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TECHNICAL NOTE

Project No:	**ITL9075**
Project Title:	**Cockaynes Orchard, Alresford**
Title:	**Site Access Appraisal**
Ref:	**NM/ITL9075-001 TN**
Date:	**09 January 2014**

SECTION 1 INTRODUCTION

1.1 Introduction

1.1.1 This Technical Note, which has been prepared by i-Transport LLP on behalf of Taylor Wimpey Strategic Land, presents an access appraisal report for agreement with Essex County Council (ECC) as the local highway authority (LHA).

1.1.2 Taylor Wimpey wishes to promote the land to the south of Cockaynes Lane and west of Station Road in Alresford in Tendring District for residential development of circa 150 dwellings.

1.1.3 The site was originally put forward by Taylor Wimpey for consideration by Tendring District Council (TDC) for residential use in the Tendring Local Plan. It is understood that due to concerns over access, the allocation was later divided between Taylor Wimpey's land (south of Cockaynes Lane) and land to the north of Cockaynes Lane. Most recently (October 2013), it is understood that the allocation for residential dwellings on Cockaynes Lane (both north and south) is no longer being considered by TDC as a result of perceived access constraints on Cockaynes Lane.

1.1.4 i-Transport has liaised with Martin Mason, ECC's Strategic Development Engineer for Tendring to seek further information relating to the perceived access constraints. Martin Mason has confirmed that ECC's comments (dated May 2013) to TDC in relation to the Taylor Wimpey land to the south of Cockaynes Lane were as follows:

> **"It's not clear whether the promoter has control over sufficient frontage along Cockaynes Lane to provide a site access to the required highway design standards. Again, it is likely Cockaynes Lane would require improvements (width of carriageway, provision of footways) but it is not clear as to whether the promoter has control over sufficient land to deliver these improvements".**

1.1.5 As a result, it is the purpose of this Technical Note to seek to gain agreement with the LHA that Taylor Wimpey does control sufficient land on Cockaynes Lane, in conjunction with the adopted highway, to enable a site access and the necessary improvements to Cockaynes Lane to be provided to the necessary prevailing standards.

1.1.6 This appraisal is based on the following:

- Site inspections undertaken during the afternoon of Monday 1 July 2013;
- ECC adopted highway plan; and
- The design guidance set out in the Manual for Street (MfS), which is the relevant design guidance in this case.

SECTION 2 EXISTING CONDITIONS

2.1 Highway Layout

2.1.1 Cockaynes Lane is located on the northwestern edge of the settlement of Alresford. It is approximately 1.0km in length, and joins to the B1027 Main Road to the north and Station Road to the east. It is subject to the national speed limit along its length, it is not street lit, nor does it have footway provision. Its junctions with the wider highway network (B1027 and Station Road) both consist of simple priority junctions whereby Cockaynes Lane is the minor arm.

2.1.2 Cockaynes Lane serves a residential development, a (plant) nursery and a small bus/coach depot. The alignment of the southern end is straight in the vicinity of the site. There are mature hedges on either side of the carriageway in this location.

2.1.3 Whilst Cockaynes Lane is subject to the national speed limit, in practice the narrow width and horizontal alignment controls vehicle speeds which are observed to be significantly lower than the maximum permissible.

2.1.4 In the vicinity of the site, the metalled carriageway width is circa 2.7m with a grass verge of some 1.5-2.0m on the northern side of the carriageway, a drainage ditch beyond, and then a mature hedgerow. The verge on the southern side of the carriageway is similar being 1.5-2.0m wide with a drainage ditch and mature hedge beyond.

2.1.5 To the east of the site, Station Road is a traditional residential road with circa 7.0m wide road and circa 1.6m wide footways on each side. It is street lit along its length and subject to a 30 mph speed limit.

2.1.6 Alresford railway station and level crossing is located on Station Road approximately 250m south of the junction with Cockaynes Lane. Station Road forms a simple priority junction with the B1027 approximately 250m north of the junction with Cockaynes Lane.

2.2 Highway Boundary

2.2.1 Highway boundary data has been received from ECC and is included at Appendix A. This generally shows that the carriageway and adjacent verges are within the public highways.

2.2.2 However, it also shows that a short section of land on the southwest corner of the junction of Station Road / Cockaynes Lane (outside property numbers 1 and 2 Cockaynes Lane) is not within the adopted highway. This has been checked with a member of ECC's Public Rights of Way and Records Management team who confirm this to be the case (in their view).

2.2.3 However, it is clear from site observations that this parcel of land is currently being maintained as highway and currently has a footway over it to which the public has unobstructed access. There also appear to be utilities present under the land.

2.2.4 A Land Registry search has revealed that the land does not belong to the adjacent properties, and appears to be unregistered.

2.2.5 As a result, it is considered that this land has highway rights over it (having public access across it for a number of years) and therefore improvements to the highway in this area can be made (subject to further legal investigations).

2.2.6 However, irrespective of the above investigations, it is not considered that alterations to the highway in this land are required to facilitate development, as detailed later in Section 3 of this report.

SECTION 3 VEHICULAR ACCESS

3.1.1 As referenced in Section 1 of this Technical Note, the main concern of the LHA appears to be whether a vehicular access to the land to the south of Cockaynes Lane can be provided on land within Taylor Wimpey's control.

3.1.2 Therefore, a plan of how an access to the site might be achieved to serve circa 150 dwellings from Cockaynes Lane has been produced by i-Transport as presented at Appendix B (Drawing No. ITB9075-GA-001 Rev A).

3.1.3 This design proposes the following:

- A new simple priority junction to Cockaynes Lane some 90-100m west of the junction with Station Road;
- Access road to be 4.8m wide with a footway of 2.0m wide on both sides;
- Widening Cockaynes Lane to 4.8m wide from its junction with Station Road to a point circa 40-50m west of the new access;
- Providing a footway of 2.0m wide on the southern side of Cockaynes Lane between the proposed access and Station Road;
- Relocating the start of the 30mph area signifying entry to a residential area to a point some 10-15m west of the proposed access;
- Visibility splay to the east is to the junction with Station Road at 90m is achievable from 2.4m which is in excess of Manual for Streets requirements for a 30mph road; and
- Visibility splay to the west is at least 160m from 2.4m in accordance with Design Manual for Roads and Bridges TD9/93 (assuming approach speeds are 50mph).

3.1.4 There is also the possibility of acquiring land to provide a secondary emergency access and pedestrian/cycle access in the southeast of the site directly to Station Road close to the railway station.

SECTION 4 TRAFFIC GENERATION, DISTRIBUTION, AND ASSIGNMENT

4.1.1 Whilst not directly requested by the LHA, it is considered helpful to establish approximate levels of vehicular traffic to be generated by the proposals, and how this will be distributed over the local area and what assignment would be used.

4.1.2 The site is considered suitable to accommodate up to 150 residential units. At this stage, the tenure is unknown, so a worst case scenario in terms of vehicular trip generation is made which assumes all dwellings are privately owned houses.

4.1.3 Using trip rates that have been considered appropriate by ECC for similar residential schemes elsewhere within Essex, the vehicular flows for the AM and PM peak periods are summarised in Table 4.1. The full site list for each type of housing is provided in Appendix B. The private housing trip rates have been calculated based on 43 comparable sites.

Table 4.1: Private Housing Trip Rates and Vehicular (150 Units) Flows

Time	Trip Rate / Dwelling			Vehicular Flow		
	In	Out	Two-Way	In	Out	Two-Way
0800-0900	0.153	0.413	0.566	23	62	85
1700-1800	0.395	0.236	0.631	59	35	94
Daily	2.632	2.728	5.360	395	409	804

Source: TRICS 2013 (a) and Consultant's Estimates

4.1.4 Due to the geography of the site and its surroundings (that is, there is little in the way of trip attractors to the south of the railway line within the town), the majority of vehicular traffic in the AM and PM peak hours will travel to and from the B1027 High Road via Cockaynes Lane and / or Station Road as this provides links to all the major vehicular routes in the area.

4.1.5 The only likely significant trip attractor south of the railway line is St Andrew's School, but as this is within circa 500m of the site, all pupils should be encouraged to walk and therefore not be driven to the school.

4.1.6 Other than education needs, the main demands for travel during the morning and evening peak hours are as a result of commuting to and from places of employment. Therefore, the 2001 Census data (the most recently available relevant dataset) for the area of workplace of those residing within Alresford and travelling by car has been analysed. This reveals the following districts of workplace driven to:

- Colchester – 55%
- Tendring - 30%
- Braintree – 4%
- Chelmsford – 2%
- Ipswich - 2%
- Basildon – 1%
- Suffolk Coastal – 1%
- Maldon – 1%
- Mid Suffolk – 1%
- Other – 3%

4.1.7 Having reviewed the Census ward map (provided at Appendix C), all districts would be accessed via the B1027, other than parts of Alresford (within Tendring District) and Wivenhoe Quay (within Colchester District). These would require travel south of the railway line via Wivenhoe Road.

4.1.8 The anticipated assignment of vehicular traffic is summarised in the plan in Appendix D. It is assumed that the due to the ease of movement to the east as a result of the proposed alterations to Cockaynes Lane, no vehicular movements between the site and the B1027 would travel via the western section of Cockaynes Lane. All site traffic would therefore utilise the improved section of Cockaynes Lane between the proposed access and Station Road.

4.1.9 As a result, new vehicular flows on the local highway network as a result of the proposals are anticipated to be as summarised in Table 4.2.

Table 4.2: Assigned Vehicular Flows

Time	AM Peak Hour			PM Peak Hour		
	In	Out	Two-Way	In	Out	Two-Way
Cockaynes Lane – Station Road – B1027 eastbound	2	4	6	4	2	6
Cockaynes Lane – Station Road – B1027 westbound	18	48	66	45	27	72
Cockaynes Lane – Station Road towards level crossing	4	10	14	9	6	15

Source: Consultant's Estimates
Note: Numbers may not sum due to rounding

4.1.10 The results in Table 4.2 demonstrate that the proposal will add approximately one vehicle per minute to Station Road (N) and the B1027 during the peak hours. On Station Road (S) and the level crossing, it is anticipated that the proposals would generate at most one vehicle every six minutes in any one direction.

4.1.11 It is therefore considered that the vehicular generation from the site will not have a material impact on the operation of the local highway network or the level crossing.

SECTION 5 SUMMARY AND CONCLUSIONS

5.1.1 This Technical Note provides an appraisal of how access to the land south of Cockaynes Lane may be achieved to serve circa 150 dwellings. The appraisal has taken account of on-site observations and measurements, as well highway boundary data provided by ECC.

