



**HOLLYACRE NURSERY,
TODDINGTON**

Residential Development

Transport Planning Statement

**Prepared on behalf of Wilmington
Homes and Persimmon Homes.**

WILM/12/1625/PJC TPS01

April 2013

RGP TRANSPORT PLANNERS & INFRASTRUCTURE DESIGN CONSULTANTS

Metro House, Northgate, Chichester, West Sussex, PO19 1BE • Tel: 01243 210418 • www.rgp.co.uk

Vat Registration No. 771 9821 04 • Registered in England No. 4237910. Registered office: 1 Horsham Gates, North Street, Horsham, West Sussex RH13 5PJ



DOCUMENT CONTROL

Project: Hollyacre Nursery, Toddington
Residential Development

Document: Transport Planning Statement

Client: Wilmington Homes and Persimmon Homes.

Reference: WILM/12/1625/PJC TPS01

Document Checking:

Author: PJC

Date: 22/04/2013

Checked by: CMB

Date: 22/04/2013

Approved by: PMR

Date: 22/04/2013

Status:

<u>Issue</u>	<u>Date</u>	<u>Status</u>	<u>Issued by</u>
1.	20/03/2013	Draft	PJC
2.	08/04/2013	Draft Revision B	PJC
3.	22/04/2013	FINAL	PJC
4.			
5.			
6.			
7.			

© Copyright Russell Giles Partnership Limited 2013

No part of this publication may be reproduced by any means without the prior permission of Russell Giles Partnership Limited.



CONTENTS

1	INTRODUCTION.....	1
1.1	Background.....	1
	<i>Policy</i>	<i>3</i>
	<i>North Littlehampton</i>	<i>4</i>
	<i>Report Structure</i>	<i>5</i>
2	EXISTING SITE, SURROUNDINGS AND ACCESSIBILITY CREDENTIALS	6
2.1	Development Site and Local Context	6
2.2	Sustainable Access	8
	<i>Walking and Cycling.....</i>	<i>8</i>
	<i>Bus</i>	<i>10</i>
	<i>Rail</i>	<i>11</i>
2.3	Consented Improvements.....	12
2.4	Summary	13
3	ACCESS, LAYOUT AND SERVICING ARRANGEMENTS	14
3.1	Site Access and Layout	14
3.2	Visibility Splays	15
3.3	Site Servicing	18
3.4	Stage 1 Road Safety Audit and Designers Response	19
	<i>February 2013</i>	<i>19</i>
	<i>April 2013.....</i>	<i>21</i>
3.5	Road Traffic Accidents.....	21
3.6	Consented Scheme	21
4	TRAFFIC GENERATION AND IMPACT	23
4.1	Traffic Generation.....	23
	<i>Proposed Residential Use</i>	<i>24</i>
	<i>Existing Permitted Uses.....</i>	<i>25</i>
	<i>Net Change in Traffic.....</i>	<i>29</i>
4.2	Framework Travel Plan	31
5	PARKING PROVISION.....	35
5.1	Car Parking.....	35
5.2	Cycle Parking	36
6	SUMMARY AND CONCLUSIONS	37



PLANS

Plan 01	-	Site Location and Accessibility Plan
Plan 02	-	ECE Architecture Site Layout Plan

Drawings

2012/1625/010	-	Site Access layout and Visibility Splays onto Toddington Lane
2012/1625/009	-	AutoTrack Plots (Refuse Vehicle)

APPENDICES

Appendix A	-	North Littlehampton Site Master Plan
Appendix B	-	Toddington Lane Speed Survey Results
Appendix C	-	Speed vs Visibility Requirements Chart
Appendix D	-	Stage 1 Road Safety Audit, Designers Response
Appendix E	-	Person Injury Accident (PIA) Data
Appendix F	-	Correspondence with WSCC (Section 159 Agreement)
Appendix G	-	TRICS Output Data
Appendix H	-	National Census Car Ownership Data
Appendix I	-	West Sussex Parking Demand Calculator Outputs



1 INTRODUCTION

1.1 Background

- 1.1.1 Russell Giles Partnership has been retained by Wilmington Homes Ltd. and Persimmon Homes Ltd. to provide Highways and Transportation advice in respect of proposed residential development of land to the south of Toddington Lane, Littlehampton.
- 1.1.2 This Transport Planning Statement (TPS) has been prepared to address the key Highway and Transportation aspects related to the proposed development of the site to provide a mix of 66No. dwellings, internal roads, parking spaces, open space and associated access works via Toddington Lane.
- 1.1.3 This TPS has been produced in accordance with the Department for Transport's (DfT) "Guidance on Transport Assessment" document and WSCC's "Transport Assessment Methodology" document. These documents influence the structure and scope of this report and define the methodology used in the assessment work.
- 1.1.4 The site currently comprises an area of land located to the south of Toddington Lane, Littlehampton which has an historical use as part of a Horticultural Nursery / Agriculture together with a separate parcel of land comprising a range of small business uses.
- 1.1.5 There is a field gate access to the horticultural land via Toddington Lane together with an all-purpose vehicular access via Toddington Lane to the wider site via the business uses to the eastern part of the site. The site's location is illustrated on **Plan 01** together with details of facilities and amenities local to the site.
- 1.1.6 The proposals would see the site provide a total of 66 dwellings comprising detached, semi-detached and terraced housing split between affordable dwellings and open market dwellings (5No. two-bed, 55No. three-bed and 6No. four-bed dwellings).
- 1.1.7 The layout provides vehicular, pedestrian and cycle access via Toddington Lane together with areas of open space in reflection of current Manual for Streets design guidance.
- 1.1.8 A total of 141 car parking spaces are provided on site with a total of 117 residential parking spaces and 24 visitor parking spaces through the site, in addition to suitable cycle parking as detailed on ECE Architecture Site Layout Plan submitted with the application, a copy of which is included within the Plans submitted with this report.



- 1.1.9 Access to the site is proposed via a pair of new priority junctions on the southern kerbline of Toddington Lane providing pedestrian, cycle and vehicular access in reflection of current Manual for Streets design guidance, with the current field gate access being closed and re-instated as verge through the development of the site.
- 1.1.10 The site would be fully permeable to pedestrian and cycle movement together with vehicular access through the site via Toddington Lane through a looped internal arrangement in turn providing access to a number of small parking courtyards and turning areas.
- 1.1.11 Local foul drainage infrastructure is limited and the site therefore needs to accommodate a pumping station to discharge foul water to the nearest suitable sewer. The site therefore also accommodates a pumping station to the north-west corner with direct gated access to Toddington Lane.
- 1.1.12 The site is within 2km walking distance from a wide range of facilities within Littlehampton including convenience store / retail, playing fields, employment areas, medical centre, school and wider town centre and leisure facilities together with good public transport connections to the wider area as summarised on Plan 01.
- 1.1.13 The proposals would provide for pedestrian footways to the site frontage which in turn will tie in with the pedestrian infrastructure to be provided as part of the consented North Littlehampton Strategic Site. The extent of available highway verge is currently limited in delivering such infrastructure.
- 1.1.14 The development proposals provide car parking and cycle parking at a level commensurate with the suggested West Sussex County Council Parking Standards together with a level of cycle parking reflective of the County Council standards.
- 1.1.15 While the proposals are submitted to be considered on their individual merits, the site and proposals also need to be considered in the wider context of the permitted strategic development of North Littlehampton and the site's position within the wider strategic Master Plan which makes significant further enhancements locally in respect to highway and sustainable travel infrastructure which will further support the site within the wider Master Plan.



Policy

- 1.1.16 This report has been compiled with consideration of National Planning Policy Framework (NPPF) which supersedes all previous PPG and PPS Guidance. Therefore the content of PPG13 is no longer relevant to the proposals and NPPF should be considered in assessing the proposals.
- 1.1.17 Paragraphs 29 to 41 of NPPF hold particular relevance to the promoting sustainable transport and, where necessary, supporting cost effective improvements to the transport network that effectively limit the significant impacts of the development.
- 1.1.18 NPPF re-enforces that transport policies provide an important role in facilitating sustainable development and contributing to wider sustainability and health objectives. The NPPF states that:
- “The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel.”*
- “... the Government recognises that different policies and measures will still be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas.”*
- “... decisions should take account of whether: ...opportunities for sustainable transport modes have to be taken up depending on the nature and location of the site... safe and suitable access to the site can be achieved for all people... improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. ”*
- “... developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. However this needs to take account of policies set out elsewhere in this Framework, particularly in rural areas.”*
- 1.1.19 It is made clear in Paragraph 32 of NPPF that Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.
- 1.1.20 The proposals are also considered in respect of current highway design guidance contained within Manual for Streets and Design Manual for Roads and Bridges together with West Sussex County Council policy in respect to Road Safety Audits, Travel Planning, Residential Parking Standards and the West Sussex County Council Local Design Guide.



North Littlehampton

- 1.1.21 The application site is identified within the wider North Littlehampton Strategic Development Master Plan (though it was outside of the control of the applicants of the North Littlehampton Scheme) which was granted permission by Arun District Council in January 2013 under Arun District Council Planning Reference LU/47/11 as part of the wider North Littlehampton Master Plan.
- 1.1.22 The permitted North Littlehampton Scheme comprises an outline application for a mixed use development comprising up to 1,260 residential dwellings (out of a potential 1,460 dwelling Master Plan), up to 13,000 sqm of B1 employment floor space (including 3,000 sqm Enterprise Centre), up to 3,500 sqm of Class A local facilities, a 100 bed hotel, 60 bed care home, a new 2 Form Entry primary school, community centre, youth and leisure facilities, combined heat & power plant, extension to existing household recycling centre, landscaping, additional allotments, multi-functional green infrastructure including sports pitches (& associated changing facilities), informal open space, children's play areas with primary vehicular access from a new access from the A259 bridging over the railway line with additional access from Mill Lane & Toddington Lane.
- 1.1.23 The wider North Littlehampton Scheme is supported by the recent planning consent for the construction of the "Fitzalan Link Road" between the A259 Worthing Road and the East Street/Fitzalan Road roundabout which ties in with the access road to the North Littlehampton Scheme, which was granted permission by Arun District Council in 2012 under Arun District Council Planning Reference LU/63/11.
- 1.1.24 Local highway improvements related to the consented schemes secure improvements at the A27 / A284 Ford Road and the A27 / A284 Crossbush junctions securing improvements to junctions with the Trunk Road network.
- 1.1.25 The Hollyacre Nursery site, the subject of this Transport Planning Statement, will be co-located with the wider North Littlehampton development and would be supported by both its proximity to the centre of Littlehampton and associated services, together with the significant infrastructure, services and facilities secured by the North Littlehampton development, together with access to the recently constructed Littlehampton Academy, allowing the site to be considered to benefit from a highly sustainable location in transport terms
- 1.1.26 The proposals for residential development at the Hollyacre Nursery site should be considered in the context of the recently consented development in the locality and the inclusion of the site within the overall Master Plan for the area. Therefore, this Transport Planning Statement will also consider the site impact relative to the consented scheme.



Report Structure

- 1.1.27 Based on the published DfT thresholds for the preparation of Transport Assessments (reflected in the WSCC Transport Assessment Methodology) it is accepted that a development of this scale in this location would be adequately supported by the preparation of a Transport Planning Statement and this would be the proposed level of detailed assessment for any future highway reports.
- 1.1.28 The main highways and transportation issues relating to the proposals are considered within the following sections of this report:
- (i) **Section 2** describes the existing site, its local surroundings and considers the accessibility credentials of the site by non-car modes of transport and the site's accessibility relative to the consented North Littlehampton Scheme;
 - (ii) **Section 3** highlights the access, layout and servicing arrangements and reviews the supporting Stage 1 Road Safety Audit;
 - (iii) **Section 4** highlights the traffic generation potential of the proposed development and its impact on the local highway network in both its current form and subject to the consented North Littlehampton Scheme, together with Travel Planning opportunities;
 - (iv) **Section 5** discusses the parking proposals with reference to current West Sussex County Council residential parking standards;
 - (v) **Section 6** contains a summary of conclusions of the report and RGP's recommendations.



2 EXISTING SITE, SURROUNDINGS AND ACCESSIBILITY CREDENTIALS

2.1 Development Site and Local Context

- 2.1.1 The site is located to the south of Toddington Lane to the northern extent of the settlement's current residential areas, as indicated on the attached **Plan 01**. As detailed in Section 1, the site has been identified within the wider Master Plan of the North Littlehampton development.
- 2.1.2 The North Littlehampton Master Plan comprises a comprehensive strategic urban extension to Littlehampton including significant local employment and facilities for up to 1260 dwellings out of a Master Plan for up to 1460 dwellings. Within the Master Plan there are areas of land outside of the control of North Littlehampton, one of which is the application site which it is understood is included in the traffic calculations of the North Littlehampton Transport Assessment..
- 2.1.3 The site is bounded to the north by Toddington Lane and by the rail line to the south with private land bounding the site to the east and west.
- 2.1.4 All lengths of highway local to the site are subject to a posted 30mph speed limit, and local traffic conditions and highway alignment, including consented modifications to the adjacent highway would act to retain moderate traffic speeds in reflection of the posted limit.
- 2.1.5 Access for the site would be via a pair of new priority junctions on the southern kerbline of Toddington Lane, providing both pedestrian and vehicular access with the site being permeable to vehicular, pedestrian and cycle movements.
- 2.1.6 Toddington Lane is in excess of 5.5 in width for the majority of its length in the vicinity of the application site. Toddington Lane provides access for the A259 via the recently developed Site 7 (Toddington Nurseries) site to the south east and to the A284 Lyminster Road to the west via the Mill Lane junction.
- 2.1.7 To the west, the junction of Toddington Lane with Mill Lane takes the form of a large mini-roundabout, which also serves the allotments and domestic refuse site to the north, and a residential estate to the east. Toddington Lane also provides access to a number of residential areas and a horticultural nursery via a priority junction to the west of the application site.



- 2.1.8 Mill Lane provides a junction with the Lyminster Road further to the west in the form of a major / minor junction with a ghost island right turn lane facility.
- 2.1.9 To the east, Toddington Lane continues south east over a level crossing through residential areas, including the recently constructed Toddington Nurseries (Site 7), in turn providing access to the A259.
- 2.1.10 The A284 Lyminster Road provides access to the A27 to the north via Crossbush junction and provides access to the centre of Littlehampton to the south, together with good access to the wider south coast via the A259.
- 2.1.11 Toddington Lane also provides access to a large area of horticultural / agricultural land to the north and north east of the lane, which comprises the land subject of the North Littlehampton consented development.
- 2.1.12 Under the current highway layout, pedestrian access to the site is limited with no direct footways leading to the application site or the existing development to the south of the site.
- 2.1.13 In addition to the site's existing relationship with the local highway network, the extent of the highway improvements associated with the consented North Littlehampton development and the site's inclusion within the wider Master Plan must be considered in the context of the application site.
- 2.1.14 The consented scheme provides for major highway infrastructure in relation to the delivery of a section of the Lyminster Bypass from the North Littlehampton site south to join the recently constructed southern section of the Fitzalan Link Road, together with improvements on the adjacent A259 roundabouts and further afield A27 junctions for capacity purposes.
- 2.1.15 Additionally, the consented scheme provides for improvement to the alignment of Toddington Lane to the west including provision of footways and improvements to the Mill Lane junction with the A284 Lyminster Road in the form of signalisation of the junction to improve operational capacity and safety at this junction.
- 2.1.16 The consented scheme will also close the Toddington Lane level crossing to the east of the site providing for pedestrian and cycle access only with all vehicular access to the site being via the Fitzalan Link Road, the Lyminster Bypass and Toddington Lane via Mill Road.



- 2.1.17 The proposals will also provide significant sustainable transport infrastructure through the provision of pedestrian / cycle routes adjacent to the bypass and link road construction together with the introduction of 30 minute frequency bus services between the North Littlehampton Scheme and Littlehampton town centre with services and bus stops within an acceptable walking distance of the Hollyacre Nursery site.
- 2.1.18 Full details of the highways and transportation infrastructure associated with the North Littlehampton development can be reviewed in the Transport Assessment supporting the permitted scheme (Arun District Council Planning Reference LU/47/11).
- 2.1.19 To provide the site with relative context, the approved Master Plan for the North Littlehampton Site is appended to this report at **Appendix A**.

2.2 Sustainable Access

Walking and Cycling

- 2.2.1 While the site in its current form falls short in terms of pedestrian access, it should be noted that with the permitted North Littlehampton site the site will benefit from its location relative to the pedestrian network and, as has widely been accepted through PPG13 (though superseded by the NPPF); the sites accessibility to the wider catchment area is considered within a walking distance of 2km.
- 2.2.2 PPG 13 stated that:
- ... "Walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2 kilometres"...*
- 2.2.3 The centre of the proposed site is approximately 2.5km walking distance (approximately 25 minutes walking time) from Littlehampton town centre with a range of associated facilities within a significantly shorter walking distance as shown on **Plan 01**.
- 2.2.4 In addition, it is considered that the site benefits from its location relative to the wider cycle network and, as has widely been accepted through PPG13 (though superseded by the NPPF), the sites accessibility to the wider catchment area is considered within a cycling distance of 5km.
- 2.2.5 PPG 13 stated that:



...“Cycling also has the potential to substitute for short car trips, particularly those under 5km and to form part of a longer journey by public transport”...

- 2.2.6 Walking and cycling play a vital role in healthy and active lifestyles and if convenient and safe links are available there is significant opportunity to reduce the need for local car trips, thus reducing the traffic volumes on the surrounding highway network. The local environment is relatively flat making the likelihood of undertaking short trips by foot and cycle a realistic option.
- 2.2.7 Littlehampton, as a major local centre, benefits from a comprehensive range of facilities and amenities providing for education, food retail, employment and healthcare within an acceptable walking distance, in addition to a range of community facilities which would allow a wide range of services to be accessible locally, without the requirement for residents to travel away from Littlehampton by private car.
- 2.2.8 Pedestrian provision along Toddington Lane is currently limited, with no footways along the site's frontage or for approximately 350m either side, however, the lane would be considered to be relatively lightly trafficked at present and this will remain the case with the recently consented North Littlehampton Site.
- 2.2.9 Existing residential areas on Toddington Lane in the Mill Lane area, 350m west of the site, have good pedestrian facilities together with areas to the south east of the site on Toddington Lane. Footways here are wide and well lit, with dropped kerbs and tactile paving at designated crossing points and link with the footway provision on Lyminster Road and / or the A259 Worthing Road.
- 2.2.10 The permitted North Littlehampton development provides for pedestrian footways to the northern kerbline of Toddington Lane linking in with the existing infrastructure on Mill Lane to the west.
- 2.2.11 The application site will provide for appropriate dropped kerb crossings together with tactile paving from the sites frontage to the wider footways. The application site would rely on the provision of the permitted footway in order to provide for improved pedestrian accessibility.
- 2.2.12 Footway provision along Lyminster Road which leads south into Littlehampton is of a high standard and includes crossings with pedestrian islands at strategic points and signalised pedestrian crossings around the Wick Road roundabout. These footways continue onto Wick Road, leading into the town centre and rail stations within a 2.5km walking distance.



- 2.2.13 At its southern end, via the recently completed Site 7, Toddington Lane meets the A259 Worthing road where it forms a short pedestrian/cycle only route leading to a signalised pedestrian crossing over the A259 and joins Footpath 3103, a north / south route as well as a number of quiet residential streets providing for good quality pedestrian / cycle routes into Littlehampton town centre.
- 2.2.14 While there are not currently any footways on Toddington Lane to the east of the site, the Lane is considered to operate as a relatively lightly trafficked route and it would be considered suitable for cycling providing good cycle access to the wider area and could provide for some pedestrian movement.
- 2.2.15 As part of the consented North Littlehampton Site, the current level crossing on Toddington Lane to the south east of the site would be closed to vehicular traffic, limiting the extent of traffic on Toddington Lane and ensuring it is conducive to walking and cycling.
- 2.2.16 Public footpaths also extend north of the site where Lyminster and Poling villages can be reached with a 2km (30 minute) walk.
- 2.2.17 Cycling infrastructure in the local area is good with shared footways/cycle paths along the majority of Worthing Road. West of the Wick Road roundabout an off-road cycle route runs parallel to Worthing Road up to its junction with Eldon Way.
- 2.2.18 A well-marked and regularly signposted traffic-free cycle path runs parallel to Horsham Road, from The Bodyshop Roundabout on Worthing Road, south to the Littlehampton Academy. From Elmgrove infant school it heads in an easterly direction as far as North Ham Road, passing close to Arlin Vale Infant School.
- 2.2.19 Additionally the local topography is flat and therefore considered conducive to journeys on foot and by cycle and a number of local quiet residential streets would provide for safe and convenient pedestrian and cycle journeys between the site and Littlehampton town centre.

Bus

- 2.2.20 The nearest bus stops to the site are located along Lyminster Road, close to its junction with Mill Lane, as shown on **Plan 01**. These are approximately 800m (10 minute walk) west of the site.



- 2.2.21 These stops are served by Stagecoach's Coastliner 700 route between Portsmouth and Brighton. This service runs every 10 minutes with stops in Littlehampton town centre as well as other local towns such as Chichester, Bognor Regis, Worthing and Shoreham.
- 2.2.22 Further to the Coastliner 700 there are a number of supplementary routes serving local schools and large supermarkets.
- 2.2.23 A summary of these local bus services is included in **Table 2** below and extensive timetables can be found at <http://www.travelinesoutheast.org.uk>.

BUS SUMMARY			
Bus No.	Route	Typical Frequency	Hours of Operation
602	Rustington - St Philip Howard School	1 per day	School Hours
700	Portsmouth - Brighton	Mon-Sat: 3 per hour Sun: 1 per hour	Mon-Sat: 06:00-23:00 Sun: 07:00-09:00
A3	Billingshurst - Asda, Ferring	1 per day	Morning
T3	Fontwell – Tesco, Littlehampton	1 per day	Midday

Table

2: Timetable of Local Bus Services

Rail

- 2.2.24 Littlehampton train station is located just over 2km south of the site (approximately 30 minute walk or 10 minutes cycle) on Terminus Road. Facilities at the station are good and include secure, sheltered cycle parking with bus stops in close proximity.
- 2.2.25 Littlehampton is the only station on a short branch of the West Coastway Line, which operates between Southampton and Brighton. From here services depart to Portsmouth and Bognor Regis at a frequency of 1 per hour and to London Victoria at a frequency of 2 per hour.
- 2.2.26 Journeys to London Victoria typically take around 1 hour 45 minutes calling at numerous stops en route, including Worthing, Hove, Gatwick Airport and Clapham Junction. Trains to Portsmouth are generally stopping services with a typical journey time of 1 hour. These call at 13 stations en route, the most notable of which are Chichester and Havant. Trains to Bognor Regis are typically shuttle services which take 22 minutes, calling at Ford and Barnham.
- 2.2.27 Extensive details of train services from Littlehampton station are available to view online at www.nationalrail.co.uk.



