APPENDIX D

HOREBEECH LANE, HORAM

PROPOSED HIGHWAY WORKS

Stage 1 Road Safety Audit

May 2017

KS/RW/1454/RSA1

● PO Box 744, Godalming, Surrey, GU7 9DU ● Tel: 01483 860999 ● Fax: 01483 861682 ● www.thesafetyforum.co.uk

Registered in England No.04514601. Registered office: 60 Chertsey Street, Guildford, Surrey GU1 4HL

Revision Status	Prepared by: (Name)	Checked by: (Name)	Approved by: (Signature)	Date Approved:
Draft	K Seymour	R Westhead		17/05/17
Designer's Response				
Authority's Response				
Audit Response				

Client:	
RGP Consultants	The Safety Forum Ltd
Shackleford Suite, Mill Pool House, Mill Lane, Godalming GU7 1EY	PO Box 744 Godalming Surrey GU7 9DU
	Date: 17/05/17

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1.0 INTRODUCTION

1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on the proposed highway works in association with residential development off Horebeech Lane, Horam, East Sussex. The Audit was carried out during May 2017.

1.2 The highway proposals include: the construction of a new access junction onto Horebeech Lane, Horam, with a dropped kerb pedestrian crossing facility to the east of the development access, with two options presented for Audit:

- Option 1 – includes the relocation of the 30mph speed limit terminal further east, closer to the junction with Laundry Lane and the provision of a priority give way feature on Horebeech lane. This option accounts for a proposed adjacent site access mini roundabout to the west of the development.

- Option 2 – involves only the development access and dropped kerb pedestrian crossing facility.

1.3 The Stage 1 RSA was carried out at the request of RGP Consultants Ltd.

1.4 The Audit was carried out on 10th May 2017 by consultants working on behalf of The Safety Forum Limited. The Audit Team, which is established from The Safety Forum Ltd and independent of the project design team, has had no involvement with the project The Auditors were:

The Auditors were:

K Seymour – Team Leader (MSoRSA, RSA Cert Comp)

R Westhead – Team Member (MSoRSA, RSA Cert Comp)

1.5 The report has been prepared in accordance with the Design Manual for Roads and Bridges (DMRB) Highways Directive (HD) 19/15.

1.6 The Audit consisted of a desktop study and a site visit. The site visit was carried out on 12th May 2017, between 13:30 and 14:30 hours by all members of the Audit Team together. The weather was dry and fine and the road surface was dry. Traffic conditions were very light.

1.7 Issues relating to the health & safety of operatives constructing, operating or maintaining the highway are not covered by Road Safety Audit. Only issues relating to the design and construction of facilities for highway maintenance that may potentially contribute to a Road Safety Matter are considered by the Road Safety Audit process.

Road Safety Audit is not a technical check that the design conforms to Standards and/or best practice guidance. Design Organisations are responsible for ensuring that their designs have been subjected to the appropriate design reviews (including, where applicable, Non-Motorised User (NMU) Audits) prior to Road Safety Audit.

Road Safety Audit is not a check that the scheme has been constructed in accordance with the design.

Whilst reference is made to certain design standards, where safety may be compromised by a reduction in standard, this report is not intended to provide a design check. The Auditors have only reported on matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme or the appropriateness of the design. Consequently, the Auditors accept no responsibility for the design or construction of the scheme.

1.8 The recommendations in this report are aimed at addressing the road safety problems; however, there may be other alternative acceptable ways to overcome a specific problem, when other practical issues are considered. The recommendations contained herein do not absolve the Designer of his/her responsibilities.

1.9 The Auditors would be pleased to discuss the acceptability of alternative solutions to problems identified during the Audit, and would encourage the Designer to consult them on this matter.

1.10 The LHA response to the RSA should be formally recorded and reported to the Designer and the RSA Team so that a record of the Audit process is contained in the *As Built* design pack to be provided and retained by the LHA on final completion.

1.11 All problems identified in this Road Safety Audit Report are indicated on a location plan in Appendix A

2.0 ITEMS CONSIDERED

2.1 The Road Safety Audit was undertaken on the scheme detailed in the following Russell Giles Partnership documentation.