5.1.2 It establishes that a simple priority junction can be achieved to prevailing design standards to the site on land within the control of Taylor Wimpey and adopted highway. There is also the possibility of providing a secondary emergency access point to the southeast corner of the site in proximity of Alresford Station.

5.1.3 Predicted vehicular trip generation for the proposal have been established and assigned to the local highway network. It is anticipated that additional vehicular flows can be accommodated on the network.

5.1.4 In summary, ECC Highways is asked to confirm whether they consider that the evidence in this Technical Note is sufficient for them agree that the promoter has control over sufficient frontage along Cockaynes Lane to provide a site access and improvements to Cockaynes Lane to the required highway design standards.

APPENDIX A **Junction Design (Drawing ITB9075-GA-001 Rev A)**

Privet

See Inset for Extent of Visibility

Cockaynes Lane

RELOCATED CHANGE OF SPEED LIMIT SIGNS

4.8m

2.0m

R6.0m

4.8m

2.0m

EXISTING CARRIAGEWAY WIDENED WITH FOOTWAY ADDED ON SOUTHERN SIDE

2.4m x 90m VISIBILITY SPLAY

2.0m

PROPOSED FOOTWAY TO TIE IN WITH EXISTING

EXISTING CHANGE OF SPEED LIMIT SIGNS TO BE RELOCATED 100m WEST (APPROX)

26

2

1

28

Station Road

2.4m x 160m VISIBILITY SPLAY TO CENTRE OF CARRIAGEWAY

Ivy Cottage

Privet

KEY:

HIGHWAY BOUNDARY

SITE BOUNDARY

ASSUMED HIGHWAY

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REV	DATE	BY	DESCRIPTION	CHK	APD
A	08.01.14	RN	ASSUMED HIGHWAY ADDED	NM	NM

STATUS: DRAFT

TITLE: ACCESS IMPROVEMENTS TO COCKAYNES LANE

PROJECT: COCKAYNES ORCHARD ALRESFORD

CLIENT: TAYLOR WIMPEY

DRAWING No: ITB9075-GA-001

PROJECT No: ITB9075

REV: A

SCALE @ A3: 1:500

CHECKED: NM

APPROVED: NM

FILE REF: ITB9075-GA-001

DRAWN: RN

DATE: 19/07/13

APPENDIX B TRICS Outputs

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	BD	BEDFORDSHIRE	2 days
	ES	EAST SUSSEX	1 days
	EX	ESSEX	1 days
03	SOUTH WEST		
	CW	CORNWALL	2 days
	DC	DORSET	1 days
	WL	WILTSHIRE	1 days
04	EAST ANGLIA		
	CA	CAMBRIDGESHIRE	1 days
	SF	SUFFOLK	3 days
05	EAST MIDLANDS		
	DS	DERBYSHIRE	1 days
	LE	LEICESTERSHIRE	1 days
	LN	LINCOLNSHIRE	3 days
	NT	NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS		
	SH	SHROPSHIRE	2 days
	ST	STAFFORDSHIRE	1 days
	WM	WEST MIDLANDS	3 days
	WO	WORCESTERSHIRE	4 days
07	YORKSHIRE & NORTH LINCOLNSHIRE		
	NY	NORTH YORKSHIRE	4 days
08	NORTH WEST		
	CH	CHESHIRE	4 days
	GM	GREATER MANCHESTER	1 days
	LC	LANCASHIRE	2 days
	MS	MERSEYSIDE	1 days
09	NORTH		
	CB	CUMBRIA	2 days
	TV	TEES VALLEY	1 days

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

Filtering Stage 2 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:	9 to 372 (units:)
Range Selected by User:	9 to 372 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/04 to 18/09/12

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	5 days
Tuesday	15 days
Wednesday	6 days
Thursday	11 days
Friday	6 days

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

Selected survey types:

Manual count	43 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:

Suburban Area (PPS6 Out of Centre)	20
Edge of Town	21
Neighbourhood Centre (PPS6 Local Centre)	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	33
Out of Town	1
No Sub Category	9

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.

Filtering Stage 3 selection:

Use Class:

C3	42 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®.

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

1,001 to 5,000	4 days
5,001 to 10,000	7 days
10,001 to 15,000	9 days
15,001 to 20,000	13 days
20,001 to 25,000	5 days
25,001 to 50,000	5 days

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

Population within 5 miles:

5,001 to 25,000	4 days
25,001 to 50,000	5 days
50,001 to 75,000	1 days
75,001 to 100,000	8 days
100,001 to 125,000	8 days
125,001 to 250,000	10 days
250,001 to 500,000	6 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:

0.5 or Less	1 days
0.6 to 1.0	15 days
1.1 to 1.5	27 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	42 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.

LIST OF SITES relevant to selection parameters

The 'browse and select' feature in TRICS was used to choose the sites to be included in this selected set. The TRICS user browsed the full list of sites for this land use category and selected directly from this list.

1 BD-03-A-01 SEMI DETACHED BEDFORDSHIRE
NEW BEDFORD ROAD

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 131
Survey date: THURSDAY 08/07/04 Survey Type: MANUAL

2 BD-03-A-02 SEMI DETACHED BEDFORDSHIRE
RIDDY LANE

LUTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 82
Survey date: TUESDAY 06/07/04 Survey Type: MANUAL

3 CA-03-A-04 DETACHED CAMBRIDGESHIRE

THORPE PARK ROAD
PETERBOROUGH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 9
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

4 CB-03-A-03 SEMI DETACHED CUMBRIA
HAWKSHEAD AVENUE

WORKINGTON
Edge of Town
Residential Zone
Total Number of dwellings: 40
Survey date: THURSDAY 20/11/08 Survey Type: MANUAL

5 CB-03-A-04 SEMI DETACHED CUMBRIA
MOORCLOSE ROAD
SALTERBACK
WORKINGTON
Edge of Town
No Sub Category
Total Number of dwellings: 82
Survey date: FRIDAY 24/04/09 Survey Type: MANUAL

6 CH-03-A-02 HOUSES/FLATS CHESHIRE
SYDNEY ROAD

CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 174
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

7 CH-03-A-05 DETACHED CHESHIRE
SYDNEY ROAD
SYDNEY
CREWE
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8 CH-03-A-06 SEMI-DET./BUNGALOWS CHESHIRE
CREWE ROAD

CREWE
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 129
Survey date: TUESDAY 14/10/08 Survey Type: MANUAL

9 CH-03-A-08 DETACHED CHESHIRE
WHITCHURCH ROAD
BOUGHTON HEATH
CHESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 22/05/12 Survey Type: MANUAL

10 CW-03-A-01 TERRACED CORNWALL
ALVERTON ROAD

PENZANCE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 13
Survey date: THURSDAY 30/06/05 Survey Type: MANUAL

11 CW-03-A-02 SEMI D./DETATCHED CORNWALL
BOSVEAN GARDENS

TRURO
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 73
Survey date: TUESDAY 18/09/07 Survey Type: MANUAL

12 DC-03-A-01 DETACHED DORSET
ISAACS CLOSE

POOLE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 51
Survey date: WEDNESDAY 16/07/08 Survey Type: MANUAL

13 DS-03-A-01 SEMI D./TERRACED DERBYSHIRE
THE AVENUE
HOLMESDALE
DRONFIELD
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 20
Survey date: THURSDAY 22/06/06 Survey Type: MANUAL

14 ES-03-A-02 PRIVATE HOUSING EAST SUSSEX
SOUTH COAST ROAD

PEACEHAVEN
Edge of Town
Residential Zone
Total Number of dwellings: 37
Survey date: FRIDAY 18/11/11 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15 EX-03-A-01 SEMI-DET. ESSEX
MILTON ROAD
CORRINGHAM
STANFORD-LE-HOPE
Edge of Town
Residential Zone
Total Number of dwellings: 237
Survey date: TUESDAY 13/05/08 Survey Type: MANUAL

16 GM-03-A-10 DETACHED/SEMI GREATER MANCHESTER
BUTT HILL DRIVE
PRESTWICH
MANCHESTER
Edge of Town
Residential Zone
Total Number of dwellings: 29
Survey date: WEDNESDAY 12/10/11 Survey Type: MANUAL

17 LC-03-A-22 BUNGALOWS LANCASHIRE
CLIFTON DRIVE NORTH

BLACKPOOL
Edge of Town
Residential Zone
Total Number of dwellings: 98
Survey date: TUESDAY 18/10/05 Survey Type: MANUAL

18 LC-03-A-29 DETACHED/SEMI D. LANCASHIRE
REVIDGE ROAD
FOUR LANE ENDS
BLACKBURN
Edge of Town
Residential Zone
Total Number of dwellings: 185
Survey date: THURSDAY 10/06/04 Survey Type: MANUAL

19 LE-03-A-01 DETACHED LEICESTERSHIRE
REDWOOD AVENUE

MELTON MOWBRAY
Edge of Town
Residential Zone
Total Number of dwellings: 11
Survey date: TUESDAY 03/05/05 Survey Type: MANUAL

20 LN-03-A-01 MIXED HOUSES LINCOLNSHIRE
BRANT ROAD
BRACEBRIDGE
LINCOLN
Edge of Town
Residential Zone
Total Number of dwellings: 150
Survey date: TUESDAY 15/05/07 Survey Type: MANUAL

21 LN-03-A-02 MIXED HOUSES LINCOLNSHIRE
HYKEHAM ROAD

LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 186
Survey date: MONDAY 14/05/07 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

22 LN-03-A-03 SEMI DETACHED LINCOLNSHIRE
ROOKERY LANE
BOULTHAM
LINCOLN
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 22
Survey date: TUESDAY 18/09/12 Survey Type: MANUAL

23 MS-03-A-01 TERRACED MERSEYSIDE
PALACE FIELDS AVENUE

RUNCORN
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 372
Survey date: THURSDAY 06/10/05 Survey Type: MANUAL

24 NT-03-A-03 SEMI DETACHED NOTTINGHAMSHIRE
B6018 SUTTON ROAD

KIRKBY-IN-ASHFIELD
Edge of Town
Residential Zone
Total Number of dwellings: 166
Survey date: WEDNESDAY 28/06/06 Survey Type: MANUAL

25 NY-03-A-01 MIXED HOUSES NORTH YORKSHIRE
GRAMMAR SCHOOL LANE

NORTHALLERTON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 52
Survey date: TUESDAY 25/09/07 Survey Type: MANUAL

26 NY-03-A-05 HOUSES AND FLATS NORTH YORKSHIRE
BOROUGHBRIDGE ROAD

RIPON
Edge of Town
No Sub Category
Total Number of dwellings: 71
Survey date: MONDAY 22/09/08 Survey Type: MANUAL