2.3 Consented Improvements

- 2.3.1 As a result of the significant consented development area to the immediate north of the site there will be a significant level of improvements to local pedestrian, cycle and bus facilities.
- 2.3.2 Pedestrian improvements will include continuous footways alongside Toddington Lane and on the Fitzalan Link Road, which will pass over the railway line via a new bridge with all major highways supported by adjacent pedestrian / cycle ways. In particular, this route would provide for high quality, shorter length pedestrian and cycle trips to Littlehampton town centre and other significant local destinations.
- 2.3.3 The existing level crossing on Toddington Lane is to be removed and replaced by a pedestrian/cycle bridge, which will include a lift. The closure of this level crossing will result in controlled traffic levels to the eastern end of Toddington Lane, making it a much safer and more attractive pedestrian/ cycle route towards local centre facilities with the route of Footpath 3103 upgraded through the construction of the Fitzalan Link Road including direct access to the Littlehampton Academy.
- 2.3.4 It is considered that these improvements would result in the pedestrian / cycle route via Toddington Lane being a well-used route between the wider site and the local facilities and amenities within Littlehampton.
- 2.3.5 The North Littlehampton development also includes provision for additional bus services which will serve the wider Strategic site and the highway immediately adjacent to the application site at a high frequency with short journey times to the town centre.
- 2.3.6 These comprise one circular route starting in the consented site which runs into the town centre and one route which will operate via the Fitzalan Link Road past The Littlehampton Academy, which will operate during school hours. Moreover, these new routes will include additional bus stops which will be sited well within 400m (5 minute walk) of this development.
- 2.3.7 Notwithstanding the improved sustainable links to Littlehampton Town Centre, the associated proposals would provide a wide range of facilities and services within walking and cycling distance north of the site, furthermore enhancing the sustainability of the site.



2.4 Summary

- 2.4.1 The site is well located to allow convenient walking, cycling and public transport trips to a number of likely destinations. The town centre is on the verge of the 2km threshold for walking trips; with several schools, shops and employers well within this limit.
- 2.4.2 Frequent and fast train services connect Littlehampton to many local towns and cities, with the station easily accessible by bus or bicycle. Pedestrian, bus and cycle links are good at present and will be further improved as a consequence of the neighbouring consented development. It is therefore anticipated that sustainable modes of transport will be the primary choice for the majority of local trips from the site
- 2.4.3 A good range of services and amenities are accessible by sustainable modes with Littlehampton Town Centre and the surrounding areas, all within walking and cycling distance together with wider cycle and public transport facilities providing a good level of sustainable access to the wider area and regional centres.
- 2.4.4 Residents of the site could realistically undertake a number of daily journeys by modes other than the private car allowing day to day needs to be met as well as undertaking sustainable journeys for work and education purposes.
- 2.4.5 Notwithstanding the existing accessibility credentials of the site, the recently consented strategic site to the north of Toddington Lane has secured significant highway and pedestrian / cycle improvements together with high frequency bus routes, all of which will be accessible to the application site making the site highly accessible in sustainable transport terms.
- 2.4.6 While the site, in its current form, may have some shortcomings in sustainable access (for example an 800m walk to local bus stops), there will be improvements in the form of new footway linking to adjacent pedestrian routes with the site being well within walking and cycling distance of the town centre.
- 2.4.7 Given the sites location within the wider strategic development locally, it is clear the site will be central to an area benefitting from high quality access credentials and new local services, employment, education, retail and leisure uses within the Strategic development.
- 2.4.8 The consented North Littlehampton Strategic Site together with the range of infrastructure improvements to be secured through the delivery of the site should be material consideration in considering the suitability of the application site within the wider Master Plan.



3 ACCESS, LAYOUT AND SERVICING ARRANGEMENTS

3.1 Site Access and Layout

- 3.1.1 The site will take pedestrian and vehicular access via the southern kerbline of Toddington Lane as illustrated on ECE Architecture Site Layout Plan. The site will provide two points of access serving an eastern and western part of the site linked internally together with a series of parking courtyards and short culs-de sac.
- 3.1.2 The site access junctions with Toddington Lane provide minimum 5m width carriageways for the initial 10m from Toddington Lane, at which point they taper in to tie in with the shared surface internal layout providing for the safe passage of two-way vehicle flows at the junctions and adequate segregation to provide for vehicles turning through the access clear of any pedestrian movements.
- 3.1.3 Kerb radii are set at 6m which allow for the safe movement of private vehicles entering and exiting the site simultaneously. The access design also provides adequate width and radii to allow typical refuse vehicles to enter and exit the site.
- 3.1.4 The access junctions are supported by adjacent pedestrian footways of minimum 1.8m width which in turn lead to shared surface squares open areas serving dwellings and parking spaces with areas also providing for turning heads for larger vehicles such as refuse vehicles.
- 3.1.5 The internal pedestrian infrastructure extend to the sites frontage with Toddington Lane with a minimum 2m footway provided across the site frontage together with a number of pedestrian access to dwellings and parking courtyards making the site permeable to pedestrians.
- 3.1.6 Visibility and forward visibility throughout the site is commensurate with the anticipated low traffic speeds within the site and on Toddington Lane and reflects the guidance contained within Manual for Streets.
- 3.1.7 The philosophy of the shared use surface is supported by the principles set out in both Manual for Streets and Manual for Streets 2 which consider the benefits of reducing the priority of the private car in residential areas and promote the use of sustainable modes in travel choice.



- 3.1.8 The site itself will generate modest traffic levels and the internal characteristics of the site will be of low levels of traffic movements and low traffic speeds together with pedestrian priority of movement through parts of the site providing for a site which is conducive to sharing space with private cars in order to influence low traffic speeds and retain these at approximately 20mph in reflection of Manual for Streets philosophy and the principles contained within Chapter 7 of the same document..
- 3.1.9 The dwellings are provided with a combination of on-curtilage parking spaces and allocated parking courtyards and all dwellings will benefit from cycle parking provision in the form of space within garages or garden sheds in order to provide for a minimum 2 spaces per dwelling.
- 3.1.10 Car parking space within the site is designed in reflection of the suggested parking provision through the West Sussex County Council Parking Demand Calculator and seeks to provide the recommended level of resident spaces and the majority of the recommended level of visitor parking spaces, discussed later in this report.
- 3.1.11 The site also requires a pumping station in in order to direct foul water to the nearest suitable sewer with the pumping station being located to the North West corner of the site. The pumping station will be accessed via a gated private access onto Toddington Lane and it is anticipated that a service vehicle / wet waste tanker would be required to service the site at a typical frequency of once per year.
- 3.1.12 It is envisaged at this stage that the internal layout of the site will be retained privately with the proposed access junction and frontage footway to be put forward for adoption as part of the publically maintainable highway.
- 3.1.13 The proposed access junction works together with detailed construction and materials are to be addressed through detailed design and Section 39 / 278 Agreements with the Highway Authority.
- 3.1.14 A copy of the submitted Layout is provided under Plans to the end of this Transport Planning Statement.

3.2 Visibility Splays

- 3.2.1 Toddington Lane is subject to a posted 30mph speed limit which would require visibility splays, in accordance with guidance contained within Manual for Streets (paragraphs 7.5, 7.6 and 7.7 of Manual for Streets) of minimum 2.4m x 43m.



- 3.2.2 However, as part of the site investigation, RGP commissioned a speed survey of traffic on Toddington Lane in the form of a speed gun radar survey undertaken in accordance with Design Manual for Roads and Bridges (TD 22/81 – Vehicle Speed Measurement on All Purpose Roads) requirements.
- 3.2.3 A speed gun radar survey was undertaken as several attempts to secure an Automatic Traffic Count (ATC) survey to the carriageway failed due to the construction of the carriageway.
- 3.2.4 The outputs of the speed gun radar survey are appended to this report at **Appendix B** and are summarised in Table 2.1 below:

	East Bound Traffic	West Bound Traffic
85 th Percentile Speeds	38.75	39.32
Wet Weather Design Speeds	36.27	36.84

Table 2.1 – Recorded 85th Percentile Speeds and Wet Weather Design Speeds

- 3.2.5 The 85th Percentile speeds were recorded in dry / sunny conditions therefore a deduction has been applied in accordance with the wet weather speed guidance giving a design speed of just under 37mph / 60kph (for westbound traffic past the site).
- 3.2.6 This road speed is just within the threshold of the guidance contained within Manual for Streets and below the threshold of the requirement to consider visibility splays in line with Design Manual for Roads and Bridges.
- 3.2.7 The requirements for Manual for Streets would recommend visibility splays to be provided of 2.4m x 59m. Should Design Manual for Road and Bridges be considered the appropriate guidance then visibility splays of 2.4m x 90 would be required.
- 3.2.8 In determining the appropriate guidance, two key criteria need to be considered.
- 3.2.9 Firstly, the nature and use of Toddington Lane (currently and in the future) needs to be considered and secondly, the application of the guidance documents needs to be considered.



- 3.2.10 Toddington Lane is a relatively lightly trafficked single carriageway lane with recorded speeds suggesting the application of Manual for Streets guidance is appropriate. However, at present there is limited frontage activity but subsequent to the recently consented North Littlehampton site and the proposals contained within this application site the nature of Toddington Lane will change.
- 3.2.11 Consented and proposed development would increase the frontage activity and act to reduce traffic speeds through Toddington Lane through making the lane a more residential area. Also the consented North Littlehampton site would facilitate the closure of the level crossing to the east on Toddington Lane, further retaining traffic flows and speeds on this length of highway.
- 3.2.12 These measures would act to influence lower traffic speeds on Toddington Lane and render it relevant to the guidance within Manual for Streets.
- 3.2.13 In addition, it is important to note that the guidance relevant to the requirements for visibility splays within Design Manual for Roads and Bridges (as set out in DMRB 41 / 95 – Vehicular Access to All Purpose Trunk Roads) is primarily designed for access to all purpose trunk roads exhibiting higher speeds and volumes of traffic and not to the situation exhibited on Toddington Lane nor the future development of the area.
- 3.2.14 It is noted that Manual for Streets states that many of the principles contained within that document may be applicable to other types of street including lightly trafficked lanes.
- 3.2.15 Manual for Streets 2 filled the perceived gap between that document and Design Manual for Roads and Bridges making it clear that Design Manual for Roads and Bridges is the design standard for trunk roads and motorways and the strict application of those standards on no-trunk roads is rarely appropriate for highway design in built up areas.
- 3.2.16 Therefore, it is considered appropriate to apply the guidance contained within Manual for Streets in assessing the required visibility splays for the site access junctions and the required splays of 2.4m x 59m is achievable across the site frontage and within public highway boundary and illustrated on the site layout drawings.
- 3.2.17 It should be noted that the visibility splays are taken to the nearside kerb. However, Manual for Streets 2 makes it clear that visibility splays can be taken to the nearside edge of the vehicle track. Para 10.5.3 states that vehicles will normally be travelling a distance from the kerbline and therefore a more accurate assessment of visibility splays is made by measuring to the nearside edge of the vehicle track.



- 3.2.18 Therefore, if this advice is followed, it is likely that the extent of visibility from the access points would be in the region of 2.4m x 70m (approx.) and this is also illustrated on the site access drawing.
- 3.2.19 Consideration of the required visibility splays based on the design speed of the road together with the outputs of the speed survey have been considered against various design standards and DfT publications as illustrated on the chart appended to this report at **Appendix C**.
- 3.2.20 Suitable visibility splays are also provided for the private pumping station to allow for a 2.4m x 59m visibility splay. It should be noted that the pumping station is anticipated to require a visit from a wet waste tanker approximately once per year with minimal other maintenance related traffic.
- 3.2.21 The site access drawing detailing visibility splays is provided at **RGP Proposed Visibility Splays Drawing No. 2012/1625/010**.
- 3.2.22 Where necessary, all frontage planting will be set out so as not to interfere with visibility splays and the existing bank / verge to the frontage of the site will be re-graded to ensure it does not interfere with the visibility splays. All levels etc. in relation to the bank / verge and the re-grading of this to provide for the sites frontage will be detailed at the Detailed Design Stage / S278 Highway Technical Approval.

3.3 Site Servicing

- 3.3.1 All units will be provided with bins for general refuse, recycling and compost which can be placed to the property frontage on collection days via garden gates.
- 3.3.2 The site layout has been tested using AutoTrack to demonstrate a typical, large refuse vehicles is able to enter and exit the site in a forward gear and safely turn within the turning heads provided through the site.
- 3.3.3 The relevant tracking plots are illustrated at **RGP Autotrack Plots Drawing No. 2012/1625/009**.



3.4 Stage 1 Road Safety Audit and Designers Response

February 2013

- 3.4.1 In accordance with the West Sussex County Council Safety Audit Adopted Policy the site access works have been the subject of an independent Stage 1 Road Safety Audit. A copy of the Audit is attached at **Appendix D**.
- 3.4.2 It should be noted that the original site layout was subject to the Safety Audit including the form and location of the access points in February 2013. The Audit Teams comment are summarised below and the full Audit and Designers Response are contained in Appendix D.
- 3.4.3 However the Applicants and Arun District Council have (subsequent to the February 2013 Audit), undertaken a series of amendments to the internal layout of the site, however, the form and location of the access points have remained unchanged.
- 3.4.4 Given the change in internal layout, the revised layout has been considered against the items raised in the Audit.
- 3.4.5 The original Stage 1 Road Safety Audit undertaken in February 2013 raised the following broad issues:
- (i) Poor visibility to the left from the eastern junction and the right from the western junction due to alignment of Toddington Lane and the presence of the verge / bank.
 - (ii) Visibility splays of access junctions with Toddington Lane in relation to the recorded 85th Percentile Road Speeds.
 - (iii) Visibility from the pumping station access in relation to the recorded 85th Percentile Road Speeds.
 - (iv) Lack of pedestrian crossing points illustrated over site access junctions.
 - (v) Location of access to unit 14 relative to the access road.



(vi) Constrained moving space for large / refuse vehicles through 'The Green'.

- 3.4.6 Having considered the issues raised through the Road Safety Audit the Designer has accepted all issues and these are either addressed by provision of further information supporting the layout or amendments to the layout to be secured at Detailed Design stage subsequent to planning permission. The full Designers Response is attached at **Appendix D.**
- 3.4.7 In relation to Problems 3.2 and 3.3 of the Road Safety Audit, it should be noted that the original architects layout provided to the Auditor illustrated visibility splays of 2.4m x 43m in line with the posted speed limit.
- 3.4.8 These drawings were prepared prior to the speed survey being completed and revisions to the internal layout, with the original drawings being submitted to the Auditors in February 2013.
- 3.4.9 In addition to the issues raised above, the Auditors also made four general observations in relation the lack of footway on Toddington Lane, the extent of any proposed change in levels internal to the site and the location of trees in relation to visibility splays and internal footways.
- 3.4.10 All these observations have been considered. In respect to pedestrian accessibility to the wider area, the proposed pedestrian improvements and infrastructure consented as part of the North Littlehampton site will provide a suitable route between the site and Mill Lane footways.
- 3.4.11 The internal layout of the site will be subject to detailed design and any change in level will be below 75mm and will be highlighted appropriately. These issues are to be assessed through the Detailed Design of the internal layout.
- 3.4.12 All trees and landscaping will be set clear of visibility splays and will be planted so as not to obstruct pedestrian movements. These issues are to be assessed through the Detailed Design of the internal layout.
- 3.4.13 It is therefore considered that all points / Auditors comments raised in the February 2013 Audit have been satisfactorily addressed through the Safety Audit and the site access junctions and layout will be further assessed through any subsequent Stage 2 / 3 Road Safety Audits supporting the detailed design and construction of the site accesses.



April 2013

- 3.4.14 The site layout was revised by the Architects at the bequest of the Applicants and the Planning Authority with the revised layout reflecting comments from the Planning Authority relative to the internal layout. The revised layout is submitted in support of the application.
- 3.4.15 The revisions to the internal layout also address the issues 3.5 and 3.6 of the Audit undertaken in February 2013 in removing any door / awning which may be in conflict with the internal pedestrian / vehicle routes and also by removing any obstacles to the through manoeuvre of refuse vehicles by amending the form of the Green.
- 3.4.16 The form and the location of the points of access from Toddington Lane into the site remain exactly as they were when subject to the original February 2013 Safety Audit and it is considered that the issues raised in relation to the February 2013 Audit are suitably addressed through the Designers Response.

3.5 Road Traffic Accidents

- 3.5.1 A review of recent personal injury accident data for the highway in the vicinity of the site has been undertaken in respect of the proposed development.
- 3.5.2 Road Traffic Accident Data for the preceding 5 year period (to 31 December 2012) was requested from Sussex Police. A copy of the data is contained within **Appendix E**.
- 3.5.3 The data confirms there have been no recorded personal injury accidents on the length of Toddington Lane or Mill Lane in the vicinity of the site and no evidence to suggest that similar residential development accesses contribute to highway safety issues.

3.6 Consented Scheme

- 3.6.1 As noted earlier in this report, the application proposals need to be considered in reflection of the permitted North Littlehampton strategic development. In particular, the site access junctions need to be set out so as to ensure there is no conflict with the permitted scheme to the north.
- 3.6.2 In pursuit of this, the applicants and RGP have engaged with West Sussex County Council in order to ensure the proposed scheme does not conflict with the consented scheme layout or the area of highway safeguarded by way of an historical Section 159 Order for highway improvements.



- 3.6.3 Correspondence with the highway Authority suggests the Authority are satisfied that the proposed layout does not affect safeguarded land or the land required for the construction of the highway improvements secured through the North Littlehampton strategic development. Correspondence with the County Council is appended to this report at **Appendix F**.
- 3.6.4 The proposed western site access will form a crossroad junction with the consented access road to the North Littlehampton Development. While the access road to the North Littlehampton site would be likely to accommodate modest traffic levels as well as Toddington Lane itself carrying modest levels of traffic the application site access would carry very low levels of traffic with clear visibility and it is not considered this would result in any specific road safety issue.



4 TRAFFIC GENERATION AND IMPACT

4.1 Traffic Generation

- 4.1.1 The site is currently occupied by a range of uses in the form of a number of small businesses and the existing horticultural use. The site would be considered previously developed land with these land uses being current permitted traffic generating uses.
- 4.1.2 The likely traffic generation associated with the existing uses is considered together with the anticipated traffic generation of the proposed development to determine the likely NET traffic impact on the local highway network as assessed through this Transport Planning Statement.
- 4.1.3 Vehicle trip generation for the existing and proposed development uses have been derived by an interrogation of the TRICS database.
- 4.1.4 TRICS is the industry standard tool for determining trip rates for a variety of land uses. The Residential / Mixed Private Non Private Housing category was investigated in respect of the 61No. affordable and open market dwellings, taking into account size, locational aspects and public transport levels for the proposed residential development.
- 4.1.5 The proposals would see the site provide a total of 66 dwellings comprising detached, semi-detached and terraced housing split between affordable dwellings and open market dwellings (5No. two-bed, 55No. three-bed and 6No. four-bed dwellings).
- 4.1.6 In relation to the existing uses, information regarding the existing permitted uses on site has been received from the land owner and appropriate TRICS data relating to these uses has been derived from the database.
- 4.1.7 The existing site accommodates a number of small business units and the existing horticultural use. The business units comprise a local builders yard and offices (employing 3 staff); a scaffold company (employing 3 staff on site with associated lorries and scaffolders visiting the site); a vehicle repair garage (employing 2 staff with associated customer vehicle movements); an office based business (employing 3 staff) and; a storage unit.



- 4.1.8 The wider site to the west of these small businesses was until recently associated with the larger Fargo horticultural operation used for growing plants ancillary to the main nursery to the north of the site. While there were no permanent staff directly employed on this part of the site, its operation was part of the larger horticultural area and would have generated a number of associated movements.
- 4.1.9 The full TRICS data for the proposed residential use on site together with that of the existing uses on site and information received via the land owner contained within **Appendix G** of this report.

Proposed Residential Use

- 4.1.10 As detailed earlier in this report, the proposals would see the site developed to accommodate a total of 66 dwellings comprising detached, semi-detached and terraced housing split between affordable dwellings and open market dwellings (5No. two-bed, 55No. three-bed and 6No. four-bed dwellings)..
- 4.1.11 An interrogation of the TRICS data relevant to the proposed land use (Residential / Mixed Private Non Private Housing) suggests Trip Rates and level of traffic generation as summarised in Table 4.1 and Table 4.2 below:

Trip Rates (veh/resident)			
	ARRIVALS	DEPARTURES	TOTAL
AM Peak Hour (08:00-09:00)	0.140	0.317	0.457
PM Peak Hour (17:00-18:00)	0.374	0.202	0.576
Daily Rate	2.510	2.556	5.066

Table 4.1 – Summary of Residential Trip Rates



Traffic Generation (66 Units)			
	ARRIVALS	DEPARTURES	TOTAL
AM Peak Hour (08:00-09:00)	9	21	30
PM Peak Hour (17:00-18:00)	25	13	38
Daily Traffic	166	169	335

Table 4.2 – Summary of Residential Traffic Generation

- 4.1.12 From the traffic generation data it is demonstrated that the proposed residential use on site would have the potential to generate in the region of 30 vehicle movements in the AM peak, 38 vehicle movements in the PM peak and in the region of 335 total daily movements.
- 4.1.13 As detailed earlier in this report, the site access is taken via two junctions and it is evident that these associated traffic movements would be split between the two access points resulting in a very small number of two-way vehicle movements at each access during the peak hours.
- 4.1.14 The very low number of traffic movements associate with the western access would not be likely to result in conflict with the proposed access junction to the North Littlehampton strategic development site to the north
- 4.1.15 These trip rates derived from the TRICS database are broadly similar (for robustness they are slightly higher) to those used in the North Littlehampton Transport Assessment relating to the consented strategic scheme to the north of the site and are therefore considered acceptable to WSCC in relation to the application site.

Existing Permitted Uses

- 4.1.16 In comparison, the existing permitted uses comprise a local builders yard and offices (employing 3 staff); a scaffold company (employing 3 staff on site with associated lorries and scaffolders visiting the site); a vehicle repair garage (employing 2 staff with associated customer vehicle movements); an office based business (employing 3 staff) and; a storage unit together with the parcel of land to the west with permitted horticultural use. All uses take access via the existing eastern access to the wider site from Toddington Lane.



