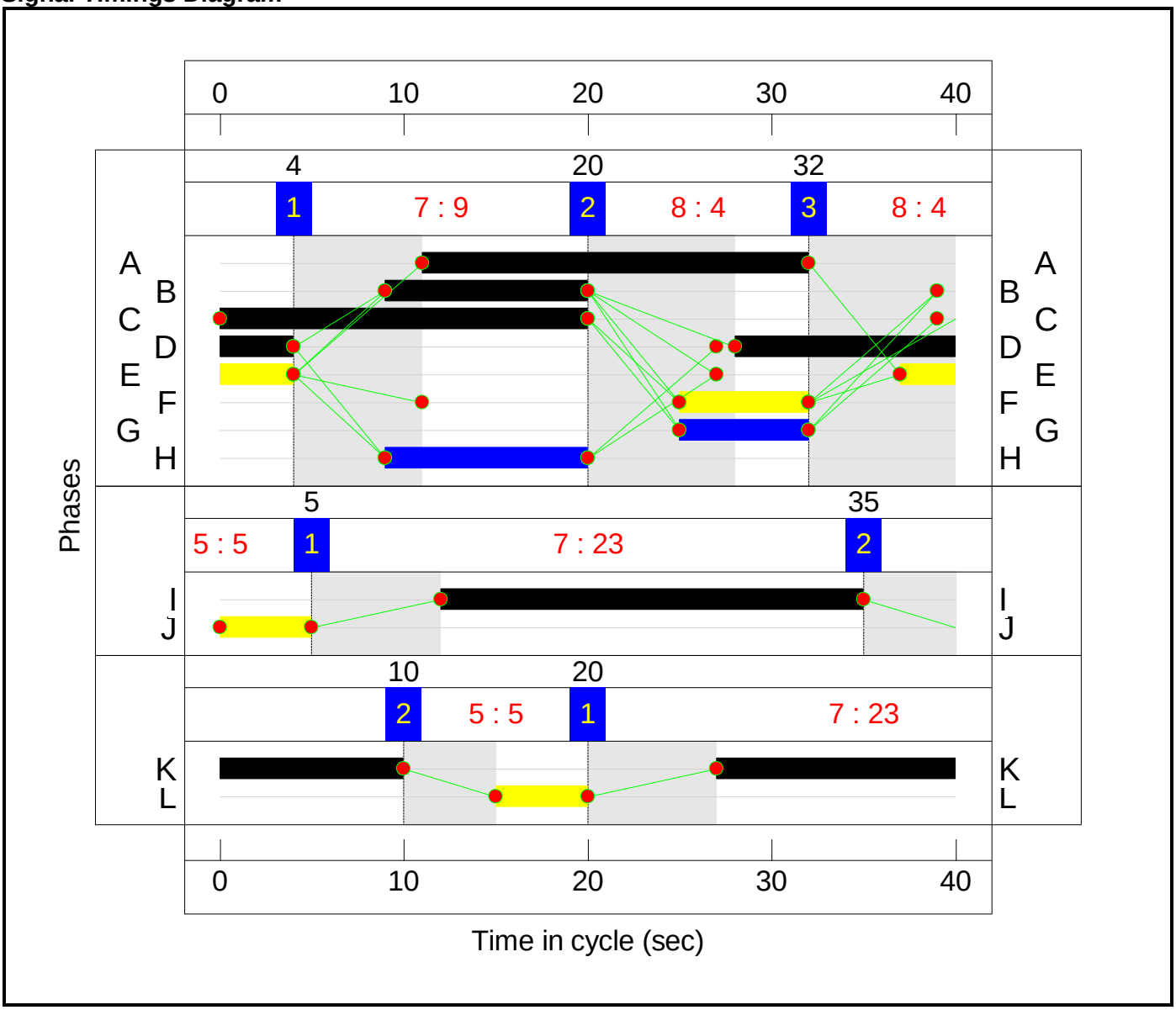
Stage	1	2
Duration	23	5
Change Point	5	35

Stage Stream: 3

Stage	1	2
Duration	23	5
Change Point	20	10

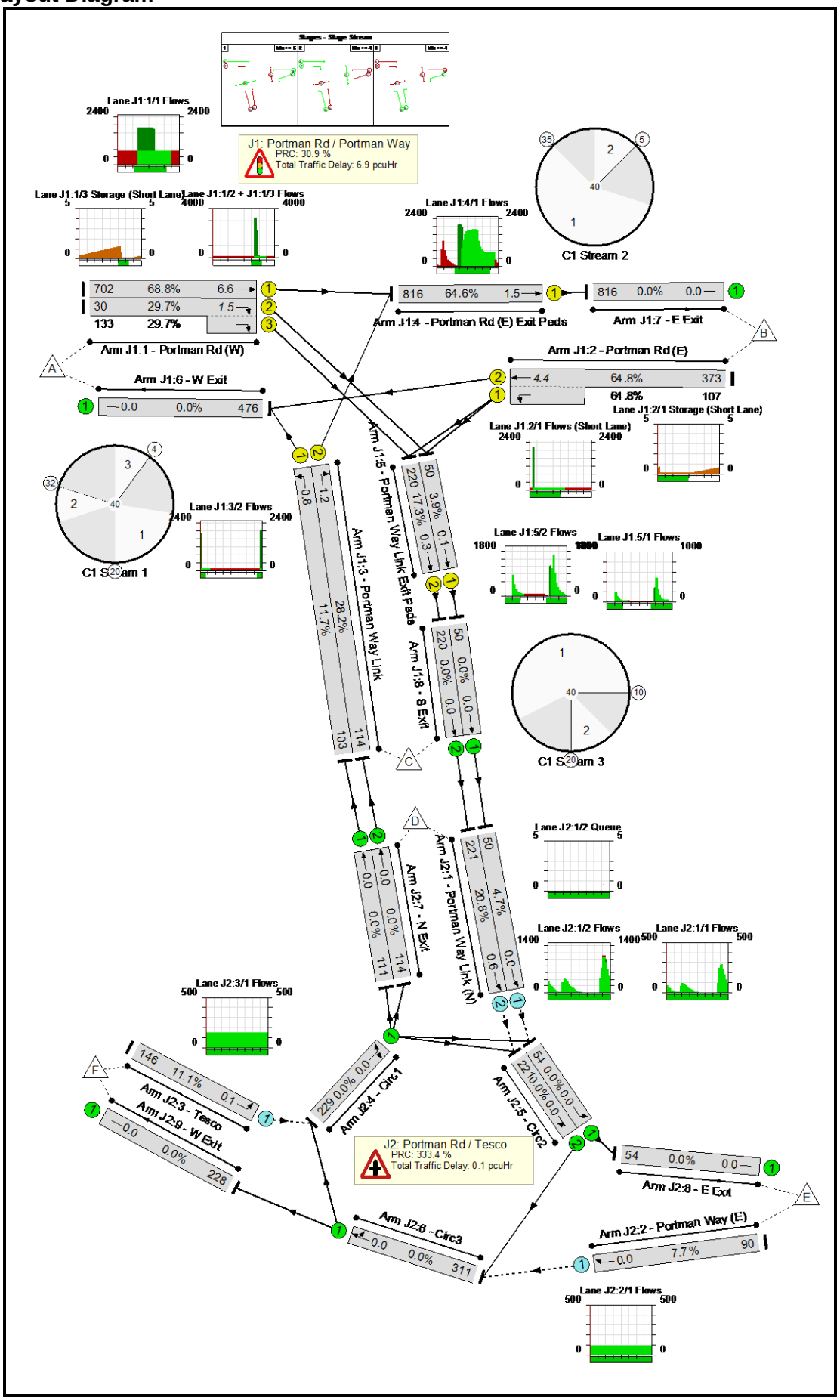
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**68.8%**
J1: Portman Rd / Portman Way	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**68.8%**
1/1	Portman Rd (W) Ahead	U	1	N/A	A		1	21	-	702	1856	1021	68.8%
1/2+1/3	Portman Rd (W) Right	U	1	N/A	F		1	7	-	163	2240:2240	101+448	29.7 : 29.7%
2/2+2/1	Portman Rd (E) Left Ahead	U	1	N/A	B C		1	11:20	-	480	1920:2151	576+165	64.8 : 64.8%
3/1	Portman Way Link Left	U	1	N/A	D		1	16	-	103	2075	882	11.7%
3/2	Portman Way Link Right	U	1	N/A	E		1	7	-	114	2019	404	28.2%
4/1	Portman Rd (E) Exit Peds Ahead	U	2	N/A	I		1	23	-	816	2105	1263	64.6%
5/1	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	23	-	50	2120	1272	3.9%
5/2	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	23	-	220	2120	1272	17.3%
6/1	W Exit	U	N/A	N/A	-		-	-	-	476	Inf	Inf	0.0%
7/1	E Exit	U	N/A	N/A	-		-	-	-	816	Inf	Inf	0.0%
8/1	S Exit Ahead	U	N/A	N/A	-		-	-	-	50	Inf	Inf	0.0%
8/2	S Exit Ahead	U	N/A	N/A	-		-	-	-	220	Inf	Inf	0.0%
J2: Portman Rd / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**20.8%**
1/1	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	50	Inf	1062	4.7%
1/2	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	221	Inf	1064	20.8%

Full Input Data And Results

2/1	Portman Way (E) Ahead	O	N/A	N/A	-		-	-	-	90	Inf	1172	7.7%
3/1	Tesco Left	O	N/A	N/A	-		-	-	-	146	Inf	1321	11.1%
4/1	Circ1 Right Left	U	N/A	N/A	-		-	-	-	229	Inf	Inf	0.0%
5/1	Circ2 Left	U	N/A	N/A	-		-	-	-	54	Inf	Inf	0.0%
5/2	Circ2 U-Turn	U	N/A	N/A	-		-	-	-	221	Inf	Inf	0.0%
6/1	Circ3 Right Ahead	U	N/A	N/A	-		-	-	-	311	Inf	Inf	0.0%
7/1	N Exit Ahead	U	N/A	N/A	-		-	-	-	111	Inf	Inf	0.0%
7/2	N Exit Ahead	U	N/A	N/A	-		-	-	-	114	Inf	Inf	0.0%
8/1	E Exit	U	N/A	N/A	-		-	-	-	54	Inf	Inf	0.0%
9/1	W Exit	U	N/A	N/A	-		-	-	-	228	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**507**	**0**	**0**	**4.4**	**2.6**	**0.0**	**7.0**	**-**	**-**	**-**	**-**
J1: Portman Rd / Portman Way	**-**	**-**	**0**	**0**	**0**	**4.4**	**2.5**	**0.0**	**6.9**	**-**	**-**	**-**	**-**
1/1	702	702	-	-	-	1.3	1.1	-	2.4	12.1	5.5	1.1	6.6
1/2+1/3	163	163	-	-	-	0.6	0.2	-	0.8 (0.1+0.7)	18.2 (17.9:18.3)	1.3	0.2	1.5
2/2+2/1	480	480	-	-	-	1.4	0.9	-	2.3 (2.0+0.3)	17.4 (19.0:11.6)	3.5	0.9	4.4
3/1	103	103	-	-	-	0.2	0.1	-	0.3	9.5	0.7	0.1	0.8
3/2	114	114	-	-	-	0.4	0.2	-	0.6	20.0	1.0	0.2	1.2
4/1	816	816	-	-	-	0.4	0.0	-	0.4	1.7	1.5	0.0	1.5
5/1	50	50	-	-	-	0.0	0.0	-	0.0	1.3	0.1	0.0	0.1
5/2	220	220	-	-	-	0.1	0.0	-	0.1	1.3	0.3	0.0	0.3
6/1	476	476	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	816	816	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	50	50	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	220	220	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Portman Rd / Tesco	**-**	**-**	**507**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.1**	**-**	**-**	**-**	**-**
1/1	50	50	50	0	0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	221	221	221	0	0	0.0	0.0	-	0.0	0.0	0.6	0.0	0.6
2/1	90	90	90	0	0	0.0	0.0	-	0.0	1.7	0.0	0.0	0.0
3/1	146	146	146	0	0	0.0	0.1	-	0.1	1.5	0.0	0.1	0.1
4/1	229	229	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	54	54	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	311	311	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

7/1	111	111	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	114	114	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	54	54	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	228	228	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

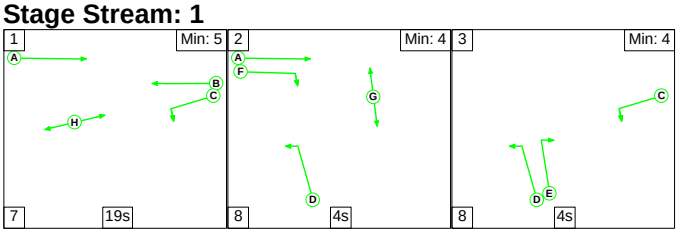
C1	Stream: 1 PRC for Signalled Lanes (%):	30.9	Total Delay for Signalled Lanes (pcuHr):	6.41	Cycle Time (s):	40
C1	Stream: 2 PRC for Signalled Lanes (%):	39.3	Total Delay for Signalled Lanes (pcuHr):	0.38	Cycle Time (s):	40
C1	Stream: 3 PRC for Signalled Lanes (%):	420.4	Total Delay for Signalled Lanes (pcuHr):	0.10	Cycle Time (s):	40
	PRC Over All Lanes (%):	30.9	Total Delay Over All Lanes(pcuHr):	6.99		

Full Input Data And Results

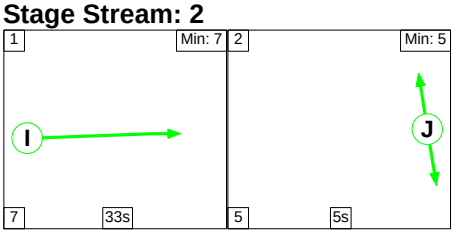
Scenario 4: '4' (FG4: '2021 PM Future Traffic ', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

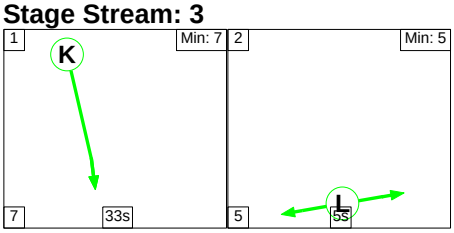
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	19	4	4
Change Point	3	29	41

Stage Stream: 2

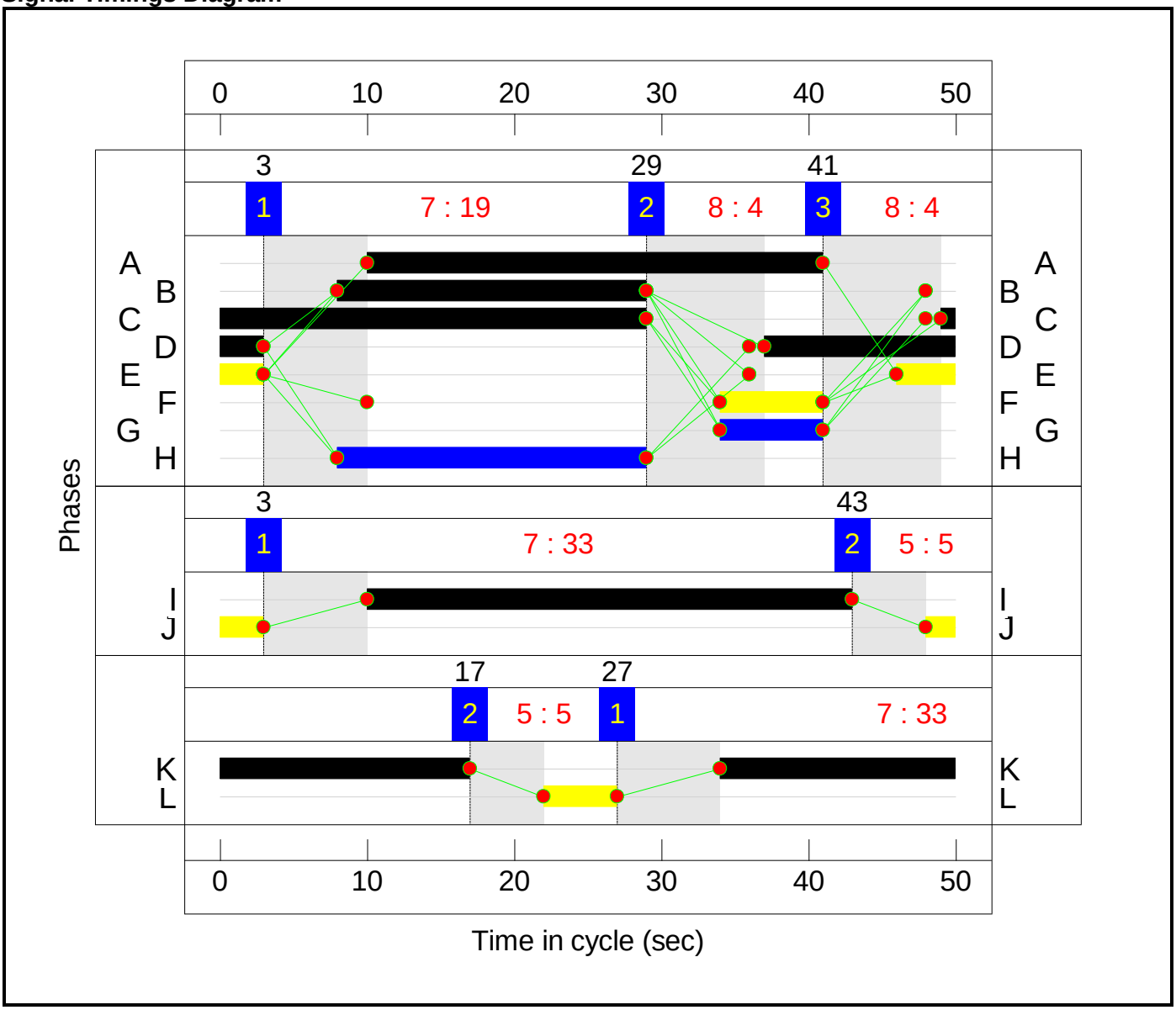
Stage	1	2
Duration	33	5
Change Point	3	43