27 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

28 NY-03-A-07 DETACHED & SEMI DET. NORTH YORKSHIRE
CRAVEN WAY

BOROUGHBRIDGE
Edge of Town
No Sub Category
Total Number of dwellings: 23
Survey date: TUESDAY 18/10/11 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

29 SF-03-A-01 SEMI DETACHED SUFFOLK
A1156 FELIXSTOWE ROAD
RACECOURSE
IPSWICH
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 77
Survey date: WEDNESDAY 23/05/07 Survey Type: MANUAL

30 SF-03-A-02 SEMI DET./TERRACED SUFFOLK
STOKE PARK DRIVE
MAIDENHALL
IPSWICH
Edge of Town
Residential Zone
Total Number of dwellings: 230
Survey date: THURSDAY 24/05/07 Survey Type: MANUAL

31 SF-03-A-03 MIXED HOUSES SUFFOLK
BARTON HILL
FORNHAM ST MARTIN
BURY ST EDMUNDS
Edge of Town
Out of Town
Total Number of dwellings: 101
Survey date: MONDAY 15/05/06 Survey Type: MANUAL

32 SH-03-A-03 DETATCHED SHROPSHIRE
SOMERBY DRIVE
BICTON HEATH
SHREWSBURY
Edge of Town
No Sub Category
Total Number of dwellings: 10
Survey date: FRIDAY 26/06/09 Survey Type: MANUAL

33 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

34 ST-03-A-05 TERRACED & DETACHED STAFFORDSHIRE
WATERMEET GROVE
ETRURIA
STOKE-ON-TRENT
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 14
Survey date: WEDNESDAY 26/11/08 Survey Type: MANUAL

35 TV-03-A-01 HOUSES & FLATS TEES VALLEY
POWLETT ROAD

HARTLEPOOL
Suburban Area (PPS6 Out of Centre)
No Sub Category
Total Number of dwellings: 225
Survey date: THURSDAY 14/04/05 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

36 WL-03-A-01 SEMI D./TERRACED W. BASSETT WILTSHIRE
MAPLE DRIVE

WOOTTON BASSETT
Edge of Town
Residential Zone
Total Number of dwellings: 99
Survey date: MONDAY 02/10/06 Survey Type: MANUAL

37 WM-03-A-01 TERRACED WEST MIDLANDS
FOLESHILL ROAD
FOLESHILL
COVENTRY
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 79
Survey date: FRIDAY 03/02/06 Survey Type: MANUAL

38 WM-03-A-02 DETACHED & SEMI DET. WEST MIDLANDS
HEATH STREET

STOURBRIDGE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 12
Survey date: WEDNESDAY 26/04/06 Survey Type: MANUAL

39 WM-03-A-03 MIXED HOUSING WEST MIDLANDS
BASELEY WAY
ROWLEYS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwellings: 84
Survey date: MONDAY 24/09/07 Survey Type: MANUAL

40 WO-03-A-01 DETACHED WORCESTERSHIRE
MARLBOROUGH AVENUE
ASTON FIELDS
BROMSGROVE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 10
Survey date: THURSDAY 23/06/05 Survey Type: MANUAL

41 WO-03-A-02 SEMI DETACHED WORCESTERSHIRE
MEADOWHILL ROAD

REDDITCH
Edge of Town
No Sub Category
Total Number of dwellings: 48
Survey date: TUESDAY 02/05/06 Survey Type: MANUAL

42 WO-03-A-03 DETACHED WORCESTERSHIRE
BLAKEBROOK
BLAKEBROOK
KIDDERMINSTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 138
Survey date: FRIDAY 05/05/06 Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

43 WO-03-A-06 DET./TERRACED WORCESTERSHIRE
ST GODWALDS ROAD
ASTON FIELDS
BROMSGROVE
Edge of Town
No Sub Category
Total Number of dwellings: 232
Survey date: THURSDAY 30/06/05 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	43	94	0.075	43	94	0.283	43	94	0.358
08:00 - 09:00	43	94	0.153	43	94	0.413	43	94	0.566
09:00 - 10:00	43	94	0.175	43	94	0.216	43	94	0.391
10:00 - 11:00	43	94	0.156	43	94	0.194	43	94	0.350
11:00 - 12:00	43	94	0.189	43	94	0.185	43	94	0.374
12:00 - 13:00	43	94	0.202	43	94	0.186	43	94	0.388
13:00 - 14:00	43	94	0.184	43	94	0.176	43	94	0.360
14:00 - 15:00	43	94	0.195	43	94	0.200	43	94	0.395
15:00 - 16:00	43	94	0.293	43	94	0.218	43	94	0.511
16:00 - 17:00	43	94	0.332	43	94	0.199	43	94	0.531
17:00 - 18:00	43	94	0.395	43	94	0.236	43	94	0.631
18:00 - 19:00	43	94	0.283	43	94	0.222	43	94	0.505
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.632			2.728			5.360

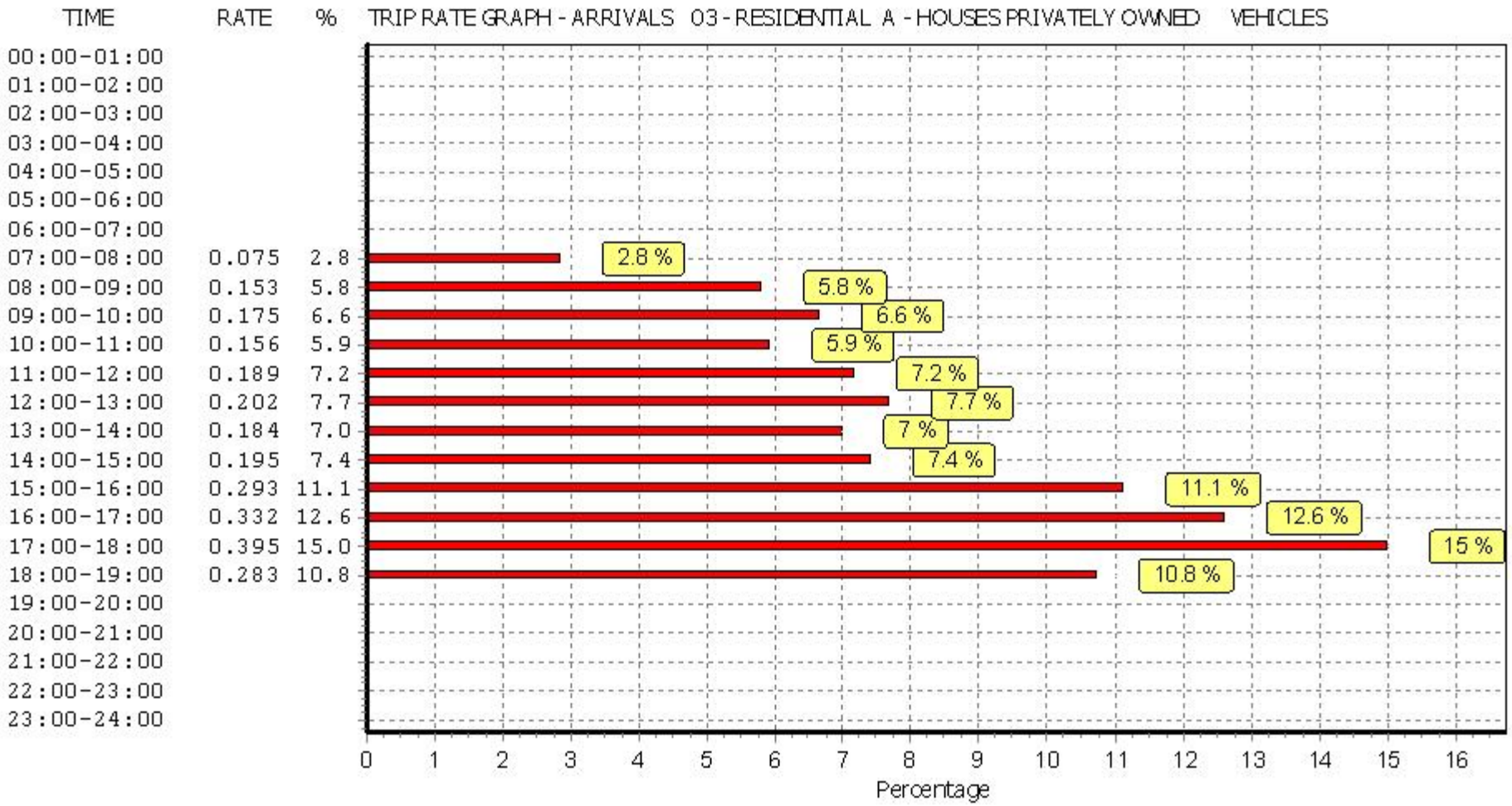
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are 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.

