ARDENT CONSULTING ENGINEERS

13-17 RED LION SQUARE LLP

PROPOSED RESIDENTIAL DEVELOPMENT:

13 RED LION SQUARE, HOLBORN,
LONDON WC1R 4QF

TRANSPORT STATEMENT

REPORT REF. NO Y740-02C
PROJECT NO. Y740
DECEMBER 2015

PROPOSED RESIDENTIAL DEVELOPMENT:
13 RED LION SQUARE, HOLBORN, LONDON, WC1R 4QF

TRANSPORT STATEMENT

Ardent Consulting Engineers
Suite 207
One Alie Street
LONDON
E1 8DE
Tel: 020 7680 4088

Fax: 020 7488 3736

enquiries@ardent-ce.co.uk

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APPENDICES

DOCUMENT CONTROL SHEET

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	1st draft for project team review	KM	KM	ML	24/11/15
-	Final	KM	KM	ML	27/11/15
A	Revision A	KM	KM	ML	03/12/15
B	Revision B	KM	KM	ML	21/12/15
C	Revision C	KM	KM	ML	21/12/15

KM ML

1.0 INTRODUCTION

1.1 Ardent Consulting Engineers (ACE) has been appointed by 13-17 Red Lion Square LLP to advise on the highways/transportation and infrastructure planning/engineering aspects of the proposed residential development at 13 Red Lion Square, Holborn, London WC1R 4QFQ.

1.2 This Transport Statement (TS) has been prepared to accompany a detailed planning application submission to the London Borough of Camden (LBC) for 13 residential dwellings.

1.3 The site is located to on the southern side of Red Lion Square to the east of Dane Street. The site location is illustrated on the plan attached at **Appendix A**.

1.4 This assessment has been prepared in-line with Transport for London's (TfL's) *Transport Assessment Best Practice Guidance* document, and relevant LBC policy guidance documents.

1.5 As background, the site is currently occupied by a building which contains 12 existing residential units, whilst the proposals are to renovate the building and provide one additional dwelling, resulting in a total of 13 residential units. The existing 12 units are permitted to apply for parking permits and will retain the rights to these, whilst the one additional unit would be car free, in-line with relevant TfL and LBC polices with regards to highways and transportation matters.

1.6 Following this introduction, this report is structured as follows: -

- **Section 2.0** considers the existing situation, including proximity of the site to local services, pedestrian and cycle facilities and accessibility by public transport;

- **Section 3.0** considers the land use and transport planning policy context for the new development;

- **Section 4.0** outlines the proposed development;

- **Section 5.0** sets out the predicted weekday peak hour trip generation/attraction by mode for the lawful, previously consented and proposed uses; and

- **Section 6.0** provides a summary and conclusions.

2.0 EXISTING SITUATION

Site Location

2.1 The site is located at 13 Red Lion Square, as shown at **Plate 1** below, and the site location plan attached at **Appendix A**. The site is approximately 260m northeast of Holborn Underground Station. Bus services serve stops on the west side of Red Lion Square and on High Holborn within a short walk of the site.