- 4.1.17 The TRICS database has been interrogated to provide an estimate of the combined uses on site potential traffic generation. The trip rates obtained from the TRICS database have been factored to account for the employee numbers within the given uses on site with the following tables providing summaries of both the trip rate and the anticipated level of associated vehicle movement.
- 4.1.18 Table 4.3 and 4.4 below summarise the trip rates and likely potential movements associated with the permitted existing builders merchants and scaffold company on site. The two operations would be considered to exhibit similar characteristics in terms of traffic profiles (given the shared trades served by the businesses) therefore the combination of the two uses are considered under the 'Retail / Builders Merchants' category within TRICS.
- 4.1.19 The existing builders merchants and scaffold company each employ up to 3 staff therefore the TRICS trip rates have been factored to account for a balanced number of 5 employees (assuming that each site employs up to three staff, it may be that at any given time there would be less than full staff levels).

Trip Rates (veh/staff)			
	ARRIVALS	DEPARTURES	TOTAL
AM Peak Hour (08:00-09:00)	1.387	1.137	2.524
PM Peak Hour (17:00-18:00)	0.313	0.537	0.849
Daily Rate	12.650	12.559	25.209

Table 4.3 – Summary of Retail / Builders Merchants Trip Rates

Traffic Generation (5 Employees)			
	ARRIVALS	DEPARTURES	TOTAL
AM Peak Hour (08:00-09:00)	7	6	13
PM Peak Hour (17:00-18:00)	2	3	5
Daily Traffic	63	63	126

Table 4.4 – Summary Retail / Builders Merchants Traffic Generation



- 4.1.20 From the traffic generation data it is demonstrated that the existing permitted uses on site in relation to the builders merchants and scaffold company would have the potential to generate in the region of 13 vehicle movements in the AM peak, 5 vehicle movements in the PM peak and in the region of 126 total daily movements.
- 4.1.21 Table 4.5 and 4.6 below summarise the trip rates and likely potential movements associated with the permitted existing vehicle repair / service garage on site. The garage provides for general vehicle service an engine conversions as opposed to a fast service therefore the 'Vehicle Services – Vehicle Repair Garage (Slow Fit)' category within TRICS is used.
- 4.1.22 The existing vehicle serviced garage employs 2 staff therefore the TRICS trip rates have been factored to account for 2.

Trip Rates (veh/staff)			
	ARRIVALS	DEPARTURES	TOTAL
AM Peak Hour (08:00-09:00)	0.610	0.329	0.939
PM Peak Hour (17:00-18:00)	0.256	0.482	0.738
Daily Rate	4.772	4.626	9.398

Table 4.5 – Summary of Vehicle Services – Vehicle Repair Garage (Slow Fit) Trip Rates

Traffic Generation (2 Employees)			
	ARRIVALS	DEPARTURES	TOTAL
AM Peak Hour (08:00-09:00)	1	1	2
PM Peak Hour (17:00-18:00)	1	1	2
Daily Traffic	10	9	19

Table 4.6 – Summary Vehicle Services – Vehicle Repair Garage (Slow Fit) Traffic Generation

- 4.1.23 From the traffic generation data it is demonstrated that the existing permitted uses on site in relation to the vehicle services garage would have the potential to generate in the region of 2 vehicle movements in the AM peak, 2 vehicle movements in the PM peak and in the region of 19 total daily movements.



- 4.1.24 Table 4.7 and 4.8 below summarise the trip rates and likely potential movements associated with the permitted existing office use on site. The office use provides for office based business of a textile / design company therefore the 'Employment - Office' category within TRICS is used.
- 4.1.25 The existing office use employs 3 staff therefore the TRICS trip rates have been factored to account for 3.

Trip Rates (veh/staff)			
	ARRIVALS	DEPARTURES	TOTAL
AM Peak Hour (08:00-09:00)	0.33	0.046	0.376
PM Peak Hour (17:00-18:00)	0.026	0.255	0.281
Daily Rate	1.205	1.186	2.391

Table 4.7 – Summary of Employment - Office Trip Rates

Traffic Generation (3 Employees)			
	ARRIVALS	DEPARTURES	TOTAL
AM Peak Hour (08:00-09:00)	1	0	1
PM Peak Hour (17:00-18:00)	0	1	1
Daily Traffic	4	4	8

Table 4.8 – Summary Employment - Office Traffic Generation

- 4.1.26 From the traffic generation data it is demonstrated that the existing permitted Employment - Office use on site would have the potential to generate in the region of 1 vehicle movements in the AM peak, 1 vehicle movements in the PM peak and in the region of 8 total daily movements.
- 4.1.27 The total combined traffic generation of the existing permitted uses on site should be considered against the site potential traffic generating characteristics as a residential development and this NET change will determine the likely impact of the site on the overall local highway network.



The total combined traffic generation of the existing permitted uses is summarised on Table 4.9 below:

Traffic Generation (Combined Permitted Uses)			
	ARRIVALS	DEPARTURES	TOTAL
AM Peak Hour (08:00-09:00)	9	7	16
PM Peak Hour (17:00-18:00)	3	5	8
Daily Traffic	77	76	153

Table 4.9 – Summary Combined Permitted Uses

- 4.1.28 While a significant part of the application site comprises horticultural nursery land, there were no offices / staff directly associated with the site as it was ancillary to the larger horticultural nursery to the north of Toddington Lane, therefore no direct 'employee' trips are associated with this part of the site.
- 4.1.29 However, it should be noted that there would have been a number of movement associated with the movement of plants and materials onto and off the site. While these movements are not accounted for in these considerations of existing site traffic, the overall NET traffic impact need to bear in mind the traffic generating potential of the horticultural land. It is considered that the following NET traffic impact is therefore a robust assessment.

Net Change in Traffic

- 4.1.30 The trip rates derived from the TRICS database have been applied to both the proposed and existing permitted development on the site with Table 4.10 below comparing the current permitted and proposed traffic generation and the overall net impact.



Net Change in Traffic			
	AM Peak	PM Peak	DAILY TOTAL
Existing Permitted Uses	16	8	153
Proposed Residential Use	30	38	335
Net Change	+ 14	+ 30	+ 182

Table 4.5 – Summary of Net Traffic Generation

- 4.1.31 From the traffic generation data it is demonstrated that the proposed residential development is likely to generate in the region of 14 additional vehicle movements in the AM peak, 30 additional vehicle movements in the PM peak and in the region of 182 additional daily movements on the immediate highway network.
- 4.1.32 These traffic movements are considered to be modest in relation to the AM and PM peak flows on Toddington Lane and Mill Lane as recorded in the North Littlehampton Transport Assessment (these are shown on Table 6.1 and 6.2 and Figure 5.5 and 5.7 of the North Littlehampton Transport Assessment).
- 4.1.33 Under the current highway layout the anticipated traffic generation of the site would be split between a proportion of the traffic travelling east towards the A259 via Toddington Lane and a proportion of the site traffic travelling west towards the A284 via Mill Lane.
- 4.1.34 It is considered that the additional traffic would not have a material impact on the operational capacity or safety of the local highway network in the vicinity of the site and the additional traffic moving through local junctions is below the threshold at which detailed junction assessments would be necessary.
- 4.1.35 In support of this, it should also be noted that in the future development scenario whereby the consented North Littlehampton development is constructed, these proposals include the closure of the Toddington Lane level crossing to vehicular traffic, improvements to the Mill Lane junction with the Lyminster Road and direct access links to the Fitzalan Link Road / Lyminster Bypass.
- 4.1.36 The proposals would result in a maximum of one additional movement at this junction, approximately every two minutes in the PM peak. These additional movements should be considered both in terms of the West Sussex County Council Transport Assessment Methodology and the forthcoming improvements to the Mill Lane junction in the form of signalisation of the junction, which retain adequate capacity through the junction.



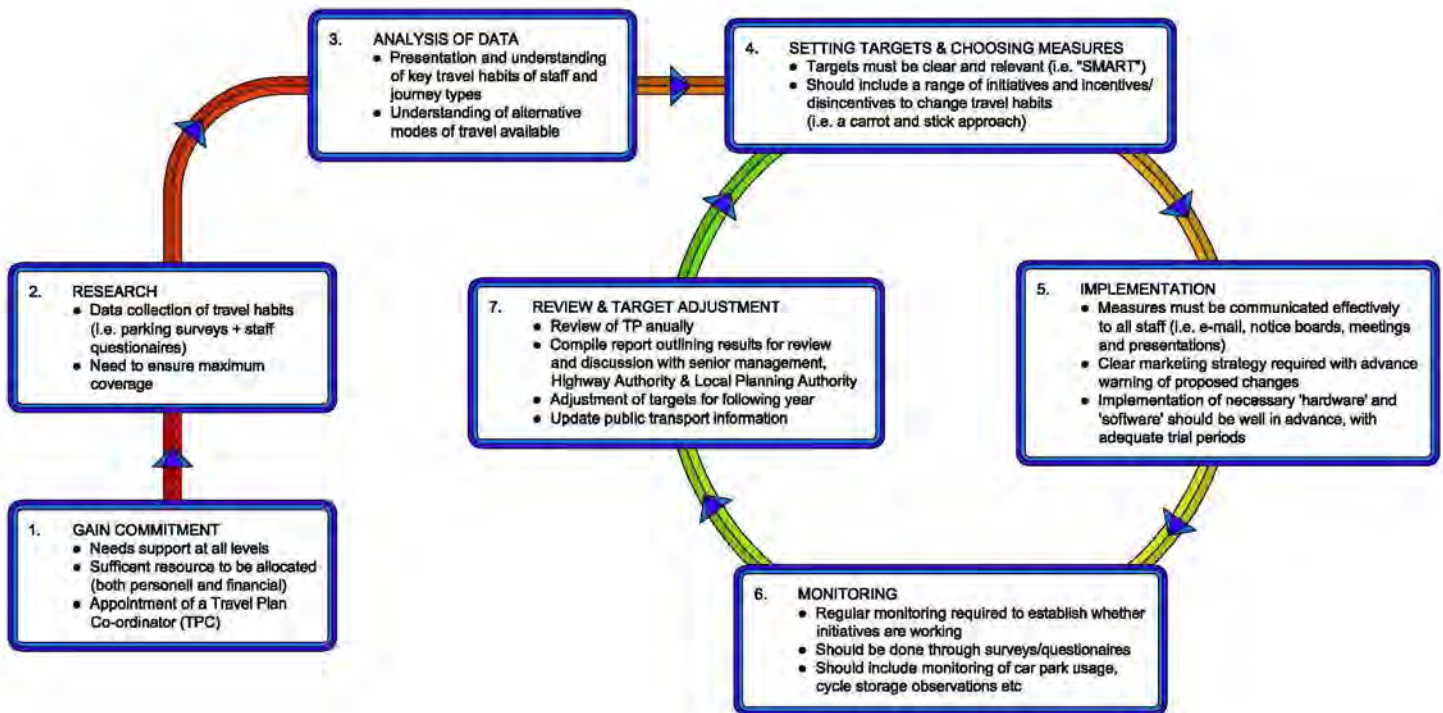
- 4.1.37 The West Sussex County Council Transport Assessment Methodology states that for the purposes of requiring detailed junction capacity assessment that generally the study area will include all junctions where there is a predicted increase in total entry flows of 30 or more vehicles in any hour - or if the junction already experiences peak period congestion an increase of 10 or more vehicles - as a result of the development proposals.
- 4.1.38 These major improvements would not be impacted by the development traffic associated with the application site and the local highway network would continue to operate with no material detriment as a result of the proposals. It is therefore not necessary to undertake any further detailed junction analysis.
- 4.1.39 While it is clear that the site in isolation would not have a material impact on the operation of the local highway network it is also important to note that the Transport Assessment supporting the North Littlehampton site is based on a total quantum of residential development of the Master Plan of 1460 units which the consented scheme is for up to 1260 units. The total quantum of residential development assessed in the Transport Assessment would have included to the total Master Plan scheme, which would include the application site. Therefore it is considered that any further detailed assessment may constitute double counting in respect to the application site.
- 4.1.40 It is also important to note that the traffic generation characteristics of the application site would be positively influenced by the construction and implementation of the measures secured through the North Littlehampton proposals.
- 4.1.41 The implementation of significant improvement to pedestrian, cycle and public transport provision locally together with the development of trip attracting land uses to the immediate north of the site (local retail, leisure, education and employment) would encourage a significant shift toward sustainable travel modes.
- 4.1.42 The potential for the site to exhibit a significant proportion of journeys undertaken by sustainable modes of transport will be investigated through the development of a Framework Travel Plan.

4.2 Framework Travel Plan

- 4.2.1 A framework Travel Plan document has been developed in line with this Transport Planning Statement and will be detailed and agreed through subsequent Conditions. The Framework Travel Plan has been developed in line with current DfT and WSCC Guidance on Travel Plans.



- 4.2.2 The Travel Plan aims to reduce the dependence upon the private car for occupiers of the proposed development. This therefore includes a number of initiatives and infrastructure measures, which would increase the attractiveness of alternative modes of transport to the private car.
- 4.2.3 The Travel Plan represents a package of measures tailored to the needs of an individual site and aimed at promoting greener, cleaner travel choices by reducing reliance on the use of the private car. The development of such measures can enable individuals to reduce the impact of travel and transport on the environment whilst also bringing a range of benefits to the individual, by way of financial savings, and benefits to the local community.
- 4.2.4 Travel Plans are introduced predominantly for journeys to or from work, and in respect to residential developments, plans target individuals at the commencement of their journeys. In some instances it is not practical for all to alter their mode of travel to a more sustainable mode, however, by providing a range of alternatives through bespoke initiatives, there are opportunities for individuals to contribute to improving the local environment and their own personal health and well being.
- 4.2.5 There are a number of benefits of travel plans, which for this site include:
- (i) Improve access to essential services and jobs;
 - (ii) assist in providing less stressful options for travel;
 - (iii) provide opportunities to build healthy exercise into daily life;
 - (iv) reduce journey-times to local destinations;
 - (v) reduce the cost of travel to work;
 - (vi) make local streets less dangerous, less noisy and less polluted;
 - (vii) enhance public transport;
 - (viii) help create a place which is better to live in, work in and visit and which attracts investment.
- 4.2.6 A Travel Plan is never complete but is an evolving document and process which needs continuous input and monitoring from those that maintain it, as well as the commitment from all users of the site. Figure 1.1 illustrates the basic “life cycle” of a Travel Plan from its inception, implementation and monitoring.
- 4.2.7 As illustrated by the below diagram, there are 7 principal stages required to effectively implement a Travel Plan during its initial introductory period. Following the initial introductory period, the Travel Plan would be continually optimised to improve matters.



4.2.8 The most important and cost effective measure to be introduced as part of this Travel Plan is the provision of a travel information board/ travel information packs which would be made available to all occupiers of the site.

4.2.9 The information would be prepared immediately prior to initial occupation of the site and would be updated on an annual basis as part of the annual review process. This would be undertaken by the Travel Plan Coordinator (TPC), who will be detailed once the site is occupied. The annual review process would also be undertaken in conjunction with WSCC's Travel Plan Officer.

4.2.10 This TA details the accessibility credentials of the site and these will be addressed further and built upon in respect of resident travel through the Travel Plan.

4.2.11 It is anticipated that over the course of five years the Travel Plan could reduce the level of vehicular traffic associated with the development site, based on the TRICS assessments by 10%, which is in line with WSCC's draft Travel Plan Guidance for rural areas.



- 4.2.12 As identified within the DfT and WSCC guidance, targets are important since they give the Travel Plan direction from its inception and should provide a measurable goal. It is considered that many Travel Plans are complicated by introduction of a raft of targets which are not linked to one another and can result in no clear direction for the plan. This makes the target difficult to measure in a transparent and accurate way.
- 4.2.13 When setting the site specific targets it is important that they are “SMART” in order to measure the outcomes of what the Travel Plan has or will achieve.

Specific
Measurable
Achievable
Realistic
Time-bound

- 4.2.14 Since the aim is to reduce reliance upon the private car, it seems most appropriate to set a target which is clear and concise and relates well to the overall aim of the Travel Plan.
- 4.2.15 General guidance for travel planning states that targets should be ‘demanding but achievable’ the aim of these targets will be:
- (i) Relate to the development, and be site specific with reference to the Transport Assessment;
 - (ii) Are easy to monitor, through annual surveys and trip counters;
 - (iii) Cover a small range of relevant issues.
- 4.2.16 Specific short-term targets will be put forward by the Travel Plan Coordinator and agreed with Officers at WSCC throughout the period of the plan. Targets will be established to ensure that they are appropriate in the context of local objectives, yet realistic and achievable.
- 4.2.17 These initial targets will be set against the baseline data obtained from year 1 surveys which will be undertaken subsequent to occupation of the site.
- 4.2.18 The specific targets shall be co-ordinated in the context of the site’s operations and agreed with Officers at WSCC following occupation and formal adoption of the plan.



5 PARKING PROVISION

5.1 Car Parking

- 5.1.1 A review of the National Statistics based on Census 2011 data suggests the level of car ownership within the Wick with Toddington Ward is moderate, reflecting the location of the ward in relation to Littlehampton Town Centre and its amenities and services and accessibility in relation to larger centres.
- 5.1.2 The Census data attached at **Appendix H** states approximately 17.2% of households do not own a car or van, 46.7% of households own one car or van with 36% households owning two or more vehicles.
- 5.1.3 The 2011 Census data for local car ownership equates to an average car ownership in the region of 1.3 vehicles per dwelling throughout the Ward.
- 5.1.4 The proposed layout provides a total of 66 dwellings comprising detached, semi-detached and terraced housing split between affordable dwellings and open market dwellings (5No. two-bed, 55No. three-bed and 6No. four-bed dwellings) with a total of 117 allocated residential car parking spaces within the development inclusive of private garages / car barns and allocated parking spaces together with a total of 24 unallocated and visitor parking spaces providing a total on site of 141 spaces.
- 5.1.5 Car parking is based upon 2 allocated spaces per private unit, 2 allocated spaces for 5 of the 3bed affordable units, and 1 allocated space for each of the remaining 15 affordable units. Visitors and unallocated residents spaces are then in accordance with the WSCC calculator
- 5.1.6 This relates to a rate of approximately 2 spaces per dwelling, which would reflect both the local levels of car ownership and the Parking Demand Calculator outputs in the form of allocated and unallocated parking spaces and accommodate the recommended level of visitor parking demand to ensure no parking overflows onto the adjacent highway and aims to provide an uncluttered environment to the development.
- 5.1.7 When providing parking for any new development it is important to consider local policy and parking standards that should be adopted. The relevant parking standards to be applied in this instance are set out in the West Sussex County Council Parking Standards which have been revised in respect to residential parking provision applying an evidence based approach through a parking demand calculator.



- 5.1.8 The parking demand calculator defines the anticipated total parking demand for residential development based on evidence of recent development within the locality. The parking demand tool suggests the proposed development would require approximately 140 car parking spaces for both residents and visitors of the development comprising a total of 117 designated and 10 unallocated resident spaces together with 13 visitor spaces). The outputs of the parking demand calculator are reproduced at **Appendix I**
- 5.1.9 It is considered that the proposals address the parking demand for the site as determined by the proposed uses in reflection of the West Sussex parking demand calculator and historic local car ownership data. The site will provide adequate allocated parking for all dwellings including potential for visitors.
- 5.1.10 As previously noted in this report, the future development scenario in the immediate vicinity of the site (being contained within the North Littlehampton Master Plan), with the associated local services and amenities and sustainable travel improvements, the site would be likely to exhibit lower levels of car dependency and the overall parking demand would reflect these changes.

5.2 Cycle Parking

- 5.2.1 Cycle parking will be provided at a minimum rate of 2 spaces per dwelling which accords with the West Sussex County Council Cycle Parking Standards which requires cycle parking at a rate of 2 secure and covered spaces per 2 or more bed dwelling.
- 5.2.2 Each unit will benefit from dedicated shed / cycle store in the rear garden or through garages. Where garages are provided the garage dimensions are sufficient to allow the safe storage of additional cycles.
- 5.2.3 The site cycle parking is complemented by the high levels of cycle parking available at local destinations which are accessible via the local network of quiet residential streets and cycle routes.



6 SUMMARY AND CONCLUSIONS

- 6.1.1 RGP has investigated the transport planning considerations relating to the proposed residential development of land at Toddington Lane, Littlehampton to provide a total of 66 residential dwellings, parking and associated access works.
- 6.1.2 The development proposals are considered through this Transport Planning Statement on their own merits and also, importantly, in light of the recently consented North Littlehampton Strategic Development and associated strategic highway improvements.
- 6.1.3 It is important to note that the application site is contained within the wider North Littlehampton strategic development Master Plan. The consented North Littlehampton scheme and the sites inclusion within the Master Plan are material considerations in the acceptability of these proposals.
- 6.1.4 The proposals are assessed in relation to the sites accessibility in sustainable travel terms as well as the sites potential net highway impact on the existing highway network in addition to the future accessibility credentials and likely highway impact being taken into consideration.
- 6.1.5 The site layout and access proposals are detailed and set in context of the current design guidance as contained within Manual for Streets and the site access and layout have been the subject of appropriate Road Safety Audits to consider the safety of all road users.
- 6.1.6 The proposed development is also consider in respect to the sites likely overall parking demand to ensure the site is able to safely accommodate the anticipated number of resident and visitor vehicles.
- 6.1.7 The conclusions of this report are as follows:
- (i) The site is accessible to a wide range of local education, healthcare, employment, retail and leisure opportunities, including a range of facilities within Littlehampton, within walking and cycling distance in its current form and the extent of sustainable travel facilities will be significantly improved locally in light of the North Littlehampton strategic development, to the benefit of the site;
 - (ii) The proposals are supported by a Framework Travel Plan to promote and facilitate the uptake of sustainable travel patterns now and in the future.



- (iii) Local public transport provision is good with bus stops within walking distance serving a range of destinations locally and further afield with a wide range of facilities and amenities including Rail Stations.
 - (iv) The site layout is designed to maintain low traffic speeds and provides for good levels of pedestrian access through the site demonstrating safe and convenient access can be provided via Toddington Lane.
 - (v) The site access proposals are supported by a Stage 1 Road Safety Audit and Designers Response to address all issues raised through the Audit.
 - (vi) The development would not generate a significant increase in traffic on the local highway network and would not result in a material impact in the operation of local junctions or severe residual impacts either now or in the future;
 - (vii) The proposals provide sufficient car parking to cater for all anticipated vehicles on site in accordance with current guidance;
- 6.1.8 In light of this report, West Sussex County Council Highways Officers are respectfully asked to confirm that the proposals are acceptable from a highway and transportation point of view and no objections are raised.



PLANS

The map displays the following locations and features:

- Industrial Estates (Red):** Lineside Industrial Estate, Arunside Industrial Estate, Riverside Industrial Estate.
- Schools (Blue):** Flora McDonald Junior School, Cornfield School, Summerlea Primary School, Rustington Primary School, The Littlehampton Academy, Elm Grove Infant School, Arlin Vale Infant School.
- Parks and Recreation (Green):** Worthing Road Recreation Ground, Playing Fields.
- Commercial/Healthcare (Orange/Purple):** Convenience Store, Dental Surgery, Medical Centre, Retail, Town Centre Retail.
- Other Landmarks:** Littlehampton Station, Littlehampton Sports Field, Business Parks, Nurseries, Depots, and various residential streets.