Stage Stream: 3

Stage	1	2
Duration	33	5
Change Point	27	17

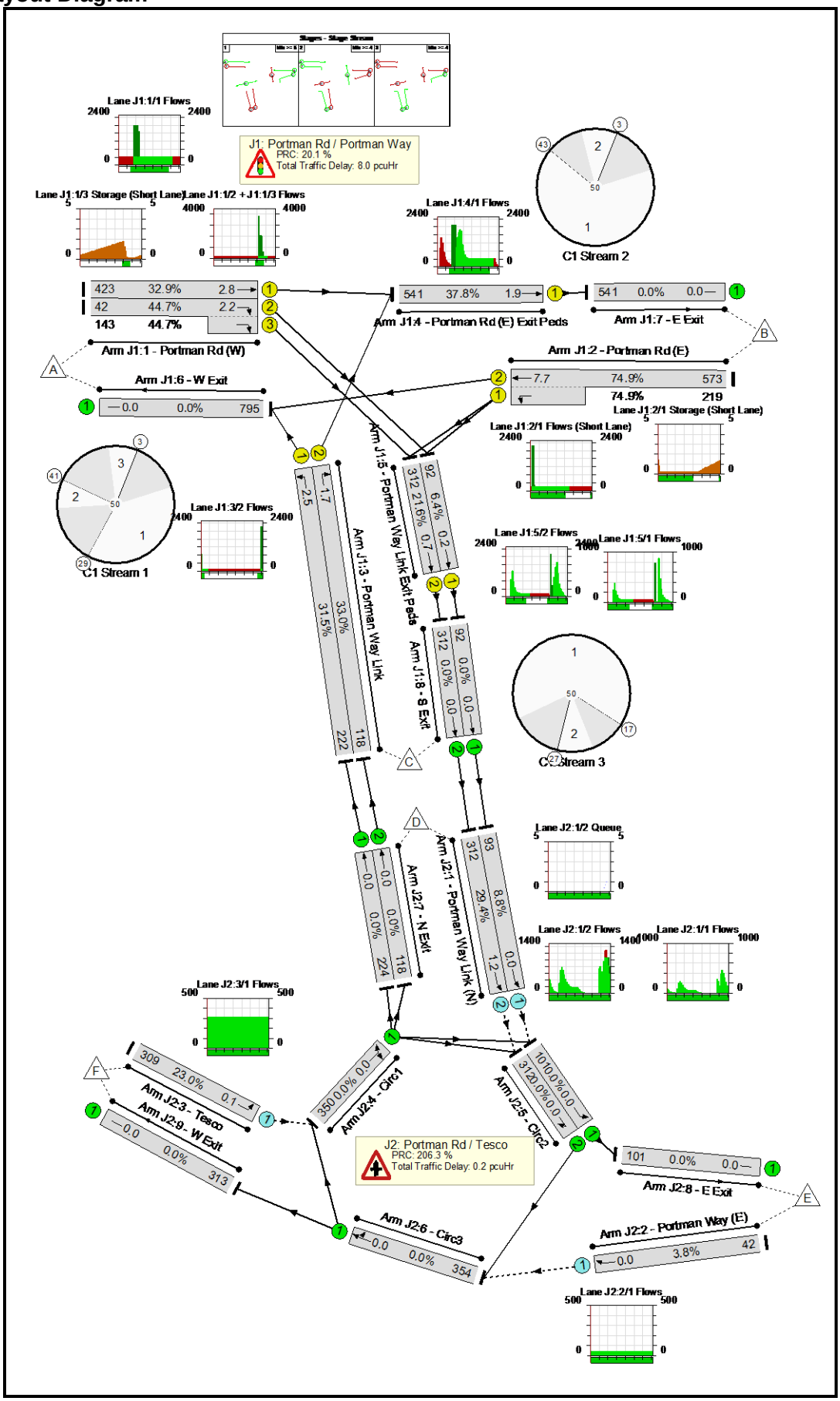
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.9%**
J1: Portman Rd / Portman Way	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.9%**
1/1	Portman Rd (W) Ahead	U	1	N/A	A		1	31	-	423	2006	1284	32.9%
1/2+1/3	Portman Rd (W) Right	U	1	N/A	F		1	7	-	185	2057:2000	94+320	44.7 : 44.7%
2/2+2/1	Portman Rd (E) Left Ahead	U	1	N/A	B C		1	21:30	-	792	1914:2267	765+292	74.9 : 74.9%
3/1	Portman Way Link Left	U	1	N/A	D		1	16	-	222	2075	705	31.5%
3/2	Portman Way Link Right	U	1	N/A	E		1	7	-	118	2234	357	33.0%
4/1	Portman Rd (E) Exit Peds Ahead	U	2	N/A	I		1	33	-	541	2105	1431	37.8%
5/1	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	33	-	92	2120	1442	6.4%
5/2	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	33	-	312	2120	1442	21.6%
6/1	W Exit	U	N/A	N/A	-		-	-	-	795	Inf	Inf	0.0%
7/1	E Exit	U	N/A	N/A	-		-	-	-	541	Inf	Inf	0.0%
8/1	S Exit Ahead	U	N/A	N/A	-		-	-	-	92	Inf	Inf	0.0%
8/2	S Exit Ahead	U	N/A	N/A	-		-	-	-	312	Inf	Inf	0.0%
J2: Portman Rd / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**29.4%**
1/1	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	93	Inf	1058	8.8%
1/2	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	312	Inf	1062	29.4%

Full Input Data And Results

2/1	Portman Way (E) Ahead	O	N/A	N/A	-		-	-	-	42	Inf	1120	3.8%
3/1	Tesco Left	O	N/A	N/A	-		-	-	-	309	Inf	1346	23.0%
4/1	Circ1 Right Left	U	N/A	N/A	-		-	-	-	350	Inf	Inf	0.0%
5/1	Circ2 Left	U	N/A	N/A	-		-	-	-	101	Inf	Inf	0.0%
5/2	Circ2 U-Turn	U	N/A	N/A	-		-	-	-	312	Inf	Inf	0.0%
6/1	Circ3 Right Ahead	U	N/A	N/A	-		-	-	-	354	Inf	Inf	0.0%
7/1	N Exit Ahead	U	N/A	N/A	-		-	-	-	224	Inf	Inf	0.0%
7/2	N Exit Ahead	U	N/A	N/A	-		-	-	-	118	Inf	Inf	0.0%
8/1	E Exit	U	N/A	N/A	-		-	-	-	101	Inf	Inf	0.0%
9/1	W Exit	U	N/A	N/A	-		-	-	-	313	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**756**	**0**	**0**	**5.4**	**2.8**	**0.0**	**8.1**	**-**	**-**	**-**	**-**
J1: Portman Rd / Portman Way	**-**	**-**	**0**	**0**	**0**	**5.4**	**2.6**	**0.0**	**8.0**	**-**	**-**	**-**	**-**
1/1	423	423	-	-	-	0.5	0.2	-	0.7	6.2	2.6	0.2	2.8
1/2+1/3	185	185	-	-	-	1.0	0.4	-	1.4 (0.3+1.1)	26.6 (25.9:26.9)	1.8	0.4	2.2
2/2+2/1	792	792	-	-	-	2.0	1.5	-	3.5 (2.8+0.7)	15.9 (17.9:10.7)	6.2	1.5	7.7
3/1	222	222	-	-	-	0.8	0.2	-	1.0	16.0	2.2	0.2	2.5
3/2	118	118	-	-	-	0.6	0.2	-	0.9	26.2	1.4	0.2	1.7
4/1	541	541	-	-	-	0.4	0.0	-	0.4	2.4	1.9	0.0	1.9
5/1	92	92	-	-	-	0.0	0.0	-	0.0	1.5	0.2	0.0	0.2
5/2	312	312	-	-	-	0.1	0.0	-	0.1	1.5	0.7	0.0	0.7
6/1	795	795	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	541	541	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	92	92	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	312	312	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Portman Rd / Tesco	**-**	**-**	**756**	**0**	**0**	**0.0**	**0.2**	**0.0**	**0.2**	**-**	**-**	**-**	**-**
1/1	93	93	93	0	0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	312	312	312	0	0	0.0	0.0	-	0.0	0.1	1.2	0.0	1.2
2/1	42	42	42	0	0	0.0	0.0	-	0.0	1.7	0.0	0.0	0.0
3/1	309	309	309	0	0	0.0	0.1	-	0.1	1.7	0.0	0.1	0.1
4/1	350	350	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	101	101	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	312	312	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	354	354	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

7/1	224	224	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	118	118	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	101	101	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	313	313	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

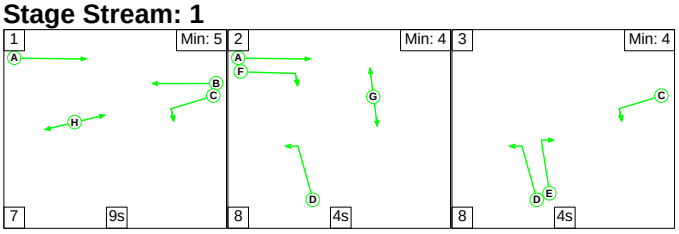
C1	Stream: 1 PRC for Signalled Lanes (%):	20.1	Total Delay for Signalled Lanes (pcuHr):	7.44	Cycle Time (s):	50
C1	Stream: 2 PRC for Signalled Lanes (%):	138.1	Total Delay for Signalled Lanes (pcuHr):	0.36	Cycle Time (s):	50
C1	Stream: 3 PRC for Signalled Lanes (%):	315.8	Total Delay for Signalled Lanes (pcuHr):	0.17	Cycle Time (s):	50
	PRC Over All Lanes (%):	20.1	Total Delay Over All Lanes(pcuHr):	8.14		

Full Input Data And Results

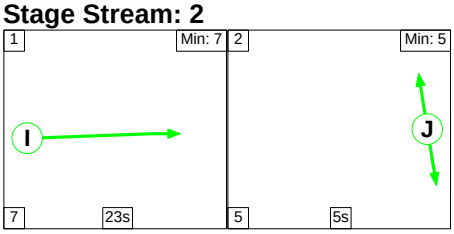
Scenario 5: '5' (FG5: '2021 AM with redistributed site traffic + development', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

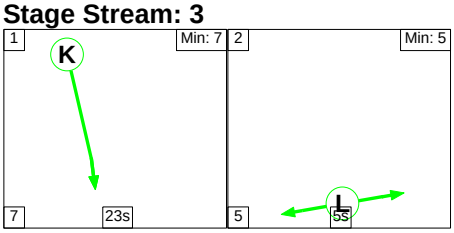
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	9	4	4
Change Point	4	20	32

Stage Stream: 2

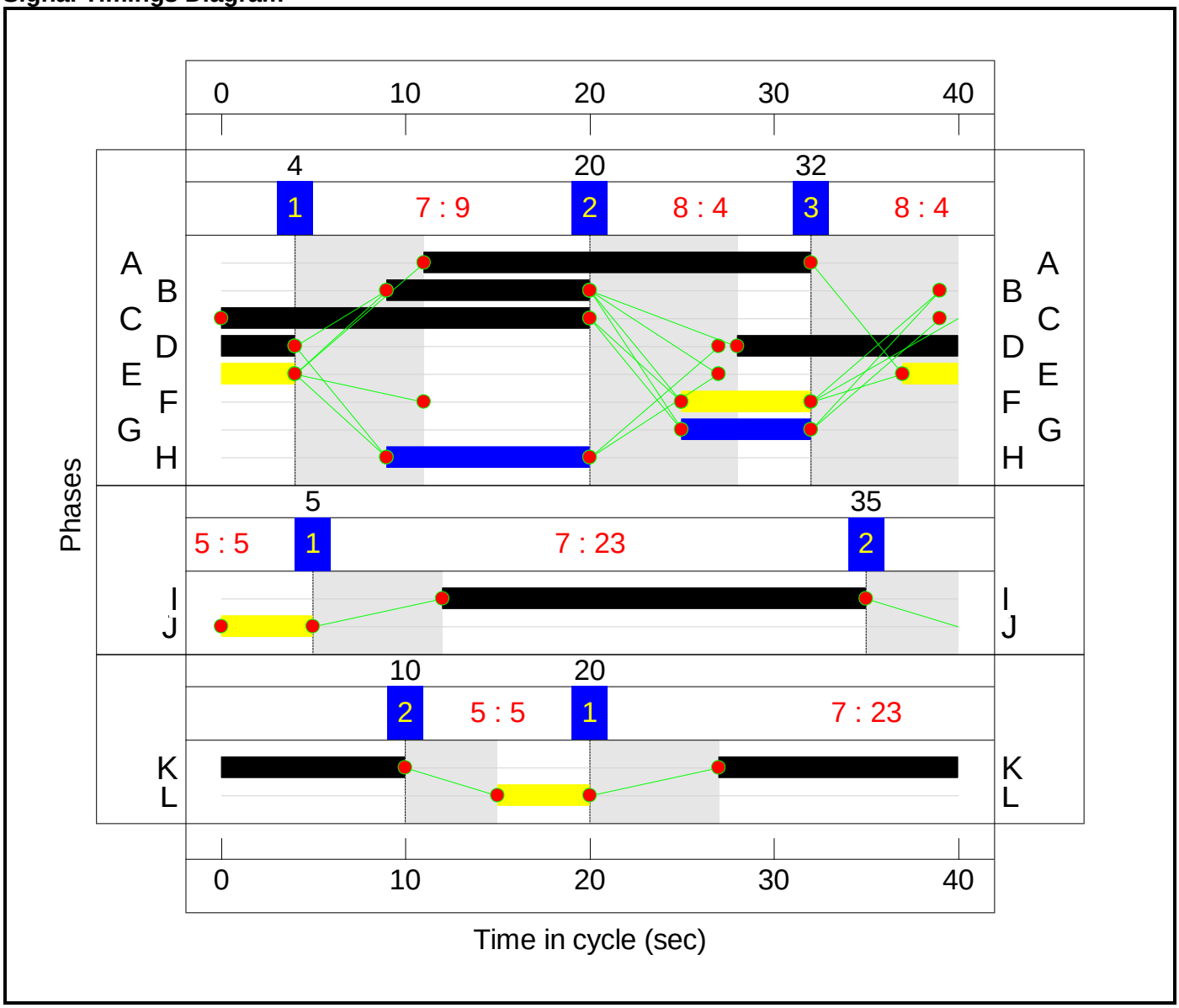
Stage	1	2
Duration	23	5
Change Point	5	35

Stage Stream: 3

Stage	1	2
Duration	23	5
Change Point	20	10

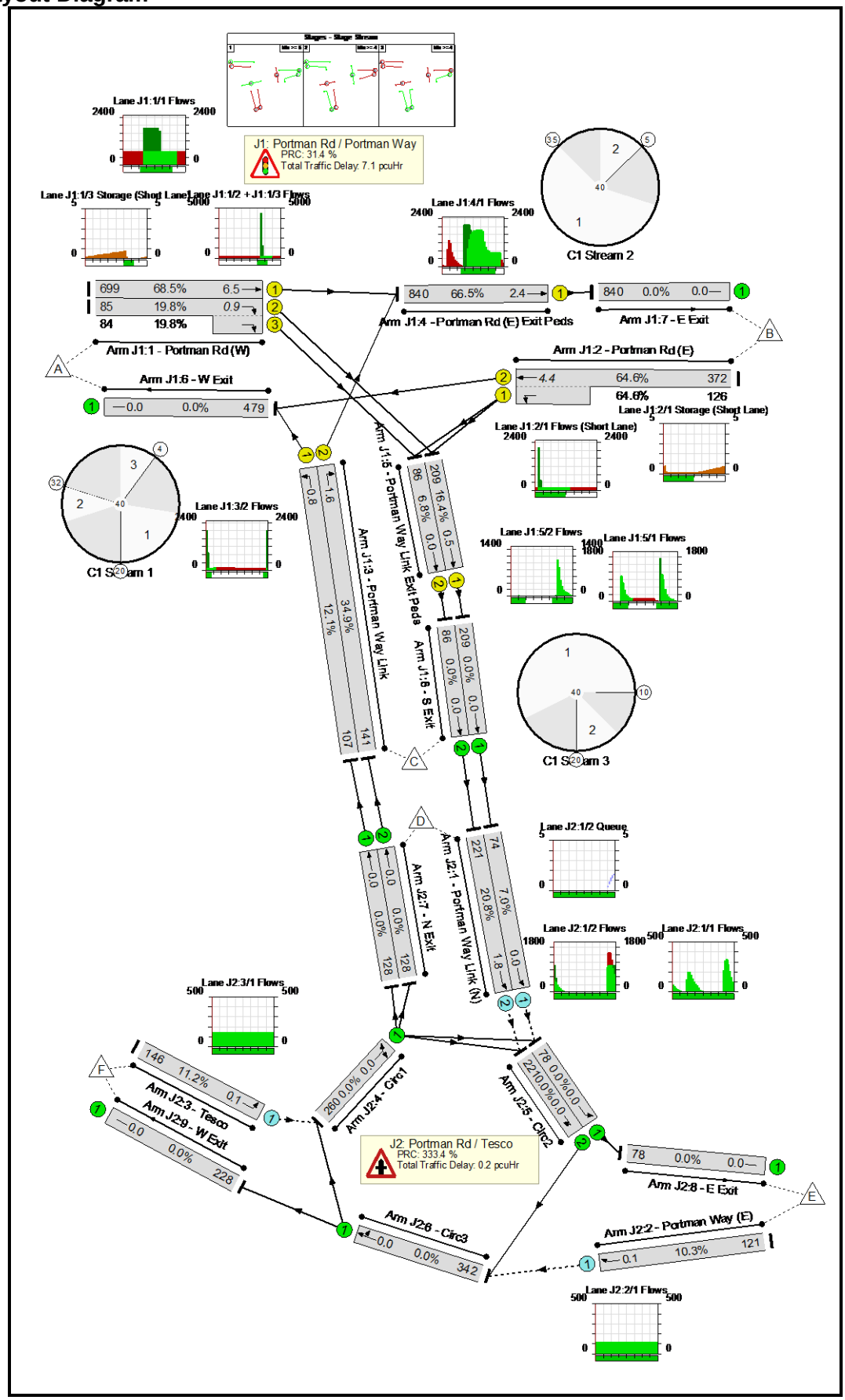
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**68.5%**
J1: Portman Rd / Portman Way	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**68.5%**
1/1	Portman Rd (W) Ahead	U	1	N/A	A		1	21	-	699	1856	1021	68.5%
1/2+1/3	Portman Rd (W) Right	U	1	N/A	F		1	7	-	169	2240:2240	430+425	19.8 : 19.8%
2/2+2/1	Portman Rd (E) Left Ahead	U	1	N/A	B C		1	11:20	-	498	1920:2151	576+195	64.6 : 64.6%
3/1	Portman Way Link Left	U	1	N/A	D		1	16	-	107	2075	882	12.1%
3/2	Portman Way Link Right	U	1	N/A	E		1	7	-	141	2019	404	34.9%
4/1	Portman Rd (E) Exit Peds Ahead	U	2	N/A	I		1	23	-	840	2105	1263	66.5%
5/1	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	23	-	209	2120	1272	16.4%
5/2	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	23	-	86	2120	1272	6.8%
6/1	W Exit	U	N/A	N/A	-		-	-	-	479	Inf	Inf	0.0%
7/1	E Exit	U	N/A	N/A	-		-	-	-	840	Inf	Inf	0.0%
8/1	S Exit Ahead	U	N/A	N/A	-		-	-	-	209	Inf	Inf	0.0%
8/2	S Exit Ahead	U	N/A	N/A	-		-	-	-	86	Inf	Inf	0.0%
J2: Portman Rd / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**20.8%**
1/1	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	74	Inf	1062	7.0%
1/2	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	221	Inf	1064	20.8%