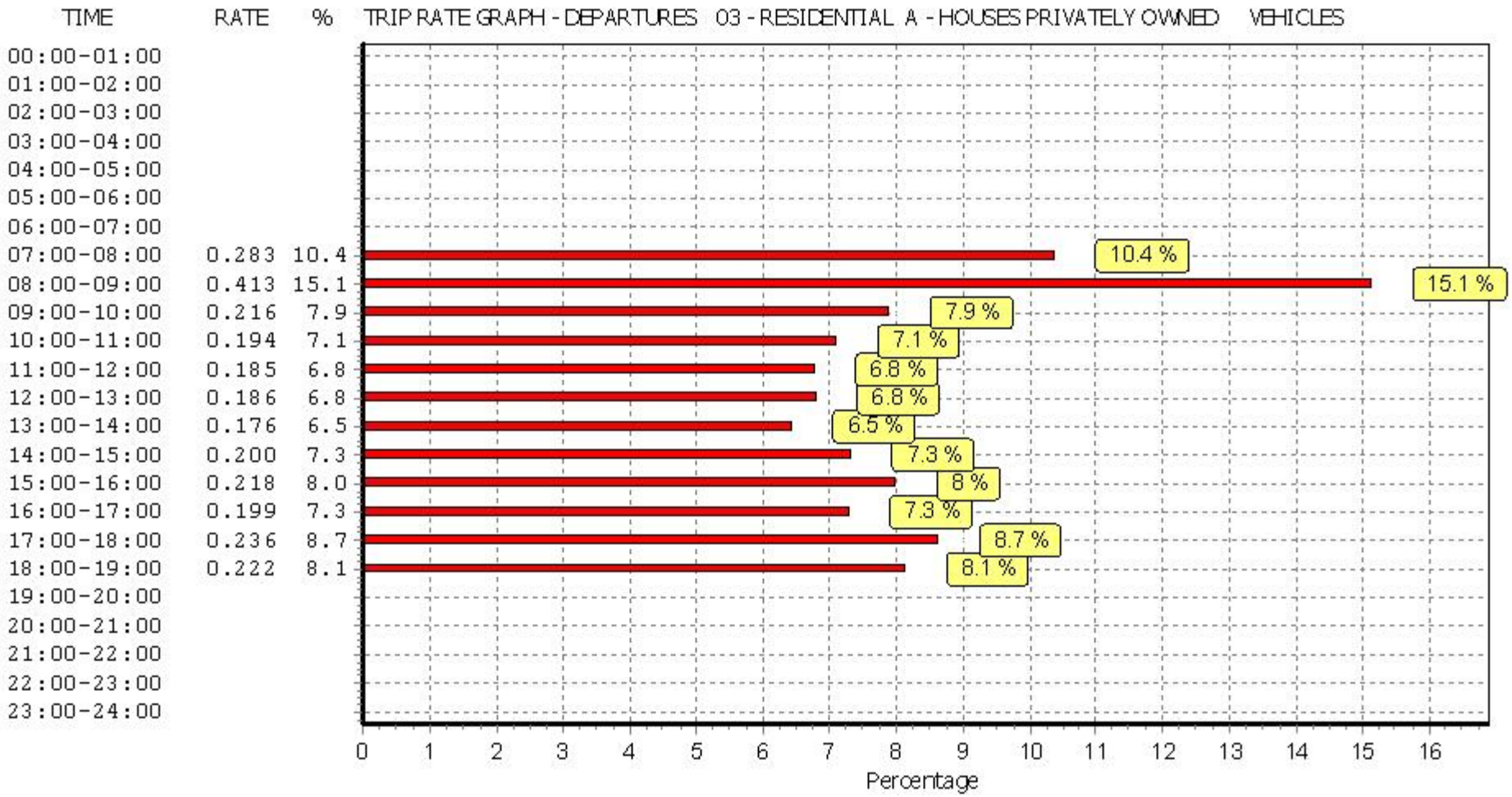
Parameter summary

Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 18/09/12
Number of weekdays (Monday-Friday):	43
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

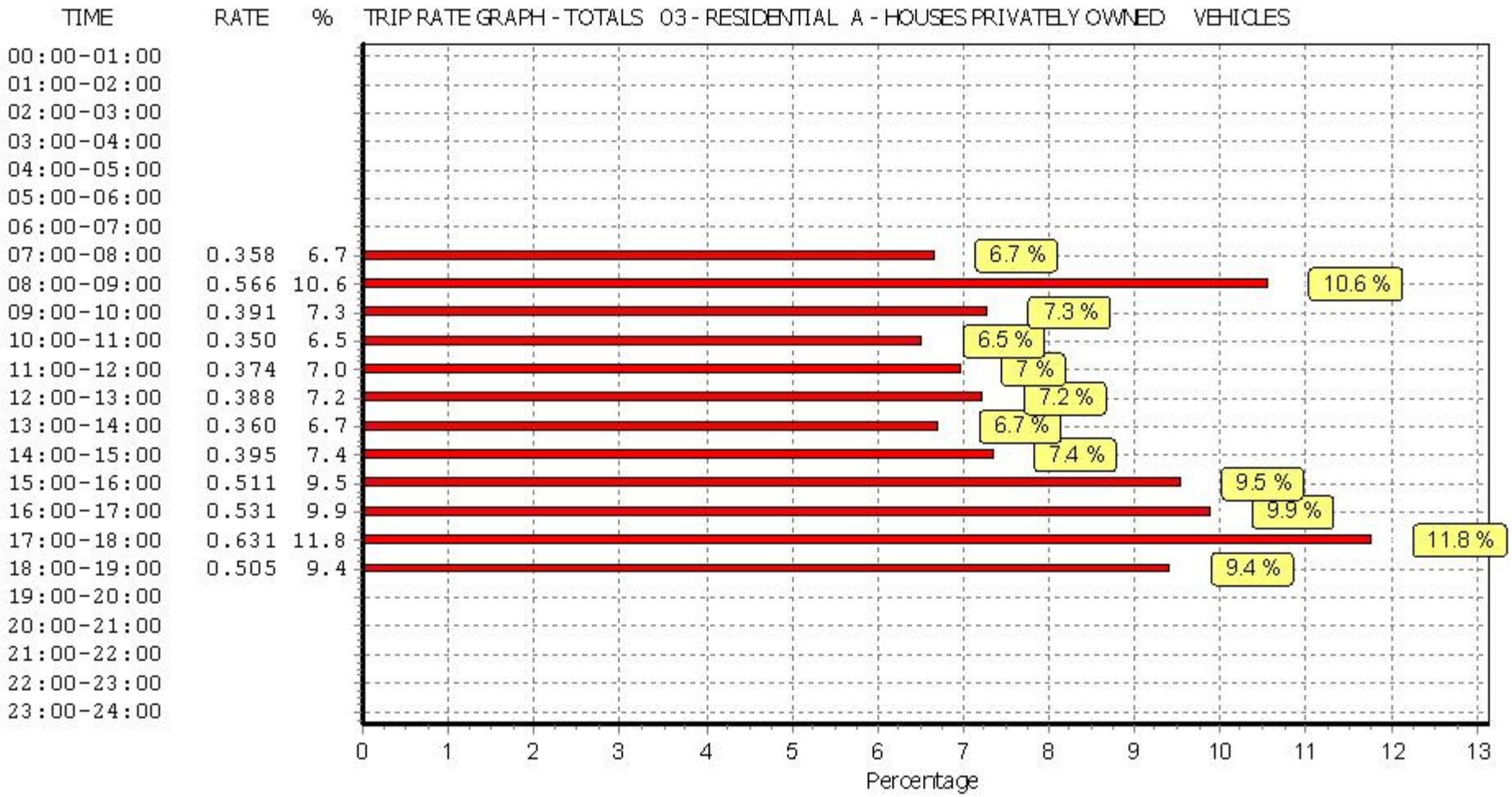
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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



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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	43	94	0.003	43	94	0.003	43	94	0.006
08:00 - 09:00	43	94	0.002	43	94	0.003	43	94	0.005
09:00 - 10:00	43	94	0.005	43	94	0.004	43	94	0.009
10:00 - 11:00	43	94	0.004	43	94	0.004	43	94	0.008
11:00 - 12:00	43	94	0.002	43	94	0.002	43	94	0.004
12:00 - 13:00	43	94	0.005	43	94	0.005	43	94	0.010
13:00 - 14:00	43	94	0.003	43	94	0.004	43	94	0.007
14:00 - 15:00	43	94	0.002	43	94	0.003	43	94	0.005
15:00 - 16:00	43	94	0.001	43	94	0.001	43	94	0.002
16:00 - 17:00	43	94	0.001	43	94	0.000	43	94	0.001
17:00 - 18:00	43	94	0.001	43	94	0.001	43	94	0.002
18:00 - 19:00	43	94	0.000	43	94	0.001	43	94	0.001
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.029			0.031			0.060

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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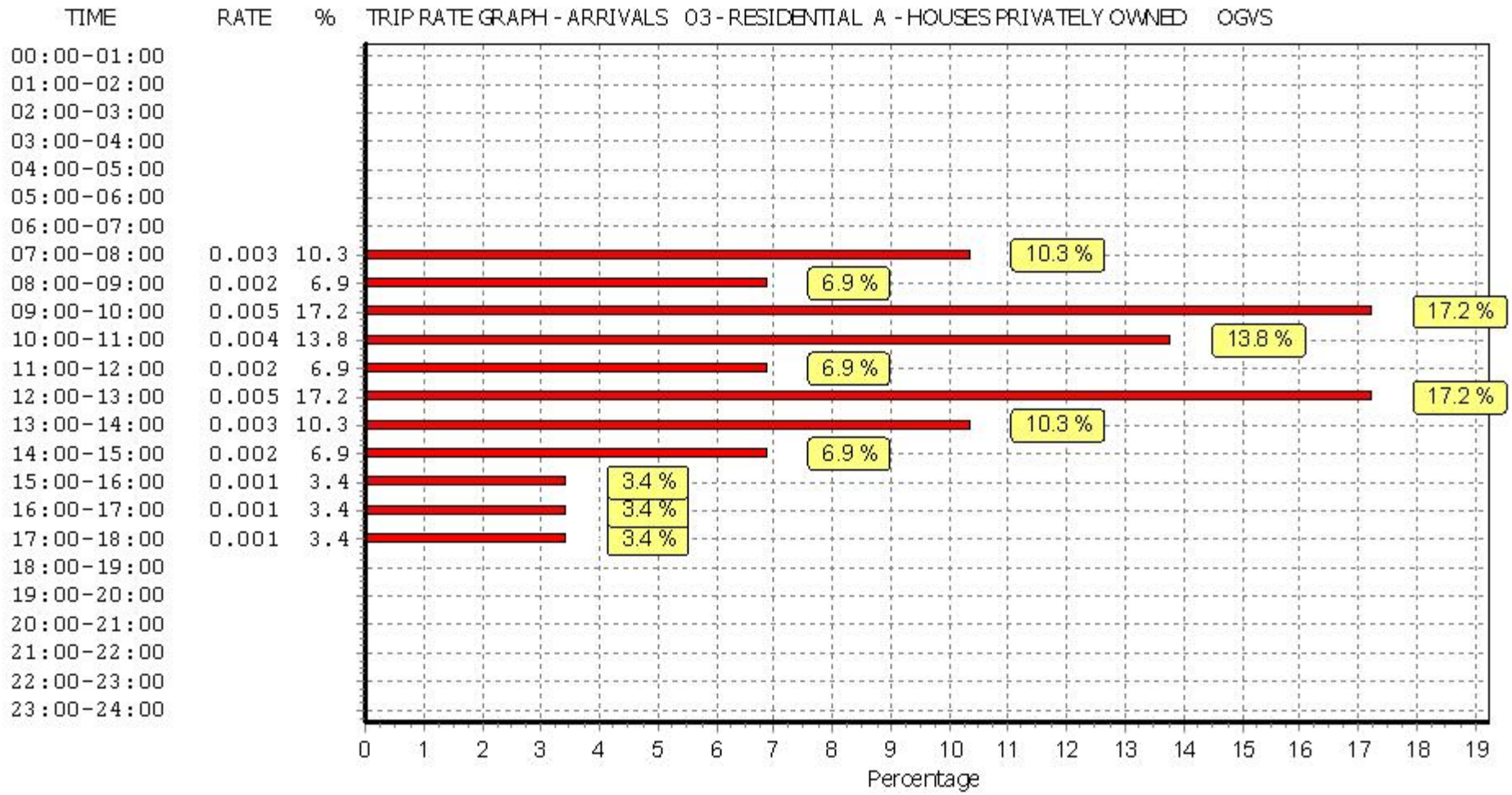
Parameter summary