Geographical features include the River Arun, Littlehampton Marina, and the A259/A26/A27 road network. The map is sourced from Ordnance Survey, Crown Copyright 2012.

- 
- Transport Planning and Infrastructure Design Consultants**
- The Old Stables, Fry's Yard, Bridge Street,
Godalming, Surrey, GU7 1HP
- Tel: 01483 861681 Fax: 01483 861682
- www.rgp.co.uk

Project: Land at Toddington Lane

Title: **Accessibility Plan**

Plan No: Plan 01	Job No: 12/1625	Date: Jan 2013	Scale: NTS
Drawn By: PJB	Checked By: PJC	Approved By: PMR	Rev: -

PHASE 1

Open Market Dwellings
1no. 2-bed Flat @ 755sqft
1no. 2-bed Flat @ 805sqft
15no. 3-bed houses @ 835sqft
1no. 3-bed houses @ 894sqft
2no. 3-bed house @ 915sqft
1no. 3-bed house @ 950sqft
6no. 3-bed houses @ 970sqft
5no. 4-bed houses @ 1187sqft
32no. dwellings - total 29,518sqft
Car Parking:
2 allocated spaces per dwelling x32plots =64

66no. Dwellings total
Overall Site Area 1.67Ha
Density 39.5dw/Ha
Allocated Car Spaces: 117no.
Visitors / Unallocated Car Parking: 24no.

H	22.04.13	Vis Splays & site access amended to comments	KE	AK
G	04.04.13	Amended to sketches agreed with Planners	KE	AK
F	20.03.13	Revised housing mix. Plots N 25 - 46 renumbered	CL	KE
E	05.02.13	Highways details added along Toddington Lane	KE	EY
D	25.01.13	Schedule, notes & phasing amended	KE	EY
C	16.01.13	Additional visitors spaces added within Phase 3	KE	EY
B	15.01.13	Affordable types revised, roads adjusted to tracking	KE	EY
A	11.12.12	Updated with revised house types	KE	EY

Rev	Date	Revision Details	Dr	Ch
-----	------	------------------	----	----

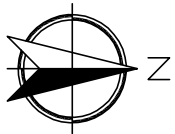


Job No	Drawing No	Rev
5691	01	H

CAD Plot date: 22/04/2013 - 16:15:25



DRAWINGS



VISIBILITY SPLAYS OF 2.4 METRES BY 60 METRES IN EITHER DIRECTION TO THE NEARSIDE KERBLINE.

VISIBILITY SPLAYS OF 2.4 METRES BY 74 METRES TO THE LEFT AND 2.4 METRES BY 69 METRES TO THE RIGHT TO A POINT 1 METRE FROM THE KERBLINE.

VISIBILITY SPLAYS OF 2.4 METRES BY 60 METRES IN EITHER DIRECTION TO THE NEARSIDE KERBLINE.

VISIBILITY SPLAYS OF 2.4 METRES BY 68 METRES TO THE LEFT AND 2.4 METRES BY 70 METRES TO THE RIGHT TO A POINT ONE METRE FROM THE KERBLINE.



Transport Planners and Infrastructure Design Consultants
The Old Stables, Fry's Yard, Bridge Street, Godalming, Surrey, GU7 1HP
Tel: 01483 861681 Fax: 01483 861682 www.russellgiles.com

Client
Wilmington Homes

Project
Toddington Lane, Littlehampton

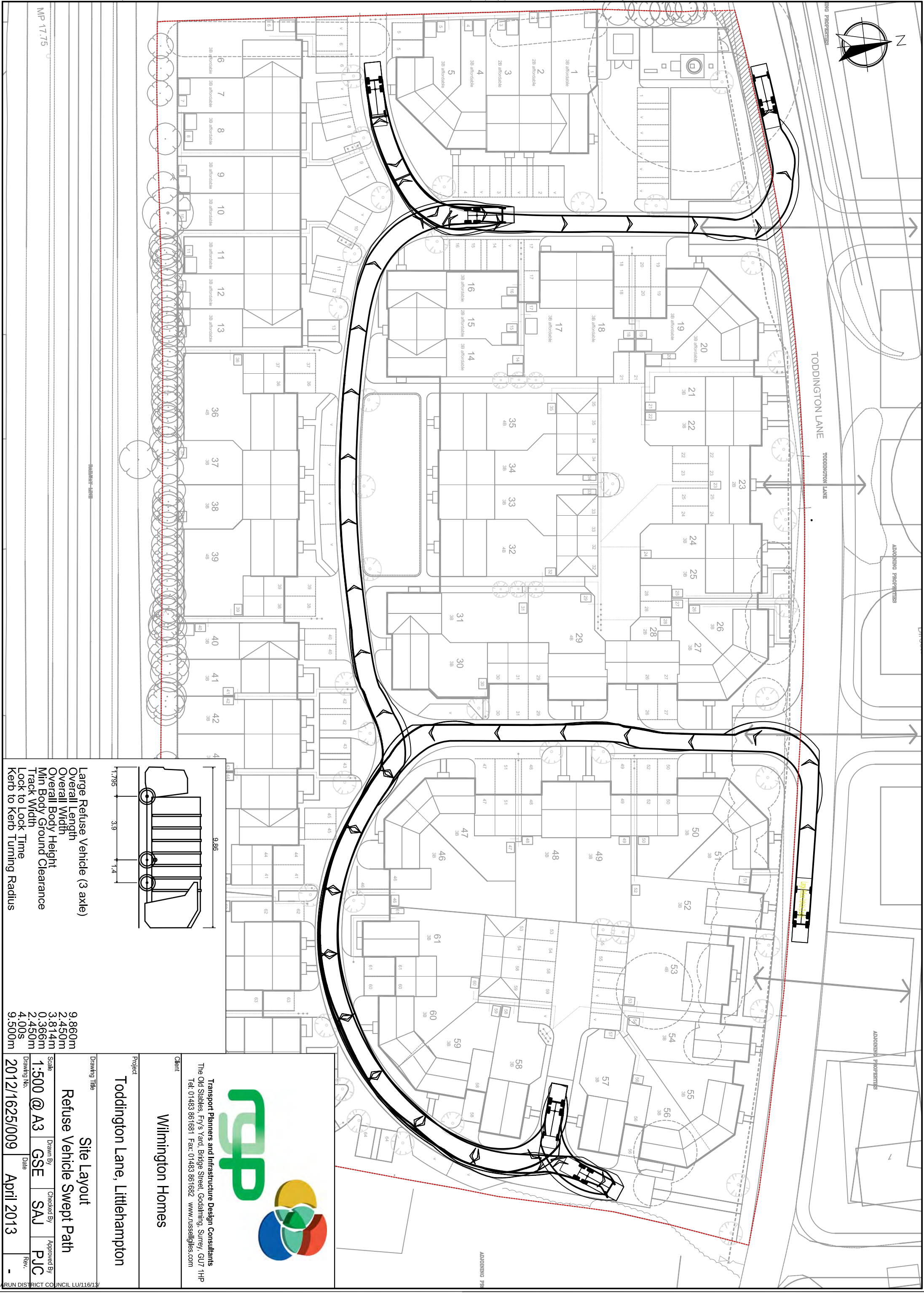
Drawing Title
Proposed Visibility Splays

Scale	1:1000	Drawn By	PJB	Checked By	PJC	Approved By	PMR
Drawing No.	2012/1625/010	Date	April 2013	Rev.	-		

This map is based on or reproduced from Ordnance Survey material with the permission of Ordnance Survey on behalf of the controller of Her Majesty's Stationary Office (c) Crown Copyright.
Licence Number: AL100037123

This drawing is based upon Ordnance Survey mapping - RGP accept no liability for any inaccuracies with the data.

All rights reserved. Licence number 100020449





APPENDIX A

NOTES

DO NOT SCALE FROM THIS DRAWING.
ALL CONTRACTORS MUST VISIT THE SITE AND BE RESPONSIBLE FOR TAKING AND CHECKING DIMENSIONS. ALL CONSTRUCTION INFORMATION SHOULD BE TAKEN FROM FIGURED DIMENSIONS ONLY.
ANY DISCREPANCIES BETWEEN DRAWINGS, SPECIFICATIONS AND SITE CONDITIONS MUST BE BROUGHT TO THE ATTENTION OF THE SUPERVISING OFFICER.
THIS DRAWING & AND THE WORKS DEPICTED ARE THE COPYRIGHT OF JOHN THOMPSON & PARTNERS.

THIS DRAWING IS FOR PLANNING PURPOSES ONLY. IT IS NOT INTENDED TO BE USED FOR CONSTRUCTION PURPOSES. WHILST ALL REASONABLE EFFORTS ARE USED TO ENSURE DRAWINGS ARE ACCURATE, JOHN THOMPSON & PARTNERS ACCEPT NO RESPONSIBILITY OR LIABILITY FOR ANY RELIANCE PLACED ON, OR USE MADE OF, THIS PLAN BY ANYONE FOR PURPOSES OTHER THAN THOSE STATED ABOVE.



REVISIONS

Date	Rev	Description
16/02/2011	-	Planning Application Submission

Client

Greencore
UK Holdings Plc



23-25 Great Sutton Street, London, EC1V 0DN T: +44 (0)20 7017 1780 F: +44 (0)20 7017 1781 W: www.jtp.co.uk

Project

North Littlehampton

JOHN THOMPSON & PARTNERS

Job Ref.	Drawn	Checked By
GR.L	AF/ABL	EH
Scale @A1	Date	
NTS	16/02/2011	
Drawing No.	Revision	
GR.L_001	-	

Combined Masterplan



APPENDIX B

Vehicle Speed Survey



Time: 11.45am - 2.30pm
 Day: Thursday
 Location: Toddington Lane, Littlehampton
 85th Percentile: 38.75 mph
 62.37 kph
 Average Speed: 33.45 mph
 53.83 kph
 Design Speed: 36.27 mph
 58.37 kph

Job No.: 9207
 Date: 21/02/2013
 Direction: **Eastbound (looking west)**
 Weather: Sunny, some cloud and dry

No of Readings, n= 200
 Standard Deviation: 5.30

Speed (mph)	No. of Readings	Sum of Speeds	Sum of v ²
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	0	0
20	0	0	0
21	0	0	0
22	0	0	0
23	0	0	0
24	4	96	2304
25	5	125	3125
26	9	234	6084
27	8	216	5832
28	8	224	6272
29	8	232	6728
30	14	420	12600
31	15	465	14415
32	23	736	23552
33	17	561	18513
34	19	646	21964
35	10	350	12250
36	10	360	12960
37	13	481	17797
38	9	342	12996
39	6	234	9126
40	4	160	6400
41	4	164	6724
42	1	42	1764
43	2	86	3698
44	1	44	1936
45	5	225	10125
46	0	0	0
47	1	47	2209
48	0	0	0
49	2	98	4802
Sub Total		6588	224176

Speed (mph)	No. of Readings	Sum of Speeds	Sum of v ²
50	0	0	0
51	2	102	5202
52	0	0	0
53	0	0	0
54	0	0	0
55	0	0	0
56	0	0	0
57	0	0	0
58	0	0	0
59	0	0	0
60	0	0	0
61	0	0	0
62	0	0	0
63	0	0	0
64	0	0	0
65	0	0	0
66	0	0	0
67	0	0	0
68	0	0	0
69	0	0	0
70	0	0	0
71	0	0	0
72	0	0	0
73	0	0	0
74	0	0	0
75	0	0	0
76	0	0	0
77	0	0	0
78	0	0	0
79	0	0	0
80	0	0	0
81	0	0	0
82	0	0	0
83	0	0	0
84	0	0	0
85	0	0	0
86	0	0	0
87	0	0	0
88	0	0	0
89	0	0	0
Sub Total		102	5202

$$S v^2 = 6690$$

Mean Speed, m = 33.45

Standard Deviation, s = 5.30

Velocity, v = 38.75

$$(Sv)^2 = 229378$$

Note: Italics require no input of information.
 Taken from TA 22/81

Vehicle Speed Survey



Time: 11.45am - 2.30pm

Day: Thursday

Location: Toddington Lane, Littlehampton

85th Percentile: 39.32 mph

63.28 kph

Average Speed: 34.17 mph

54.98 kph

Design Speed: 36.84 mph

59.28 kph

Job No.: 9207

Date: 21/02/2013

Direction: **Westbound (looking east)**

Weather: Sunny, some cloud and dry

No of Readings, n= 200

Standard Deviation: 5.15

Speed (mph)	No. of Readings	Sum of Speeds	Sum of v ²
10	0	0	0
11	0	0	0
12	0	0	0
13	0	0	0
14	0	0	0
15	0	0	0
16	0	0	0
17	0	0	0
18	0	0	0
19	0	0	0
20	0	0	0
21	1	21	441
22	0	0	0
23	0	0	0
24	0	0	0
25	2	50	1250
26	4	104	2704
27	5	135	3645
28	6	168	4704
29	15	435	12615
30	16	480	14400
31	14	434	13454
32	20	640	20480
33	16	528	17424
34	20	680	23120
35	17	595	20825
36	7	252	9072
37	12	444	16428
38	7	266	10108
39	9	351	13689
40	10	400	16000
41	4	164	6724
42	4	168	7056
43	3	129	5547
44	2	88	3872
45	1	45	2025
46	1	46	2116
47	0	0	0
48	0	0	0
49	0	0	0
Sub Total		6623	227699

Speed (mph)	No. of Readings	Sum of Speeds	Sum of v ²
50	1	50	2500
51	0	0	0
52	1	52	2704
53	1	53	2809
54	0	0	0
55	1	55	3025
56	0	0	0
57	0	0	0
58	0	0	0
59	0	0	0
60	0	0	0
61	0	0	0
62	0	0	0
63	0	0	0
64	0	0	0
65	0	0	0
66	0	0	0
67	0	0	0
68	0	0	0
69	0	0	0
70	0	0	0
71	0	0	0
72	0	0	0
73	0	0	0
74	0	0	0
75	0	0	0
76	0	0	0
77	0	0	0
78	0	0	0
79	0	0	0
80	0	0	0
81	0	0	0
82	0	0	0
83	0	0	0
84	0	0	0
85	0	0	0
86	0	0	0
87	0	0	0
88	0	0	0
89	0	0	0
Sub Total		210	11038

$$S v^2 = 6833$$

Mean Speed, m = 34.165

Standard Deviation, s = 5.15

Velocity, v = 39.32

$$(Sv)^2 = 238737$$

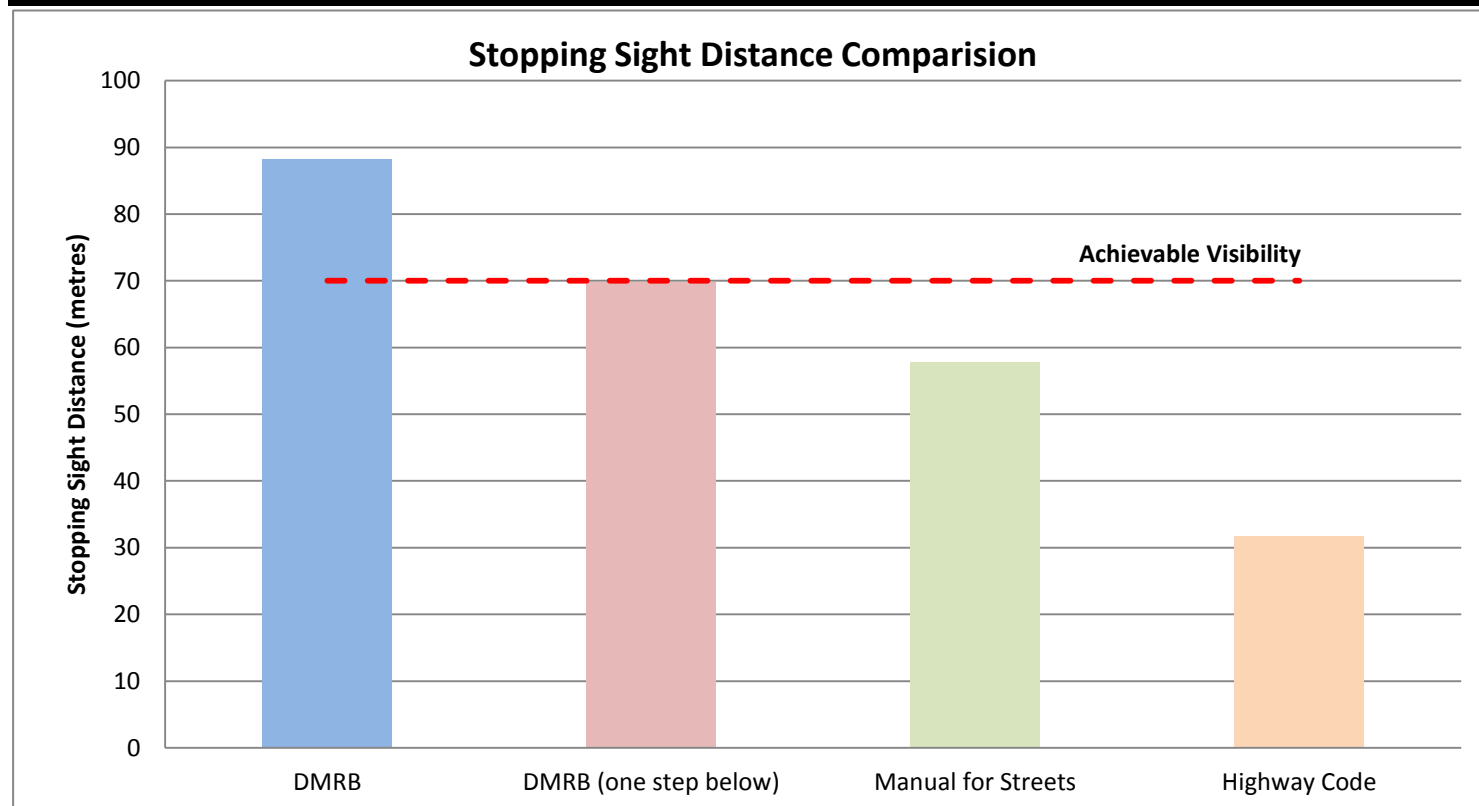
Note: Italics require no input of information.

Taken from TA 22/81



APPENDIX C

Stopping Sight Distance Calculation					
	85th % Wet Weather Speed*	DMRB	DMRB (one step below)	Manual for Streets**	Highway Code (Emergency Stop)
mph	36.84	88.3 metres	69.8 metres	57.8 metres	31.7 metres
kph	59.28	88.3 metres	69.8 metres	57.8 metres	31.7 metres
* Enter speed in either mph or kph and remember to apply -4kph/-2.5mph to dry speeds. ** Including 2.4m bonnet length adjustment.					





APPENDIX D

TODDINGTON LANE, LITTLEHAMPTON PROPOSED RESIDENTIAL DEVELOPMENT

Stage 1 Road Safety Audit

February 2013

RDW/LS/13/0643/RSA1

Revision Status	Prepared by: (Name)	Checked by: (Name)	Approved by: (Signature)	Date Approved:
Original	R Westhead	L Shaw		26 Feb 2013
Designer's Response	Paul Jackson-Cole	Chris Blamey		8 th April 2013
Authority's Response				
Audit Response				

Client:	
Russell Giles Partnership	The Safety Forum Ltd
The Old Stables Fry's Yard Bridge St Godalming Surrey GU7 1HP	PO Box 744 Godalming Surrey GU7 9DU
Date: 26 Feb 2013	

TABLE OF CONTENTS

1.0	INTRODUCTION.....	3
2.0	ITEMS CONSIDERED	5
3.0	MATTERS ARISING FROM THIS STAGE 1 AUDIT.	6
4.0	GENERAL OBSERVATIONS	9
5.0	AUDITOR STATEMENT	10

APPENDIX A Location Plan

APPENDIX B Designer's Response

1.0 INTRODUCTION

1.1 General

- 1.1.1 This report results from a Stage 1 Road Safety Audit (RSA) carried out on the proposed access arrangements and internal highway layout for the residential development site on Toddington Lane, Littlehampton.
- 1.1.2 The highway measures consist of the two new access junctions to the development site from Toddington Lane, with a new footway along the site frontage on Toddington Lane. The proposals also include the internal highway layout including carriageway, footway and shared use areas.
- 1.1.3 The Stage 1 RSA was carried out at the request of Russell Giles Partnership.
- 1.1.4 The Audit was carried out between 21st February and 22nd February 2013 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:
- Rob Westhead
- Laurie Shaw
- 1.1.5 The report has been prepared in accordance with the Design Manual for Roads and Bridges (DMRB) Highways Directive (HD) 19/03.
- 1.1.6 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
- 1.1.7 The Audit consisted of a desktop study and a site visit. The site visit was carried out on 22nd February 2013, between 11:30 and 12:15 hours. The weather was dry and overcast.
- 1.1.8 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.

-
- 1.1.9 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.
 - 1.1.10 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.

2.0 ITEMS CONSIDERED

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

Drawing No.	Rev	Title
569101	D	Masterplan
2012/1625/001	-	Refuse Vehicle Swept Path 1
2012/1625/002	-	Refuse Vehicle Swept Path 2
2012/1625/003	-	Refuse Vehicle Swept Path 3
-	-	Littlehampton – Toddington Lane Collision Report 01/01/2008 – 31/12/2012
-	-	Speed survey data

- 2.2 No departures from standards have been submitted to the Audit Team.
- 2.3 Collision data submitted to the Audit Team, for the 5 year period ending December 2012, indicates that no personal injury collisions were recorded around the proposed development site.

3.0 MATTERS ARISING FROM THIS STAGE 1 AUDIT.

3.1 PROBLEM

LOCATION: Proposed access junctions with Toddington Lane.

SUMMARY: Poor visibility from junctions due to alignment of Toddington Lane.

The Audit Team are concerned that visibility to the left from the eastern access junction, and to the right from the western access junction, could be obscured due to the alignment of Toddington Lane past the development. Currently visibility from the positions of both the accesses is obscured by the existing verge. The development Masterplan shows trees / landscaping along the development frontage which could obscure visibility from the proposed junctions to less than would be adequate. It is also unclear as to whether landscaping amendments would ensure adequate visibility is achieved.

RECOMMENDATION

Ensure that visibility from the access junctions is un-obscured to a distance suitable for the design speed of the highway environment. (See also 3.2).

3.2 PROBLEM

LOCATION: Proposed access junctions with Toddington Lane.

SUMMARY: High recorded 85th percentile speed on Toddington Lane.