Full Input Data And Results

2/1	Portman Way (E) Ahead	O	N/A	N/A	-		-	-	-	121	Inf	1172	10.3%
3/1	Tesco Left	O	N/A	N/A	-		-	-	-	146	Inf	1302	11.2%
4/1	Circ1 Right Left	U	N/A	N/A	-		-	-	-	260	Inf	Inf	0.0%
5/1	Circ2 Left	U	N/A	N/A	-		-	-	-	78	Inf	Inf	0.0%
5/2	Circ2 U-Turn	U	N/A	N/A	-		-	-	-	221	Inf	Inf	0.0%
6/1	Circ3 Right Ahead	U	N/A	N/A	-		-	-	-	342	Inf	Inf	0.0%
7/1	N Exit Ahead	U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
7/2	N Exit Ahead	U	N/A	N/A	-		-	-	-	128	Inf	Inf	0.0%
8/1	E Exit	U	N/A	N/A	-		-	-	-	78	Inf	Inf	0.0%
9/1	W Exit	U	N/A	N/A	-		-	-	-	228	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**562**	**0**	**0**	**4.7**	**2.6**	**0.0**	**7.3**	**-**	**-**	**-**	**-**
J1: Portman Rd / Portman Way	**-**	**-**	**0**	**0**	**0**	**4.7**	**2.4**	**0.0**	**7.1**	**-**	**-**	**-**	**-**
1/1	699	699	-	-	-	1.3	1.1	-	2.3	12.1	5.4	1.1	6.5
1/2+1/3	169	169	-	-	-	0.6	0.1	-	0.8 (0.4+0.4)	16.0 (16.0:16.0)	0.8	0.1	0.9
2/2+2/1	498	498	-	-	-	1.4	0.9	-	2.3 (1.9+0.4)	16.9 (18.7:11.4)	3.5	0.9	4.4
3/1	107	107	-	-	-	0.2	0.1	-	0.3	9.6	0.7	0.1	0.8
3/2	141	141	-	-	-	0.6	0.3	-	0.8	20.9	1.3	0.3	1.6
4/1	840	840	-	-	-	0.5	0.0	-	0.5	1.9	2.4	0.0	2.4
5/1	209	209	-	-	-	0.1	0.0	-	0.1	2.0	0.5	0.0	0.5
5/2	86	86	-	-	-	0.0	0.0	-	0.0	0.1	0.0	0.0	0.0
6/1	479	479	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	840	840	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	209	209	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	86	86	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Portman Rd / Tesco	**-**	**-**	**562**	**0**	**0**	**0.0**	**0.1**	**0.0**	**0.2**	**-**	**-**	**-**	**-**
1/1	74	74	74	0	0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	221	221	221	0	0	0.0	0.0	-	0.0	0.5	1.8	0.0	1.8
2/1	121	121	121	0	0	0.0	0.1	-	0.1	1.7	0.0	0.1	0.1
3/1	146	146	146	0	0	0.0	0.1	-	0.1	1.6	0.0	0.1	0.1
4/1	260	260	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	78	78	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	221	221	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	342	342	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

7/1	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	128	128	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	78	78	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	228	228	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

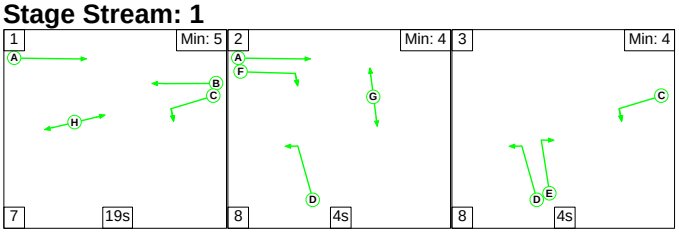
C1	Stream: 1 PRC for Signalled Lanes (%):	31.4	Total Delay for Signalled Lanes (pcuHr):	6.53	Cycle Time (s):	40
C1	Stream: 2 PRC for Signalled Lanes (%):	35.3	Total Delay for Signalled Lanes (pcuHr):	0.45	Cycle Time (s):	40
C1	Stream: 3 PRC for Signalled Lanes (%):	447.8	Total Delay for Signalled Lanes (pcuHr):	0.12	Cycle Time (s):	40
	PRC Over All Lanes (%):	31.4	Total Delay Over All Lanes(pcuHr):	7.25		

Full Input Data And Results

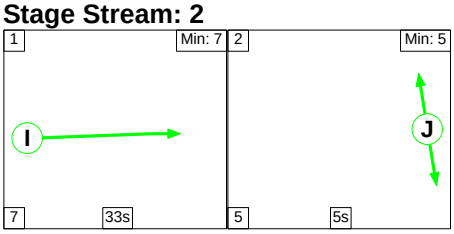
Scenario 6: '6' (FG6: '2021 PM with redistributed site traffic + development', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

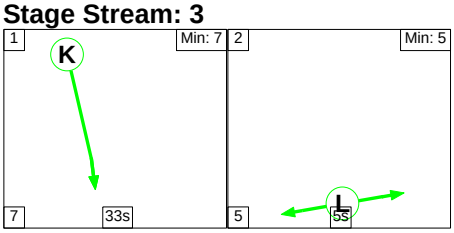
Stage Stream: 1



Stage Stream: 2



Stage Stream: 3



Stage Timings

Stage Stream: 1

Stage	1	2	3
Duration	19	4	4
Change Point	3	29	41

Stage Stream: 2

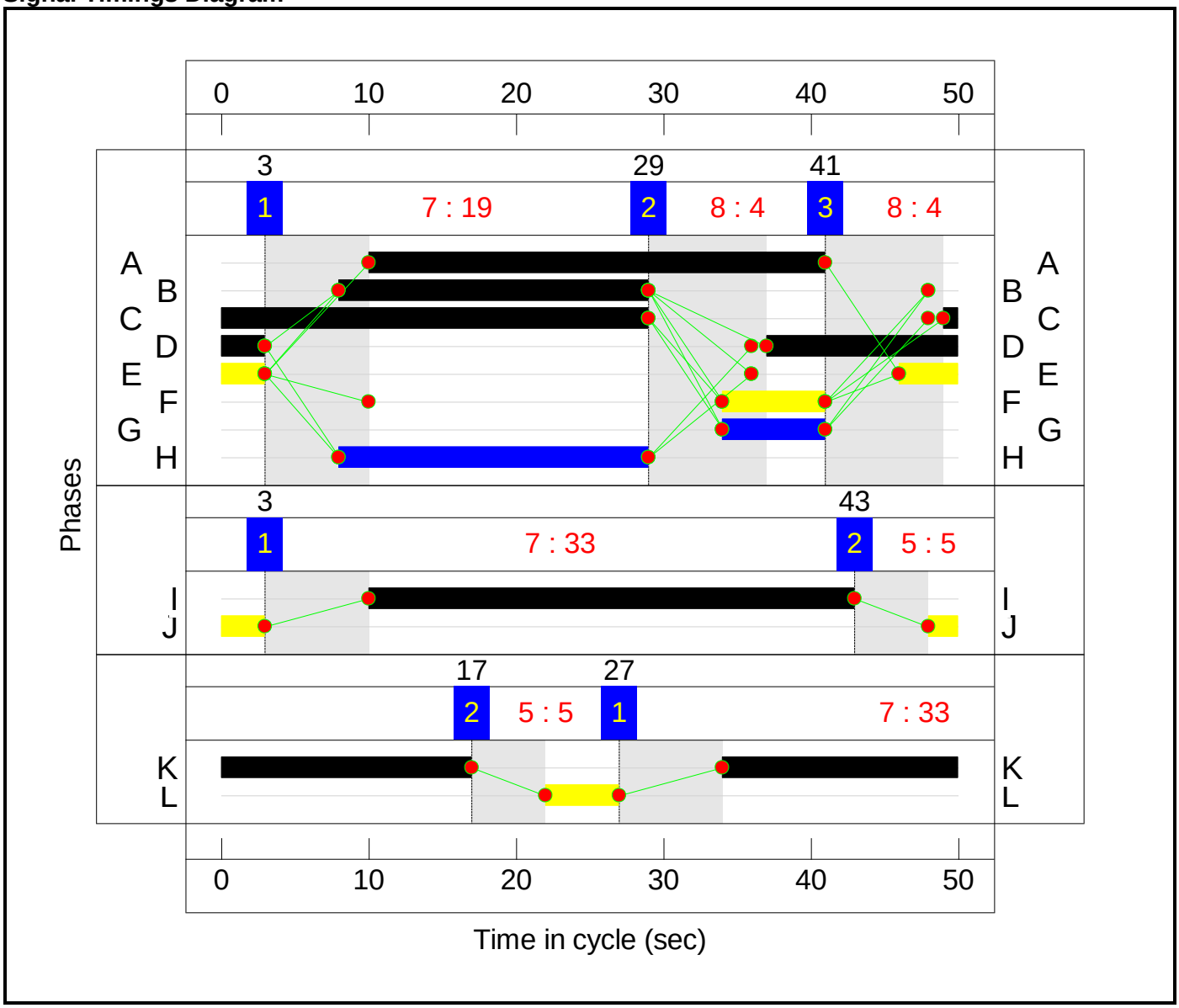
Stage	1	2
Duration	33	5
Change Point	3	43

Stage Stream: 3

Stage	1	2
Duration	33	5
Change Point	27	17

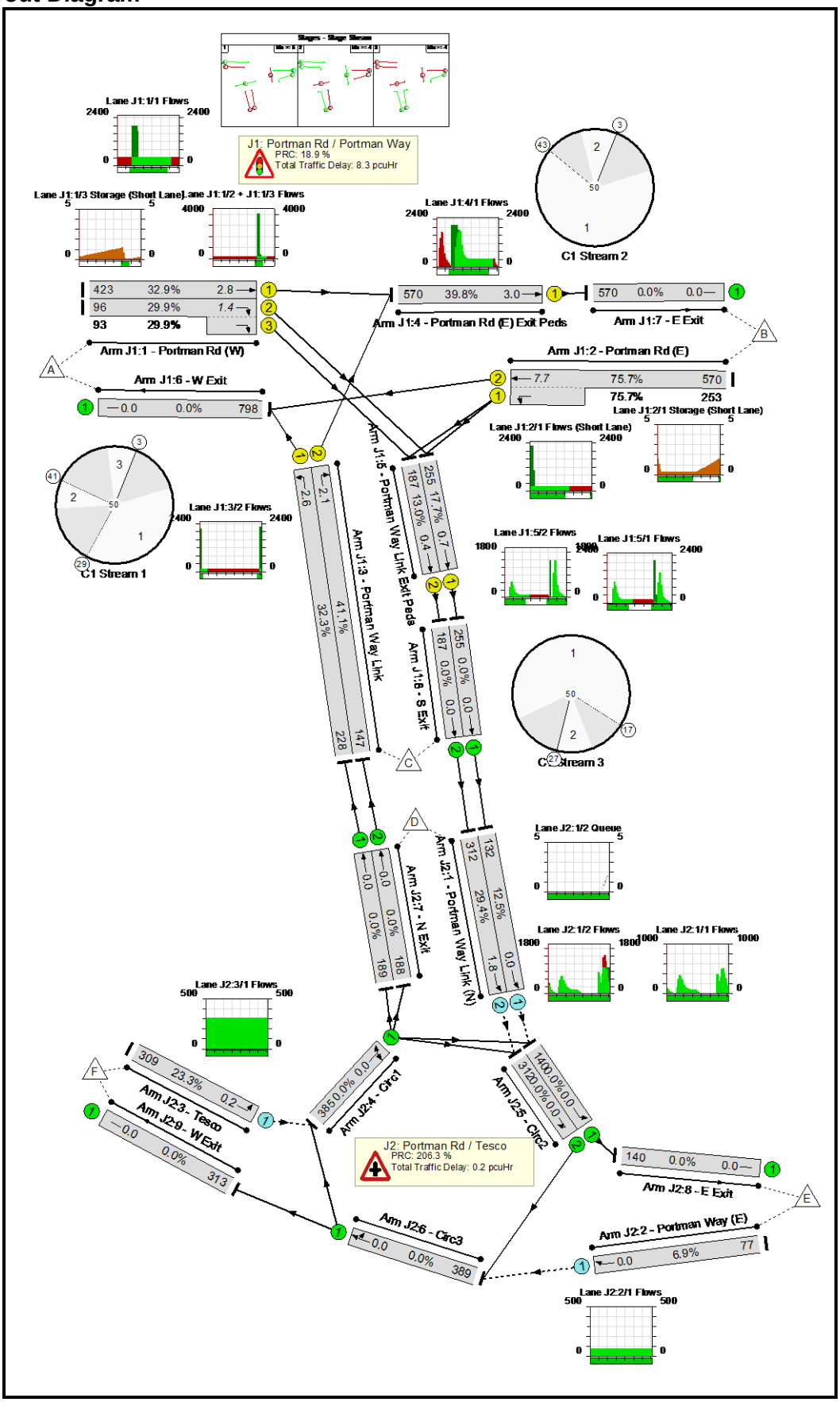
Full Input Data And Results

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.7%**
J1: Portman Rd / Portman Way	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.7%**
1/1	Portman Rd (W) Ahead	U	1	N/A	A		1	31	-	423	2006	1284	32.9%
1/2+1/3	Portman Rd (W) Right	U	1	N/A	F		1	7	-	189	2057:2000	321+311	29.9 : 29.9%
2/2+2/1	Portman Rd (E) Left Ahead	U	1	N/A	B C		1	21:30	-	823	1914:2267	753+334	75.7 : 75.7%
3/1	Portman Way Link Left	U	1	N/A	D		1	16	-	228	2075	705	32.3%
3/2	Portman Way Link Right	U	1	N/A	E		1	7	-	147	2234	357	41.1%
4/1	Portman Rd (E) Exit Peds Ahead	U	2	N/A	I		1	33	-	570	2105	1431	39.8%
5/1	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	33	-	255	2120	1442	17.7%
5/2	Portman Way Link Exit Peds Ahead	U	3	N/A	K		1	33	-	187	2120	1442	13.0%
6/1	W Exit	U	N/A	N/A	-		-	-	-	798	Inf	Inf	0.0%
7/1	E Exit	U	N/A	N/A	-		-	-	-	570	Inf	Inf	0.0%
8/1	S Exit Ahead	U	N/A	N/A	-		-	-	-	255	Inf	Inf	0.0%
8/2	S Exit Ahead	U	N/A	N/A	-		-	-	-	187	Inf	Inf	0.0%
J2: Portman Rd / Tesco	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**29.4%**
1/1	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	132	Inf	1058	12.5%
1/2	Portman Way Link (N) Ahead	O	N/A	N/A	-		-	-	-	312	Inf	1062	29.4%