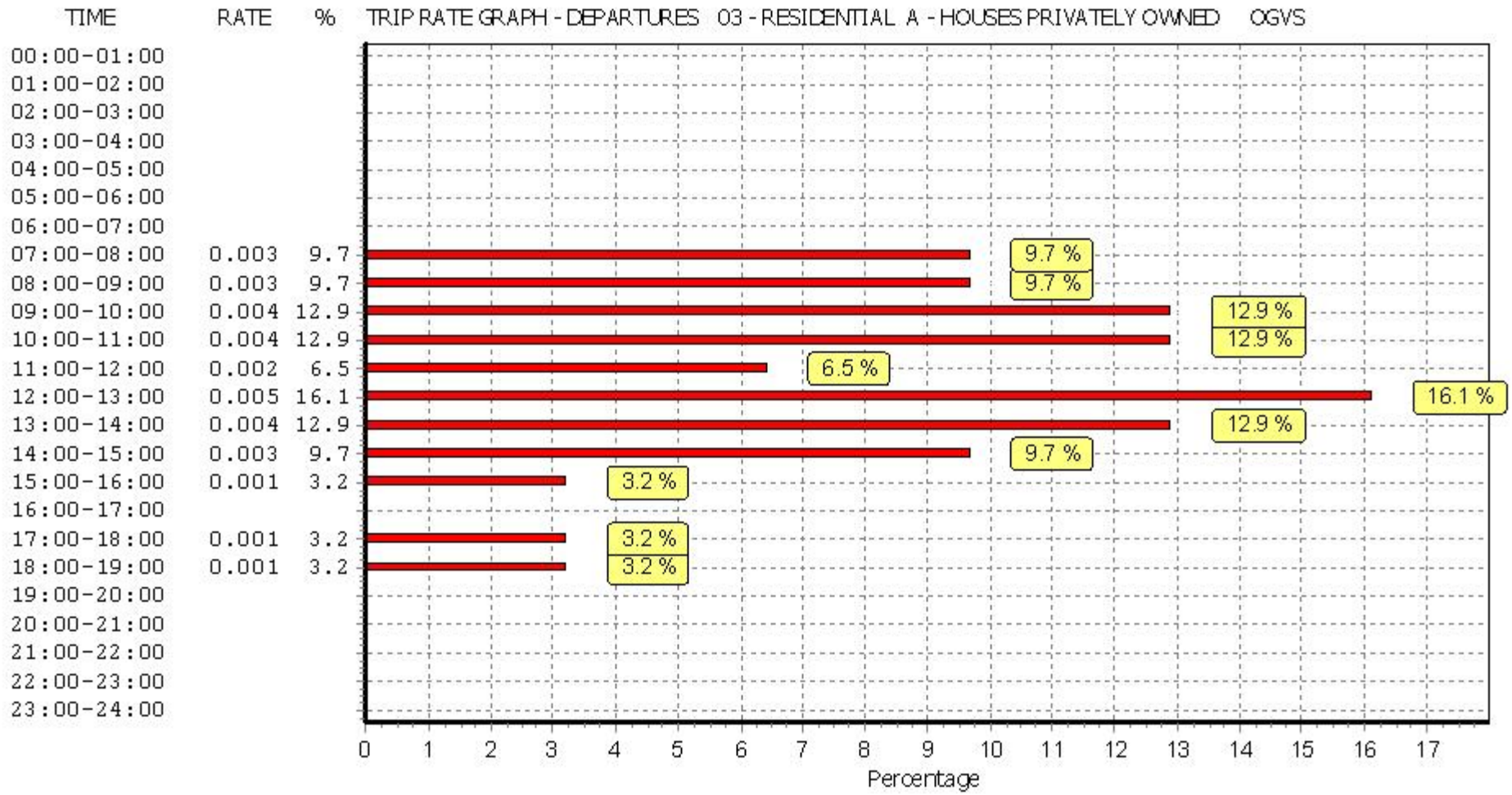
Trip rate parameter range selected:	9 - 372 (units:)
Survey date date range:	01/01/04 - 18/09/12
Number of weekdays (Monday-Friday):	43
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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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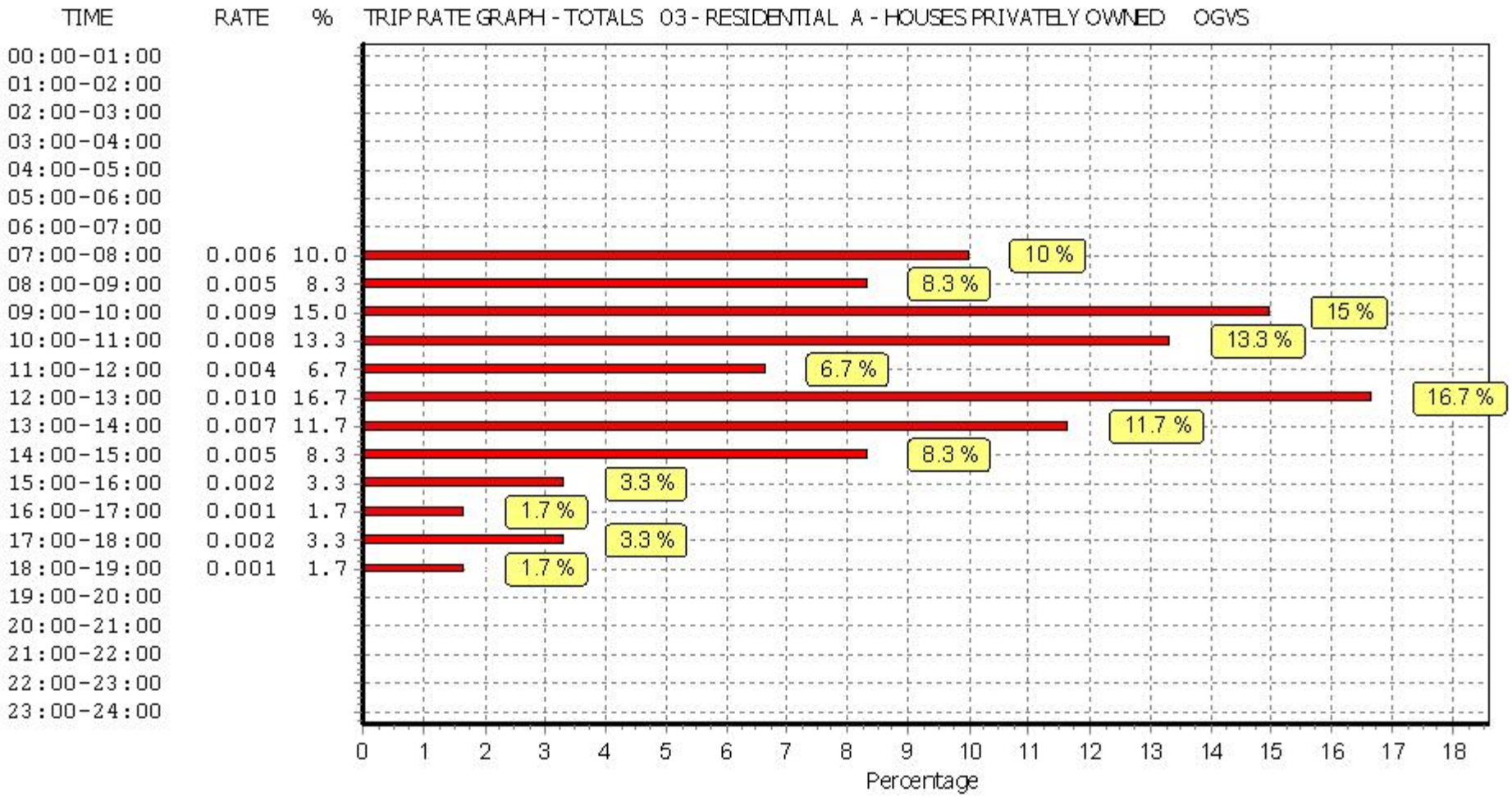

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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	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	43	94	0.000	43	94	0.000	43	94	0.000
08:00 - 09:00	43	94	0.001	43	94	0.001	43	94	0.002
09:00 - 10:00	43	94	0.000	43	94	0.000	43	94	0.000
10:00 - 11:00	43	94	0.000	43	94	0.000	43	94	0.000
11:00 - 12:00	43	94	0.000	43	94	0.000	43	94	0.000
12:00 - 13:00	43	94	0.000	43	94	0.000	43	94	0.000
13:00 - 14:00	43	94	0.000	43	94	0.000	43	94	0.000
14:00 - 15:00	43	94	0.000	43	94	0.000	43	94	0.000
15:00 - 16:00	43	94	0.001	43	94	0.001	43	94	0.002
16:00 - 17:00	43	94	0.000	43	94	0.000	43	94	0.000
17:00 - 18:00	43	94	0.000	43	94	0.000	43	94	0.000
18:00 - 19:00	43	94	0.000	43	94	0.000	43	94	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.002			0.002			0.004