Speed survey data submitted to the Audit Team showed 85th percentile speeds of 39.75mph (westbound) and 39.32mph (eastbound) on Toddington Lane. The visibility splay for the western access junction with Toddington Lane shows a visibility splay of 2.4 x 43m which is suitable for a design speed of up to 30mph only. A higher 85th percentile speed of traffic on Toddington Lane could therefore lead to conflict between vehicles existing the new access junctions and Toddington Lane traffic.

RECOMMENDATION

Ensure that visibility splays from the junctions are appropriate for the design speed of the highway environment.

3.3 PROBLEM

LOCATION: Proposed pumping station access.

SUMMARY: Possible poor visibility from access due to recorded speeds.

The Audit Team are concerned that visibility to the right from the access to the proposed pumping station could be less than would be required for the design speed in light of the supplied speed survey data showing 85th percentile speeds of 39.75mph and 39.32mph on Toddington Lane.

RECOMMENDATION

Ensure that visibility splays from the access to the pumping stations are appropriate for the design speed of the highway environment.

3.4 PROBLEM

LOCATION: Proposed access junctions with Toddington Lane.

SUMMARY: No pedestrian crossing points over access junctions.

It is noted that no pedestrian crossing points are proposed over the access junctions to the development site. This could therefore pose an obstacle to pedestrians on Toddington Lane.

RECOMMENDATION

Provide suitable pedestrian crossing facilities over the access junctions.

3.5 PROBLEM

LOCATION: Unit 14.

SUMMARY: Pedestrians and door awning at risk of being struck.

The Audit Team are concerned that the door / porch awning for unit 14 overhangs a section of the carriageway and could therefore be at risk of being struck by a passing vehicle. Also a pedestrian exiting this door would be doing so directly into the carriageway and at risk of conflict with a vehicle.

RECOMMENDATION

Install measures to prevent vehicles from passing directly in front of unit 14 to reduce risk of building features being struck and pedestrians from directly entering the path of traffic.

3.6 PROBLEM

LOCATION: 'Green' adjacent to units 31-35.

SUMMARY: Constricted space for large vehicles.

No swept path analysis drawings have been provided to show movements of large service vehicles through the shared use area to the south ('Green'). The Audit Team are concerned that refuse vehicles may be unable to safely manoeuvre through this area.

RECOMMENDATION

Ensure that the movement of all anticipated vehicles is assessed and accommodated.

4.0 GENERAL OBSERVATIONS

- 4.1 During the site visit it was noted that there is no footway network in the surrounding area for the proposed footways to link into. The Auditors suggest that this may pose a general obstacle for pedestrian movements to / from the site.
- 4.2 It is unclear from the supplied design drawings as to whether there will be any warning signs or road markings to indicate ramps within the development at changes of level / surface. All ramps within the development should be indicated with suitable markings / signs as appropriate.
- 4.3 It should be ensured that the canopies of all trees proposed within the development do not obscure visibility through corners, junctions or within visibility splays.
- 4.4 It should be ensured that the location of trees on footways within the development does not obstruct footways.

5.0 AUDITOR STATEMENT

5.1 I certify that this audit has been carried out in accordance with HD 19/03.

AUDIT TEAM LEADER

Rob Westhead
The Safety Forum Ltd
PO Box 744
Godalming
Surrey
GU7 9DU

AUDIT TEAM MEMBER

Laurie Shaw



Signed: Rob Westhead

Date: 26 February 2013

APPENDIX A: LOCATION PLAN



APPENDIX B: DESIGNERS RESPONSE

Auditors: Rob Westhead (Team Leader) and Laurie Shaw (Team Member). Date Audit Completed: 26 February 2013.

Scheme: Toddington Lane, Littlehampton. Proposed Residential Development Access Arrangements.

This response is to a Stage 1 Road Safety Audit to the design standard detailed within HD19/03 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	YES	YES	The existing site frontage takes the form of a hedge and relatively steep bank which currently act to obstruct visibility across the site frontage. The proposals would see the site frontage include a minimum 2m width footway and the bank re-graded to provide for a suitable slope to dwelling frontages. These measures would remove the current hedge and relatively steep bank thereby opening up the extent of visibility across the site frontage. Any subsequent hedge, planting or structures would be specified and maintained at a level so as not to obstruct visibility splays.
3.2	YES	YES	The speed data provided to the Audit Team comprised the results of a Radar Speed Gun Survey undertaken to TA 22/81 DMRB Volume 5 Section 1). Chapter 3.4 of TA 22/81 (Speeds (improvement of alignment and junctions)) states that for improvement of alignments and major/minor junctions or accesses, and for new major/minor junctions or accesses on

			existing roads, the normal design methods are based on the 85 percentile wet weather journey speed of vehicles. If different values are obtained the higher speed value should be used in the design process. To get from the dry weather spot speed of vehicles measured to the wet weather journey speed used in design one of the following correction factors should be used (for all purpose single carriageways, deduct 4kph. The speed survey was undertaken in sunny, dry weather and the data has had the relevant wet weather speed deduction applied resulting in design speed (i.e. 85th percentile wet weather speeds) of 36.27mph (58.37kph) eastbound and 36.84mph (59.28kph) westbound. Based on the greater of these speeds (36.84mph / 59.28kph) the visibility splays are calculated as requiring a 'Y' distance of 58m. Revised layout drawings and RGP's site access layout and visibility splay drawings (RGP DWG No. 2012/1625/00X) demonstrate visibility achievable to 60m to the kerb edge and to in excess of 65m to the nearside vehicle channel line. The revised layout provides for greater visibility than the originally Audited layout and provides visibility commensurate with speed data.
3.3	YES	YES	As detailed in Designers Response to item 3.2 (above) the visibility requirements relative to recorded speeds on Toddington Lane are 2.4m x 58m. The site access layout and visibility splays drawing (RGP DWG No. 2012/1625/00X) has been amended to show visibility splays achievable to the right from the pumping station access.

3.4	YES	YES	The site access layout and visibility splays drawing (RGP DWG No. 2012/1625/00X) has been amended to illustrate suitable dropped kerb / tactile paving at the access junctions. Exact details and specifications will be agreed at Detailed Design Stage
3.5	YES	YES	The originally audited layout included a dwelling door / awning which opened directly onto a length of access road serving parking spaces. The sites internal layout has subsequently be revised and this issue has been removed.
3.6	YES	YES	The originally audited layout included a 'green' which could be circulated by vehicles and may have been constrained to large service vehicles. The sites internal layout has subsequently been revised and this issue has been removed.

Principal Engineer's Statement:

Road Safety Audit for Toddington Lane, Littlehampton. Proposed Residential Development Access Arrangements.

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.



(Paul Jackson-Cole)

..... Date.....8th April 2013.....

Principal Engineer

Chief Engineer's Decision:

I accept these proposals by the Principal Engineer.

..... Date.....

Chief Engineer



APPENDIX E

Littlehampton – Toddington Lane (RGP)

Collision report 01/01/2008 to 31/12/2012

15 February 2013

Sussex Safer Roads
P A R T N E R S H I P

Safer Roads
Safer Communities
Sharing the Responsibility

Produced by Sussex Safer Roads Partnership on behalf of Sussex Police

Data regarding personal injury collisions is recorded by Sussex Police in accordance with the DfT Stats 19 requirements. The data is subsequently used by Sussex Safer Roads Partnership for monitoring and planning. While every effort is made to ensure that this data is accurate, it is subject to change should further information become available.

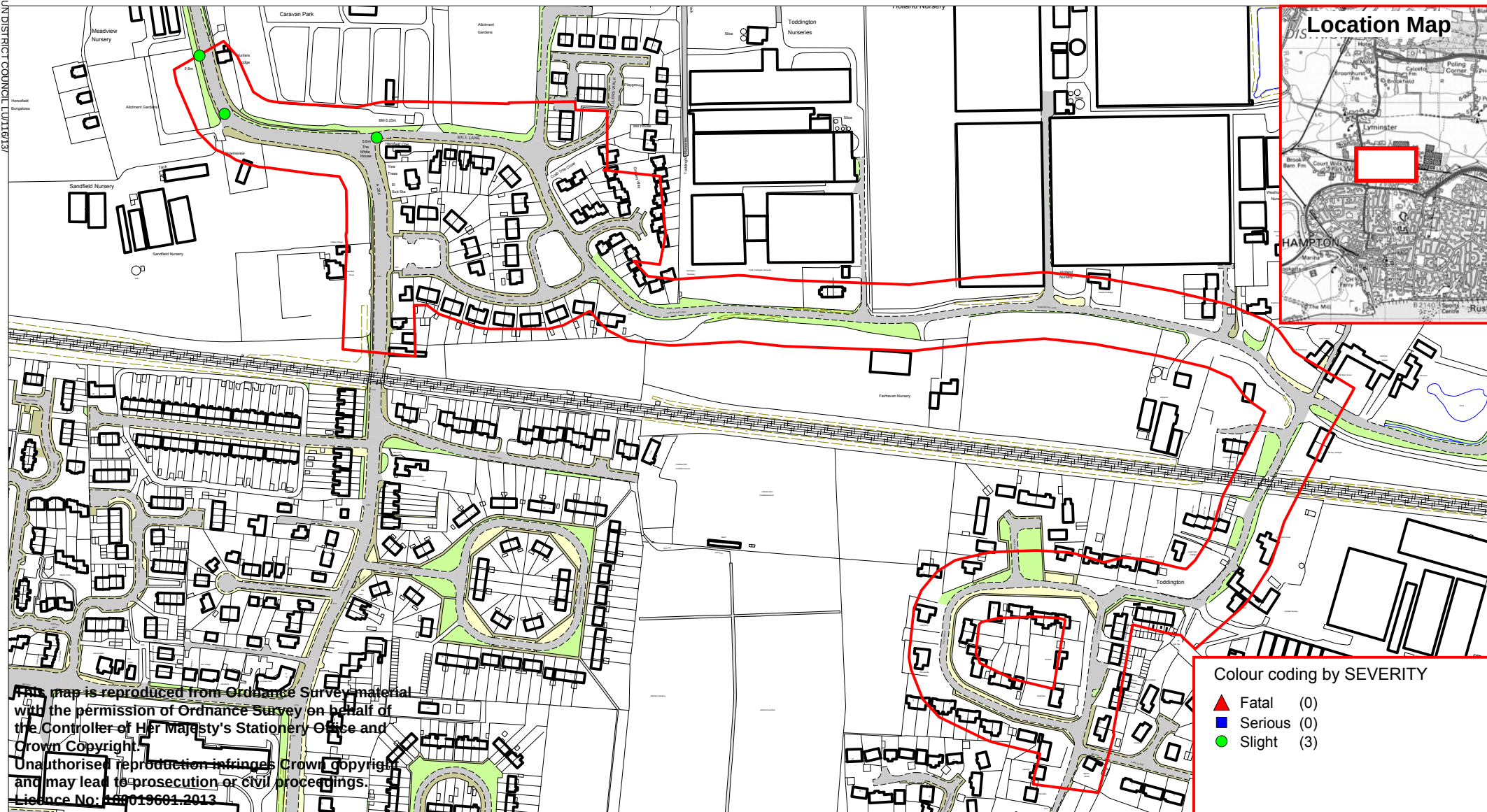
This data may not be fully validated and while every effort is made to ensure its accuracy any statistics provided may not match those published elsewhere.

Sussex Safer Roads Partnership does not hold collision data either where there are no recorded casualties or the incident has not been reported to Sussex Police.

For further information:

web: www.sussexsaferroads.gov.uk

email: data@sussexsaferroads.gov.uk



Her Majesty's Office (c) Crown Copyright

Littlehampton - Toddington Lane Collision Data: 01/01/2008 - 31/12/2012

SCALE	1 : 4000
DATE	15/02/2013
DRAWING No.	
DRAWN BY	

Details of Personal Injury Accidents for Period - **01/01/2008** to **31/12/2012** (60) months

Selection:**Notes:**

Selected using Pre-defined Query :

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

0801664 Thursday A284 LYMINSTER ROAD 230M Veh 1 Car Stopping S to N Dri F 20 Slight
 28/02/2008 NORTH OF C0 MILL LANE Veh 2 Car Stopping S to N FSP F 77 Slight
A 284 1211hrs Veh 2 Car Stopping S to N Dri F 65 Slight
 Daylight:street lights present
E 502,616 Wet/Damp
N 104,116 Fine without high winds
 30 mph

VEH 1, BEHIND VEH 2, TRAVELLING NORTH ON THE A284. VEH 1 BRAKED DUE TO SLOWING TRAFFIC, VEHICLE STARTED TO STALL, DRIVER VEH 1 PUT VEH INTO 1ST GEAR WHERE IT JUMPED FORWARD COLLIDING WITH THE REAR OF VEH 2.

0801622 Wednesday A284 LYMINSTER ROAD 70M WEST Veh 1 Car Going ahead LH bend N to SE FSP F 34 Slight
 27/02/2008 OF MILL LANE Veh 1 Car Going ahead LH bend N to SE Dri M 35 Slight
A 284 0952hrs Veh 2 Car Going ahead RH bend SE to N Dri M 34 Slight
 Daylight: no street lighting
E 502,635 Dry
N 104,072 Fine without high winds
 30 mph

VEH 2 HEADING NORTH FOLLOWING ROAD ROUND A RIGHT HAND BEND. VEH 1 TRAVELLING SOUTH APPROACHED BEND AND FAILED TO TURN LEFT. VEH 1 TRAVELLED OVER THE SOLID CENTRE WHITE LINES INTO ON COMING LANE. VEH 1 CRASHED INTO VEH 2. 3 X MINOR INJURIES. DRIVER VEH 1

0805141 Saturday A284 LYMINSTER ROAD M OF C0 Veh 2 Car Turning right S to E Dri M 76 Slight
 05/07/2008 MILL LANE Veh 2 Car Turning right S to E FSP F 73 Slight
A 284 1455hrs Veh 1 Goods < 3.5t Turning right S to E
 Daylight:street lights present
E 502,750 Dry
N 104,054 Fine without high winds
 30 mph

VEHICLE TWO, TRAVELLING NORTH TO EAST, HAVING WAITED FOR ONCOMING TRAFFIC TO CLEAR NEGOTIATED A RIGHT HAND TURN FROM LYMINSTER ROAD INTO MILL LANE. VEHICLE TWO THEN STOPPED JUST IN MILL LANE TO ALLOW AN ONCOMING REFUGE LORRY TO PASS PARKED VEHICLES. VEHICLE TWO WAS THEN STRUCK FROM BEHIND BY VEHICLE ONE, WHO IS BELIEVED TO HAVE ALSO BEEN TRAVELLING NORTH TO EAST, TURNING INTO MILL LANE, BUT HAD FAILED TO SEE THAT VEHICLE TWO HAD STOPPED. DRIVER OF VEHICLE ONE GOT OUT AND APPROACHED DRIVER OF VEHICLE TWO, ASKING WHY HE HAD STOPPED, SAW THE DAMAGE, SAID TO MOVE VEHICLES TO AVOID CAUSING OBSTRUCTION, GOT BACK INTO HIS VEHICLE AND DROVE OFF EAST IN MILL LANE, FAILING TO STOP AND EXCHANGE DETAILS.



APPENDIX F

George Ellenger

From: Matthew.Bartle@westsussex.gov.uk
Sent: 08 March 2013 16:27
To: Paul Jackson-Cole
Cc: Tim.Townsend@westsussex.gov.uk
Subject: Toddington Lane - Littlehampton
Attachments: Highways Search Result - A284 Lyminster By-pass.pdf; Toddington Nurseries Highway Works Drawings.pdf; WYGLittlehampton Design Report 12-01-17 FINAL.pdf

Dear Paul

Thank you for your email of 7 February and previous correspondence relating to this issue.

As I understand it, you are trying to understand whether the proposal shown on plan 5691/01/D makes allowance for the new street order for Toddington Lane and whether the layout is clear of the land required for the delivery of the Lyminster Bypass. Please note that we do not have direct access to new street orders at the County Council and I have therefore taken it as read that the order exists. A new street order is defined in Annex 1 below.

First of all, it is very unlikely that the Lyminster Bypass would be built in accordance with the plan provided by Carol Rigler (attached) because this has now been superseded by the scheme promoted by the Toddington Nurseries developer under planning reference LU/47/11, which has received planning consent. I have attached overall plans for the scheme, together with a highway design report containing better copies of the plans (Appendix A). If you need the actual drawings I suggest you contact Paul Stocker at Mayer Brown's Woking office as I don't think we ever received drawings separately from the report. It does not look as if the Toddington Nurseries highway scheme would affect your client's land, although you may wish to consider how the western junction to your client's site relates to the proposed link into the Nurseries development.

Secondly, it appears from plan 5691/01/D that the proposed configuration of your client's development does not impinge on the area detailed in the new street order. I have not seen the original order and cannot confirm whether the details shown on the plan are accurate; however, they appear to have been carefully drawn in accordance with the likely standard provisions of a new street order. Annex 2 below shows how the new street order might apply. It does not look as if the specific order for Toddington Lane has been revoked and I am not aware of any County Council policy on new street orders.

I hope that this answers your concerns.

Kind regards

Matthew

Annex 1 - Legislation about new street orders

Section 188 of the Highways Act 1980 (previously section 159 of the Highways Act 1959) gave power to highway authorities to prescribe the centreline and width of a new street required as a result of future development and based on an existing highway of lesser standard. This section has now been repealed by the Planning and Compensation Act 1991. However that Act preserved in force any order made under section 159 or section 188. It also retained a highway authority's power under section 189 of the 1980 Act to revoke any such order.

(Leicestershire County Council 2006)

Annex 2 - Application of new street orders

Section 159 of the Highways Act 1959 states :-

If, where an Order under this section has effect, work for the erection of a new building is commenced on land adjoining the prescribed land, then on commencement of the works :-

- (a) The appropriate portion of the prescribed land shall become part of the highway.
- (b) The owner of that portion of the land shall remove any boundary fence or other obstruction situated on it and bring the level of it into conformity with that of the existing highway.

The new street order places the onus for widening a highway onto the owners of existing properties. In order to minimise disruption this requirement is only brought into force when additional building work is carried out on the property. In this way it was hoped that an improved highway layout would eventually be achieved on a piecemeal basis as properties were developed and boundaries set back.

(Wrexham County Borough Council 2006)

Matthew Bartle Senior Planner, Communities Commissioning, West Sussex County Council Location: Second Floor, Northleigh, County Hall, Chichester PO19 1RH Internal: 77113 External: +44 (0) 1243 777113 E-mail: matthew.bartle@westsussex.gov.uk

--

This e-mail and any attachments are confidential and intended solely for the persons addressed. If it has come to you in error please reply to advise us but you should not read it, copy it, show it to anyone else nor make any other use of its content. West Sussex County Council takes steps to ensure e-mails and attachments are virus-free but you should carry out your own checks before opening any attachment.



APPENDIX G

RGP Fry's Yard Godalming

Licence No: 728001

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : M - MIXED PRIVATE/NON-PRIVATE HOUSING
 VEHICLES

Selected regions and areas:

05	EAST MIDLANDS	
	LE LEICESTERSHIRE	1 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
09	NORTH	
	CB CUMBRIA	1 days
	DH DURHAM	1 days
11	SCOTLAND	
	FA FALKIRK	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:	16 to 138 (units:)
Range Selected by User:	14 to 1874 (units:)

Public Transport Provision:

Selection by:	Include all surveys
---------------	---------------------

Date Range:	01/01/04 to 27/09/12
-------------	----------------------

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	1 days
Wednesday	3 days
Thursday	1 days

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

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town	4
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	3
Village	1
No Sub Category	1

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

Filtering Stage 3 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®.

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
25,001 to 50,000	1 days

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

Population within 5 miles:

25,001 to 50,000	2 days
75,001 to 100,000	2 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	4 days
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	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.

RGP Fry's Yard Godalming

Licence No: 728001

LIST OF SITES relevant to selection parameters

- | | | | |
|---|--|----------------------------|---------------------|
| 1 | CB-03-M-03 | SEMI-DETACHED, WORKINGTON | CUMBRIA |
| | MOORCLOSE ROAD | | |
| | SALTERBECK | | |
| | WORKINGTON | | |
| | Edge of Town | | |
| | No Sub Category | | |
| | Total Number of dwellings: | 82 | |
| | Survey date: MONDAY | 20/06/05 | Survey Type: MANUAL |
| 2 | DH-03-M-02 | SEMI-DET./DETACHED, DURHAM | DURHAM |
| | PUDSEY WALK | | |
| | DARLINGTON | | |
| | Edge of Town | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 39 | |
| | Survey date: WEDNESDAY | 10/11/10 | Survey Type: MANUAL |
| 3 | FA-03-M-01 | SEMI D./TERRACED, FALKIRK | FALKIRK |
| | FAIRLIE STREET | | |
| | FALKIRK | | |
| | Edge of Town | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 138 | |
| | Survey date: WEDNESDAY | 29/06/05 | Survey Type: MANUAL |
| 4 | LC-03-M-03 | MIXED HOUSES, NR LANCASTER | LANCASHIRE |
| | HIGH ROAD | | |
| | HALTON | | |
| | NEAR LANCASTER | | |
| | Neighbourhood Centre (PPS6 Local Centre) | | |
| | Village | | |
| | Total Number of dwellings: | 81 | |
| | Survey date: WEDNESDAY | 14/06/06 | Survey Type: MANUAL |
| 5 | LE-03-M-01 | SEMI DETACHED, LEICESTER | LEICESTERSHIRE |
| | RYDER ROAD | | |
| | BRAUNSTONE FRITH | | |
| | LEICESTER | | |
| | Edge of Town | | |
| | Residential Zone | | |
| | Total Number of dwellings: | 16 | |
| | Survey date: THURSDAY | 27/09/12 | 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.

RGP Fry's Yard Godalming

Licence No: 728001

TRIP RATE for Land Use 03 - RESIDENTIAL/M - MIXED PRIVATE/NON-PRIVATE HOUSING
VEHICLES

Calculation factor: 1 DWELLS

Estimated TRIP rate value per 61 DWELLS shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	Trip Rate	Estimated Trip Rate	No. Days	Ave. DWELLS	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	5	71	0.070	4.284	5	71	0.228	13.879	5	71	0.298	18.163
08:00 - 09:00	5	71	0.140	8.567	5	71	0.317	19.362	5	71	0.457	27.929
09:00 - 10:00	5	71	0.154	9.424	5	71	0.225	13.708	5	71	0.379	23.132
10:00 - 11:00	5	71	0.185	11.309	5	71	0.183	11.138	5	71	0.368	22.447
11:00 - 12:00	5	71	0.169	10.281	5	71	0.171	10.452	5	71	0.340	20.733
12:00 - 13:00	5	71	0.138	8.396	5	71	0.222	13.537	5	71	0.360	21.933
13:00 - 14:00	5	71	0.185	11.309	5	71	0.160	9.767	5	71	0.345	21.076
14:00 - 15:00	5	71	0.213	13.022	5	71	0.213	13.022	5	71	0.426	26.044
15:00 - 16:00	5	71	0.284	17.306	5	71	0.191	11.652	5	71	0.475	28.958
16:00 - 17:00	5	71	0.348	21.247	5	71	0.208	12.680	5	71	0.556	33.927
17:00 - 18:00	5	71	0.374	22.789	5	71	0.202	12.337	5	71	0.576	35.126
18:00 - 19:00	5	71	0.250	15.250	5	71	0.236	14.393	5	71	0.486	29.643
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			2.510	153.184			2.556	155.927			5.066	309.111

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.