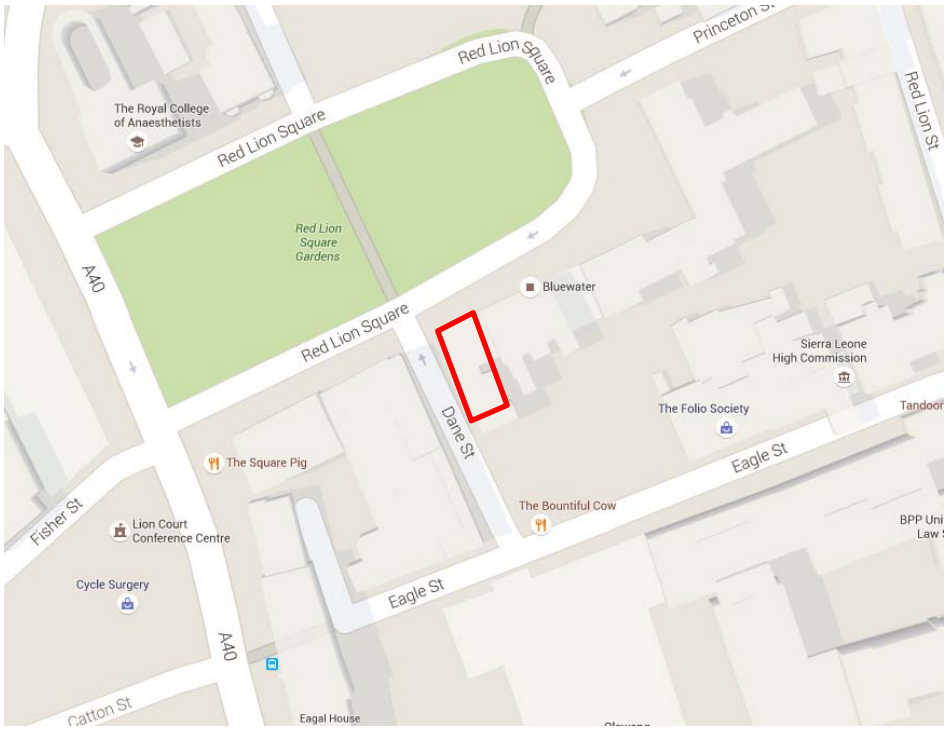


Plate 1: Site Location

2.2 The site fronts both Red Lion Square and Dane Street, with a pedestrian access available from both sides of the development.

2.3 Residents' parking bays are provided on both sides of Red Lion Square to the east of Dane Street, which is within a Controlled Parking Zones (CPZ), and are restricted to resident permit holders only (Zone CA-D) with restrictions between 08:30-16:30 Monday to Friday, and 08:30 and 13:30 Saturday. On Red Lion Square, to the west of Dane Street, Pay & Display / resident permit bays are

provided on both sides of the carriageway, with the same restriction times and a maximum stay of 2 hours for Pay & Display users. Residents of the existing dwellings at 13 Red Lion Square are eligible to apply for residential parking permits from LBC.

2.4 One disabled bay with the same restrictions is provided on Dane Street to the south of the site. Whist a Car Club bay is provided on Red Lion Square to the west of the site.

2.5 Red Lion Square is one-way in a clockwise direction (eastbound on its northern side and westbound on the southern side), whilst Dane Street is one-way northbound towards Red Lion Square

Cycle Provision

2.6 A number of signed cycle routes, or alternative routes recommended for use by cyclists are located within close proximity of the site. These include Procter Street (A40), High Holborn and Bloomsbury Way, as shown on the extract at **Plate 2** below.