Full Input Data And Results

2/1	Portman Way (E) Ahead	O	N/A	N/A	-		-	-	-	77	Inf	1120	6.9%
3/1	Tesco Left	O	N/A	N/A	-		-	-	-	309	Inf	1325	23.3%
4/1	Circ1 Right Left	U	N/A	N/A	-		-	-	-	385	Inf	Inf	0.0%
5/1	Circ2 Left	U	N/A	N/A	-		-	-	-	140	Inf	Inf	0.0%
5/2	Circ2 U-Turn	U	N/A	N/A	-		-	-	-	312	Inf	Inf	0.0%
6/1	Circ3 Right Ahead	U	N/A	N/A	-		-	-	-	389	Inf	Inf	0.0%
7/1	N Exit Ahead	U	N/A	N/A	-		-	-	-	189	Inf	Inf	0.0%
7/2	N Exit Ahead	U	N/A	N/A	-		-	-	-	188	Inf	Inf	0.0%
8/1	E Exit	U	N/A	N/A	-		-	-	-	140	Inf	Inf	0.0%
9/1	W Exit	U	N/A	N/A	-		-	-	-	313	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: Portman Rd / Portman Way / Tesco	**-**	**-**	**830**	**0**	**0**	**5.7**	**2.8**	**0.0**	**8.5**	**-**	**-**	**-**	**-**
J1: Portman Rd / Portman Way	**-**	**-**	**0**	**0**	**0**	**5.7**	**2.6**	**0.0**	**8.3**	**-**	**-**	**-**	**-**
1/1	423	423	-	-	-	0.5	0.2	-	0.7	6.2	2.6	0.2	2.8
1/2+1/3	189	189	-	-	-	1.0	0.2	-	1.2 (0.6+0.6)	22.6 (22.6:22.6)	1.2	0.2	1.4
2/2+2/1	823	823	-	-	-	2.1	1.5	-	3.6 (2.8+0.8)	15.7 (17.9:10.8)	6.2	1.5	7.7
3/1	228	228	-	-	-	0.8	0.2	-	1.0	16.0	2.3	0.2	2.6
3/2	147	147	-	-	-	0.8	0.3	-	1.1	27.5	1.8	0.3	2.1
4/1	570	570	-	-	-	0.4	0.0	-	0.4	2.8	3.0	0.0	3.0
5/1	255	255	-	-	-	0.1	0.0	-	0.1	1.7	0.7	0.0	0.7
5/2	187	187	-	-	-	0.1	0.0	-	0.1	1.4	0.4	0.0	0.4
6/1	798	798	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	570	570	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	255	255	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	187	187	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Portman Rd / Tesco	**-**	**-**	**830**	**0**	**0**	**0.0**	**0.2**	**0.0**	**0.2**	**-**	**-**	**-**	**-**
1/1	132	132	132	0	0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	312	312	312	0	0	0.0	0.0	-	0.0	0.3	1.8	0.0	1.8
2/1	77	77	77	0	0	0.0	0.0	-	0.0	1.7	0.0	0.0	0.0
3/1	309	309	309	0	0	0.0	0.2	-	0.2	1.8	0.0	0.2	0.2
4/1	385	385	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	140	140	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	312	312	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	389	389	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

7/1	189	189	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	188	188	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	140	140	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	313	313	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1	Stream: 1 PRC for Signalled Lanes (%):	18.9	Total Delay for Signalled Lanes (pcuHr):	7.64	Cycle Time (s):	50
C1	Stream: 2 PRC for Signalled Lanes (%):	126.0	Total Delay for Signalled Lanes (pcuHr):	0.44	Cycle Time (s):	50
C1	Stream: 3 PRC for Signalled Lanes (%):	408.8	Total Delay for Signalled Lanes (pcuHr):	0.19	Cycle Time (s):	50
	PRC Over All Lanes (%):	18.9	Total Delay Over All Lanes(pcuHr):	8.49		

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: CowLn-BeresfordLn-PR - AM.j9
Path: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Tech\Junct Ass\Arcady\CowLn-BeresfordLn-PR\Non-Cal
Report generation date: 05/01/2018 17:21:45

»2017 Observed, AM
»2021 Future Year, AM
»2021 + Development, AM

Summary of junction performance

	AM			
	Queue (Veh)	Delay (s)	RFC	LOS
	2017 Observed			
1 - Cow Lane	1.4	11.41	0.60	B
2 - Beresford Road	1.2	11.84	0.54	B
3 - Portman Road	9.6	31.45	0.95	D
	2021 Future Year			
1 - Cow Lane	1.7	13.10	0.64	B
2 - Beresford Road	1.4	13.27	0.59	B
3 - Portman Road	17.2	50.25	1.02	F
	2021 + Development			
1 - Cow Lane	1.9	13.78	0.66	B
2 - Beresford Road	1.5	13.86	0.61	B
3 - Portman Road	21.0	67.94	1.04	F

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

File summary

File Description

Title	Cow Lane / Beresford Lane / Portman Road
Location	Reading
Site number	
Date	07/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ITB12282
Enumerator	RS
Description	Existing Arrangement

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:15	09:15	60	15	✓
D2	2021 Future Year	AM	DIRECT	08:15	09:15	60	15	✓
D3	2021 + Development	AM	DIRECT	08:15	09:15	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2017 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1, 2, 3	22.38	C

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	Cow Lane	
2	Beresford Road	
3	Portman Road	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Cow Lane	3.30	3.30	3.40	0.6	12.70	14.60	0.0	
2 - Beresford Road	2.60	2.60	3.60	1.0	10.40	8.00	0.0	✓
3 - Portman Road	3.50	3.50	4.80	18.8	12.40	10.20	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - Cow Lane	0.624	237.255
2 - Beresford Road	0.474	202.846
3 - Portman Road	0.652	270.952

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

08:15 - 08:30

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	17.00	66.00
	2 - Beresford Road	34.00	0.00	49.00
	3 - Portman Road	146.00	86.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	17.00	73.00
	2 - Beresford Road	23.00	1.00	47.00
	3 - Portman Road	137.00	73.00	0.00

08:45 - 09:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	33.00	71.00
	2 - Beresford Road	31.00	0.00	59.00
	3 - Portman Road	140.00	53.00	0.00

09:00 - 09:15

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	1.00	18.00	96.00
	2 - Beresford Road	24.00	0.00	44.00
	3 - Portman Road	147.00	61.00	1.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	4	2
	2 - Beresford Road	1	0	3
	3 - Portman Road	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.60	11.41	1.4	B	98.00	392.00
2 - Beresford Road	0.54	11.84	1.2	B	78.00	312.00
3 - Portman Road	0.95	31.45	9.6	D	211.00	844.00

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	83.00	83.00	82.43	180.08	0.461	82.16	173.55	0.0	0.8	9.116	A
2 - Beresford Road	83.00	83.00	65.33	168.09	0.494	82.05	99.26	0.0	1.0	10.351	B
3 - Portman Road	232.00	232.00	33.61	245.46	0.945	222.37	113.77	0.0	9.6	31.451	D

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	90.00	90.00	75.61	184.37	0.488	89.90	162.53	0.8	0.9	9.516	A
2 - Beresford Road	71.00	71.00	72.91	164.33	0.432	71.18	92.60	1.0	0.8	9.683	A
3 - Portman Road	210.00	210.00	24.13	251.69	0.834	214.01	119.96	9.6	5.6	25.817	D

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	104.00	104.00	53.92	197.56	0.526	103.85	171.77	0.9	1.1	9.585	A
2 - Beresford Road	90.00	90.00	71.02	165.22	0.545	89.61	86.75	0.8	1.2	11.840	B
3 - Portman Road	193.00	193.00	30.86	247.54	0.780	194.83	129.76	5.6	3.8	17.645	C

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	115.00	115.00	61.70	193.13	0.595	114.66	171.67	1.1	1.4	11.415	B
2 - Beresford Road	68.00	68.00	97.52	152.67	0.445	68.34	78.84	1.2	0.8	10.719	B
3 - Portman Road	209.00	209.00	25.10	251.25	0.832	208.27	140.76	3.8	4.5	20.421	C

2021 Future Year, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1, 2, 3	33.32	D

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2021 Future Year	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

08:15 - 08:30

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	18.00	70.00
	2 - Beresford Road	36.00	0.00	52.00
	3 - Portman Road	156.00	92.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	18.00	78.00
	2 - Beresford Road	25.00	1.00	50.00
	3 - Portman Road	146.00	78.00	0.00

08:45 - 09:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	35.00	76.00
	2 - Beresford Road	33.00	0.00	63.00
	3 - Portman Road	150.00	57.00	0.00

Demand (Veh/TS)

09:00 - 09:15

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	1.00	19.00	103.00
	2 - Beresford Road	26.00	0.00	47.00
	3 - Portman Road	157.00	65.00	1.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	4	2
	2 - Beresford Road	1	0	3
	3 - Portman Road	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.64	13.10	1.7	B	104.50	418.00
2 - Beresford Road	0.59	13.27	1.4	B	83.25	333.00
3 - Portman Road	1.02	50.25	17.2	F	225.50	902.00

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	88.00	88.00	85.62	178.10	0.494	87.04	180.73	0.0	1.0	9.786	A
2 - Beresford Road	88.00	88.00	69.24	166.23	0.529	86.90	103.42	0.0	1.1	11.198	B
3 - Portman Road	248.00	248.00	35.55	244.20	1.016	230.79	120.59	0.0	17.2	46.364	E

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	96.00	96.00	81.75	180.55	0.532	95.85	175.19	1.0	1.1	10.602	B
2 - Beresford Road	76.00	76.00	77.86	161.98	0.469	76.19	99.73	1.1	0.9	10.516	B
3 - Portman Road	224.00	224.00	26.14	250.38	0.895	230.80	127.91	17.2	10.4	50.247	F

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	111.00	111.00	59.00	194.40	0.571	110.81	185.31	1.1	1.3	10.737	B
2 - Beresford Road	96.00	96.00	76.01	162.84	0.590	95.51	93.80	0.9	1.4	13.266	B
3 - Portman Road	207.00	207.00	32.83	246.25	0.841	211.48	138.70	10.4	5.9	28.231	D

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	123.00	123.00	65.56	190.73	0.645	122.55	183.48	1.3	1.8	13.102	B
2 - Beresford Road	73.00	73.00	104.38	149.41	0.489	73.41	83.73	1.4	1.0	11.908	B
3 - Portman Road	223.00	223.00	27.11	249.94	0.892	221.92	150.67	5.9	7.0	30.168	D

2021 + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1, 2, 3	43.29	E

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2021 + Development	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

08:15 - 08:30

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	18.00	72.00
	2 - Beresford Road	36.00	0.00	55.00
	3 - Portman Road	158.00	96.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	18.00	80.00
	2 - Beresford Road	25.00	1.00	53.00
	3 - Portman Road	149.00	82.00	0.00

08:45 - 09:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	35.00	77.00
	2 - Beresford Road	33.00	0.00	66.00
	3 - Portman Road	152.00	61.00	0.00

Demand (Veh/TS)

09:00 - 09:15

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	1.00	19.00	104.00
	2 - Beresford Road	26.00	0.00	50.00
	3 - Portman Road	159.00	69.00	1.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	4	2
	2 - Beresford Road	1	0	2
	3 - Portman Road	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.66	13.78	1.9	B	106.00	424.00
2 - Beresford Road	0.61	13.86	1.5	B	86.25	345.00
3 - Portman Road	1.04	67.94	21.0	F	231.75	927.00

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	90.00	90.00	88.09	176.57	0.510	88.98	180.51	0.0	1.0	10.164	B
2 - Beresford Road	91.00	91.00	71.19	165.76	0.549	89.82	105.88	0.0	1.2	11.680	B
3 - Portman Road	254.00	254.00	35.53	244.19	1.040	233.06	125.47	0.0	20.9	52.955	F

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	98.00	98.00	85.35	178.31	0.550	97.82	177.10	1.0	1.2	11.152	B
2 - Beresford Road	79.00	79.00	79.84	161.54	0.489	79.20	103.34	1.2	1.0	10.962	B
3 - Portman Road	231.00	231.00	26.15	250.35	0.923	236.31	132.90	20.9	15.6	67.936	F

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	112.00	112.00	64.39	191.06	0.586	111.81	189.49	1.2	1.4	11.322	B
2 - Beresford Road	99.00	99.00	77.02	162.87	0.608	98.48	99.18	1.0	1.5	13.862	B
3 - Portman Road	213.00	213.00	32.82	246.22	0.865	221.05	142.68	15.6	7.6	40.596	E

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	124.00	124.00	69.48	188.29	0.659	123.53	185.41	1.4	1.9	13.784	B
2 - Beresford Road	76.00	76.00	105.34	149.40	0.509	76.43	87.66	1.5	1.1	12.407	B
3 - Portman Road	229.00	229.00	27.12	249.91	0.916	227.77	154.65	7.6	8.8	37.017	E

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

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Filename: CowLn-BeresfordLn-PR - PM.j9
Path: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Tech\Junct Ass\Arcady\CowLn-BeresfordLn-PR\Non-Cal
Report generation date: 05/01/2018 17:24:32

»2017 Observed, PM
»2021 Future Year, PM
»2021 + Development, PM

Summary of junction performance

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
	2017 Observed			
1 - Cow Lane	7.3	36.15	0.91	E
2 - Beresford Road	2.2	22.76	0.71	C
3 - Portman Road	1.3	8.55	0.58	A
	2021 Future Year			
1 - Cow Lane	12.5	57.06	0.97	F
2 - Beresford Road	3.0	28.93	0.77	D
3 - Portman Road	1.6	9.51	0.62	A
	2021 + Development			
1 - Cow Lane	16.5	72.58	0.99	F
2 - Beresford Road	3.8	34.65	0.82	D
3 - Portman Road	1.7	10.09	0.64	B

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

File summary

File Description

Title	Cow Lane / Beresford Lane / Portman Road
Location	Reading
Site number	
Date	07/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ITB12282
Enumerator	RS
Description	Existing Arrangement

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	PM	DIRECT	17:30	18:30	60	15	✓
D2	2021 Future Year	PM	DIRECT	17:30	18:30	60	15	✓
D3	2021 + Development	PM	DIRECT	17:30	18:30	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2017 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1, 2, 3	23.83	C

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	Cow Lane	
2	Beresford Road	
3	Portman Road	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Cow Lane	3.30	3.30	3.40	0.6	12.70	14.60	0.0	
2 - Beresford Road	2.60	2.60	3.60	1.0	10.40	8.00	0.0	✓
3 - Portman Road	3.50	3.50	4.80	18.8	12.40	10.20	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - Cow Lane	0.624	237.255
2 - Beresford Road	0.474	202.846
3 - Portman Road	0.652	270.952

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

17:30 - 17:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	47.00	142.00
	2 - Beresford Road	29.00	0.00	56.00
	3 - Portman Road	96.00	44.00	0.00

17:45 - 18:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	39.00	131.00
	2 - Beresford Road	27.00	0.00	49.00
	3 - Portman Road	93.00	41.00	0.00

18:00 - 18:15

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	33.00	140.00
	2 - Beresford Road	27.00	1.00	48.00
	3 - Portman Road	92.00	48.00	0.00

18:15 - 18:30

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	37.00	153.00
	2 - Beresford Road	33.00	0.00	58.00
	3 - Portman Road	100.00	44.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	0	0
	2 - Beresford Road	1	0	3
	3 - Portman Road	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.91	36.15	7.3	E	180.50	722.00
2 - Beresford Road	0.71	22.76	2.2	C	82.00	328.00
3 - Portman Road	0.58	8.55	1.3	A	139.50	558.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	189.00	189.00	43.61	209.86	0.901	182.37	123.61	0.0	6.6	28.139	D
2 - Beresford Road	85.00	85.00	137.02	135.05	0.629	83.39	88.96	0.0	1.6	16.938	C
3 - Portman Road	140.00	140.00	28.45	251.77	0.556	138.77	191.95	0.0	1.2	7.882	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	170.00	170.00	41.04	211.48	0.804	172.13	120.14	6.6	4.5	24.003	C
2 - Beresford Road	76.00	76.00	132.51	137.17	0.554	76.33	80.65	1.6	1.3	14.883	B
3 - Portman Road	134.00	134.00	27.09	252.67	0.530	134.08	181.75	1.2	1.1	7.598	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	173.00	173.00	48.91	206.54	0.838	172.73	118.98	4.5	4.8	26.081	D
2 - Beresford Road	76.00	76.00	139.61	133.93	0.567	75.99	82.03	1.3	1.3	15.521	C
3 - Portman Road	140.00	140.00	27.98	252.04	0.555	139.92	187.62	1.1	1.2	8.018	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	190.00	190.00	44.03	209.60	0.906	187.48	132.52	4.8	7.3	36.149	E
2 - Beresford Road	91.00	91.00	150.99	128.62	0.708	90.05	80.52	1.3	2.2	22.760	C
3 - Portman Road	144.00	144.00	32.66	249.01	0.578	143.88	208.38	1.2	1.3	8.548	A

2021 Future Year, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1, 2, 3	34.73	D

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2021 Future Year	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

17:30 - 17:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	50.00	151.00
	2 - Beresford Road	31.00	0.00	59.00
	3 - Portman Road	102.00	47.00	0.00

17:45 - 18:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	41.00	139.00
	2 - Beresford Road	29.00	0.00	52.00
	3 - Portman Road	99.00	44.00	0.00

18:00 - 18:15

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	35.00	149.00
	2 - Beresford Road	29.00	1.00	51.00
	3 - Portman Road	98.00	51.00	0.00

Demand (Veh/TS)

18:15 - 18:30

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	39.00	162.00
	2 - Beresford Road	35.00	0.00	62.00
	3 - Portman Road	106.00	47.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	0	0
	2 - Beresford Road	1	0	3
	3 - Portman Road	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.97	57.06	12.5	F	191.50	766.00
2 - Beresford Road	0.77	28.93	3.0	D	87.25	349.00
3 - Portman Road	0.62	9.51	1.6	A	148.50	594.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	201.00	201.00	46.55	208.02	0.966	190.28	131.33	0.0	10.7	39.026	E
2 - Beresford Road	90.00	90.00	142.94	132.31	0.680	88.01	93.88	0.0	2.0	19.543	C
3 - Portman Road	149.00	149.00	30.32	250.03	0.596	147.56	200.64	0.0	1.4	8.667	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	180.00	180.00	44.04	209.60	0.859	183.63	128.16	10.7	7.1	37.850	E
2 - Beresford Road	81.00	81.00	141.58	132.98	0.609	81.36	86.09	2.0	1.6	17.580	C
3 - Portman Road	143.00	143.00	29.10	250.83	0.570	143.09	193.84	1.4	1.3	8.363	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	184.00	184.00	51.90	204.66	0.899	183.45	126.98	7.1	7.6	39.840	E
2 - Beresford Road	81.00	81.00	148.29	129.91	0.624	80.99	87.06	1.6	1.6	18.380	C
3 - Portman Road	149.00	149.00	29.98	250.24	0.595	148.90	199.30	1.3	1.4	8.870	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	201.00	201.00	47.03	207.72	0.968	196.15	140.34	7.6	12.5	57.065	F
2 - Beresford Road	97.00	97.00	158.12	125.31	0.774	95.60	85.06	1.6	3.0	28.933	D
3 - Portman Road	153.00	153.00	34.51	247.29	0.619	152.86	219.21	1.4	1.6	9.511	A