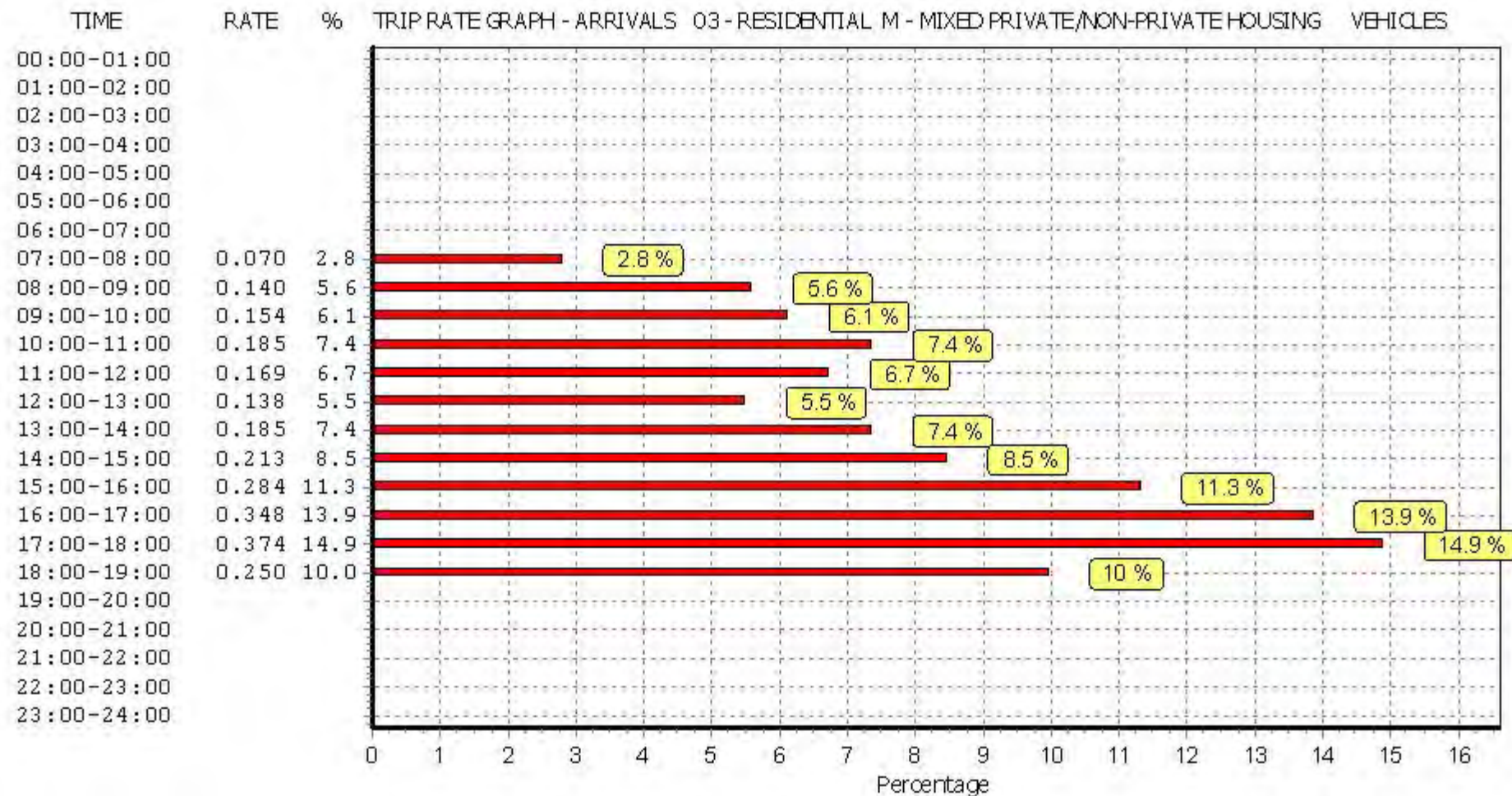
Parameter summary

Trip rate parameter range selected: 16 - 138 (units:)
 Survey date range: 01/01/04 - 27/09/12
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 8

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

RGP Fry's Yard Godalming

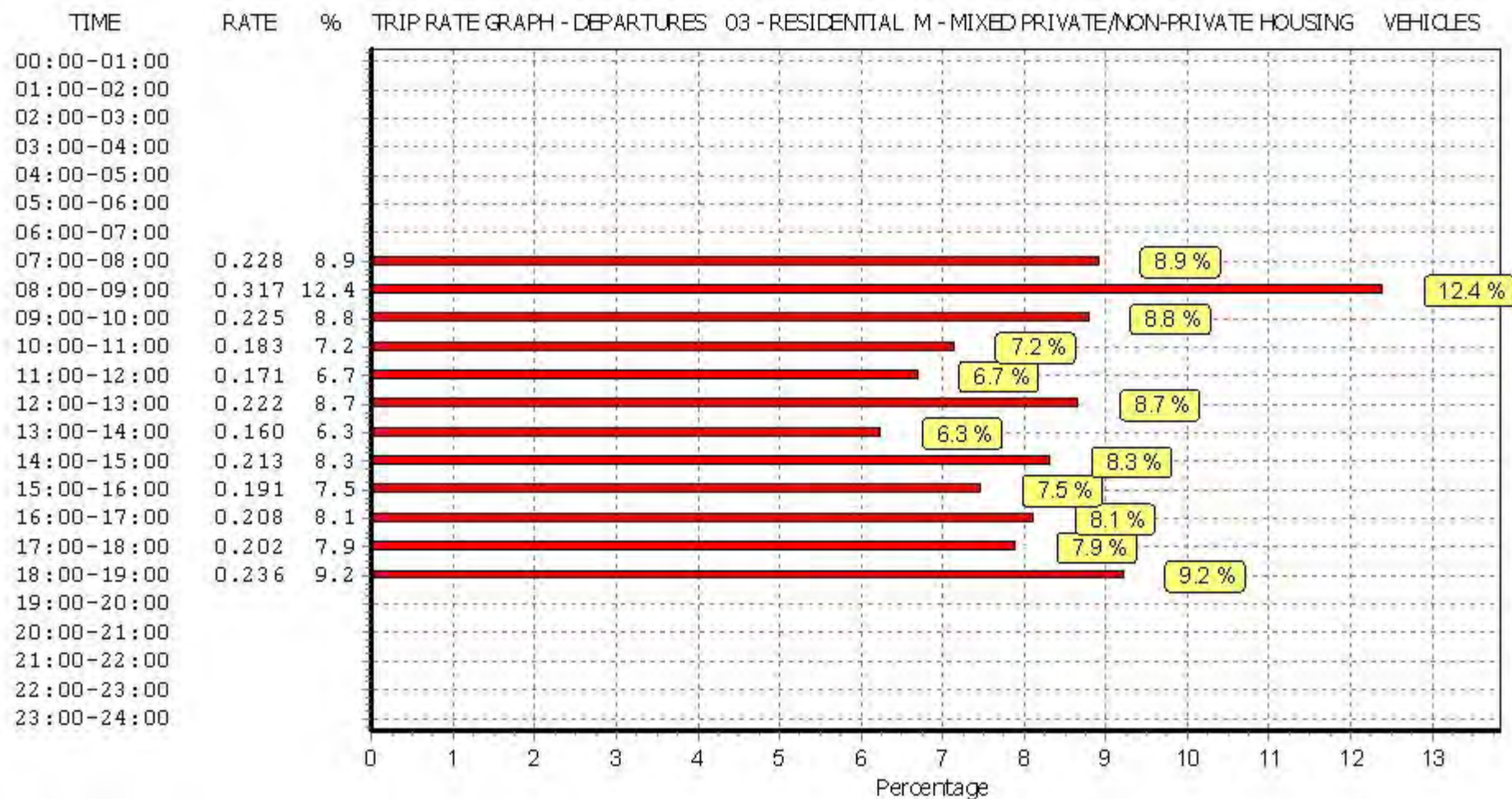
Licence No: 728001



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.

RGP Fry's Yard Godalming

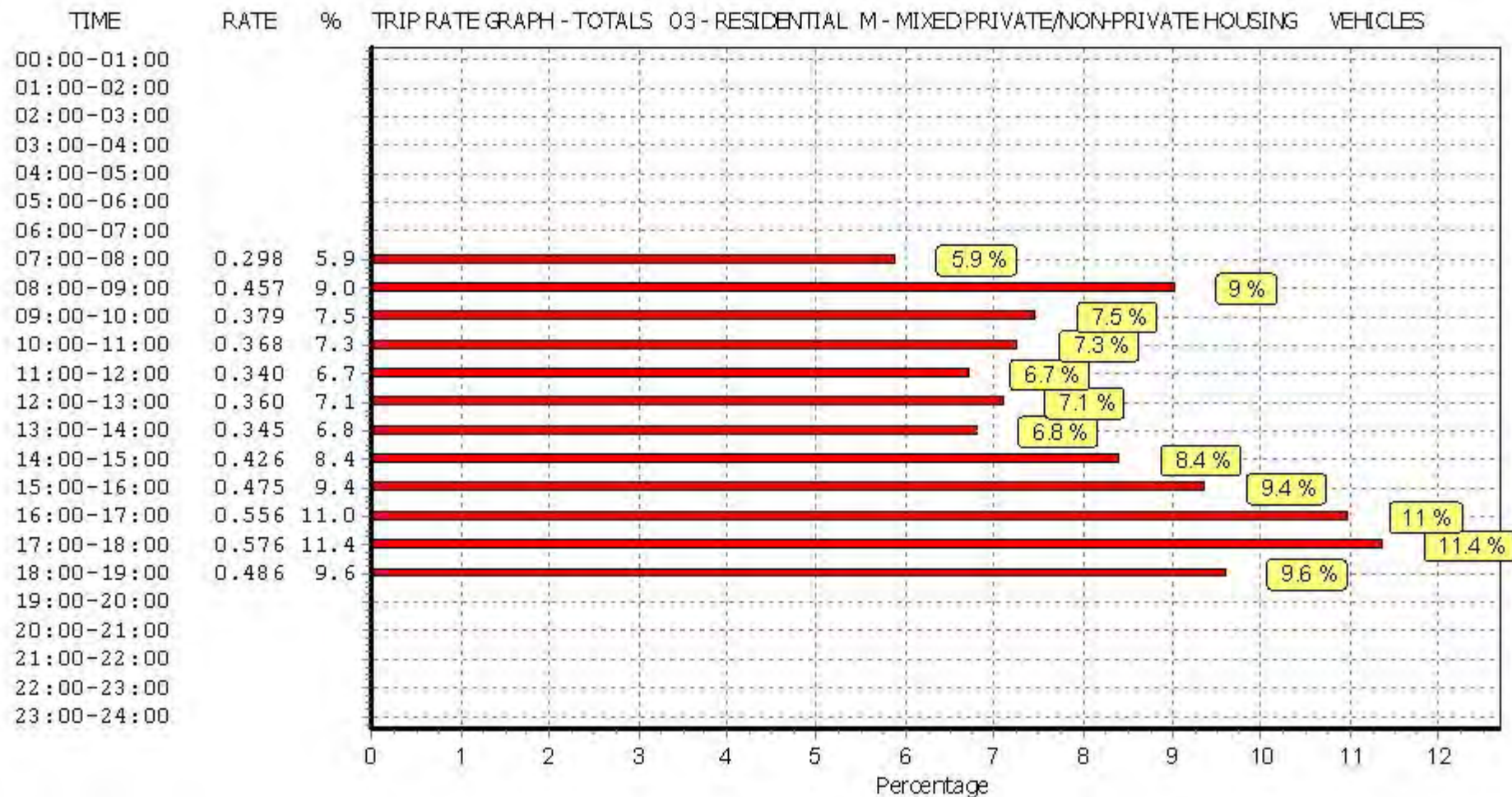
Licence No: 728001



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.

RGP Fry's Yard Godalming

Licence No: 728001



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.

RGP Fry's Yard Godalming

Licence No: 728001

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : L - BUILDER'S MERCHANTS
VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	KC KENT	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
	WO WORCESTERSHIRE	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 Employees
Actual Range:	11 to 45 (units:)
Range Selected by User:	9 to 140 (units:)

Public Transport Provision:

Selection by:	Include all surveys
---------------	---------------------

Date Range:	01/01/04 to 19/10/11
-------------	----------------------

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
Wednesday	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 undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
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:

Industrial Zone	2
Residential Zone	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.

Filtering Stage 3 selection:

Use Class:

A1	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®.

Population within 1 mile:

10,001 to 15,000	1 days
15,001 to 20,000	1 days
25,001 to 50,000	1 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	1 days
100,001 to 125,000	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	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.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	3 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

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.

RGP Fry's Yard Godalming

Licence No: 728001

LIST OF SITES relevant to selection parameters

1	KC-01-L-01	TRAVIS PERKINS, MARGATE	KENT
	ENTERPRISE WAY		
	WESTWOOD		
	MARGATE		
	Edge of Town		
	Industrial Zone		
	Total Number of Employees:	11	
	Survey date: MONDAY	07/12/09	Survey Type: MANUAL
2	WM-01-L-02	SELCO, BIRMINGHAM	WEST MIDLANDS
	CHARLOTTE ROAD		
	STIRCHLEY		
	BIRMINGHAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of Employees:	45	
	Survey date: WEDNESDAY	19/10/11	Survey Type: MANUAL
3	WO-01-L-02	JEWSON, WORCESTER	WORCESTERSHIRE
	NAVIGATION ROAD		
	WORCESTER		
	Edge of Town		
	Industrial Zone		
	Total Number of Employees:	24	
	Survey date: MONDAY	15/06/09	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.

RGP Fry's Yard Godalming

Licence No: 728001

TRIP RATE for Land Use 01 - RETAIL/L - BUILDER'S MERCHANTS
VEHICLES

Calculation factor: 1 EMPLOY

Estimated TRIP rate value per 5 EMPLOY shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. EMPLOY	Trip Rate	Estimated Trip Rate	No. Days	Ave. EMPLOY	Trip Rate	Estimated Trip Rate	No. Days	Ave. EMPLOY	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	1	45	0.000	0.000	1	45	0.000	0.000	1	45	0.000	0.000
06:00 - 07:00	1	45	0.467	2.333	1	45	0.044	0.222	1	45	0.511	2.555
07:00 - 08:00	3	27	0.738	3.688	3	27	0.463	2.313	3	27	1.201	6.000
08:00 - 09:00	3	27	1.387	6.938	3	27	1.137	5.688	3	27	2.524	12.626
09:00 - 10:00	3	27	1.550	7.750	3	27	1.575	7.875	3	27	3.125	15.625
10:00 - 11:00	3	27	1.350	6.750	3	27	1.275	6.375	3	27	2.625	13.125
11:00 - 12:00	3	27	1.438	7.188	3	27	1.212	6.063	3	27	2.650	13.250
12:00 - 13:00	3	27	1.113	5.563	3	27	1.275	6.375	3	27	2.388	11.937
13:00 - 14:00	3	27	1.113	5.563	3	27	1.387	6.938	3	27	2.500	12.500
14:00 - 15:00	3	27	0.988	4.938	3	27	0.988	4.938	3	27	1.976	9.876
15:00 - 16:00	3	27	0.925	4.625	3	27	0.900	4.500	3	27	1.825	9.125
16:00 - 17:00	3	27	0.625	3.125	3	27	0.887	4.438	3	27	1.512	7.563
17:00 - 18:00	3	27	0.313	1.563	3	27	0.537	2.688	3	27	0.849	4.250
18:00 - 19:00	2	35	0.377	1.884	2	35	0.391	1.957	2	35	0.768	3.841
19:00 - 20:00	1	45	0.267	1.333	1	45	0.444	2.222	1	45	0.711	3.555
20:00 - 21:00	1	45	0.000	0.000	1	45	0.044	0.222	1	45	0.044	0.222
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			12.650	63.238			12.559	62.812			25.209	126.050

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.

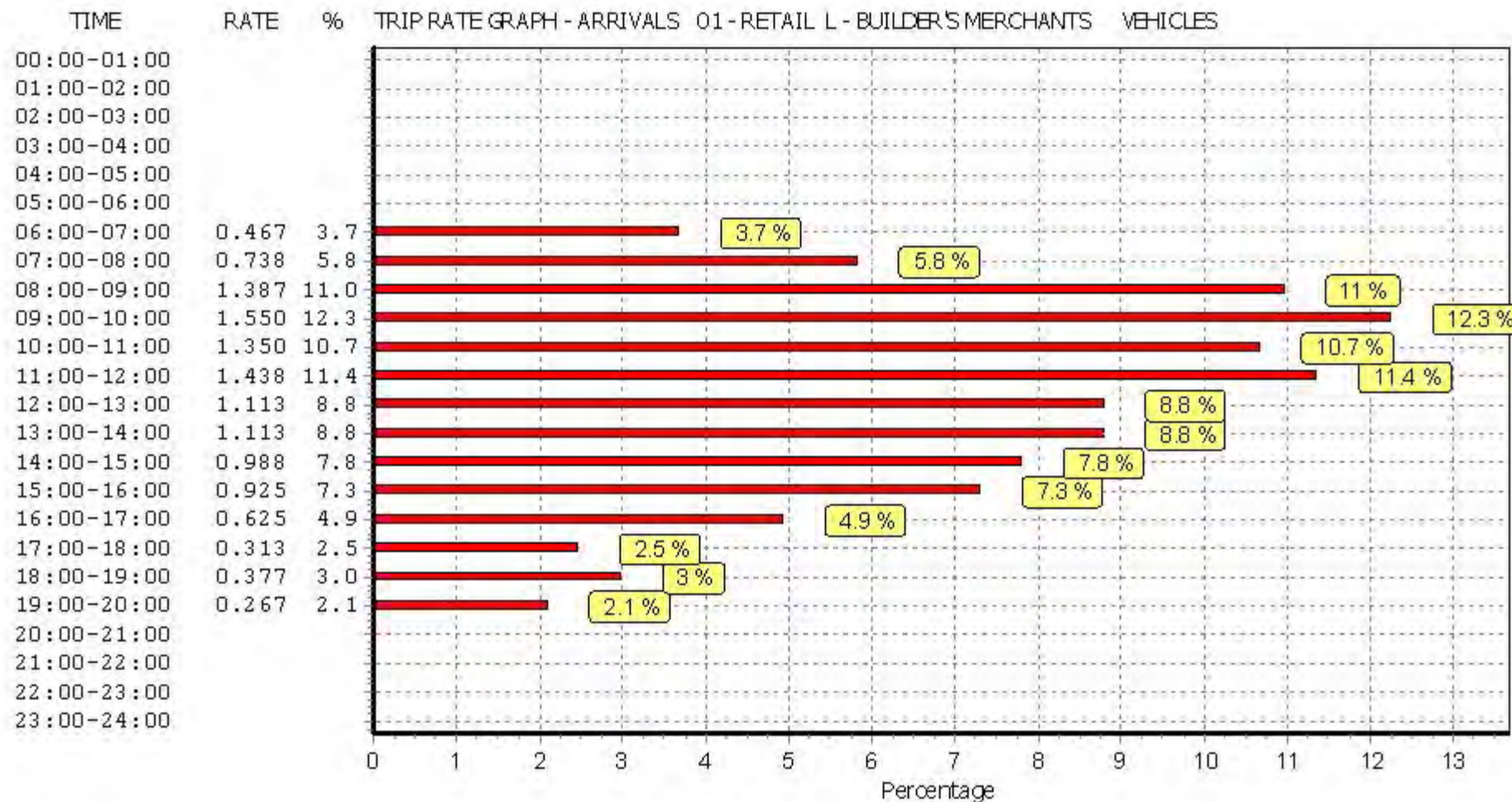
Parameter summary

Trip rate parameter range selected: 11 - 45 (units:)
 Survey date range: 01/01/04 - 19/10/11
 Number of weekdays (Monday-Friday): 3
 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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

RGP Fry's Yard Godalming

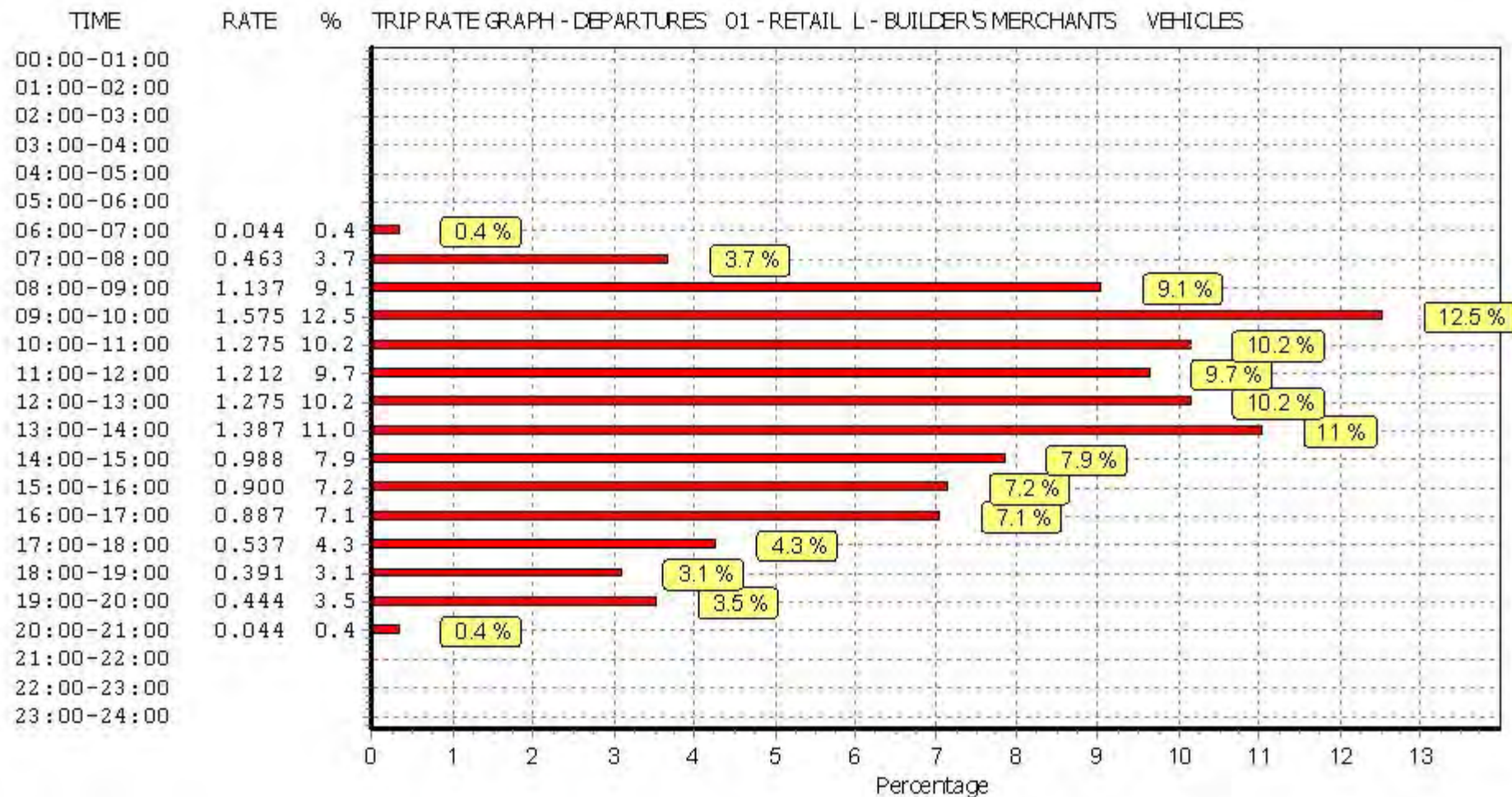
Licence No: 728001



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.