Drawing No.	Rev	Title
2017/3547/002	-	Proposed Access Arrangements - Option 1
2017/3547/001	-	Proposed Access Arrangements - Option 2

2.2 No departure from standards or other information was submitted to the Audit Team.

3.0 MATTERS ARISING FROM THIS STAGE 1 AUDIT.

3.1 OPTION 1

3.1.1 PROBLEM

LOCATION: A – At the development access.

SUMMARY: Pedestrian to vehicle collisions, or pedestrian trips / falls.

There may be a pedestrian desire line between the proposed development and adjacent site. The lack of pedestrian crossing facilities on the likely desire line may mean that some users have difficulty negotiating the crossing and/or full upstand kerbs and this may lead to pedestrian injury.

RECOMMENDATION

It is recommended that appropriate dropped kerb pedestrian crossing facilities are provided on likely pedestrian desire lines to cross Horebeech Lane.

3.1.2 PROBLEM

LOCATION: B – On Horebeech Lane.

SUMMARY: Pedestrian to vehicle collisions, or pedestrian trips / falls.

The existing footway, on the north side of Horebeech Lane, is narrow and uneven, may present a hazard to some pedestrians or wheelchair users, should they have to use the carriageway to pass other users (see Problem 2.1.1 above). This may a particular issue during the hours of darkness, when some users may not be able to see any footway hazards.



RECOMMENDATION

It is recommended that appropriate footway widths are provided on likely pedestrian desire lines. The footway surface should minimise the possibility of trips or falls. The need for street lighting the section of footway between the site access and adjacent proposed mini roundabout should be investigated.

3.1.3 PROBLEM

LOCATION: C – Horebeech Lane, at the proposed speed limit gateway.

SUMMARY: Inappropriate approach speeds to the site access and priority give way feature.

Forward visibility to the proposed gateway, from the east, may be restricted by a combination of the horizontal alignment of Horebeech Lane and property hedge boundaries. Poor forward visibility may lead to high approach speeds to the priority give way feature. This may lead to failure to give way type collisions at the priority give way feature.





RECOMMENDATION

It is recommended that the speed limit give way feature is relocated to the east of the Laundry Lane junction, to improve forward visibility to the feature.

3.2 OPTION 2

3.2.1 PROBLEM

LOCATION: D – At the development access.

SUMMARY: Poor side road visibility may lead to failure to give way type collisions.

Visibility to the right from the site access appears to pass across a property hedge outside the highway boundary and/or control of the developer. The property hedge boundary may restrict side road visibility and lead to pull-out failure to give way type collisions.
Visibility to the left may be restricted by vehicles parked within the adjacent layby area.





RECOMMENDATION

Ensure that vegetation that may obscure side road visibility is removed and visibility splays kept free of any obstruction.
Ensure that adequate visibility to the left is provided; this may require the removal or relocation of the adjacent layby.

4.0 AUDITOR STATEMENT

4.1 We certify that this audit has been carried out in accordance with HD 19/15.

AUDIT TEAM LEADER

Kevin Seymour

The Safety Forum Ltd
PO Box 831
Godalming
Surrey
GU7 9DU

Signed:

Date: 16th May 2017

AUDIT TEAM MEMBER

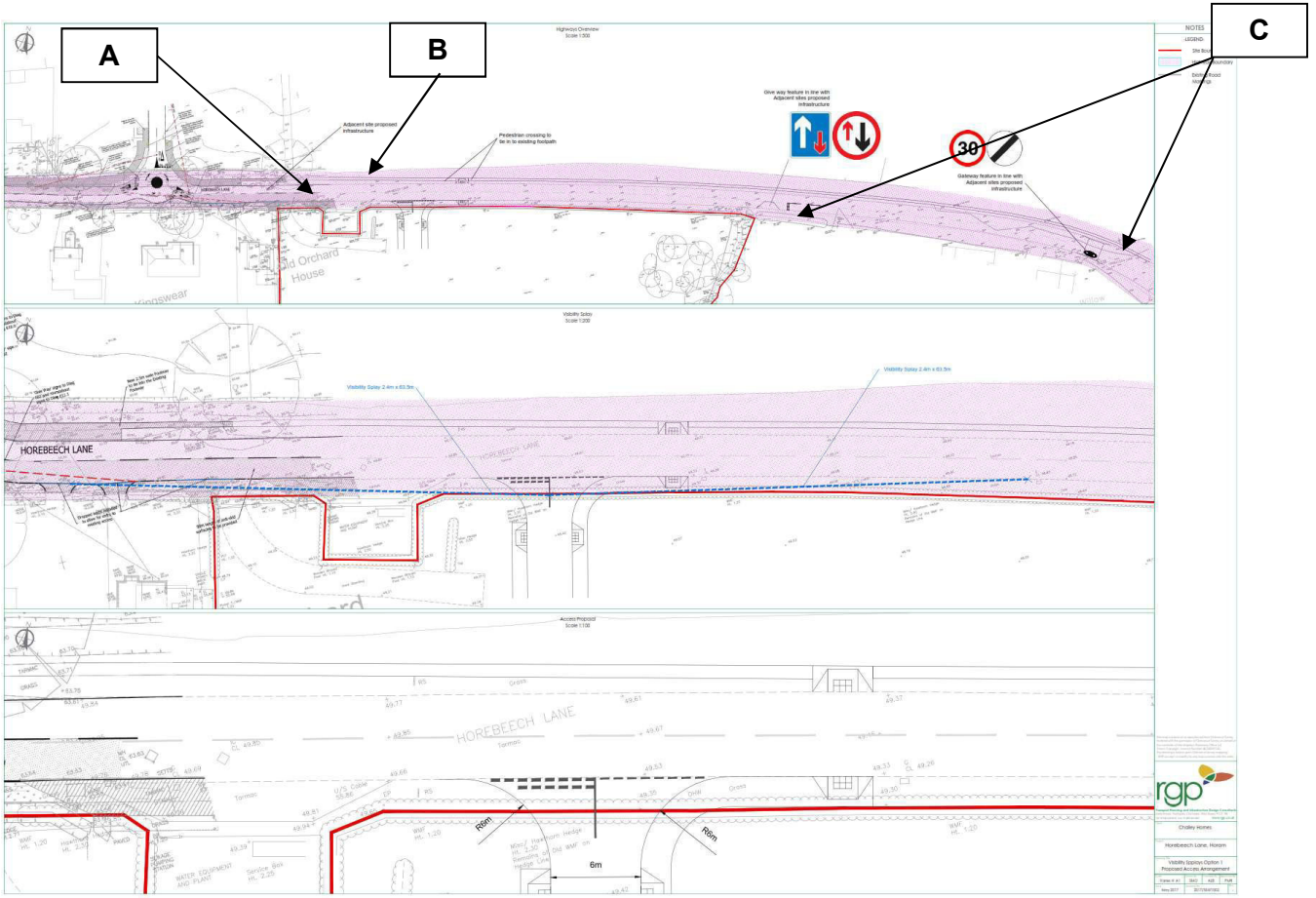
Rob Westhead
The Safety Forum Ltd
PO Box 931
Godalming
Surrey
GU7 9DU