2021 + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1, 2, 3	42.70	E

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2021 + Development	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

17:30 - 17:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	50.00	154.00
	2 - Beresford Road	31.00	0.00	65.00
	3 - Portman Road	104.00	51.00	0.00

17:45 - 18:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	41.00	142.00
	2 - Beresford Road	29.00	0.00	58.00
	3 - Portman Road	101.00	48.00	0.00

18:00 - 18:15

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	35.00	152.00
	2 - Beresford Road	29.00	1.00	57.00
	3 - Portman Road	100.00	55.00	0.00

Demand (Veh/TS)

18:15 - 18:30

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	39.00	165.00
	2 - Beresford Road	35.00	0.00	67.00
	3 - Portman Road	108.00	51.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	0	0
	2 - Beresford Road	1	0	3
	3 - Portman Road	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.99	72.58	16.5	F	194.50	778.00
2 - Beresford Road	0.82	34.65	3.8	D	93.00	372.00
3 - Portman Road	0.64	10.09	1.7	B	154.50	618.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	204.00	204.00	50.48	205.55	0.992	190.94	133.15	0.0	13.1	44.884	E
2 - Beresford Road	96.00	96.00	144.14	131.70	0.729	93.55	97.28	0.0	2.5	22.361	C
3 - Portman Road	155.00	155.00	30.21	250.59	0.619	153.42	207.48	0.0	1.6	9.122	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	183.00	183.00	48.04	207.08	0.884	186.83	130.16	13.1	9.2	48.840	E
2 - Beresford Road	87.00	87.00	144.69	131.47	0.662	87.39	90.17	2.5	2.1	20.643	C
3 - Portman Road	149.00	149.00	29.11	251.33	0.593	149.10	202.98	1.6	1.5	8.816	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	187.00	187.00	55.89	202.16	0.925	186.29	128.98	9.2	10.0	51.072	F
2 - Beresford Road	87.00	87.00	151.08	128.55	0.677	86.99	91.10	2.1	2.1	21.628	C
3 - Portman Road	155.00	155.00	29.97	250.71	0.618	154.90	208.10	1.5	1.6	9.378	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	204.00	204.00	51.03	205.21	0.994	197.46	142.22	10.0	16.5	72.579	F
2 - Beresford Road	102.00	102.00	159.75	124.51	0.819	100.26	88.74	2.1	3.8	34.651	D
3 - Portman Road	159.00	159.00	34.41	247.85	0.642	158.84	225.60	1.6	1.7	10.088	B

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.0.2.5947
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+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

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Filename: Portman Way - Site Access.j9
Path: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Tech\Junct Ass\Picady
Report generation date: 08/01/2018 09:54:55

»2021 + Development, AM
»2021 + Development, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2021 + Development							
Stream B-AC	0.0	7.37	0.02	A	0.0	7.41	0.02	A
Stream C-AB	0.0	0.00	0.00	A	0.0	0.00	0.00	A

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

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

File summary

File Description

Title	Portman Way / Site Access
Location	Battle Hospital
Site number	
Date	18/12/2017
Version	
Status	
Identifier	
Client	Bellway
Jobnumber	ITB12282
Enumerator	RS
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D5	2021 + Development	AM	DIRECT	08:15	09:15	60	15
D6	2021 + Development	PM	DIRECT	17:30	18:30	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2021 + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	C - Portman Way (East) - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Portman Way / Site Access	T-Junction	Two-way	1.20	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Portman Way (West)		Major
B	Site Access		Minor
C	Portman Way (East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Portman Way (East)	5.95			110.0	✓	0.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - Site Access	One lane	3.31	16	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	505	0.092	0.233	0.147	0.333
1	B-C	653	0.100	0.253	-	-
1	C-B	638	0.248	0.248	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D5	2021 + Development	AM	DIRECT	08:15	09:15	60	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Portman Way (West)		✓	100.000
B - Site Access		✓	100.000
C - Portman Way (East)		✓	100.000

Origin-Destination Data

08:15 - 08:30

Demand (PCU/hr)

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	6	3
	B - Site Access	8	0	0
	C - Portman Way (East)	35	0	0

08:30 - 08:45

Demand (PCU/hr)

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	6	10
	B - Site Access	8	0	0
	C - Portman Way (East)	29	0	0

08:45 - 09:00

Demand (PCU/hr)

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	6	27
	B - Site Access	8	0	0
	C - Portman Way (East)	15	0	0

09:00 - 09:15

Demand (PCU/hr)

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	6	12
	B - Site Access	8	0	0
	C - Portman Way (East)	10	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	0	6
	B - Site Access	0	0	0
	C - Portman Way (East)	1	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.02	7.37	0.0	A
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	8	499	0.016	8	0.0	7.331	A
C-AB	0	635	0.000	0	0.0	0.000	A
C-A	35			35			
A-B	6			6			
A-C	3			3			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	8	498	0.016	8	0.0	7.342	A
C-AB	0	634	0.000	0	0.0	0.000	A
C-A	29			29			
A-B	6			6			
A-C	10			10			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	8	496	0.016	8	0.0	7.371	A
C-AB	0	629	0.000	0	0.0	0.000	A
C-A	15			15			
A-B	6			6			
A-C	27			27			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	8	501	0.016	8	0.0	7.308	A
C-AB	0	633	0.000	0	0.0	0.000	A
C-A	10			10			
A-B	6			6			
A-C	12			12			

2021 + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	C - Portman Way (East) - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	Portman Way / Site Access	T-Junction	Two-way	1.22	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D6	2021 + Development	PM	DIRECT	17:30	18:30	60	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Scaling Factor (%)
A - Portman Way (West)		✓	100.000
B - Site Access		✓	100.000
C - Portman Way (East)		✓	100.000

Origin-Destination Data

Demand (PCU/hr)

17:30 - 17:45

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	10	18
	B - Site Access	9	0	0
	C - Portman Way (East)	13	0	0

Demand (PCU/hr)

17:45 - 18:00

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	10	21
	B - Site Access	9	0	0
	C - Portman Way (East)	8	0	0

Demand (PCU/hr)

18:00 - 18:15

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	10	32
	B - Site Access	9	0	0
	C - Portman Way (East)	14	0	0

Demand (PCU/hr)

18:15 - 18:30

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	10	29
	B - Site Access	9	0	0
	C - Portman Way (East)	7	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Portman Way (West)	B - Site Access	C - Portman Way (East)
From	A - Portman Way (West)	0	0	2
	B - Site Access	0	0	0
	C - Portman Way (East)	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.02	7.41	0.0	A
C-AB	0.00	0.00	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	9	498	0.018	9	0.0	7.356	A
C-AB	0	631	0.000	0	0.0	0.000	A
C-A	13			13			
A-B	10			10			
A-C	18			18			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	9	498	0.018	9	0.0	7.355	A
C-AB	0	630	0.000	0	0.0	0.000	A
C-A	8			8			
A-B	10			10			
A-C	21			21			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	9	495	0.018	9	0.0	7.407	A
C-AB	0	627	0.000	0	0.0	0.000	A
C-A	14			14			
A-B	10			10			
A-C	32			32			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	LOS
B-AC	9	497	0.018	9	0.0	7.381	A
C-AB	0	628	0.000	0	0.0	0.000	A
C-A	7			7			
A-B	10			10			
A-C	29			29			

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

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Filename: Portman Rd - Norcot Rd Rbt - AM - Improvement.j9
Path: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Tech\Junct Ass\Arcady\Portman Rd - Norcot Rd Rbt\Non-Cal\Improvement
Report generation date: 17/01/2018 12:23:03

»2017 Observed, AM
»2021 Base, AM
»2021 + Development, AM

Summary of junction performance

	AM			
	Queue (Veh)	Delay (s)	RFC	LOS
2017 Observed				
1 - Wigmore Lane	0.5	3.52	0.34	A
2 - Oxford Road (E)	0.8	3.26	0.44	A
3 - Norcot Road	1.1	6.19	0.52	A
4 - Oxford Road (W)	3.9	14.17	0.81	B
2021 Base				
1 - Wigmore Lane	0.6	3.79	0.37	A
2 - Oxford Road (E)	0.9	3.51	0.48	A
3 - Norcot Road	1.3	7.16	0.57	A
4 - Oxford Road (W)	6.6	22.29	0.89	C
2021 + Development				
1 - Wigmore Lane	0.6	3.81	0.37	A
2 - Oxford Road (E)	0.9	3.52	0.48	A
3 - Norcot Road	1.3	7.17	0.57	A
4 - Oxford Road (W)	6.6	22.34	0.89	C

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	11/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	Existing Arrangement

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:15	09:15	60	15	✓
D2	2021 Base	AM	DIRECT	08:15	09:15	60	15	✓
D3	2021 + Development	AM	DIRECT	08:15	09:15	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2017 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Norcot Roundabout	Standard Roundabout	1, 2, 3, 4	7.61	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Wigmore Lane	
2	Oxford Road (E)	
3	Norcot Road	
4	Oxford Road (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Wigmore Lane	6.00	9.25	9.3	17.5	43.5	32.5	
2 - Oxford Road (E)	6.50	10.50	9.5	25.0	45.5	33.0	
3 - Norcot Road	5.00	6.50	9.0	20.0	43.5	29.0	
4 - Oxford Road (W)	4.80	8.50	4.0	68.0	45.5	18.5	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - Wigmore Lane	0.735	561.457
2 - Oxford Road (E)	0.779	621.064
3 - Norcot Road	0.657	454.425
4 - Oxford Road (W)	0.681	466.704

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Wigmore Lane		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

08:15 - 08:30

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	27.00	39.00	40.00
	2 - Oxford Road (E)	53.00	6.00	50.00	99.00
	3 - Norcot Road	61.00	54.00	0.00	17.00
	4 - Oxford Road (W)	110.00	105.00	18.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	38.00	44.00	51.00
	2 - Oxford Road (E)	54.00	7.00	62.00	95.00
	3 - Norcot Road	73.00	56.00	0.00	26.00
	4 - Oxford Road (W)	103.00	104.00	13.00	1.00

08:45 - 09:00

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	42.00	40.00	36.00
	2 - Oxford Road (E)	42.00	11.00	40.00	64.00
	3 - Norcot Road	86.00	62.00	0.00	21.00
	4 - Oxford Road (W)	130.00	113.00	6.00	3.00

09:00 - 09:15

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0.00	36.00	40.00	49.00
	2 - Oxford Road (E)	45.00	15.00	31.00	75.00
	3 - Norcot Road	78.00	47.00	0.00	22.00
	4 - Oxford Road (W)	106.00	126.00	9.00	3.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0	15	0	6
	2 - Oxford Road (E)	8	3	7	9
	3 - Norcot Road	0	6	0	2
	4 - Oxford Road (W)	1	7	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Wigmore Lane	0.34	3.52	0.5	A	121.25	485.00
2 - Oxford Road (E)	0.44	3.26	0.8	A	187.25	749.00
3 - Norcot Road	0.52	6.19	1.1	A	150.75	603.00
4 - Oxford Road (W)	0.81	14.17	3.9	B	237.50	950.00

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	107.00	107.00	181.44	396.61	0.270	106.63	223.37	0.0	0.4	3.099	A
2 - Oxford Road (E)	208.00	208.00	97.55	502.48	0.414	207.30	190.53	0.0	0.7	3.041	A
3 - Norcot Road	132.00	132.00	198.33	306.30	0.431	131.25	106.52	0.0	0.7	5.120	A
4 - Oxford Road (W)	233.00	233.00	174.14	329.76	0.707	230.67	155.43	0.0	2.3	8.886	A

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	134.00	134.00	180.92	395.15	0.339	133.86	230.86	0.4	0.5	3.442	A
2 - Oxford Road (E)	218.00	218.00	109.94	493.63	0.442	217.92	204.84	0.7	0.8	3.264	A
3 - Norcot Road	155.00	155.00	208.90	299.75	0.517	154.69	118.96	0.7	1.1	6.192	A
4 - Oxford Road (W)	221.00	221.00	190.75	318.57	0.694	221.03	172.84	2.3	2.3	9.234	A

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	119.00	119.00	194.35	383.30	0.310	119.06	258.12	0.5	0.5	3.408	A
2 - Oxford Road (E)	157.00	157.00	86.08	512.60	0.306	157.34	227.32	0.8	0.4	2.535	A
3 - Norcot Road	169.00	169.00	157.25	335.94	0.503	169.03	86.17	1.1	1.0	5.393	A
4 - Oxford Road (W)	252.00	252.00	202.05	312.28	0.807	250.41	124.23	2.3	3.9	14.170	B

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	125.00	125.00	200.12	380.63	0.328	124.97	229.64	0.5	0.5	3.519	A
2 - Oxford Road (E)	166.00	166.00	100.93	501.33	0.331	165.95	224.17	0.4	0.5	2.683	A
3 - Norcot Road	147.00	147.00	186.89	316.24	0.465	147.14	79.99	1.0	0.9	5.326	A
4 - Oxford Road (W)	244.00	244.00	185.12	322.33	0.757	244.64	148.91	3.9	3.2	11.699	B

2021 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Norcot Roundabout	Standard Roundabout	1, 2, 3, 4	10.67	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2021 Base	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Wigmore Lane		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/TS)

08:15 - 08:30

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	29.00	42.00	43.00
	2 - Oxford Road (E)	57.00	6.00	53.00	106.00
	3 - Norcot Road	65.00	58.00	0.00	18.00
	4 - Oxford Road (W)	117.00	112.00	19.00	0.00

Demand (Veh/TS)

08:30 - 08:45

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	41.00	47.00	54.00
	2 - Oxford Road (E)	58.00	7.00	66.00	101.00
	3 - Norcot Road	78.00	60.00	0.00	28.00
	4 - Oxford Road (W)	110.00	111.00	14.00	1.00

08:45 - 09:00

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	45.00	43.00	38.00
	2 - Oxford Road (E)	45.00	12.00	43.00	68.00
	3 - Norcot Road	92.00	66.00	0.00	22.00
	4 - Oxford Road (W)	139.00	121.00	6.00	3.00

09:00 - 09:15

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0.00	38.00	43.00	52.00
	2 - Oxford Road (E)	48.00	16.00	33.00	80.00
	3 - Norcot Road	83.00	50.00	0.00	23.00
	4 - Oxford Road (W)	113.00	135.00	10.00	3.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0	15	0	6
	2 - Oxford Road (E)	8	3	7	9
	3 - Norcot Road	0	6	0	2
	4 - Oxford Road (W)	1	7	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Wigmore Lane	0.37	3.79	0.6	A	129.50	518.00
2 - Oxford Road (E)	0.48	3.51	0.9	A	199.75	799.00
3 - Norcot Road	0.57	7.16	1.3	A	160.75	643.00
4 - Oxford Road (W)	0.89	22.29	6.6	C	253.50	1014.01

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	115.00	115.00	192.93	388.13	0.296	114.58	237.87	0.0	0.4	3.286	A
2 - Oxford Road (E)	222.00	222.00	104.44	497.30	0.446	221.20	203.07	0.0	0.8	3.250	A
3 - Norcot Road	141.00	141.00	212.23	296.66	0.475	140.11	113.41	0.0	0.9	5.718	A
4 - Oxford Road (W)	248.00	248.00	185.99	321.65	0.771	244.81	166.35	0.0	3.2	11.290	B

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	143.00	143.00	192.87	386.26	0.370	142.83	246.80	0.4	0.6	3.695	A
2 - Oxford Road (E)	232.00	232.00	116.94	488.38	0.475	231.90	218.77	0.8	0.9	3.506	A
3 - Norcot Road	166.00	166.00	221.89	290.75	0.571	165.59	126.95	0.9	1.3	7.165	A
4 - Oxford Road (W)	236.00	236.00	203.67	309.77	0.762	236.00	183.81	3.2	3.2	12.197	B

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	127.00	127.00	206.53	374.39	0.339	127.07	275.16	0.6	0.5	3.641	A
2 - Oxford Road (E)	168.00	168.00	91.06	508.96	0.330	168.40	242.53	0.9	0.5	2.647	A
3 - Norcot Road	180.00	180.00	167.28	329.05	0.547	180.08	92.19	1.3	1.2	6.047	A
4 - Oxford Road (W)	269.00	269.00	216.10	302.74	0.889	265.59	131.27	3.2	6.6	22.295	C

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	133.00	133.00	214.28	370.38	0.359	132.96	245.17	0.5	0.6	3.790	A
2 - Oxford Road (E)	177.00	177.00	107.89	496.14	0.357	176.94	239.34	0.5	0.6	2.819	A
3 - Norcot Road	156.00	156.00	198.87	307.97	0.507	156.18	85.96	1.2	1.0	5.936	A
4 - Oxford Road (W)	261.00	261.00	197.16	314.17	0.831	262.29	157.90	6.6	5.3	17.846	C

2021 + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Norcot Roundabout	Standard Roundabout	1, 2, 3, 4	10.69	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2021 + Development	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Wigmore Lane		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/TS)

08:15 - 08:30

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	29.00	42.00	43.00
	2 - Oxford Road (E)	57.00	6.00	53.00	106.00
	3 - Norcot Road	66.00	58.00	0.00	18.00
	4 - Oxford Road (W)	118.00	112.00	19.00	0.00

Demand (Veh/TS)

08:30 - 08:45

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	41.00	48.00	54.00
	2 - Oxford Road (E)	58.00	7.00	66.00	101.00
	3 - Norcot Road	78.00	60.00	0.00	28.00
	4 - Oxford Road (W)	110.00	111.00	14.00	1.00

Demand (Veh/TS)

08:45 - 09:00

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	45.00	43.00	38.00
	2 - Oxford Road (E)	45.00	12.00	43.00	68.00
	3 - Norcot Road	92.00	66.00	0.00	22.00
	4 - Oxford Road (W)	139.00	121.00	6.00	3.00

Demand (Veh/TS)