RGP Fry's Yard Godalming

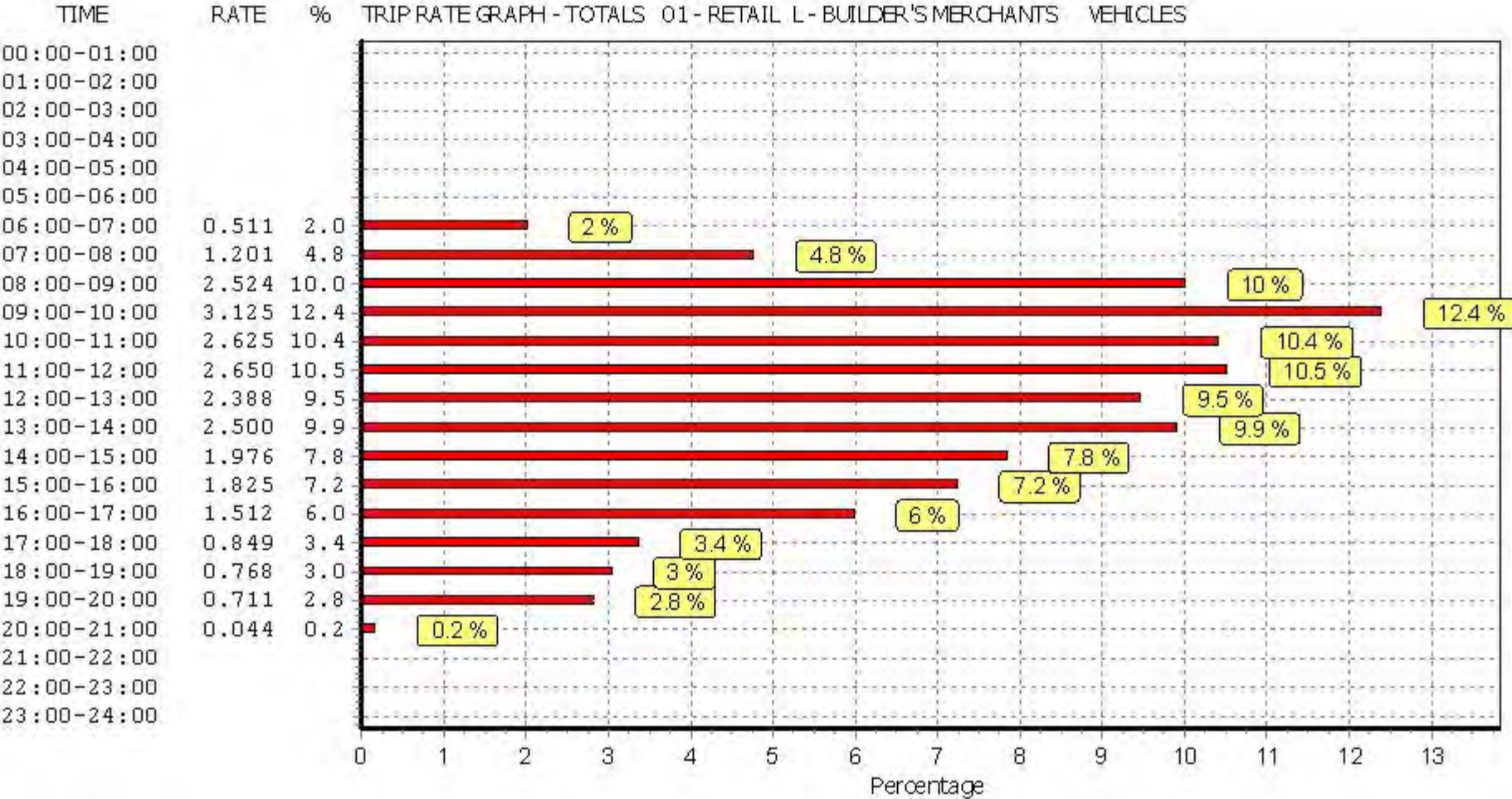
Licence No: 728001



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.

RGP Fry's Yard Godalming

Licence No: 728001



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.

RGP Fry's Yard Godalming

Licence No: 728001

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT

Category : A - OFFICE

VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	SC SURREY	1 days
03	SOUTH WEST	
	CW CORNWALL	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	1 days
09	NORTH	
	TV TEES VALLEY	1 days
	TW TYNE & WEAR	2 days
11	SCOTLAND	
	HI HIGHLAND	2 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 Employees

Actual Range: 49 to 446 (units:)

Range Selected by User: 25 to 9500 (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	2 days
Tuesday	2 days
Wednesday	2 days
Thursday	3 days

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

Selected survey types:

Manual count	9 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Edge of Town	5

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

Selected Location Sub Categories:

Commercial Zone	4
Development Zone	2
Residential 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

RGP Fry's Yard Godalming

Licence No: 728001

Filtering Stage 3 selection:

Use Class:

B1 9 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
5,001 to 10,000	2 days
10,001 to 15,000	2 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	1 days
75,001 to 100,000	2 days
100,001 to 125,000	1 days
125,001 to 250,000	2 days
250,001 to 500,000	2 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	4 days
1.1 to 1.5	5 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No 9 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.

RGP Fry's Yard Godalming

Licence No: 728001

LIST OF SITES relevant to selection parameters

- | | | | |
|---|--|------------------------------|----------------|
| 1 | CA-02-A-04
BRETTON WAY | OFFICE, PETERBOROUGH | CAMBRIDGESHIRE |
| | PETERBOROUGH
Edge of Town
Commercial Zone
Total Number of Employees: 350
Survey date: THURSDAY 20/10/11 | | |
| 2 | CW-02-A-01
DOLCOATH AVENUE | COUNCIL OFFICES, CAMBORNE | CORNWALL |
| | CAMBORNE
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of Employees: 323
Survey date: MONDAY 04/07/05 | | |
| 3 | HI-02-A-01
HIGHLANDER WAY | OFFICE, INVERNESS | HIGHLAND |
| | INVERNESS
Edge of Town
Development Zone
Total Number of Employees: 49
Survey date: WEDNESDAY 20/05/09 | | |
| 4 | HI-02-A-03
HIGHLANDER WAY | OFFICE, INVERNESS | HIGHLAND |
| | INVERNESS
Edge of Town
Development Zone
Total Number of Employees: 200
Survey date: WEDNESDAY 20/05/09 | | |
| 5 | SC-02-A-15
BOXGROVE ROAD | ACCOUNTANTS, GUILDFORD | SURREY |
| | GUILDFORD
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Number of Employees: 140
Survey date: TUESDAY 05/10/10 | | |
| 6 | TV-02-A-02
LINGFIELD WAY
MORTON PARK
DARLINGTON | BUILDING SOCIETY, DARLINGTON | TEES VALLEY |
| | Edge of Town
Commercial Zone
Total Number of Employees: 90
Survey date: MONDAY 25/04/05 | | |
| 7 | TW-02-A-03
KINGFISHER BOULEVARD
LEMINGTON
NEWCASTLE UPON TYNE | DEVELOP. AGENCY, NEWCASTLE | TYNE & WEAR |
| | Edge of Town
Commercial Zone
Total Number of Employees: 446
Survey date: THURSDAY 11/12/08 | | |

LIST OF SITES relevant to selection parameters (Cont.)

8	TW-02-A-05	TELEVISION CO., GATESHEAD	TYNE & WEAR
	DELTA BANK ROAD		
	METRO RIVERSIDE PARK		
	GATESHEAD		
	Suburban Area (PPS6 Out of Centre)		
	Commercial Zone		
	Total Number of Employees:	170	
	Survey date: TUESDAY	29/09/09	Survey Type: MANUAL
9	WY-02-A-03	OFFICE, LEEDS	WEST YORKSHIRE
	VICTORIA ROAD		
	HEADINGLEY		
	LEEDS		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Number of Employees:	243	
	Survey date: THURSDAY	17/06/10	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.

RGP Fry's Yard Godalming

Licence No: 728001

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

VEHICLES

Calculation factor: 1 EMPLOY

Estimated TRIP rate value per 3 EMPLOY shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. EMPLOY	Trip Rate	Estimated Trip Rate	No. Days	Ave. EMPLOY	Trip Rate	Estimated Trip Rate	No. Days	Ave. EMPLOY	Trip Rate	Estimated 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	9	223	0.037	0.110	9	223	0.004	0.013	9	223	0.041	0.123
07:30 - 08:00	9	223	0.070	0.210	9	223	0.009	0.027	9	223	0.079	0.237
08:00 - 08:30	9	223	0.149	0.448	9	223	0.020	0.060	9	223	0.169	0.508
08:30 - 09:00	9	223	0.181	0.542	9	223	0.026	0.078	9	223	0.207	0.620
09:00 - 09:30	9	223	0.110	0.331	9	223	0.026	0.078	9	223	0.136	0.409
09:30 - 10:00	9	223	0.069	0.206	9	223	0.037	0.110	9	223	0.106	0.316
10:00 - 10:30	9	223	0.054	0.163	9	223	0.040	0.119	9	223	0.094	0.282
10:30 - 11:00	9	223	0.042	0.127	9	223	0.043	0.130	9	223	0.085	0.257
11:00 - 11:30	9	223	0.035	0.104	9	223	0.038	0.115	9	223	0.073	0.219
11:30 - 12:00	9	223	0.037	0.112	9	223	0.039	0.118	9	223	0.076	0.230
12:00 - 12:30	9	223	0.027	0.082	9	223	0.072	0.215	9	223	0.099	0.297
12:30 - 13:00	9	223	0.054	0.163	9	223	0.072	0.216	9	223	0.126	0.379
13:00 - 13:30	9	223	0.058	0.175	9	223	0.071	0.213	9	223	0.129	0.388
13:30 - 14:00	9	223	0.069	0.206	9	223	0.044	0.131	9	223	0.113	0.337
14:00 - 14:30	9	223	0.042	0.127	9	223	0.041	0.122	9	223	0.083	0.249
14:30 - 15:00	9	223	0.039	0.118	9	223	0.037	0.112	9	223	0.076	0.230
15:00 - 15:30	9	223	0.026	0.078	9	223	0.032	0.097	9	223	0.058	0.175
15:30 - 16:00	9	223	0.023	0.069	9	223	0.038	0.113	9	223	0.061	0.182
16:00 - 16:30	9	223	0.025	0.076	9	223	0.073	0.218	9	223	0.098	0.294
16:30 - 17:00	9	223	0.022	0.067	9	223	0.091	0.274	9	223	0.113	0.341
17:00 - 17:30	9	223	0.018	0.054	9	223	0.165	0.494	9	223	0.183	0.548
17:30 - 18:00	9	223	0.008	0.024	9	223	0.090	0.269	9	223	0.098	0.293
18:00 - 18:30	9	223	0.005	0.016	9	223	0.050	0.149	9	223	0.055	0.165
18:30 - 19:00	9	223	0.005	0.015	9	223	0.028	0.085	9	223	0.033	0.100
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:			1.205	3.623			1.186	3.556			2.391	7.179

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.

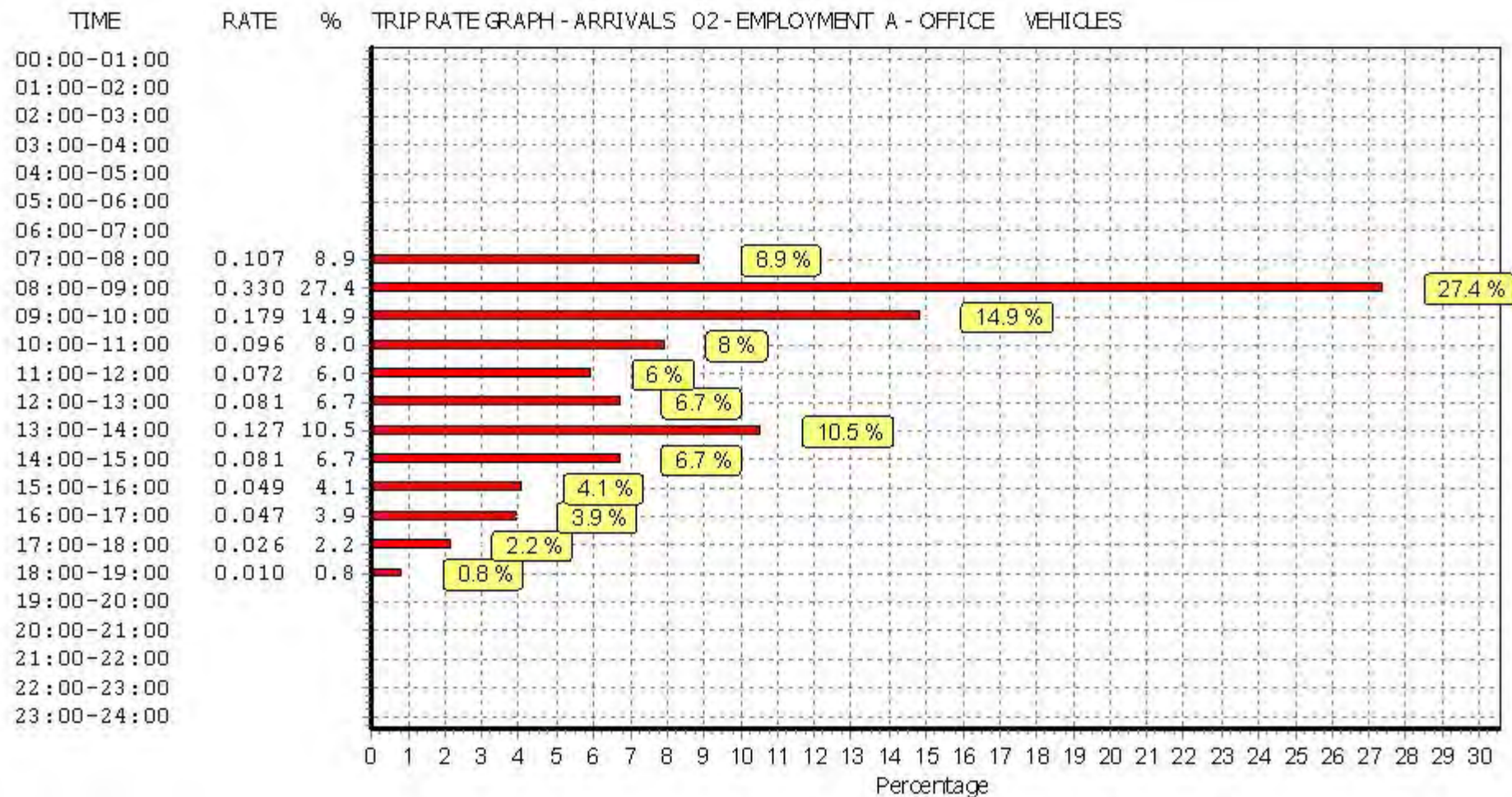
Parameter summary

Trip rate parameter range selected:	49 - 446 (units:)
Survey date date range:	01/01/04 - 18/09/12
Number of weekdays (Monday-Friday):	9
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.

RGP Fry's Yard Godalming

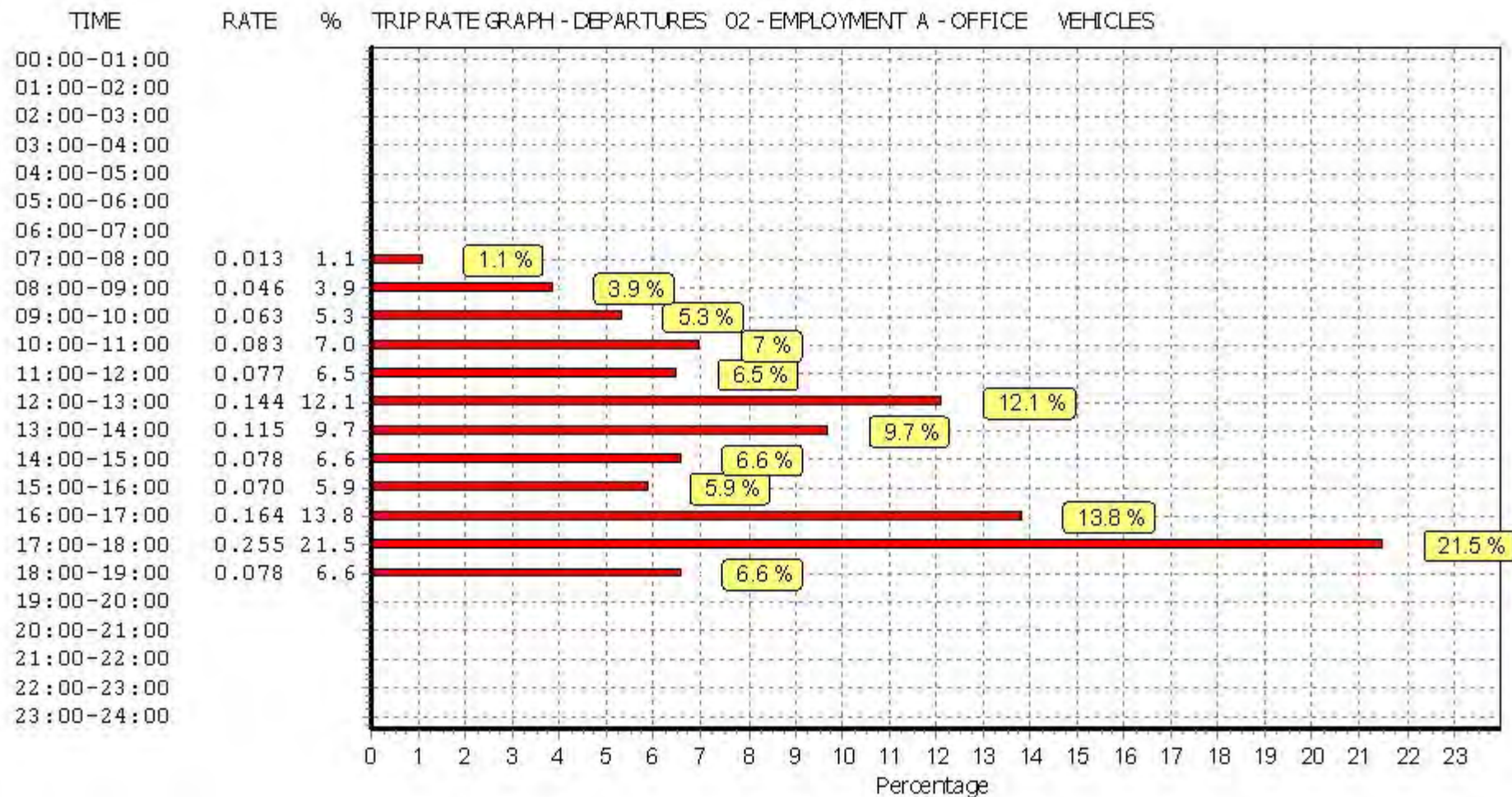
Licence No: 728001



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.

RGP Fry's Yard Godalming

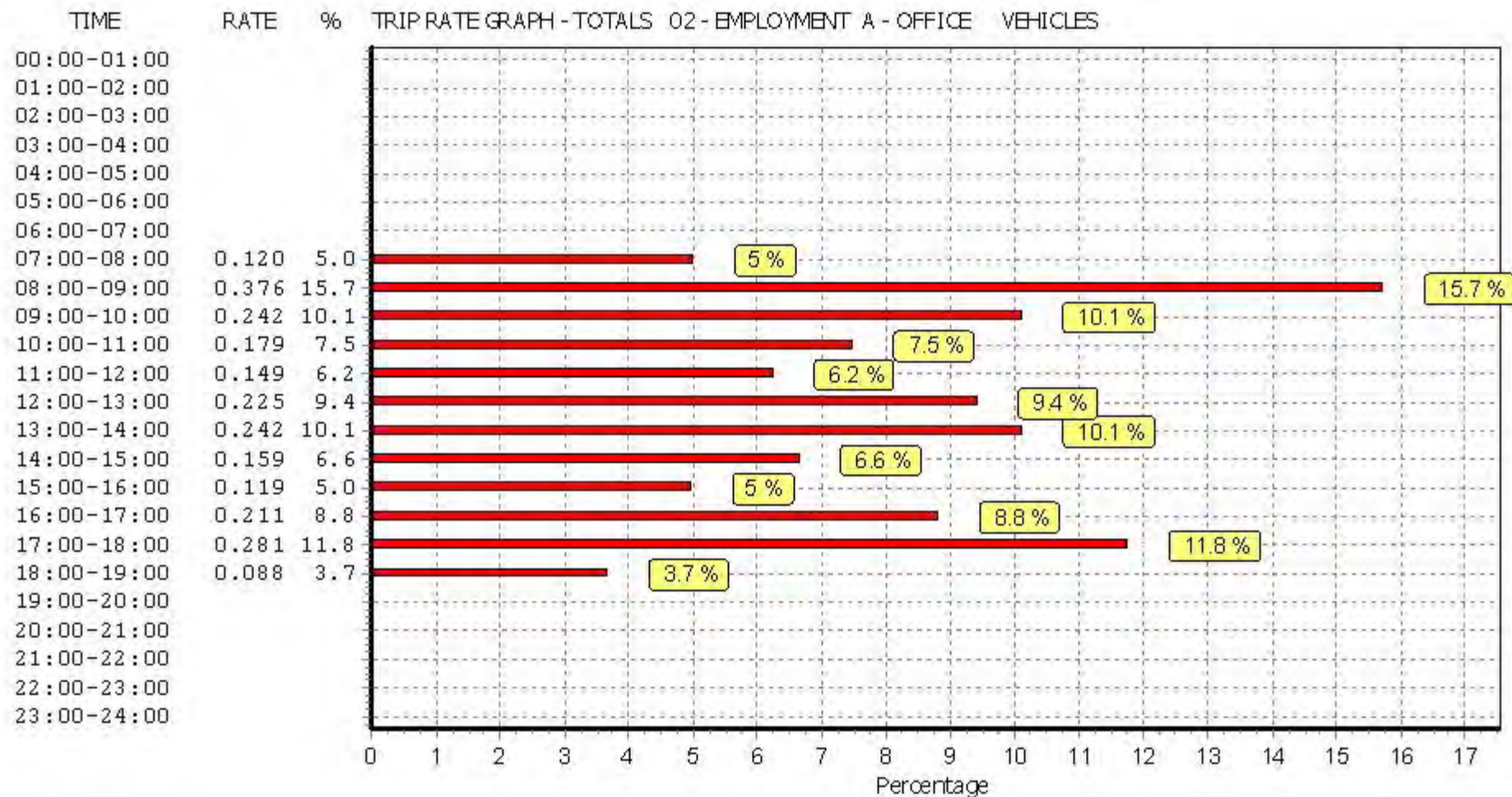
Licence No: 728001



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.