Signed

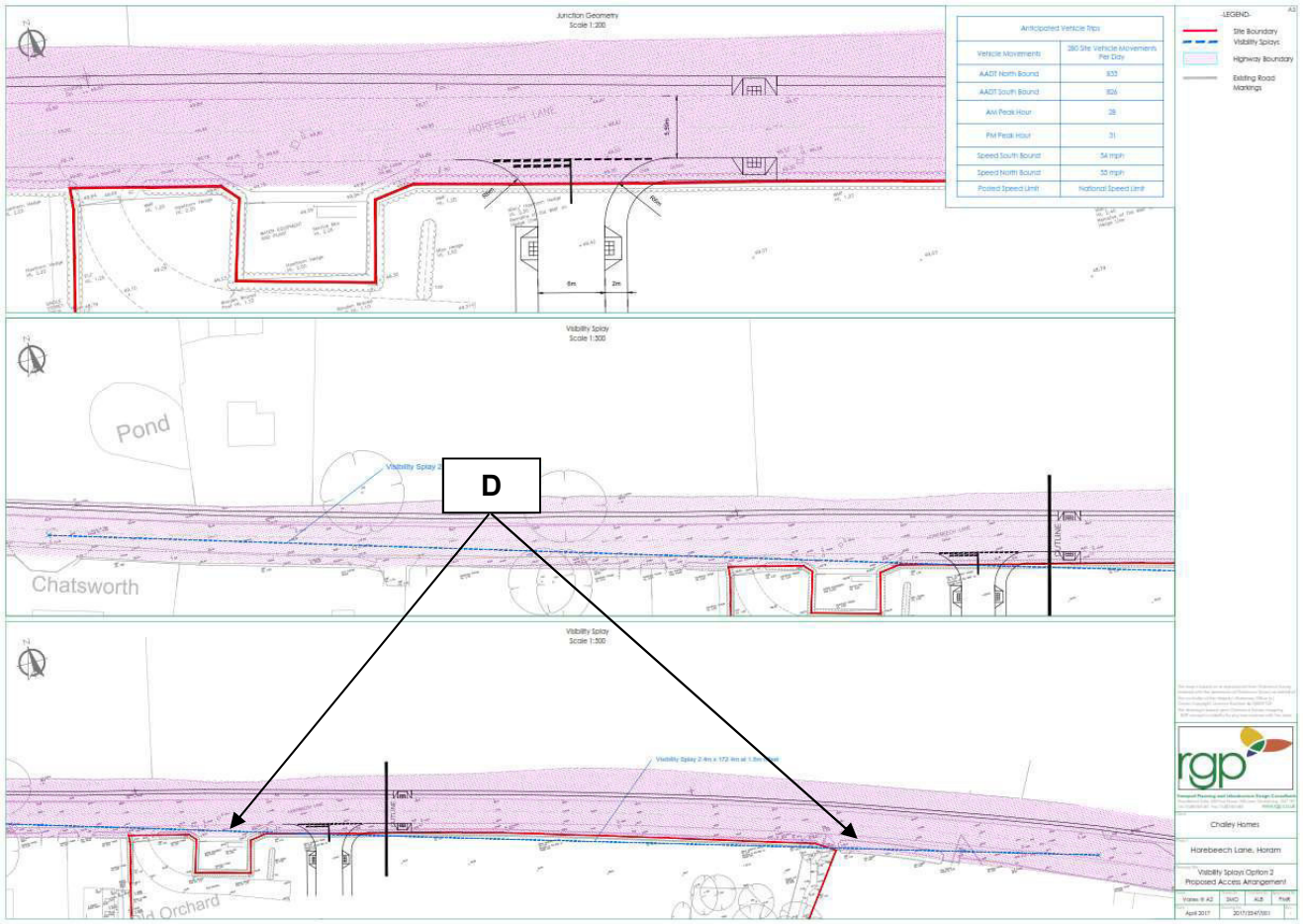
Date: 17th May 2017

APPENDIX A: LOCATION PLANS

OPTION 1



OPTION 2


Junction Geometry
Scale 1:200
HOREBEECH LANE
Visibility Splay
Scale 1:500
Pond
D
Chatsworth
Visibility Splay
Scale 1:500
Old Orchard
LEGEND
Site Boundary
Visibility Splays
Highway Boundary
Existing Road Markings
rgp
Chalkey Homes
Horebeech Lane, Horam
Visibility Splays Option 2
Proposed Access Arrangement

APPENDIX B: Road Safety Audit Response

Auditors: K Seymour (Team Leader) and R Westhead (Team Member).

Date Response Completed:

Scheme: Horebeech Lane, Horam – Proposed Highway Works.

This response is to a Stage 1 Road Safety Audit to the design standard detailed within HD19/15 of Volume 5, Section 2, Part 2, of the Design Manual for Roads and Bridges, as detailed by the Highways Agency.