09:00 - 09:15

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0.00	39.00	43.00	52.00
	2 - Oxford Road (E)	48.00	16.00	33.00	80.00
	3 - Norcot Road	84.00	50.00	0.00	23.00
	4 - Oxford Road (W)	113.00	135.00	10.00	3.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0	15	0	6
	2 - Oxford Road (E)	8	3	7	9
	3 - Norcot Road	0	6	0	2
	4 - Oxford Road (W)	1	7	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Wigmore Lane	0.37	3.81	0.6	A	130.00	520.00
2 - Oxford Road (E)	0.48	3.52	0.9	A	199.75	799.00
3 - Norcot Road	0.57	7.17	1.3	A	161.25	645.00
4 - Oxford Road (W)	0.89	22.34	6.6	C	253.75	1015.01

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	115.00	115.00	192.89	388.16	0.296	114.58	239.82	0.0	0.4	3.286	A
2 - Oxford Road (E)	222.00	222.00	104.44	497.30	0.446	221.20	203.03	0.0	0.8	3.250	A
3 - Norcot Road	142.00	142.00	212.23	296.71	0.479	141.09	113.41	0.0	0.9	5.750	A
4 - Oxford Road (W)	249.00	249.00	186.98	321.04	0.776	245.74	166.35	0.0	3.3	11.501	B

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	144.00	144.00	192.87	386.42	0.373	143.83	246.82	0.4	0.6	3.708	A
2 - Oxford Road (E)	232.00	232.00	117.93	487.67	0.476	231.90	218.77	0.8	0.9	3.516	A
3 - Norcot Road	166.00	166.00	221.89	290.76	0.571	165.60	127.95	0.9	1.3	7.168	A
4 - Oxford Road (W)	236.00	236.00	203.68	309.76	0.762	236.02	183.81	3.3	3.2	12.219	B

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	127.00	127.00	206.56	374.37	0.339	127.07	275.18	0.6	0.5	3.639	A
2 - Oxford Road (E)	168.00	168.00	91.07	508.95	0.330	168.41	242.56	0.9	0.5	2.645	A
3 - Norcot Road	180.00	180.00	167.28	329.04	0.547	180.08	92.20	1.3	1.2	6.048	A
4 - Oxford Road (W)	269.00	269.00	216.10	302.74	0.889	265.64	131.27	3.2	6.6	22.342	C

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	134.00	134.00	214.24	370.19	0.362	133.95	246.13	0.5	0.6	3.809	A
2 - Oxford Road (E)	177.00	177.00	107.89	496.14	0.357	176.94	240.30	0.5	0.6	2.819	A
3 - Norcot Road	157.00	157.00	198.87	308.01	0.510	157.17	85.96	1.2	1.1	5.975	A
4 - Oxford Road (W)	261.00	261.00	198.15	313.52	0.833	262.22	157.89	6.6	5.4	18.041	C

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

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Filename: Portman Rd - Norcot Rd Rbt - PM.j9
Path: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Tech\Junct Ass\Arcady\Portman Rd - Norcot Rd Rbt\Non-Cal
Report generation date: 17/01/2018 12:25:26

»2017 Observed, PM
»2021 Base, PM
»2021 + Development, PM

Summary of junction performance

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
2017 Observed				
1 - Wigmore Lane	1.4	5.41	0.58	A
2 - Oxford Road (E)	1.0	4.11	0.51	A
3 - Norcot Road	0.9	6.59	0.48	A
4 - Oxford Road (W)	1.5	6.31	0.61	A
2021 Base				
1 - Wigmore Lane	1.7	6.35	0.64	A
2 - Oxford Road (E)	1.2	4.61	0.56	A
3 - Norcot Road	1.1	7.66	0.54	A
4 - Oxford Road (W)	1.9	7.25	0.66	A
2021 + Development				
1 - Wigmore Lane	1.7	6.35	0.64	A
2 - Oxford Road (E)	1.2	4.61	0.56	A
3 - Norcot Road	1.2	7.72	0.54	A
4 - Oxford Road (W)	1.9	7.29	0.66	A

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

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	11/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	I-TRANSPORT\Hotdesk
Description	Existing Arrangement

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	PM	DIRECT	17:30	18:30	60	15	✓
D2	2021 Base	PM	DIRECT	17:30	18:30	60	15	✓
D3	2021 + Development	PM	DIRECT	17:30	18:30	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2017 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Norcot Roundabout	Standard Roundabout	1, 2, 3, 4	5.45	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Wigmore Lane	
2	Oxford Road (E)	
3	Norcot Road	
4	Oxford Road (W)	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - Wigmore Lane	6.00	9.25	9.3	17.5	43.5	32.5	
2 - Oxford Road (E)	6.50	10.50	9.5	25.0	45.5	33.0	
3 - Norcot Road	5.00	6.50	9.0	20.0	43.5	29.3	
4 - Oxford Road (W)	4.80	8.50	4.0	68.0	45.5	18.5	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - Wigmore Lane	0.735	561.457
2 - Oxford Road (E)	0.779	621.064
3 - Norcot Road	0.656	454.032
4 - Oxford Road (W)	0.681	466.704

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Wigmore Lane		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

17:30 - 17:45

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	62.00	73.00	93.00
	2 - Oxford Road (E)	34.00	16.00	37.00	100.00
	3 - Norcot Road	51.00	43.00	0.00	22.00
	4 - Oxford Road (W)	54.00	115.00	44.00	7.00

17:45 - 18:00

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	2.00	58.00	74.00	96.00
	2 - Oxford Road (E)	30.00	12.00	60.00	129.00
	3 - Norcot Road	54.00	47.00	0.00	27.00
	4 - Oxford Road (W)	65.00	97.00	20.00	3.00

18:00 - 18:15

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	57.00	77.00	95.00
	2 - Oxford Road (E)	33.00	22.00	44.00	99.00
	3 - Norcot Road	43.00	42.00	0.00	20.00
	4 - Oxford Road (W)	68.00	113.00	18.00	3.00

18:15 - 18:30

Demand (Veh/TS)

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0.00	54.00	78.00	89.00
	2 - Oxford Road (E)	33.00	23.00	54.00	110.00
	3 - Norcot Road	30.00	46.00	1.00	18.00
	4 - Oxford Road (W)	69.00	91.00	14.00	2.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0	0	0	1
	2 - Oxford Road (E)	12	0	5	2
	3 - Norcot Road	2	5	0	1
	4 - Oxford Road (W)	0	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Wigmore Lane	0.58	5.41	1.4	A	227.50	910.00
2 - Oxford Road (E)	0.51	4.11	1.0	A	209.00	836.00
3 - Norcot Road	0.48	6.59	0.9	A	111.00	444.00
4 - Oxford Road (W)	0.61	6.31	1.5	A	195.75	783.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	229.00	229.00	223.51	392.63	0.583	227.62	139.17	0.0	1.4	5.411	A
2 - Oxford Road (E)	187.00	187.00	216.64	432.65	0.432	186.24	234.49	0.0	0.8	3.642	A
3 - Norcot Road	116.00	116.00	249.78	278.29	0.417	115.29	153.10	0.0	0.7	5.499	A
4 - Oxford Road (W)	220.00	220.00	144.22	359.69	0.612	218.45	220.85	0.0	1.5	6.306	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	230.00	230.00	179.40	425.10	0.541	230.19	150.92	1.4	1.2	4.621	A
2 - Oxford Road (E)	231.00	231.00	195.34	449.67	0.514	230.71	214.25	0.8	1.0	4.105	A
3 - Norcot Road	128.00	128.00	271.92	264.05	0.485	127.78	154.13	0.7	0.9	6.593	A
4 - Oxford Road (W)	185.00	185.00	144.85	359.41	0.515	185.47	254.85	1.5	1.1	5.188	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	230.00	230.00	197.93	411.45	0.559	229.94	145.10	1.2	1.3	4.955	A
2 - Oxford Road (E)	198.00	198.00	193.95	450.16	0.440	198.26	233.91	1.0	0.8	3.578	A
3 - Norcot Road	105.00	105.00	253.14	275.98	0.380	105.31	139.06	0.9	0.6	5.282	A
4 - Oxford Road (W)	202.00	202.00	141.21	361.60	0.559	201.82	217.25	1.1	1.2	5.628	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	221.00	221.00	177.24	426.86	0.518	221.17	132.14	1.3	1.1	4.379	A
2 - Oxford Road (E)	220.00	220.00	184.16	457.87	0.480	219.87	214.24	0.8	0.9	3.779	A
3 - Norcot Road	95.00	95.00	257.02	272.79	0.348	95.08	147.02	0.6	0.5	5.066	A
4 - Oxford Road (W)	176.00	176.00	133.06	367.45	0.479	176.32	219.04	1.2	0.9	4.716	A

2021 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Norcot Roundabout	Standard Roundabout	1, 2, 3, 4	6.28	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2021 Base	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Wigmore Lane		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/TS)

17:30 - 17:45

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	66.00	78.00	99.00
	2 - Oxford Road (E)	36.00	17.00	39.00	106.00
	3 - Norcot Road	54.00	46.00	0.00	23.00
	4 - Oxford Road (W)	57.00	122.00	47.00	7.00

Demand (Veh/TS)

17:45 - 18:00

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	2.00	62.00	79.00	102.00
	2 - Oxford Road (E)	32.00	13.00	64.00	137.00
	3 - Norcot Road	57.00	50.00	0.00	29.00
	4 - Oxford Road (W)	69.00	103.00	21.00	3.00

Demand (Veh/TS)

18:00 - 18:15

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	61.00	82.00	101.00
	2 - Oxford Road (E)	35.00	23.00	47.00	105.00
	3 - Norcot Road	46.00	45.00	0.00	21.00
	4 - Oxford Road (W)	72.00	120.00	19.00	3.00

Demand (Veh/TS)

18:15 - 18:30

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0.00	57.00	83.00	95.00
	2 - Oxford Road (E)	35.00	24.00	57.00	117.00
	3 - Norcot Road	32.00	49.00	1.00	19.00
	4 - Oxford Road (W)	73.00	97.00	15.00	2.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0	0	0	1
	2 - Oxford Road (E)	12	0	5	2
	3 - Norcot Road	2	5	0	1
	4 - Oxford Road (W)	0	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Wigmore Lane	0.64	6.35	1.7	A	242.25	969.00
2 - Oxford Road (E)	0.56	4.61	1.2	A	221.75	887.00
3 - Norcot Road	0.54	7.66	1.1	A	118.00	472.00
4 - Oxford Road (W)	0.66	7.25	1.9	A	207.50	830.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	244.00	244.00	237.19	382.40	0.638	242.27	147.01	0.0	1.7	6.347	A
2 - Oxford Road (E)	198.00	198.00	230.30	422.46	0.469	197.13	249.16	0.0	0.9	3.979	A
3 - Norcot Road	123.00	123.00	264.53	268.56	0.458	122.17	162.89	0.0	0.8	6.114	A
4 - Oxford Road (W)	233.00	233.00	153.08	353.43	0.659	231.11	233.62	0.0	1.9	7.250	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	245.00	245.00	190.51	416.77	0.588	245.28	159.90	1.7	1.4	5.259	A
2 - Oxford Road (E)	246.00	246.00	207.46	440.57	0.558	245.62	228.33	0.9	1.3	4.609	A
3 - Norcot Road	136.00	136.00	288.91	252.89	0.538	135.69	164.18	0.8	1.1	7.658	A
4 - Oxford Road (W)	196.00	196.00	153.78	353.10	0.555	196.62	270.82	1.9	1.3	5.776	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	245.00	245.00	209.92	402.44	0.609	244.91	154.14	1.4	1.5	5.709	A
2 - Oxford Road (E)	210.00	210.00	205.93	441.17	0.476	210.33	248.90	1.3	0.9	3.905	A
3 - Norcot Road	112.00	112.00	268.19	266.09	0.421	112.41	148.08	1.1	0.7	5.871	A
4 - Oxford Road (W)	214.00	214.00	150.28	355.20	0.602	213.77	230.31	1.3	1.5	6.353	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	235.00	235.00	188.30	418.55	0.561	235.24	140.18	1.5	1.3	4.918	A
2 - Oxford Road (E)	233.00	233.00	196.22	448.82	0.519	232.84	227.32	0.9	1.1	4.164	A
3 - Norcot Road	101.00	101.00	273.03	262.30	0.385	101.10	156.04	0.7	0.6	5.588	A
4 - Oxford Road (W)	187.00	187.00	141.07	361.76	0.517	187.41	233.06	1.5	1.1	5.173	A

2021 + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Norcot Roundabout	Standard Roundabout	1, 2, 3, 4	6.30	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2021 + Development	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Wigmore Lane		DIRECT	✓	100.000
2 - Oxford Road (E)		DIRECT	✓	100.000
3 - Norcot Road		DIRECT	✓	100.000
4 - Oxford Road (W)		DIRECT	✓	100.000

Origin-Destination Data

Demand (Veh/TS)

17:30 - 17:45

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	66.00	78.00	99.00
	2 - Oxford Road (E)	36.00	17.00	39.00	106.00
	3 - Norcot Road	55.00	46.00	0.00	23.00
	4 - Oxford Road (W)	57.00	122.00	47.00	7.00

Demand (Veh/TS)

17:45 - 18:00

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	2.00	62.00	79.00	102.00
	2 - Oxford Road (E)	32.00	13.00	64.00	137.00
	3 - Norcot Road	58.00	50.00	0.00	29.00
	4 - Oxford Road (W)	69.00	103.00	21.00	3.00

Demand (Veh/TS)

18:00 - 18:15

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	1.00	61.00	82.00	101.00
	2 - Oxford Road (E)	35.00	23.00	47.00	105.00
	3 - Norcot Road	46.00	45.00	0.00	21.00
	4 - Oxford Road (W)	72.00	120.00	19.00	3.00

Demand (Veh/TS)

18:15 - 18:30

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0.00	58.00	83.00	95.00
	2 - Oxford Road (E)	35.00	24.00	57.00	117.00
	3 - Norcot Road	33.00	49.00	1.00	19.00
	4 - Oxford Road (W)	73.00	97.00	15.00	2.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Wigmore Lane	2 - Oxford Road (E)	3 - Norcot Road	4 - Oxford Road (W)
From	1 - Wigmore Lane	0	0	0	1
	2 - Oxford Road (E)	12	0	5	2
	3 - Norcot Road	2	5	0	1
	4 - Oxford Road (W)	0	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Wigmore Lane	0.64	6.35	1.7	A	242.50	970.00
2 - Oxford Road (E)	0.56	4.61	1.2	A	221.75	887.00
3 - Norcot Road	0.54	7.72	1.2	A	118.75	475.00
4 - Oxford Road (W)	0.66	7.29	1.9	A	207.50	830.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	244.00	244.00	237.18	382.41	0.638	242.27	147.99	0.0	1.7	6.346	A
2 - Oxford Road (E)	198.00	198.00	230.30	422.46	0.469	197.13	249.15	0.0	0.9	3.979	A
3 - Norcot Road	124.00	124.00	264.53	268.58	0.462	123.15	162.89	0.0	0.8	6.153	A
4 - Oxford Road (W)	233.00	233.00	154.07	352.75	0.661	231.10	233.62	0.0	1.9	7.288	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	245.00	245.00	190.51	416.77	0.588	245.28	160.89	1.7	1.4	5.257	A
2 - Oxford Road (E)	246.00	246.00	207.47	440.57	0.558	245.62	228.33	0.9	1.3	4.609	A
3 - Norcot Road	137.00	137.00	288.91	252.91	0.542	136.69	164.18	0.8	1.2	7.722	A
4 - Oxford Road (W)	196.00	196.00	154.78	352.42	0.556	196.63	270.82	1.9	1.3	5.799	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	245.00	245.00	209.93	402.44	0.609	244.91	154.15	1.4	1.5	5.709	A
2 - Oxford Road (E)	210.00	210.00	205.93	441.17	0.476	210.33	248.91	1.3	0.9	3.905	A
3 - Norcot Road	112.00	112.00	268.19	266.09	0.421	112.43	148.08	1.2	0.7	5.872	A
4 - Oxford Road (W)	214.00	214.00	150.30	355.19	0.603	213.78	230.31	1.3	1.5	6.353	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Wigmore Lane	236.00	236.00	188.30	418.55	0.564	236.23	141.17	1.5	1.3	4.942	A
2 - Oxford Road (E)	233.00	233.00	196.22	448.83	0.519	232.85	228.31	0.9	1.1	4.164	A
3 - Norcot Road	102.00	102.00	273.02	262.33	0.389	102.09	156.04	0.7	0.6	5.619	A
4 - Oxford Road (W)	187.00	187.00	142.06	361.08	0.518	187.40	233.05	1.5	1.1	5.195	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

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Filename: CowLn-BeresfordLn- PR - MIT AM.j9
Path: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Tech\Junct Ass\Arcady\CowLn-BeresfordLn-PR\Non-Cal\MIT
Report generation date: 23/01/2018 09:01:54

»2017 Observed, AM
»2021 Future Year, AM
»2021 + Development, AM

Summary of junction performance

	AM			
	Queue (Veh)	Delay (s)	RFC	LOS
	2017 Observed			
1 - Cow Lane	1.4	11.07	0.59	B
2 - Beresford Road	1.5	14.85	0.60	B
3 - Portman Road	3.8	14.15	0.80	B
	2021 Future Year			
1 - Cow Lane	1.7	12.65	0.64	B
2 - Beresford Road	1.8	17.13	0.65	C
3 - Portman Road	5.4	18.39	0.86	C
	2021 + Development			
1 - Cow Lane	1.8	13.27	0.65	B
2 - Beresford Road	1.9	18.14	0.67	C
3 - Portman Road	6.3	20.36	0.88	C

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

File summary

File Description

Title	Cow Lane / Beresford Lane / Portman Road
Location	Reading
Site number	
Date	07/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ITB12282
Enumerator	RS
Description	Proposed Improvement