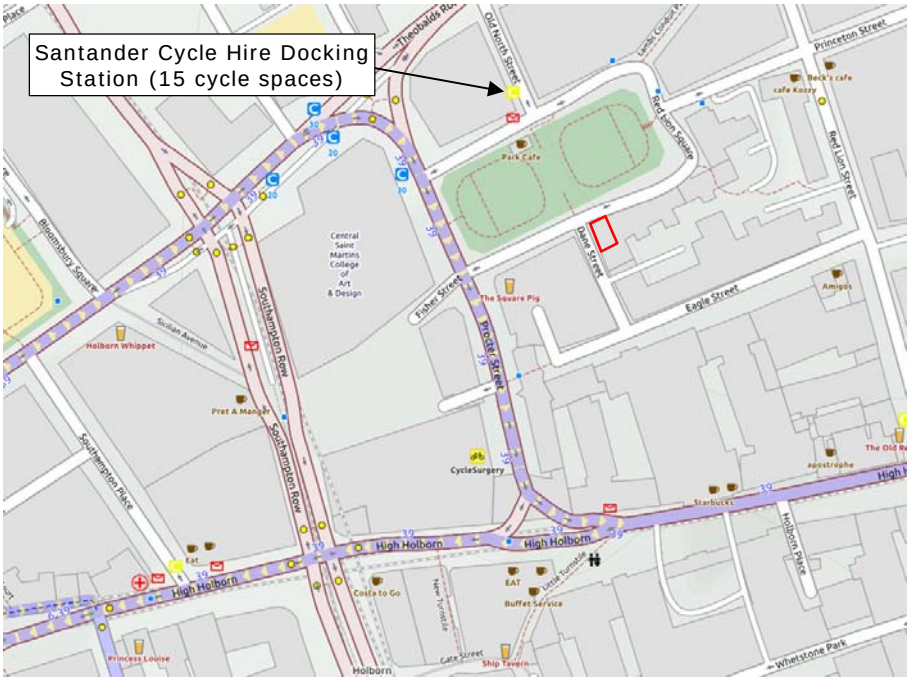


Plate 2: Cycle Facilities

2.7 A Santander Cycle Hire docking station with space for 15 cycles is located to the north of the site, approximately 60m (1 minute walk) through Red Lion Square.

2.8 As shown above there is excellent cycle provision in the vicinity of the site, affording both the residents and employees of the site ample opportunity to undertake trips by bike.

Pedestrian facilities

2.9 Wide well-lit footways are provided within the vicinity of the site, with a signalised pedestrian junctions provided at the junction of Proctor Street and High Holborn to the south and Drake Street with Theobalds Street to the north.

2.10 The site is located in close proximity to numerous employment, retail, education and leisure facilities. It is therefore considered that many of the journeys to/from the site could easily be undertaken on foot.

Car Clubs

2.11 Several car club spaces are located within the short walk of the site, including the two detailed below and shown on **Plate 3**: -

- City Car Club (two bays): 240m (3 min walk) on Bedford Row, to the south of Prinston Street.

- Zip Car (two bays): 500m (less than 1 minute walk) on the southern side of Red Lion Square, between Dane Street and Procter Street.

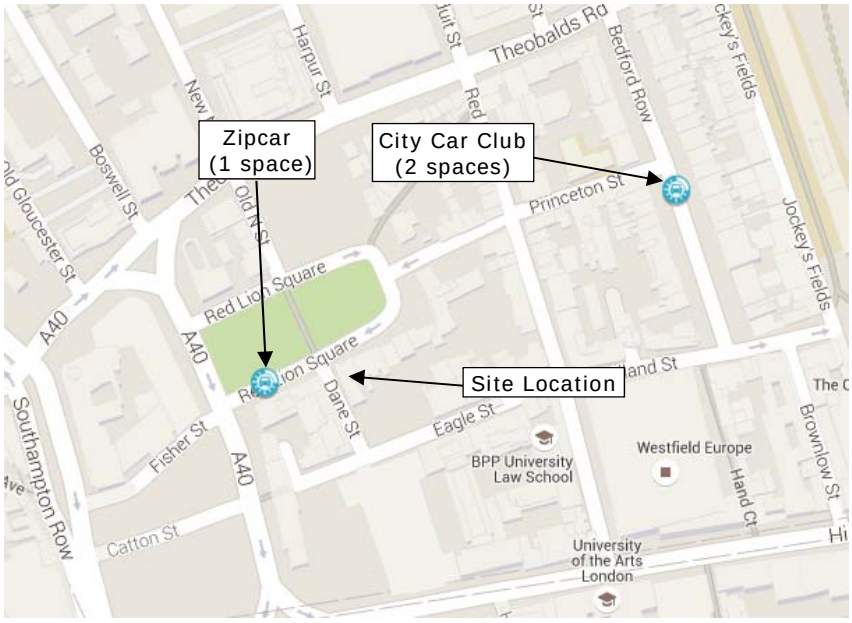


Plate 3: Car Club Spaces

Public Transport

Rail Services

2.12 The site is located approximately 260m (3 minute walk) from Holborn Station which is on the London Underground Central line (with services from Ealing Broadway/West Ruislip to Epping) and Piccadilly line (with services between Heathrow and Cockfosters).