RGP Fry's Yard Godalming

Licence No: 728001



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.

RGP Fry's Yard Godalming

Licence No: 728001

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 15 - VEHICLE SERVICES
Category : A - VEHICLE REPAIR GARAGE (SLOW FIT)
VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	WS WEST SUSSEX	1 days
05	EAST MIDLANDS	
	LE LEICESTERSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	1 days
11	SCOTLAND	
	AD ABERDEEN CITY	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 Employees
Actual Range:	7 to 65 (units:)
Range Selected by User:	6 to 65 (units:)

Public Transport Provision:

Selection by:	Include all surveys
---------------	---------------------

Date Range: 01/01/04 to 21/05/12

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	1 days
Tuesday	1 days
Wednesday	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	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

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

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

Selected Location Sub Categories:

Commercial Zone	1
Residential Zone	2
Out of Town	1
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

B2	5 days
----	--------

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

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
10,001 to 15,000	1 days
15,001 to 20,000	2 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
125,001 to 250,000	1 days
250,001 to 500,000	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	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.

RGP Fry's Yard Godalming

Licence No: 728001

LIST OF SITES relevant to selection parameters

- | | | | |
|---|------------------------------------|------------------------------|---------------------|
| 1 | AD-15-A-01 | GARAGE, ABERDEEN | ABERDEEN CITY |
| | 12 WAVERLY PLACE | | |
| | ABERDEEN | | |
| | Suburban Area (PPS6 Out of Centre) | | |
| | Residential Zone | | |
| | Total Number of Employees: | 7 | |
| | Survey date: MONDAY | 21/05/12 | Survey Type: MANUAL |
| 2 | LE-15-A-01 | GARAGE, NEAR LEICESTER | LEICESTERSHIRE |
| | FLECKNEY ROAD | | |
| | KIBWORTH BEAUCHAMP | | |
| | NEAR LEICESTER | | |
| | Edge of Town | | |
| | Residential Zone | | |
| | Total Number of Employees: | 8 | |
| | Survey date: TUESDAY | 10/05/05 | Survey Type: MANUAL |
| 3 | LE-15-A-02 | BMW & MINI GARAGE, LEICESTER | LEICESTERSHIRE |
| | MERIDIAN EAST | | |
| | BRAUNSTONE | | |
| | LEICESTER | | |
| | Edge of Town | | |
| | Commercial Zone | | |
| | Total Number of Employees: | 58 | |
| | Survey date: THURSDAY | 25/06/09 | Survey Type: MANUAL |
| 4 | WS-15-A-01 | GARAGE, NEAR PULBOROUGH | WEST SUSSEX |
| | A29 BURY ROAD | | |
| | WATERSFIELD | | |
| | NEAR PULBOROUGH | | |
| | Free Standing (PPS6 Out of Town) | | |
| | Out of Town | | |
| | Total Number of Employees: | 26 | |
| | Survey date: FRIDAY | 04/12/09 | Survey Type: MANUAL |
| 5 | WY-15-A-01 | FORD GARAGE, LEEDS | WEST YORKSHIRE |
| | WHITEHALL ROAD | | |
| | LEEDS | | |
| | Edge of Town | | |
| | No Sub Category | | |
| | Total Number of Employees: | 65 | |
| | Survey date: WEDNESDAY | 14/09/05 | 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.

RGP Fry's Yard Godalming

Licence No: 728001

TRIP RATE for Land Use 15 - VEHICLE SERVICES/A - VEHICLE REPAIR GARAGE (SLOW FIT)
VEHICLES

Calculation factor: 1 EMPLOY

Estimated TRIP rate value per 2 EMPLOY shown in shaded columns

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS				DEPARTURES				TOTALS			
	No. Days	Ave. EMPLOY	Trip Rate	Estimated Trip Rate	No. Days	Ave. EMPLOY	Trip Rate	Estimated Trip Rate	No. Days	Ave. EMPLOY	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	3	30	0.407	0.813	3	30	0.088	0.176	3	30	0.495	0.989
08:00 - 09:00	5	33	0.610	1.220	5	33	0.329	0.659	5	33	0.939	1.879
09:00 - 10:00	5	33	0.579	1.159	5	33	0.409	0.817	5	33	0.988	1.976
10:00 - 11:00	5	33	0.512	1.024	5	33	0.402	0.805	5	33	0.914	1.829
11:00 - 12:00	5	33	0.512	1.024	5	33	0.311	0.622	5	33	0.823	1.646
12:00 - 13:00	5	33	0.317	0.634	5	33	0.488	0.976	5	33	0.805	1.610
13:00 - 14:00	5	33	0.348	0.695	5	33	0.360	0.720	5	33	0.708	1.415
14:00 - 15:00	5	33	0.372	0.744	5	33	0.476	0.951	5	33	0.848	1.695
15:00 - 16:00	5	33	0.396	0.793	5	33	0.555	1.110	5	33	0.951	1.903
16:00 - 17:00	5	33	0.390	0.780	5	33	0.500	1.000	5	33	0.890	1.780
17:00 - 18:00	5	33	0.256	0.512	5	33	0.482	0.963	5	33	0.738	1.475
18:00 - 19:00	5	33	0.073	0.146	5	33	0.226	0.451	5	33	0.299	0.597
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			4.772	9.544			4.626	9.250			9.398	18.794

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.

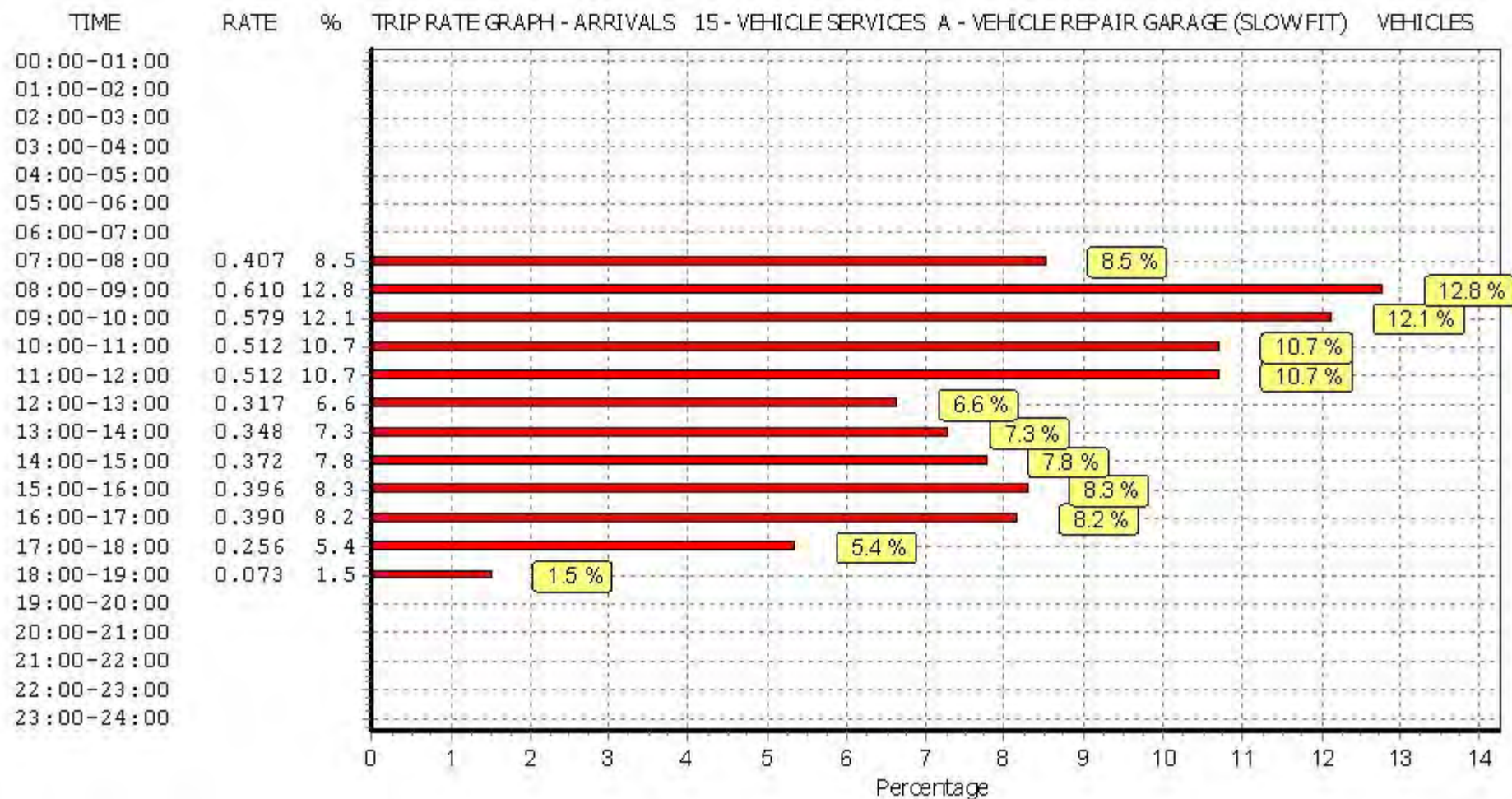
Parameter summary

Trip rate parameter range selected: 7 - 65 (units:)
 Survey date range: 01/01/04 - 21/05/12
 Number of weekdays (Monday-Friday): 5
 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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

RGP Fry's Yard Godalming

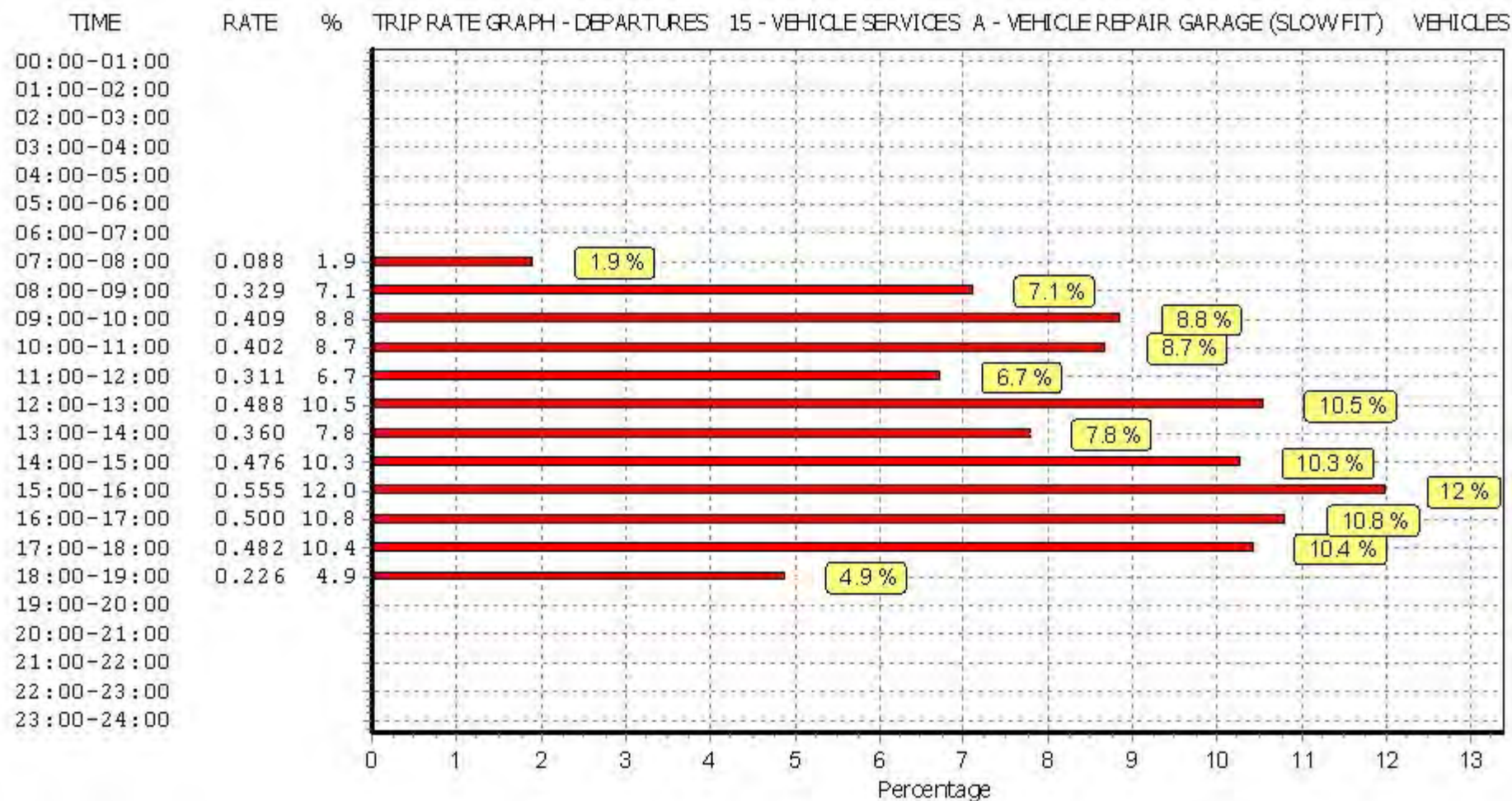
Licence No: 728001



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.

RGP Fry's Yard Godalming

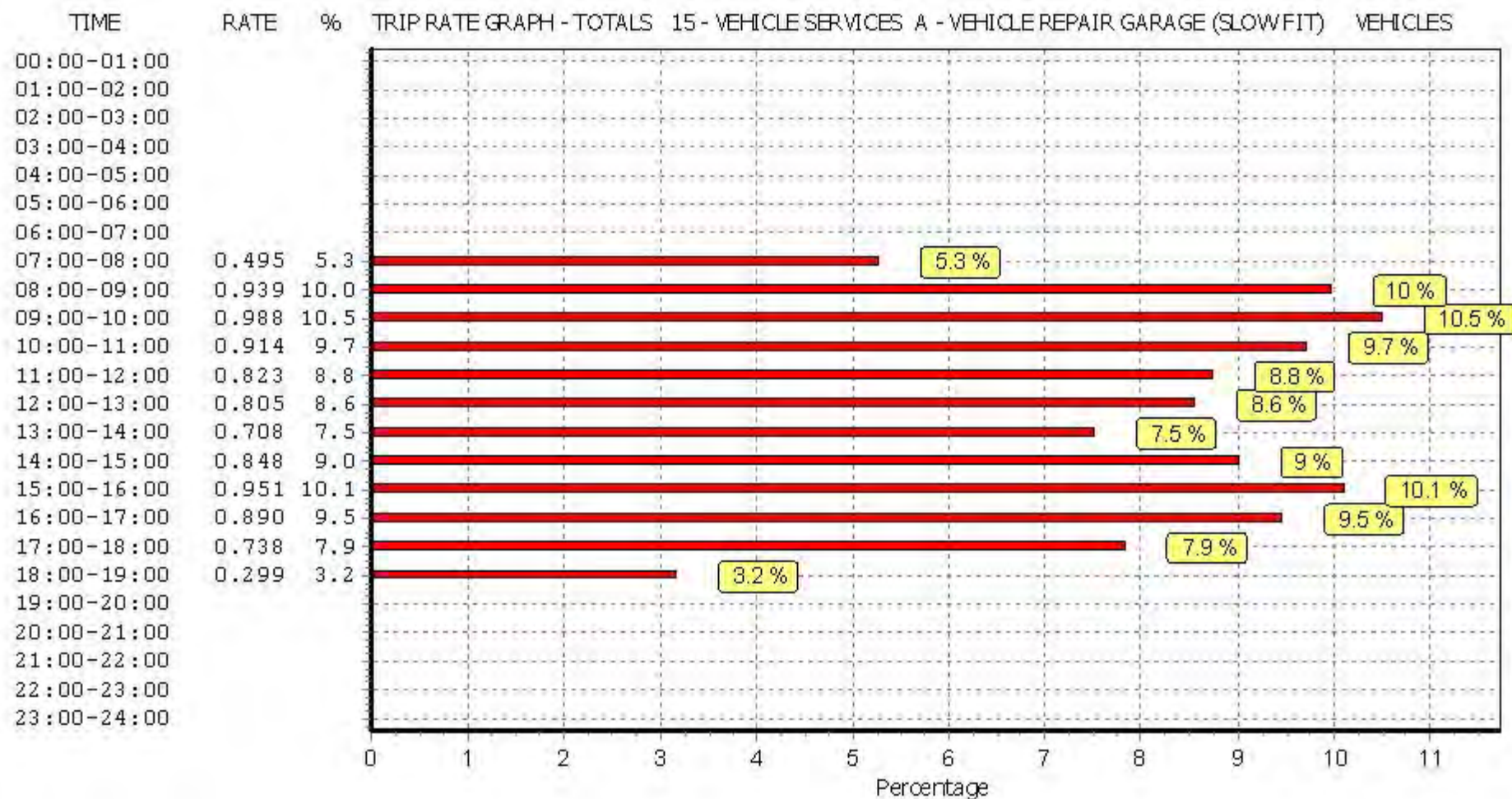
Licence No: 728001



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.

RGP Fry's Yard Godalming

Licence No: 728001



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.

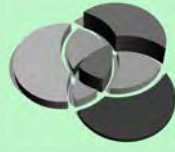


APPENDIX H

Car or Van Availability (QS416EW)				Wick with Toddington	Arun	South East	England	
			Ward		Non-Metropolitan District	Region	Country	
All Households	Count	Households	Mar-11	2442		66706	3555463	22063368
No Cars or Vans in Household	Count	Households	Mar-11	420		13024	660430	5691251
1 Car or Van in Household	Count	Households	Mar-11	1141		30139	1483911	9301776
2 Cars or Vans in Household	Count	Households	Mar-11	685		18000	1059380	5441593
3 Cars or Vans in Household	Count	Households	Mar-11	150		4119	253552	1203865
4 or More Cars or Vans in Household	Count	Households	Mar-11	46		1424	98190	424883
All Cars or Vans in Area	Count	Vehicles	Mar-11	3167		84886	4803729	25696833
Car or Van Availability, 2011 (QS416EW), Mar11	LastUpdated		30-Jan-13					
Car or Van Availability, 2011 (QS416EW), Mar11	Source	Office for National Statistics						
Car or Van Availability (QS416EW)	National Statistics							

This material is Crown Copyright. Users are granted permission to reproduce Crown Copyright material provided that a Click-Use Licence has been obtained from HMSO. The Click-Use Licence can be

obtained from <http://www.clickanduse.hmso.gov.uk>. When reproducing this material, the source should be acknowledged.



APPENDIX I

WEST SUSSEX COUNTY COUNCIL CAR OWNERSHIP PARKING DEMAND TOOL	
This parking demand tool has been compiled by West Sussex County Council. If you have queries relating to the information provided or require additional information please contact darryl.hemmings@westsussex.gov.uk.	
Please input the ward name for your development location below 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 input postcode into the Ward Finder. The tool will allow input up to 3 wards in the boxes below. Please refer to notes for more details.	
Ward 1	Wick with Toddington
District	Arun
Ward 2	Brookfield
District	Arun
Ward 3	Ham
District	Arun
Ward Tempro Factor 2009-2026	1.079093
District Tempro Factor 2009-2026	1.067644



west
sussex
county
council

Ward Finder

PostcodeWard

Note:

No special provision need be made for visitors where at least half of the total parking provision a with a development is unallocated. In other circumstances, it may be appropriate to allow for additional demand for visitor parking of up to 0.2 spaces per dwelling.

In areas of parking constraint, levels of provision below predicted demand may be applicable.

The tool is expressed as number of Rooms (Per Unit). If data is not available in this format and no Bedrooms is used this will need to be converted. A general guide for conversion is as follows but some cases.

Houses	Flats
1 bed = 3 rooms	Studio = 1 room
2 bed = 4 rooms	1 bed = 2 rooms
3 bed = 5 rooms	2 bed = 3 rooms
4 bed = 6 rooms	3 bed = 4 rooms
5 bed = 7 rooms	4 bed = 5 rooms

Garages will count as 1 space when allocating spaces.

Ward data used can be checked by the user by referring to the District-Ward Data Tables. The Ward Tables highlight if the Census data does not include data for certain dwelling sizes. In such cases ownership values have been obtained using the nearest sized dwelling with same tenure and ward example, if no data is available for a private house with 1 room then data for a private house with has been used. The Car Ownership Data is highlighted in purple where such an approach has been used. Where Census data contains small samples for certain sized dwellings this is highlighted in red if green if <50 in the Total Demand column. In such cases, other wards should be selected to achieve sample size.

Report Summary Table

DEVELOPMENT MIX					ALLOCATED PARKING	PARKING DEMAND						
Ref.	Unit Type	Unit Tenure	Habitable Rooms (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	Council/Housing Association (not including shared ownership)	4	3	1	3	0	1	0	1	4	
B	Houses	Council/Housing Association (not including shared ownership)	5	12	1	12	0	4	0	2	18	
C	Houses	Council/Housing Association (not including shared ownership)	4	5	2	10	0	0	0	1	11	
D	Houses	Private	4	2	2	4	0	0	0	0	4	
E	Houses	Private	5	38	2	76	0	4	0	8	88	
F												
G	Houses	Private	6	6	2	12	0	1	0	1	14	
H												
I												
J												
K												
L												
M												
N												
O												
P												
Q												
R												
S												
Total				66		117		9.93		13.20	140	

PROJECT
CENTRE

PEOPLE | PASSION | PLACES