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:15	09:15	60	15	✓
D2	2021 Future Year	AM	DIRECT	08:15	09:15	60	15	✓
D3	2021 + Development	AM	DIRECT	08:15	09:15	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2017 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1, 2, 3	13.50	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	Cow Lane	
2	Beresford Road	
3	Portman Road	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Cow Lane	3.50	3.40	3.40	0.0	13.40	12.40	0.0	
2 - Beresford Road	3.00	3.00	3.00	0.0	8.80	6.00	0.0	✓
3 - Portman Road	3.70	3.70	6.00	41.0	15.40	10.00	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - Cow Lane	0.612	239.131
2 - Beresford Road	0.479	187.299
3 - Portman Road	0.693	315.946

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

08:15 - 08:30

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	17.00	66.00
	2 - Beresford Road	34.00	0.00	49.00
	3 - Portman Road	146.00	86.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	17.00	73.00
	2 - Beresford Road	23.00	1.00	47.00
	3 - Portman Road	137.00	73.00	0.00

08:45 - 09:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	33.00	71.00
	2 - Beresford Road	31.00	0.00	59.00
	3 - Portman Road	140.00	53.00	0.00

09:00 - 09:15

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	1.00	18.00	96.00
	2 - Beresford Road	24.00	0.00	44.00
	3 - Portman Road	147.00	61.00	1.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	4	2
	2 - Beresford Road	1	0	3
	3 - Portman Road	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.59	11.07	1.4	B	98.00	392.00
2 - Beresford Road	0.60	14.85	1.5	B	78.00	312.00
3 - Portman Road	0.80	14.15	3.8	B	211.00	844.00

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	83.00	83.00	84.60	181.59	0.457	82.17	177.14	0.0	0.8	8.981	A
2 - Beresford Road	83.00	83.00	65.34	152.45	0.544	81.84	101.43	0.0	1.2	12.553	B
3 - Portman Road	232.00	232.00	33.53	288.53	0.804	228.22	113.66	0.0	3.8	14.152	B

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	90.00	90.00	74.50	187.80	0.479	89.92	160.88	0.8	0.9	9.185	A
2 - Beresford Road	71.00	71.00	72.92	148.65	0.478	71.22	91.50	1.2	0.9	11.661	B
3 - Portman Road	210.00	210.00	24.16	295.08	0.712	211.22	119.99	3.8	2.6	10.889	B

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	104.00	104.00	53.35	200.40	0.519	103.85	171.00	0.9	1.1	9.305	A
2 - Beresford Road	90.00	90.00	71.01	149.57	0.602	89.48	86.18	0.9	1.5	14.845	B
3 - Portman Road	193.00	193.00	30.82	290.75	0.664	193.53	129.68	2.6	2.0	9.312	A

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	115.00	115.00	61.86	195.62	0.588	114.67	171.94	1.1	1.4	11.068	B
2 - Beresford Road	68.00	68.00	97.54	136.85	0.497	68.44	78.99	1.5	1.0	13.243	B
3 - Portman Road	209.00	209.00	25.13	294.63	0.709	208.67	140.85	2.0	2.4	10.417	B

2021 Future Year, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1, 2, 3	16.67	C

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2021 Future Year	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

08:15 - 08:30

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	18.00	70.00
	2 - Beresford Road	36.00	0.00	52.00
	3 - Portman Road	156.00	92.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	18.00	78.00
	2 - Beresford Road	25.00	1.00	50.00
	3 - Portman Road	146.00	78.00	0.00

08:45 - 09:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	35.00	76.00
	2 - Beresford Road	33.00	0.00	63.00
	3 - Portman Road	150.00	57.00	0.00

Demand (Veh/TS)

09:00 - 09:15

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	1.00	19.00	103.00
	2 - Beresford Road	26.00	0.00	47.00
	3 - Portman Road	157.00	65.00	1.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	4	2
	2 - Beresford Road	1	0	3
	3 - Portman Road	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.64	12.65	1.7	B	104.50	418.00
2 - Beresford Road	0.65	17.13	1.8	C	83.25	333.00
3 - Portman Road	0.86	18.39	5.4	C	225.50	902.00

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	88.00	88.00	89.98	178.31	0.494	87.05	188.03	0.0	1.0	9.764	A
2 - Beresford Road	88.00	88.00	69.24	150.57	0.584	86.65	107.79	0.0	1.4	13.806	B
3 - Portman Road	248.00	248.00	35.45	287.20	0.864	242.57	120.44	0.0	5.4	18.391	C

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	96.00	96.00	79.82	184.56	0.520	95.89	172.40	1.0	1.1	10.134	B
2 - Beresford Road	76.00	76.00	77.90	146.27	0.520	76.25	97.82	1.4	1.1	12.904	B
3 - Portman Road	224.00	224.00	26.17	293.68	0.763	226.05	127.97	5.4	3.4	13.687	B

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	111.00	111.00	57.48	197.88	0.561	110.81	183.07	1.1	1.2	10.311	B
2 - Beresford Road	96.00	96.00	76.01	147.16	0.652	95.33	92.28	1.1	1.8	17.128	C
3 - Portman Road	207.00	207.00	32.77	289.40	0.715	207.78	138.57	3.4	2.6	11.142	B

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	123.00	123.00	65.82	193.21	0.637	122.56	183.91	1.2	1.7	12.650	B
2 - Beresford Road	73.00	73.00	104.41	133.55	0.547	73.54	83.97	1.8	1.2	15.135	C
3 - Portman Road	223.00	223.00	27.16	293.23	0.760	222.57	150.79	2.6	3.0	12.630	B

2021 + Development, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Mini-roundabout	1, 2, 3	18.12	C

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2021 + Development	AM	DIRECT	08:15	09:15	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

08:15 - 08:30

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	18.00	72.00
	2 - Beresford Road	36.00	0.00	55.00
	3 - Portman Road	158.00	96.00	0.00

08:30 - 08:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	18.00	80.00
	2 - Beresford Road	25.00	1.00	53.00
	3 - Portman Road	149.00	82.00	0.00

08:45 - 09:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	35.00	77.00
	2 - Beresford Road	33.00	0.00	66.00
	3 - Portman Road	152.00	61.00	0.00

Demand (Veh/TS)

09:00 - 09:15

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	1.00	19.00	104.00
	2 - Beresford Road	26.00	0.00	50.00
	3 - Portman Road	159.00	69.00	1.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	4	2
	2 - Beresford Road	1	0	2
	3 - Portman Road	1	2	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.65	13.27	1.8	B	106.00	424.00
2 - Beresford Road	0.67	18.14	1.9	C	86.25	345.00
3 - Portman Road	0.88	20.36	6.3	C	231.75	927.00

Main Results for each time segment

08:15 - 08:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	90.00	90.00	93.63	176.10	0.511	88.98	189.51	0.0	1.0	10.215	B
2 - Beresford Road	91.00	91.00	71.18	150.05	0.606	89.52	111.42	0.0	1.5	14.540	B
3 - Portman Road	254.00	254.00	35.41	287.20	0.884	247.72	125.29	0.0	6.3	20.364	C

08:30 - 08:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	98.00	98.00	83.96	182.04	0.538	97.88	175.57	1.0	1.1	10.675	B
2 - Beresford Road	79.00	79.00	79.89	145.76	0.542	79.26	101.96	1.5	1.2	13.595	B
3 - Portman Road	231.00	231.00	26.18	293.65	0.787	233.35	132.96	6.3	3.9	15.467	C

08:45 - 09:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	112.00	112.00	61.58	195.39	0.573	111.83	185.19	1.1	1.3	10.743	B
2 - Beresford Road	99.00	99.00	77.03	147.13	0.673	98.27	96.38	1.2	1.9	18.137	C
3 - Portman Road	213.00	213.00	32.75	289.37	0.736	214.02	142.55	3.9	2.9	12.112	B

09:00 - 09:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	124.00	124.00	69.80	190.78	0.650	123.52	185.89	1.3	1.8	13.272	B
2 - Beresford Road	76.00	76.00	105.37	133.49	0.569	76.57	87.95	1.9	1.4	15.975	C
3 - Portman Road	229.00	229.00	27.17	293.19	0.781	228.52	154.78	2.9	3.4	13.773	B

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 770558 software@trl.co.uk www.trlsoftware.co.uk

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Filename: CowLn-BeresfordLn-PR - MIT PM.j9
Path: T:\Projects\12000 Series Project Numbers\12282ITB Battle Hospital, Portman Rd, Reading\Tech\Junct Ass\Arcady\CowLn-BeresfordLn-PR\Non-Cal\MIT
Report generation date: 23/01/2018 09:05:21

»2017 Observed, PM
»2021 Future Year, PM
»2021 + Development, PM

Summary of junction performance

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
2017 Observed				
1 - Cow Lane	6.8	33.51	0.90	D
2 - Beresford Road	4.2	42.44	0.84	E
3 - Portman Road	1.0	6.04	0.49	A
2021 Future Year				
1 - Cow Lane	11.2	51.70	0.96	F
2 - Beresford Road	6.8	62.40	0.93	F
3 - Portman Road	1.1	6.50	0.53	A
2021 + Development				
1 - Cow Lane	14.5	64.70	0.98	F
2 - Beresford Road	9.7	83.58	0.98	F
3 - Portman Road	1.2	6.74	0.54	A

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

File summary

File Description

Title	Cow Lane / Beresford Lane / Portman Road
Location	Reading
Site number	
Date	07/12/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	ITB12282
Enumerator	RS
Description	Proposed Improvement

Units

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

Analysis Options

Mini-roundabout model	Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9	5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	PM	DIRECT	17:30	18:30	60	15	✓
D2	2021 Future Year	PM	DIRECT	17:30	18:30	60	15	✓
D3	2021 + Development	PM	DIRECT	17:30	18:30	60	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2017 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Cow Lane Roundabout	Mini-roundabout	1, 2, 3	25.86	D

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	Cow Lane	
2	Beresford Road	
3	Portman Road	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1 - Cow Lane	3.50	3.40	3.40	0.0	13.40	12.40	0.0	
2 - Beresford Road	3.30	3.00	3.00	0.0	8.80	6.00	0.0	✓
3 - Portman Road	3.70	3.70	6.00	41.0	15.40	10.00	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/TS)
1 - Cow Lane	0.612	239.131
2 - Beresford Road	0.479	182.731
3 - Portman Road	0.693	315.946

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2017 Observed	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

17:30 - 17:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	47.00	142.00
	2 - Beresford Road	29.00	0.00	56.00
	3 - Portman Road	96.00	44.00	0.00

17:45 - 18:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	39.00	131.00
	2 - Beresford Road	27.00	0.00	49.00
	3 - Portman Road	93.00	41.00	0.00

18:00 - 18:15

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	33.00	140.00
	2 - Beresford Road	27.00	1.00	48.00
	3 - Portman Road	92.00	48.00	0.00

18:15 - 18:30

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	37.00	153.00
	2 - Beresford Road	33.00	0.00	58.00
	3 - Portman Road	100.00	44.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	0	0
	2 - Beresford Road	1	0	3
	3 - Portman Road	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.90	33.51	6.8	D	180.50	722.00
2 - Beresford Road	0.84	42.44	4.2	E	82.00	328.00
3 - Portman Road	0.49	6.04	1.0	A	139.50	558.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	189.00	189.00	43.72	212.21	0.891	182.79	123.51	0.0	6.2	26.645	D
2 - Beresford Road	85.00	85.00	137.33	114.45	0.743	82.43	89.18	0.0	2.6	26.353	D
3 - Portman Road	140.00	140.00	28.12	295.73	0.473	139.11	191.64	0.0	0.9	5.715	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	170.00	170.00	41.02	213.87	0.795	171.99	120.21	6.2	4.2	22.436	C
2 - Beresford Road	76.00	76.00	132.41	116.79	0.651	76.60	80.60	2.6	2.0	22.758	C
3 - Portman Road	134.00	134.00	27.18	296.40	0.452	134.05	181.84	0.9	0.8	5.545	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	173.00	173.00	48.92	209.01	0.828	172.75	118.99	4.2	4.5	24.394	C
2 - Beresford Road	76.00	76.00	139.64	113.44	0.670	75.99	82.04	2.0	2.0	23.976	C
3 - Portman Road	140.00	140.00	27.97	295.79	0.473	139.94	187.65	0.8	0.9	5.771	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	190.00	190.00	44.04	212.02	0.896	187.72	132.11	4.5	6.8	33.509	D
2 - Beresford Road	91.00	91.00	151.18	107.99	0.843	88.79	80.58	2.0	4.2	42.443	E
3 - Portman Road	144.00	144.00	32.21	292.90	0.492	143.93	207.76	0.9	1.0	6.039	A

2021 Future Year, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Cow Lane Roundabout	Mini-roundabout	1, 2, 3	38.23	E

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2021 Future Year	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

17:30 - 17:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	50.00	151.00
	2 - Beresford Road	31.00	0.00	59.00
	3 - Portman Road	102.00	47.00	0.00

17:45 - 18:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	41.00	139.00
	2 - Beresford Road	29.00	0.00	52.00
	3 - Portman Road	99.00	44.00	0.00

18:00 - 18:15

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	35.00	149.00
	2 - Beresford Road	29.00	1.00	51.00
	3 - Portman Road	98.00	51.00	0.00

Demand (Veh/TS)

18:15 - 18:30

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	39.00	162.00
	2 - Beresford Road	35.00	0.00	62.00
	3 - Portman Road	106.00	47.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	0	0
	2 - Beresford Road	1	0	3
	3 - Portman Road	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.96	51.70	11.2	F	191.50	766.00
2 - Beresford Road	0.93	62.40	6.8	F	87.25	349.00
3 - Portman Road	0.53	6.50	1.1	A	148.50	594.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	201.00	201.00	46.68	210.39	0.955	191.10	131.11	0.0	9.9	36.677	E
2 - Beresford Road	90.00	90.00	143.56	111.53	0.807	86.54	94.22	0.0	3.5	32.596	D
3 - Portman Road	149.00	149.00	29.81	293.95	0.507	147.99	200.29	0.0	1.0	6.125	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	180.00	180.00	44.03	212.03	0.849	183.44	128.23	9.9	6.5	34.187	D
2 - Beresford Road	81.00	81.00	141.45	112.55	0.720	81.68	86.02	3.5	2.8	29.895	D
3 - Portman Road	143.00	143.00	29.20	294.38	0.486	143.06	193.93	1.0	1.0	5.952	A

18:00 - 18:15

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	184.00	184.00	51.91	207.17	0.888	183.51	126.99	6.5	7.0	36.153	E
2 - Beresford Road	81.00	81.00	148.36	109.34	0.741	80.99	87.06	2.8	2.8	31.624	D
3 - Portman Road	149.00	149.00	29.96	293.83	0.507	148.94	199.39	1.0	1.0	6.208	A

18:15 - 18:30

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	201.00	201.00	47.05	210.17	0.956	196.71	139.47	7.0	11.2	51.697	F
2 - Beresford Road	97.00	97.00	158.57	104.52	0.928	93.03	85.19	2.8	6.8	62.398	F
3 - Portman Road	153.00	153.00	33.59	291.32	0.525	152.93	218.01	1.0	1.1	6.498	A

2021 + Development, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Cow Lane Roundabout	Mini-roundabout	1, 2, 3	48.54	E

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2021 + Development	PM	DIRECT	17:30	18:30	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - Cow Lane		DIRECT	✓	100.000
2 - Beresford Road		DIRECT	✓	100.000
3 - Portman Road		DIRECT	✓	100.000

Origin-Destination Data

17:30 - 17:45

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	50.00	154.00
	2 - Beresford Road	31.00	0.00	65.00
	3 - Portman Road	104.00	51.00	0.00

17:45 - 18:00

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	41.00	142.00
	2 - Beresford Road	29.00	0.00	58.00
	3 - Portman Road	101.00	48.00	0.00

18:00 - 18:15

Demand (Veh/TS)

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	35.00	152.00
	2 - Beresford Road	29.00	1.00	57.00
	3 - Portman Road	100.00	55.00	0.00

Demand (Veh/TS)

18:15 - 18:30

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0.00	39.00	165.00
	2 - Beresford Road	35.00	0.00	67.00
	3 - Portman Road	108.00	51.00	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - Cow Lane	2 - Beresford Road	3 - Portman Road
From	1 - Cow Lane	0	0	0
	2 - Beresford Road	1	0	3
	3 - Portman Road	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/TS)	Total Junction Arrivals (Veh)
1 - Cow Lane	0.98	64.70	14.5	F	194.50	778.00
2 - Beresford Road	0.98	83.58	9.7	F	93.00	372.00
3 - Portman Road	0.54	6.74	1.2	A	154.50	618.00

Main Results for each time segment

17:30 - 17:45

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	204.00	204.00	50.64	207.95	0.981	191.98	132.76	0.0	12.0	42.070	E
2 - Beresford Road	96.00	96.00	144.93	110.85	0.866	91.32	97.69	0.0	4.7	39.752	E
3 - Portman Road	155.00	155.00	29.49	294.75	0.526	153.91	206.76	0.0	1.1	6.343	A

17:45 - 18:00

Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	183.00	183.00	48.03	209.56	0.873	186.80	130.20	12.0	8.2	43.403	E
2 - Beresford Road	87.00	87.00	144.70	110.97	0.784	87.63	90.13	4.7	4.0	40.020	E
3 - Portman Road	149.00	149.00	29.16	294.99	0.505	149.06	203.17	1.1	1.0	6.172	A