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

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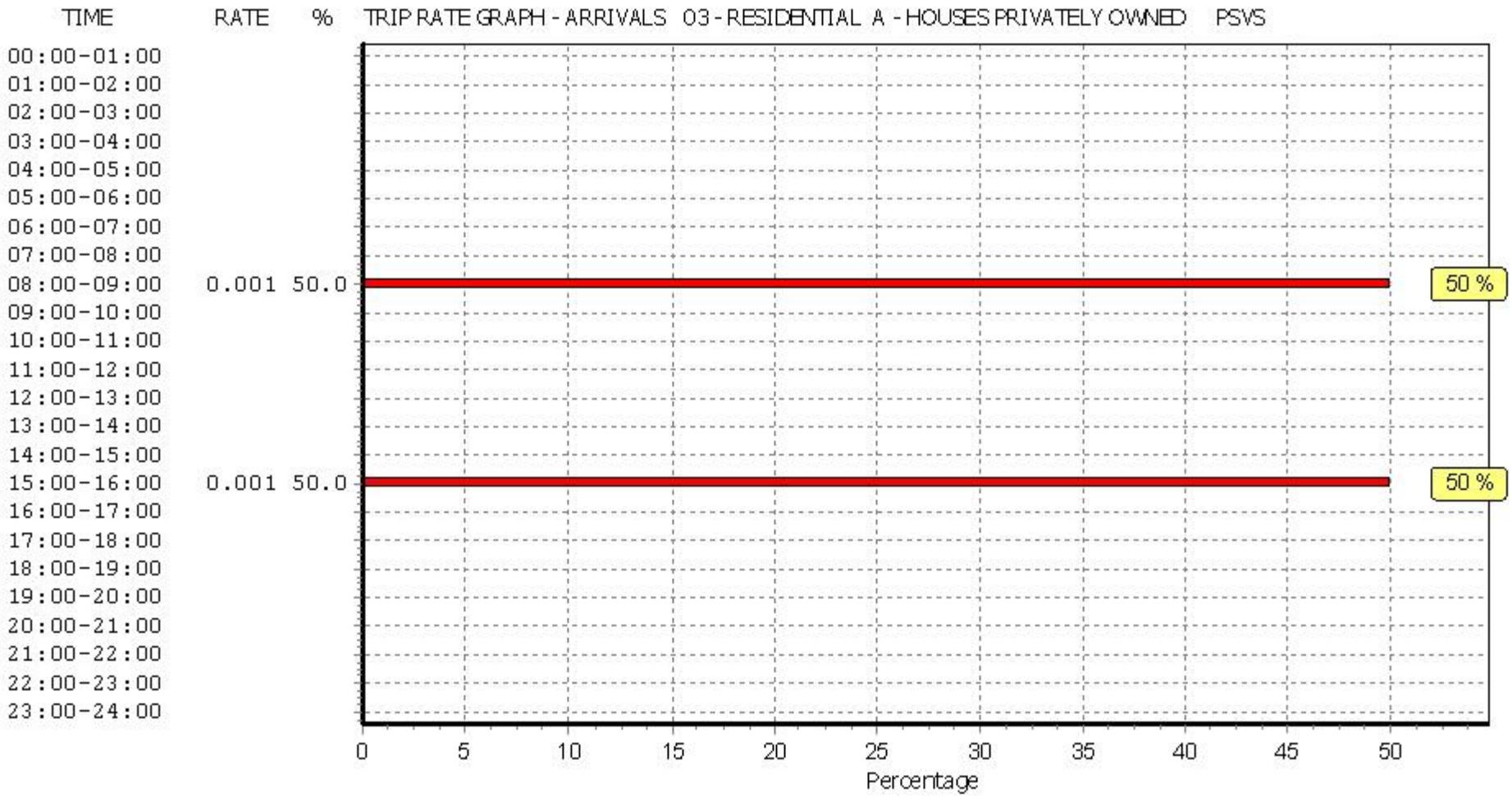
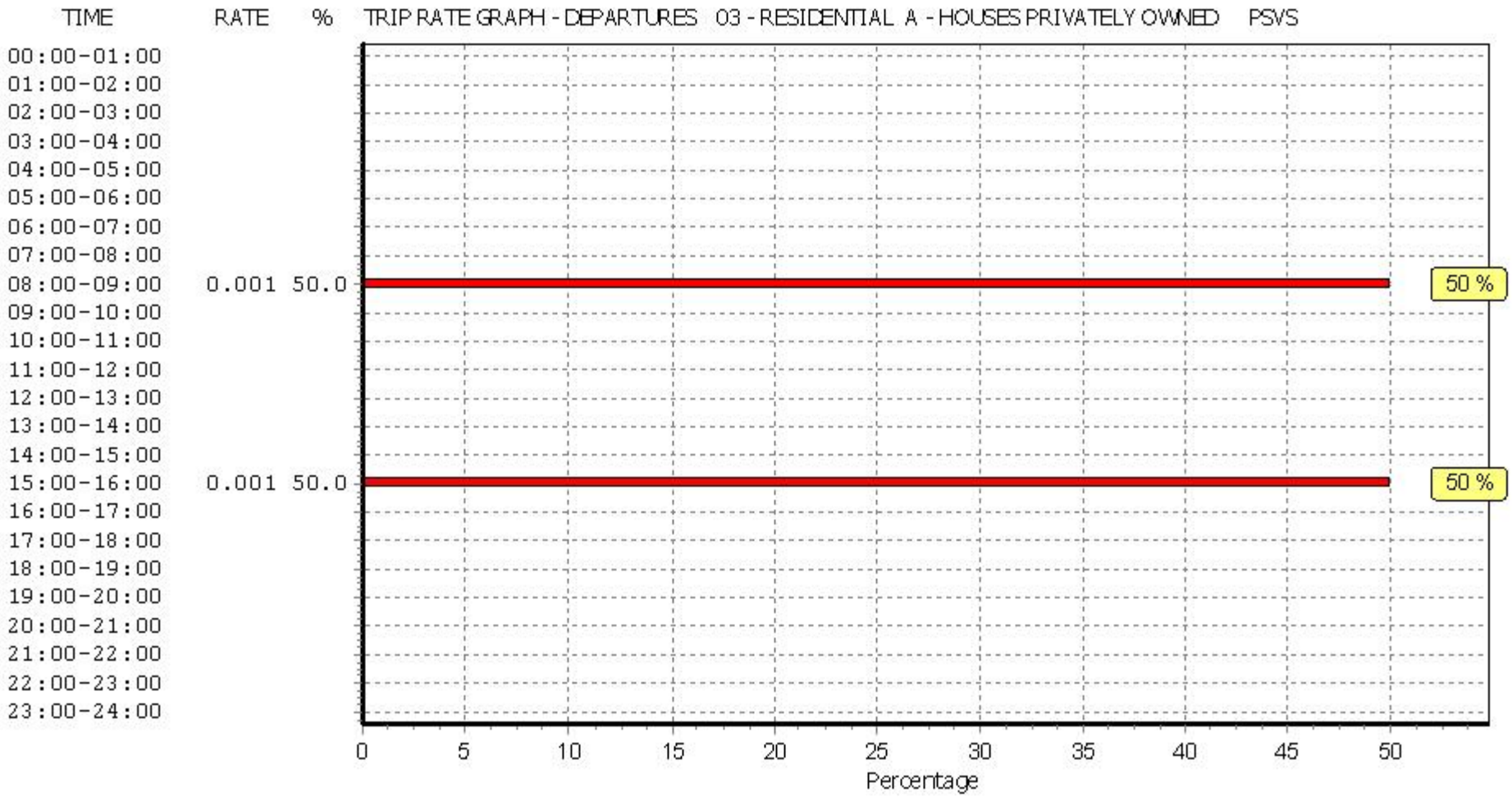
Survey date date range:	01/01/04 - 18/09/12
Number of weekdays (Monday-Friday):	43
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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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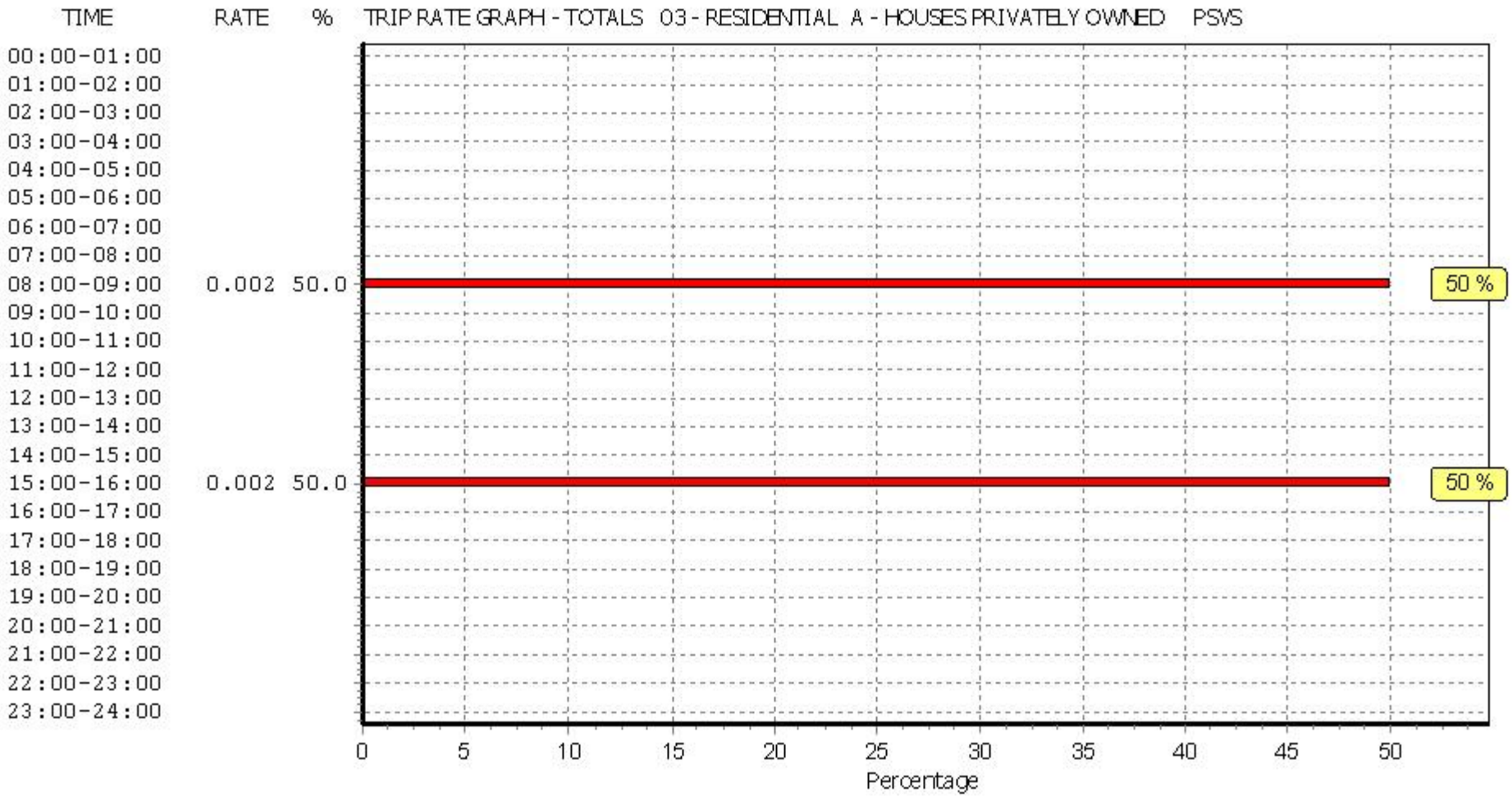