Problem no. in safety audit report	Problem accepted (yes/no)	Recommended measure accepted (yes/no)	Alternative measure (detail description)
3.1.1	Yes	Yes	
3.1.2	Yes	Yes	
3.1.3	N/A	N/A	The priority give way feature is part of the adjacent 'Rosemead' development,
3.2.1	Yes	Yes	The area to the left of the access is a dropped kerb providing access to the water service station and is not commonly parked. This is supported by the 'no parking' sign displayed on the service box. Further, Manual for Streets 2 guidance section 10.7 states that parking within vis splays does not appear to create significant problems.

Principal Engineer's / Audit Project Sponsor's Statement:

Road Safety Audit for Horebeech Lane, Horam – Proposed Highway Works

I certify that I have considered the items raised in the Stage 1 Road Safety Audit Report and I am content to accept all of its recommendations except for the ones listed above. I have stated my reasons for not accepting them and I seek the Chief Engineer's endorsement of my proposals.

..... Date.....

Principal Engineer

Chief Engineer's / Director's Decision:

I accept these proposals by the Principal Engineer.

..... Date.....

Chief Engineer

APPENDIX E

EAST SUSSEX COUNTY COUNCIL CAR OWNERSHIP PARKING DEMAND TOOL

Ward 1	Horam
District	Wealden
Ward 2	Chiddingly and East Hoathly
District	Wealden
Ward 3	Hellingly
District	Wealden
Ward Tempro Factor 2011-2026	1.013
District Tempro Factor 2011-2026	1.018

STAGE 1

Please input the ward name for your development location by double clicking in the box or click box and use the drop down menu to the right of the box. The spreadsheet will automatically show the District and Ward of this location. If the ward is not known please refer to http://www.neighbourhood.statistics.gov.uk/dissemination/ and input postcode or search on Map viewer. Where Census data contains small samples for certain sized dwellings this is highlighted in red if <20, and green if <50 in the Total Demand column. In such cases, other wards should be selected to achieve a higher sample size, the tool allows for 3 wards. If there is still a low sample then the tool will automatically choose district/borough data.

East Sussex County Council

GUIDANCE NOT

The Parking Demand Tool should be us
to East Sussex County Council Residenti
Guidance. The tool uses Census 2001 Ca
validated Household Survey 2011 Car O
Tempro predicted growth to 2026 to pr
development parking demand. The tool
standard but a guide to the expected lev
ownership. For more information pleas
guidance document or contact
claire.warwick@eastsussex.gov.uk.

STAGE 2

Please input the unit type, number of bedrooms, number of units of that type and number of allocated parking spaces

	DEVELOPMENT MIX					ALLOCATED PARKING	PARKING DEMAND					
Ref.	Unit Type	Habitable Rooms (Per Unit)	Bedrooms (Per Unit)	No. of Units (Total)		Spaces (Per Unit)	Allocated No.	Unallocated for Residents		Unallocated for Visitors		Total Demand
								per unit	Total	per unit	Total	
A	Houses	4	2	14		2	28	0.11	1.50	0.20	2.80	32.30
B	Houses	5	3	29		2	58	0.25	7.11	0.20	5.80	70.91
C	Houses	5	3	1		3	3	0.05	0.05	0.20	0.20	3.25
D	Houses	6	4	4		2	8	0.24	0.96	0.20	0.80	9.76
E	Houses	6	4	2		3	6	0.06	0.12	0.20	0.40	6.52
F	Flats	2	1	8		1	8	0.25	1.97	0.20	1.60	11.57
G												
H												
I												
J												
K												
L												
M												
N												
O												
P												
Q												
R												
S												
	Total			**58**			**111**		**11.73**		**11.60**	**134.33**

Total Parking Demand for Development

APPENDIX F

Calculation Reference: AUDIT-728001-171221-1256

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	**SOUTH EAST**		
	HC	HAMPSHIRE	1 days
03	**SOUTH WEST**		
	DV	DEVON	2 days
04	**EAST ANGLIA**		
	NF	NORFOLK	2 days
	SF	SUFFOLK	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 days
	WK	WARWICKSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	3 days
09	**NORTH**		
	CB	CUMBRIA	1 days
	DH	DURHAM	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: 10 to 125 (units:)
Range Selected by User: 6 to 150 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/09 to 10/05/17

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

Selected survey days:

Monday	2 days
Tuesday	3 days
Wednesday	3 days
Thursday	2 days
Friday	3 days

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

Selected survey types:

Manual count	13 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)	5
Edge of Town	7
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:

Residential Zone	11
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	13 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	4 days
5,001 to 10,000	5 days
10,001 to 15,000	4 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	6 days
25,001 to 50,000	5 days
50,001 to 75,000	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	6 days
1.1 to 1.5	7 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	12 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	13 days

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

LIST OF SITES relevant to selection parameters

1 **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*

2 **DH-03-A-02** **MIXED HOUSES** **DURHAM**
LEAZES LANE
ST HELEN AUCKLAND
BISHOP AUCKLAND
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Number of dwellings: 125
Survey date: MONDAY *27/03/17* *Survey Type: MANUAL*

3 **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*

4 **DV-03-A-03** **TERRACED & SEMI DETACHED** **DEVON**
LOWER BRAND LANE

HONITON
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 70
Survey date: MONDAY *28/09/15* *Survey Type: MANUAL*

5 **HC-03-A-18** **HOUSES & FLATS** **HAMPSHIRE**
CANADA WAY

LIPHOOK
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 62
Survey date: TUESDAY *29/11/16* *Survey Type: MANUAL*

6 **NF-03-A-01** **SEMI DET. & BUNGALOWS** **NORFOLK**
YARMOUTH ROAD

CAISTER-ON-SEA
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of dwellings: 27
Survey date: TUESDAY *16/10/12* *Survey Type: MANUAL*

7 **NF-03-A-03** **DETACHED HOUSES** **NORFOLK**
HALING WAY

THETFORD
Edge of Town
Residential Zone
Total Number of dwellings: 10
Survey date: WEDNESDAY *16/09/15* *Survey Type: MANUAL*

8 **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*

9 **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.)

10 **NY-03-A-11** **PRIVATE HOUSING** **NORTH YORKSHIRE**
HORSEFAIR

BOROUGHBRIDGE
Edge of Town
Residential Zone
Total Number of dwellings: 23
Survey date: WEDNESDAY *18/09/13* *Survey Type: MANUAL*

11 **SF-03-A-05** **DETACHED HOUSES** **SUFFOLK**
VALE LANE

BURY ST EDMUNDS
Edge of Town
Residential Zone
Total Number of dwellings: 18
Survey date: WEDNESDAY *09/09/15* *Survey Type: MANUAL*

12 **SH-03-A-05** **SEMI-DETACHED/TERRACED** **SHROPSHIRE**
SANDCROFT
SUTTON HILL
TELFORD
Edge of Town
Residential Zone
Total Number of dwellings: 54
Survey date: THURSDAY *24/10/13* *Survey Type: MANUAL*

13 **WK-03-A-02** **BUNGALOWS** **WARWICKSHIRE**
NARBERTH WAY
POTTERS GREEN
COVENTRY
Edge of Town
Residential Zone
Total Number of dwellings: 17
Survey date: THURSDAY *17/10/13* *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 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	13	57	0.071	13	57	0.230	13	57	0.301
08:00 - 09:00	13	57	0.104	**13**	**57**	**0.311**	13	57	0.415
09:00 - 10:00	13	57	0.147	13	57	0.143	13	57	0.290
10:00 - 11:00	13	57	0.158	13	57	0.177	13	57	0.335
11:00 - 12:00	13	57	0.146	13	57	0.152	13	57	0.298
12:00 - 13:00	13	57	0.156	13	57	0.162	13	57	0.318
13:00 - 14:00	13	57	0.147	13	57	0.135	13	57	0.282
14:00 - 15:00	13	57	0.150	13	57	0.155	13	57	0.305
15:00 - 16:00	13	57	0.220	13	57	0.135	13	57	0.355
16:00 - 17:00	13	57	0.233	13	57	0.155	13	57	0.388
17:00 - 18:00	**13**	**57**	**0.302**	13	57	0.142	**13**	**57**	**0.444**
18:00 - 19:00	13	57	0.218	13	57	0.142	13	57	0.360
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.052			2.039			4.091

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:	10 - 125 (units:)
Survey date date range:	01/01/09 - 10/05/17
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	1
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.