18:00 - 18:15

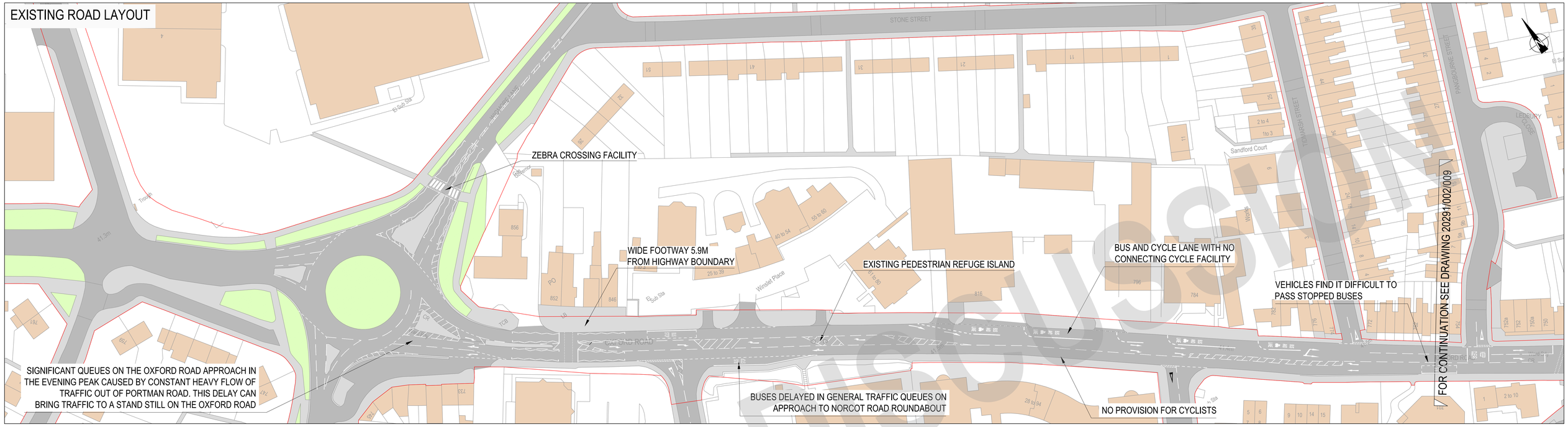
Arm	Total Demand (Veh/TS)	Junction Arrivals (Veh)	Circulating flow (Veh/TS)	Capacity (Veh/TS)	RFC	Throughput (Veh/TS)	Throughput (exit side) (Veh/TS)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Cow Lane	187.00	187.00	55.90	204.72	0.913	186.39	128.99	8.2	8.8	45.269	E
2 - Beresford Road	87.00	87.00	151.20	107.96	0.806	86.99	91.09	4.0	4.1	42.648	E
3 - Portman Road	155.00	155.00	29.95	294.39	0.527	154.93	208.24	1.0	1.1	6.450	A

18:15 - 18:30

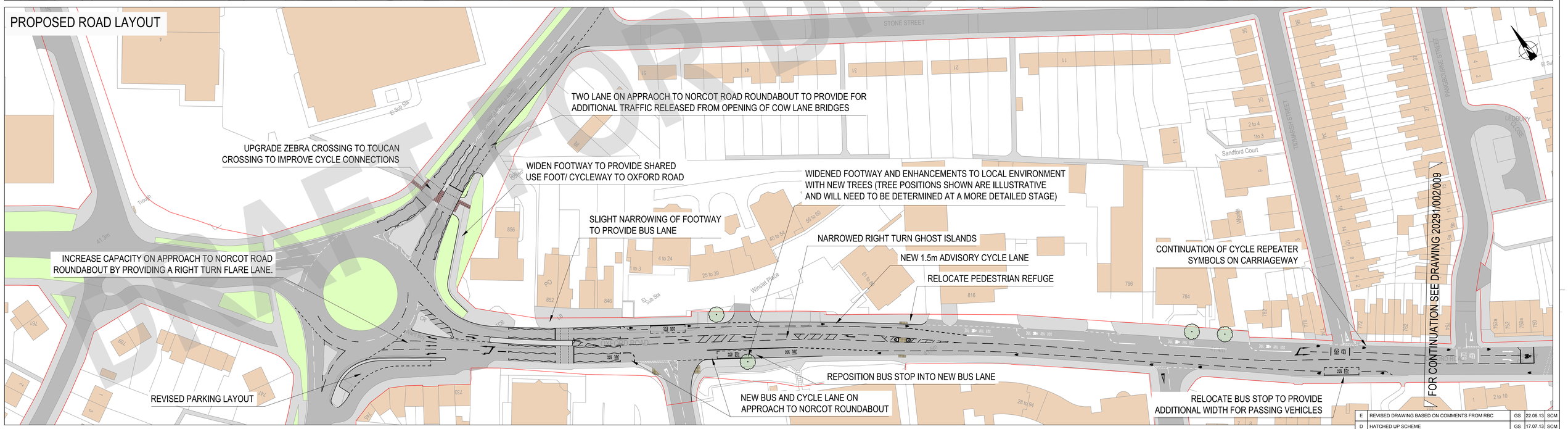
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1 - Cow Lane	204.00	204.00	51.06	207.70	0.982	198.27	140.92	8.8	14.5	64.701	F
2 - Beresford Road	102.00	102.00	160.40	103.63	0.984	96.31	88.93	4.1	9.7	83.580	F
3 - Portman Road	159.00	159.00	33.05	292.28	0.544	158.92	223.66	1.1	1.2	6.744	A

APPENDIX J CONCEPT IMPROVEMENT SCHEMES

EXISTING ROAD LAYOUT



PROPOSED ROAD LAYOUT



KEY

- READING BOROUGH COUNCIL HIGWAY BOUNDARY
- EXISTING TREE
- PROPOSED TREE

NOTES

THE INDICATIVE POSITION OF NEW TREES HAVE BEEN SHOWN ON THE PLAN IN LOCATIONS WHERE THE C2 UTILITY SEARCH HAVE INDICATED THAT THERE ARE NO UTILITIES PRESENT.

TO IDENTIFY MORE ACCURATELY THE POSITION OF TREE PLANTING, MORE DETAILED UTILITY SEARCHES SHOULD BE UNDERTAKEN.

THE INTRODUCTION OF ADDITIONAL NEW TREES WITHIN THE FOOTWAY / VERGE MAY REQUIRE COSTLY UTILITY DIVERSIONS.

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KEY PLAN



Mark	Revision	Drawn	Date	Chkd
E	REVISED DRAWING BASED ON COMMENTS FROM RBC	GS	22.08.13	SCM
D	HATCHED UP SCHEME	GS	17.07.13	SCM
C	REVISED NORCOT RBT APPROACH LAYOUT	GS	11.06.13	JH
B	REVISED CYCLE LANES	GS	30.04.13	JH
A	JUNCTION IMPROVEMENTS AT NORCOT ROUNDABOUT	GS	22.02.13	JH

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Drawing Issue Status
DRAFT - FOR DISCUSSION/CONCEPT ONLY

OXFORD ROAD CORRIDOR STUDY
OXFORD ROAD
NORCOT ROAD ROUNDABOUT
BUS LANE APPROACH (SHEET 1 OF 6)

Client
Reading Borough Council

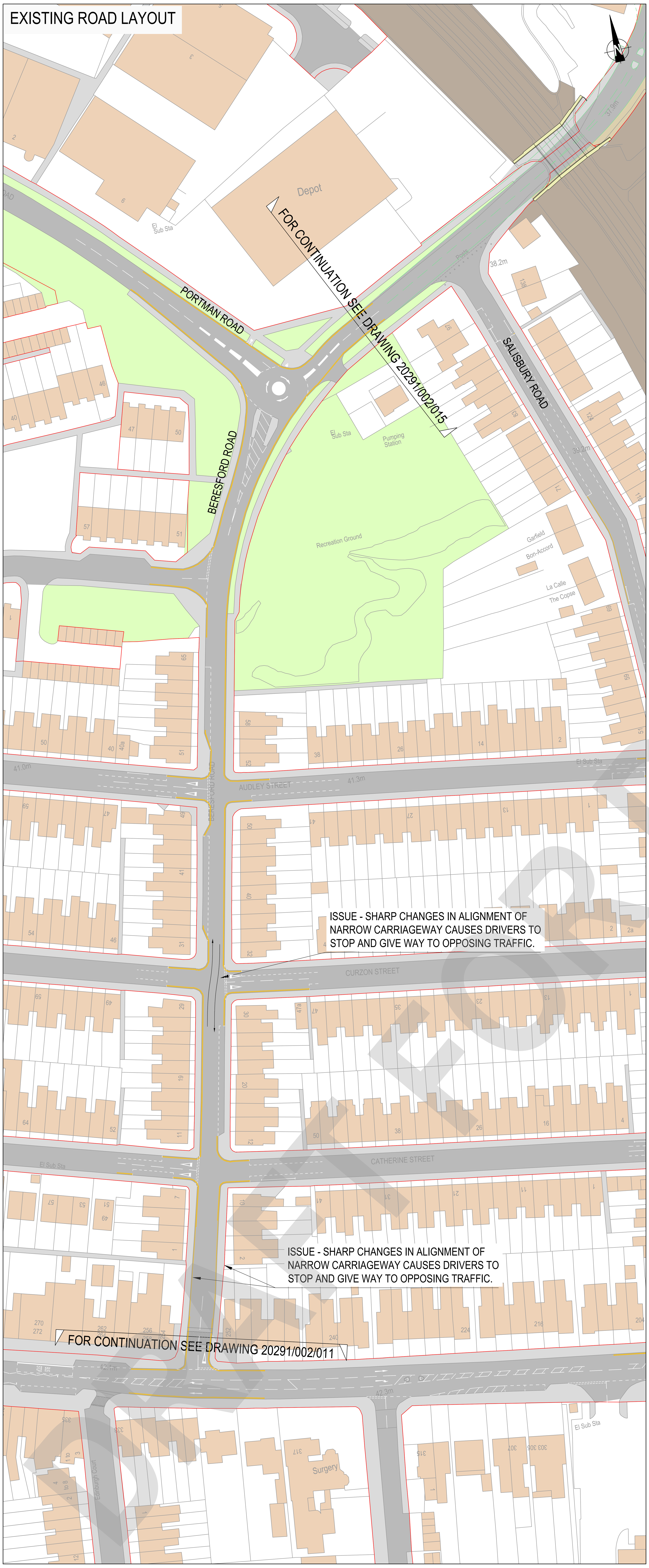
Date of 1st Issue 14/12/2012	Drawn by GS
A0 Scale 1:500	Checked by JH
Drawing Number 20291/002/008	Revision E

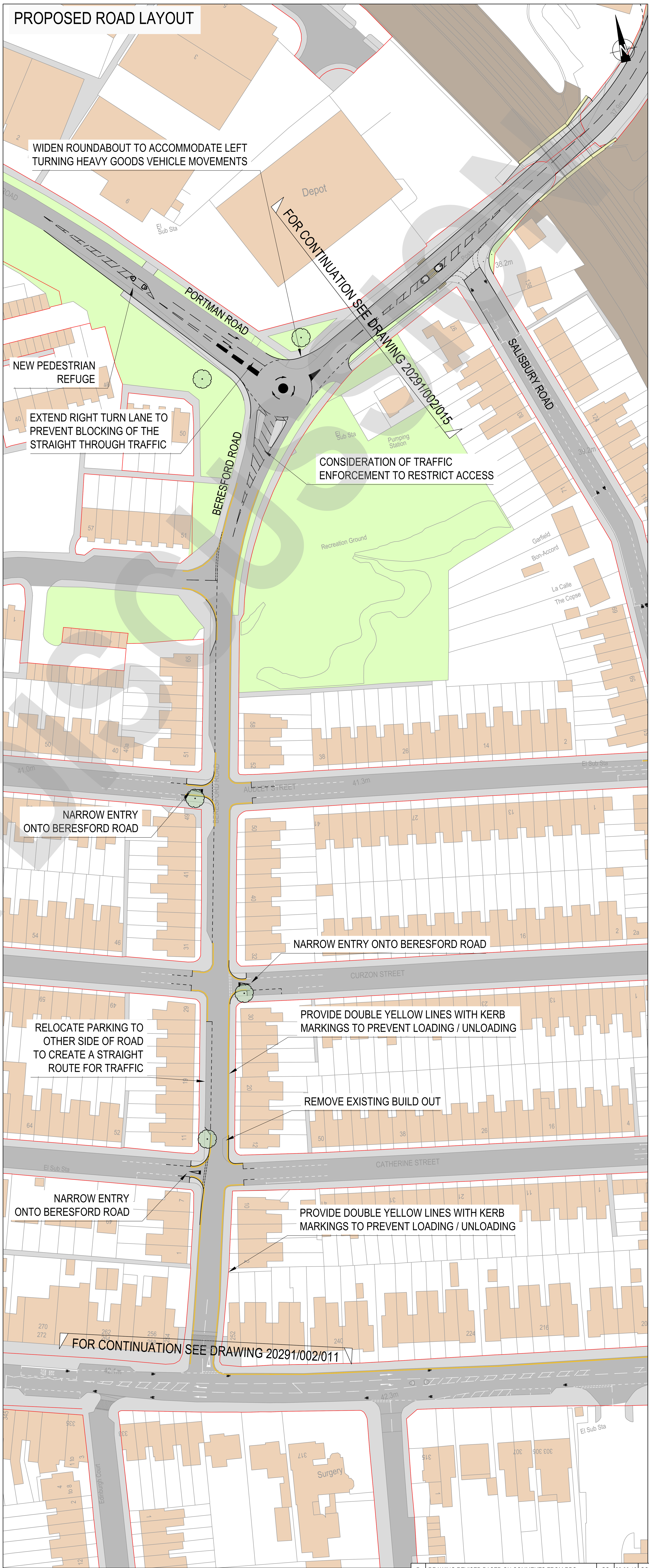
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KEY

- READING BOROUGH COUNCIL HIGWAY BOUNDARY
- EXISTING TREE
- PROPOSED TREE

NOTES

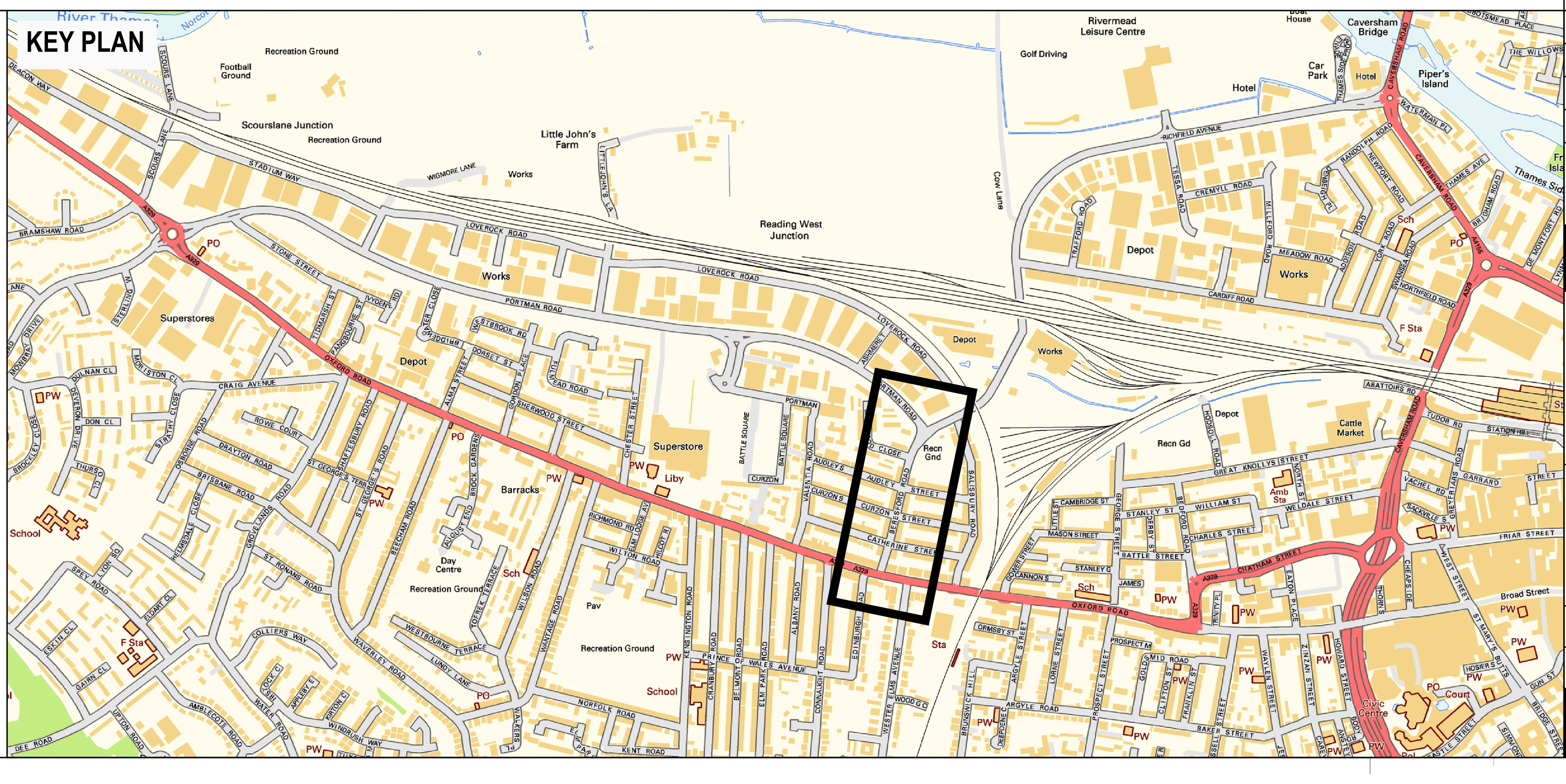
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KEY PLAN



Mark	Revision	Drawn	Date	Chkd
D	DRAWING REVISED BASED ON COMMENTS FROM RBC	GS	22.08.13	SCM
C	HATCHED UP SCHEME	GS	17.07.13	SCM
B	REMOVAL OF TREES	GS	29.04.13	JH
A	REVISED BASED ON COMMENTS FROM WORKSHOP 07.11.12	GS	11.12.12	JH

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Drawing Issue Status
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OXFORD ROAD CORRIDOR STUDY
BERESFORD ROAD
PEDESTRIAN / CYCLE IMPROVEMENTS

Client: Reading Borough Council

Date of 1st Issue	Drawn by
14/12/2012	GS
A0 Scale: 1:500	Checked by: JH
Drawing Number: 20291/002/006	Revision: D

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

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

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

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