This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through 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	43	94	0.007	43	94	0.012	43	94	0.019
08:00 - 09:00	43	94	0.005	43	94	0.015	43	94	0.020
09:00 - 10:00	43	94	0.003	43	94	0.002	43	94	0.005
10:00 - 11:00	43	94	0.003	43	94	0.005	43	94	0.008
11:00 - 12:00	43	94	0.005	43	94	0.003	43	94	0.008
12:00 - 13:00	43	94	0.006	43	94	0.004	43	94	0.010
13:00 - 14:00	43	94	0.003	43	94	0.004	43	94	0.007
14:00 - 15:00	43	94	0.002	43	94	0.003	43	94	0.005
15:00 - 16:00	43	94	0.015	43	94	0.009	43	94	0.024
16:00 - 17:00	43	94	0.013	43	94	0.011	43	94	0.024
17:00 - 18:00	43	94	0.014	43	94	0.011	43	94	0.025
18:00 - 19:00	43	94	0.011	43	94	0.008	43	94	0.019
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.087			0.087			0.174

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

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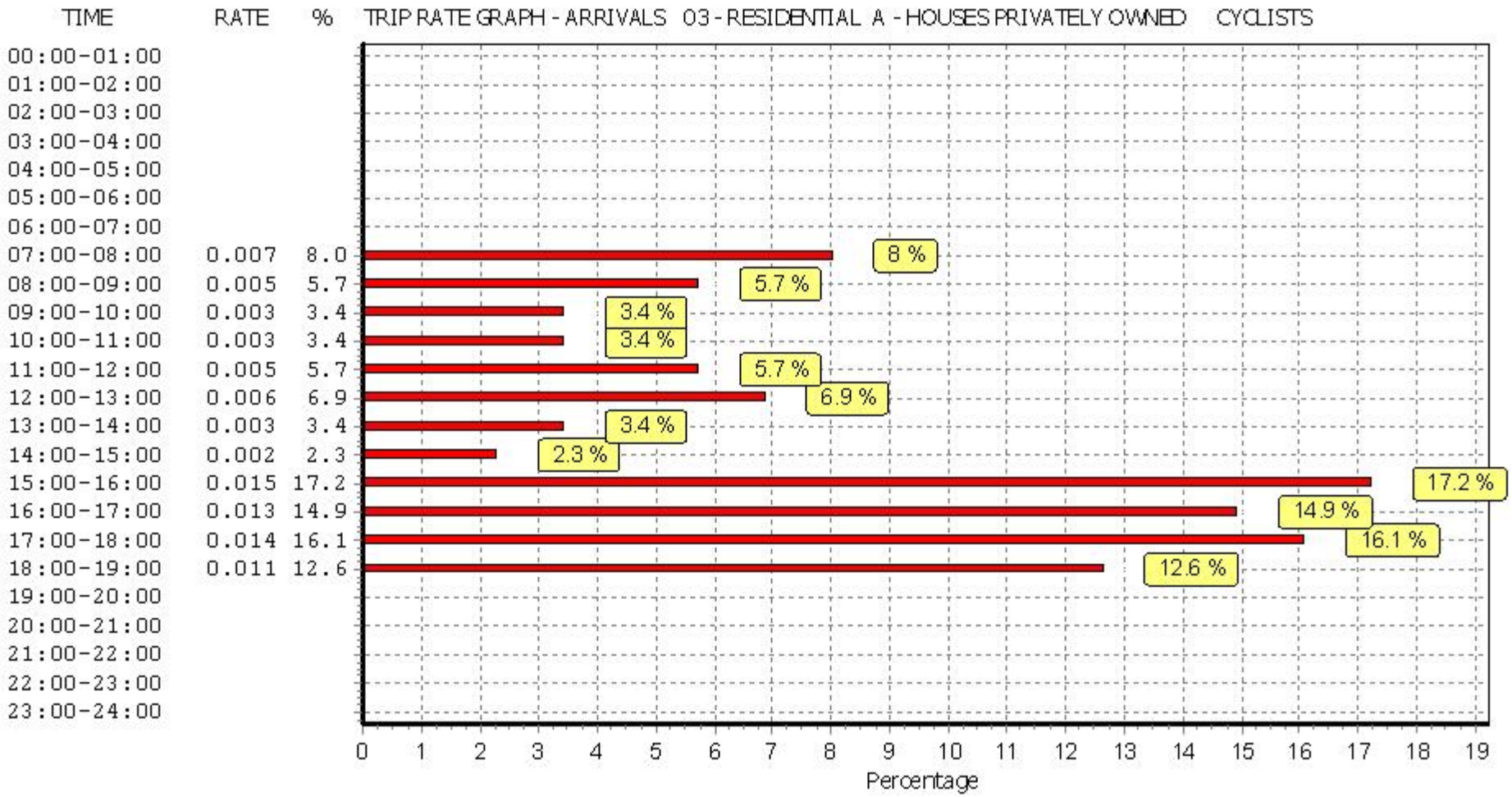
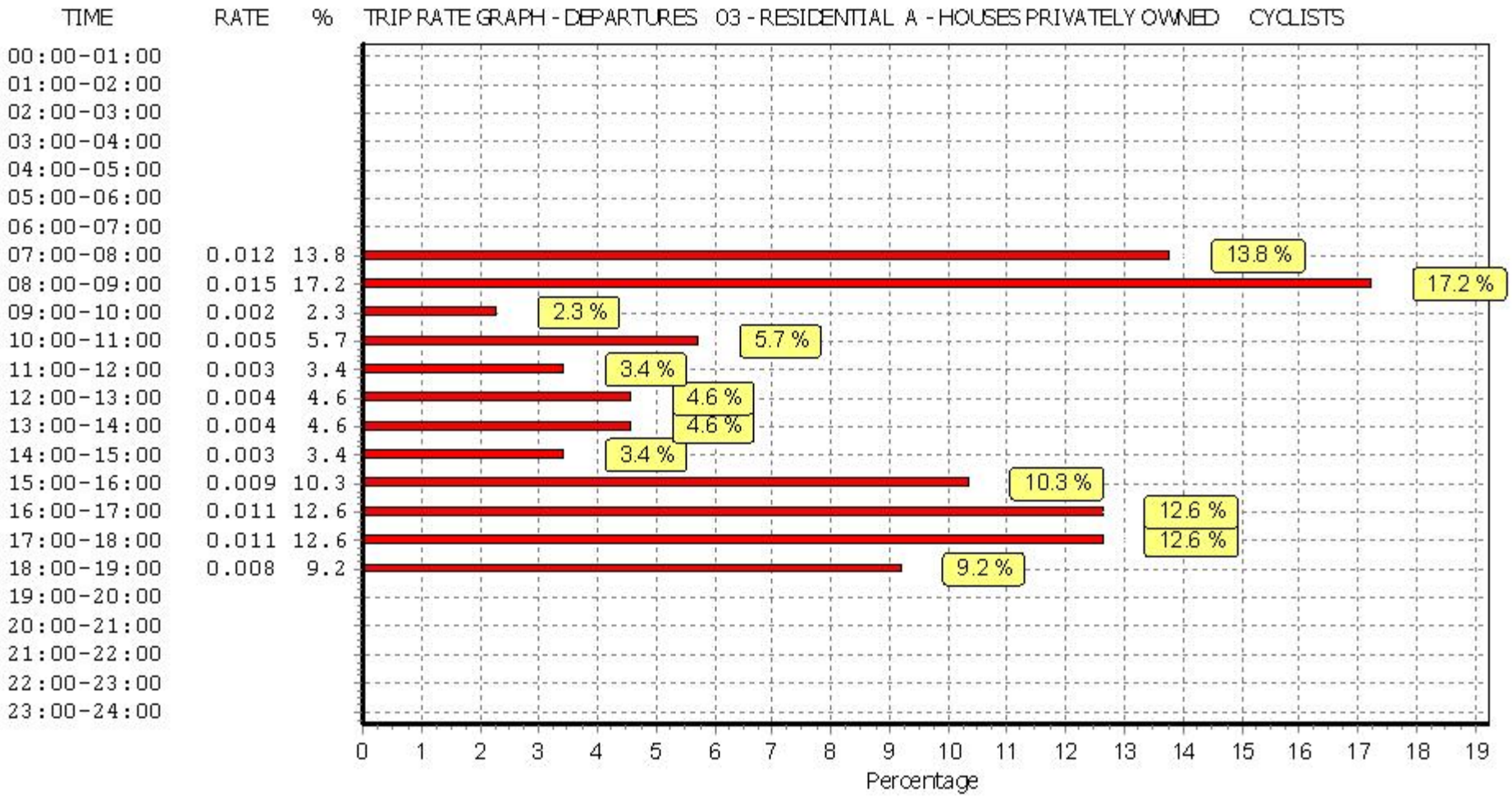
Survey date date range:	01/01/04 - 18/09/12
Number of weekdays (Monday-Friday):	43
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

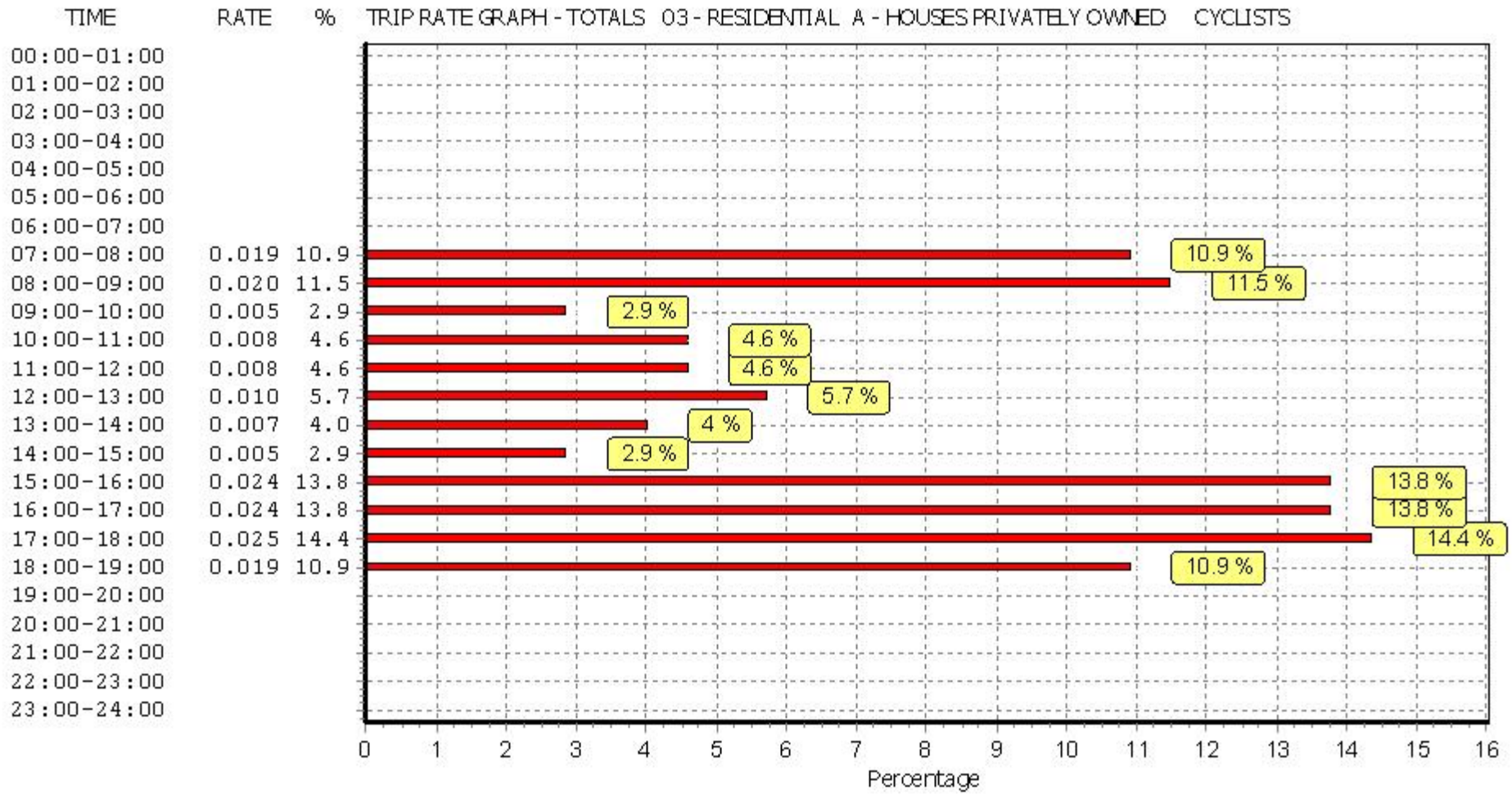
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected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

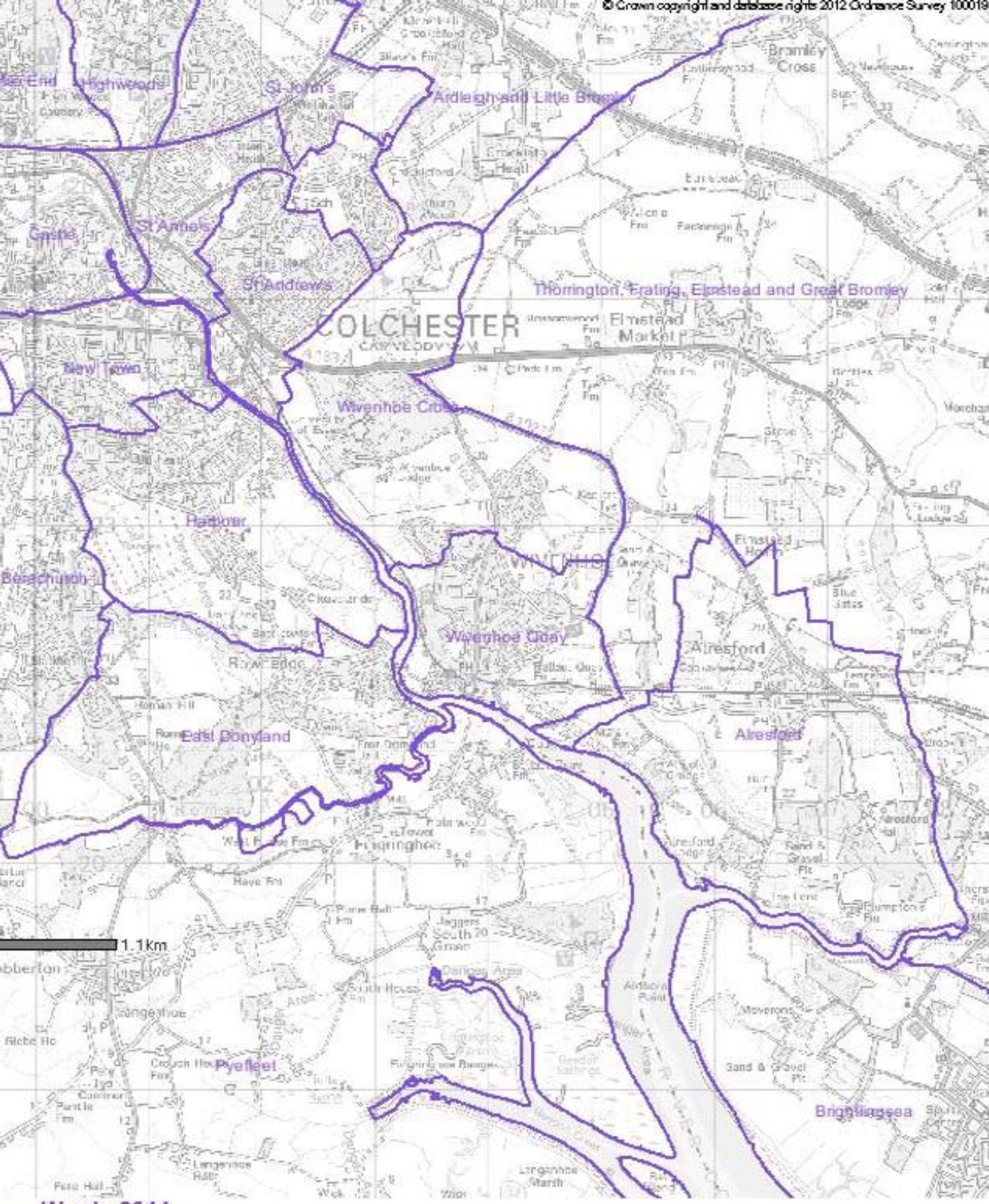


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through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

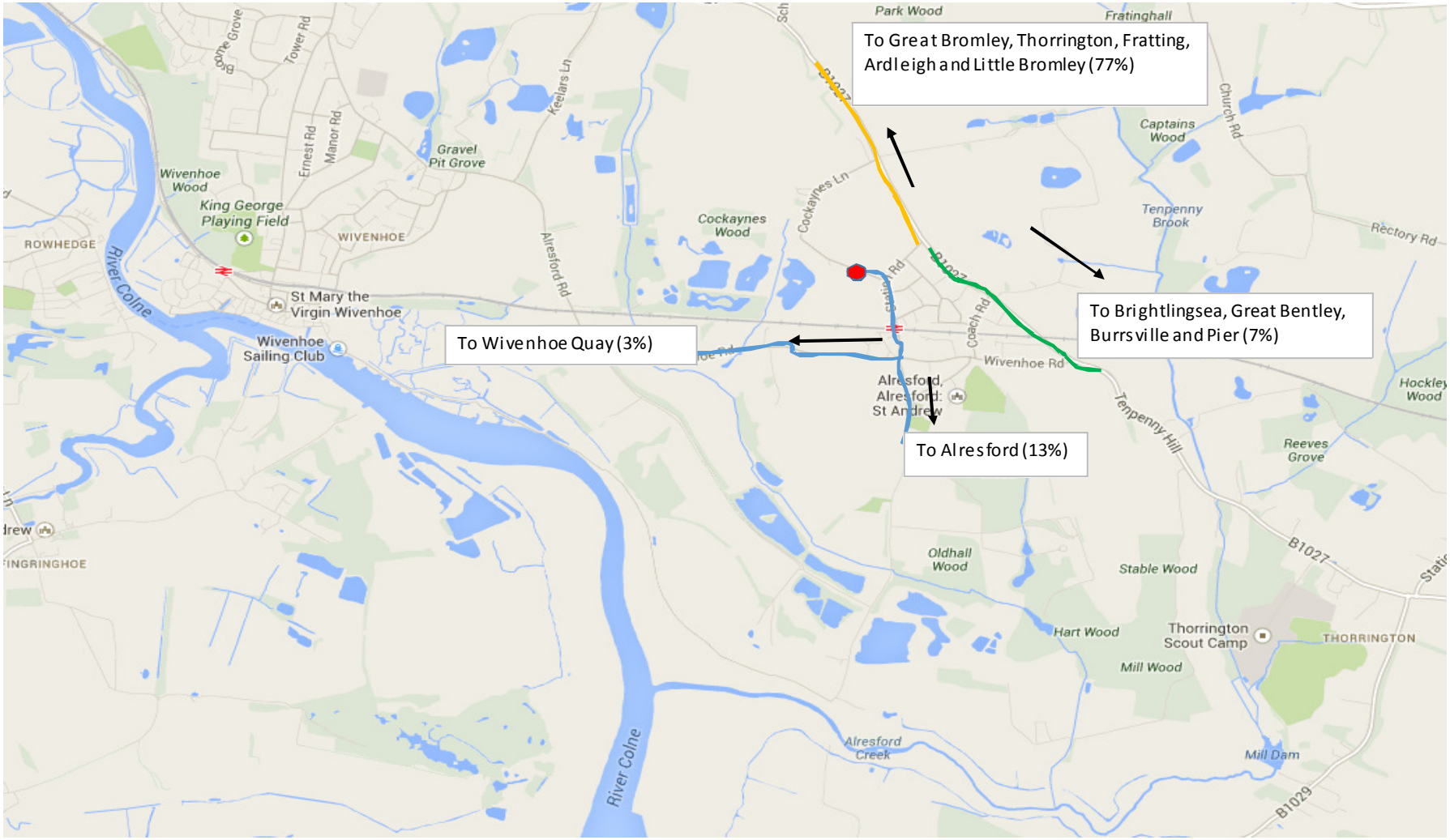


This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through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

APPENDIX C Census Ward Map



APPENDIX D Vehicular Assignment


To Great Bromley, Thorrington, Fratting, Ardleigh and Little Bromley (77%)
To Brightlingsea, Great Bentley, Burrsville and Pier (7%)
To Wivenhoe Quay (3%)
To Alresford (13%)
Park Wood
Fratinghall
Captains Wood
Church Rd
Tenpenny Brook
Rectory Rd
Gravel Pit Grove
Keelars Ln
Wivenhoe Wood
King George Playing Field
WIVENHOE
ROWHEDGE
River Colne
Cockaynes Wood
Cockaynes Ln
Alresford Rd
Coach Rd
Wivenhoe Rd
St Mary the Virgin Wivenhoe
Wivenhoe Sailing Club
Alresford, Alresford St Andrew
Tenpenny Hill
Hockley Wood
Reeves Grove
B1027
Oldhall Wood
Stable Wood
Hart Wood
Thorrington Scout Camp
THORRINGTON
Mill Wood
Alresford Creek
Mill Dam
B1029