Buses

2.13 Bus stops with shelters are located to the west of the site on the western side of Red Lion square. The services available from these stops during the weekday morning and evening peak periods are summarised as follows:

Table 2.1: Bus Timetable Summary

Bus Stop Location (walk time/mins)	Route	Typical Peak Weekday Frequency (vph)
Conway Hall (3.62 mins)	243 – Waterloo to Woodford Green Station	11
	38 – Victoria Bus Station to Lea Bridge Rbt	10
	19 – Finsbury Park to Parkgate Rd	8
	55 – Lea Bridge Road to Oxford Circus	10
High Holborn Proctor St (2.78 mins)	8 – Tottenham Court Rd to Bow Church	10
	521 – London Bridge to Waterloo	27
	242 – New Oxford St to Homerton Hospital	6.5
	25 – Hainault St to Holles St	8
Southampton Row Theobalds Rd (4.22 mins)	59 – Whafdale Rd to Streatham Hill	10
	91 – Northumberland Av to Rosebury Gdns	9
	68 – Euston Station to West Norwood	9
	X68 – Southampton Row to West Croydon	4
	188 – Russell Square to North Greenwich	8
	168 – Dunton Rd to South End Green	9
Bloomsbury Sq (4.41 mins)	1 – Tottenham Court Rd to Canada Water	8
	171 – Museum St to Catford Garage	7.5
British Museum (7.32 mins)	98 – Russell Square Station to Pound Lane	9

PTAL Summary

2.14 A detailed PTAL (Public Transport Accessibility Level) analysis has been undertaken for the site, the results of which are attached at **Appendix B**, which shows the site has a PTAL of 6b, the highest achievable.

Summary

2.15 It is considered that the site is very well suited to encourage sustainable and active modes of travel to and from the site. This is demonstrated by the site's PTAL score and the close proximity of public transport services, and cycle provision. In addition there are numerous retail, commercial, health, education and leisure facilities in the vicinity of the site.

3.0 POLICY CONTEXT

Framework

3.1 Relevant policy guidance on transport and land use planning relating to new development is set out in the following documents: -

- *The National Planning Policy Framework (NPPF, 2012);*
- *Further/Minor Alterations to the London Plan (FALP/MALP, 2015);*
- *Camden Core Strategy (2010); and*
- *London Borough of Camden's Development Policies (2010).*

National Planning Policy Framework

3.2 The *NPPF* states, at para 29, that: *Transport policies have an important role to play in facilitating sustainable development but also in contributing to wider sustainability and health objectives. Smarter use of technologies can reduce the need to travel. The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel.*

3.3 Para 30 goes on to state that: *Encouragement should be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. In preparing Local Plans, local planning authorities should therefore support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.*

3.4 At para 32, the *NPPF* states that: *All developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:*

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

3.5 Para 34 states that: *Plans and decisions should ensure 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.*

3.6 Para 35 states that: *Plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. Therefore, developments should be located and designed where practical to:*

- *accommodate the efficient delivery of goods and supplies;*
- *give priority to pedestrian and cycle movements, and have access to high quality public transport facilities; and*
- *create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones.*

Further Alterations to the London Plan (FALP)

3.7 The Mayor published (i.e. adopted) the Further Alterations to the London Plan (FALP), in March 2015. From this date, the FALP are operative as formal alterations to the London Plan (the Mayor's spatial development strategy) and form part of the development plan for Greater London.

3.8 These changes primarily address key housing and employment issues emerging from an analysis of Census data released since the publication of the *London Plan* in July 2011, and which indicate a substantial increase in the capital's population. The FALP also:-

- *develops the concept of the London Plan as the 'London expression of the National Planning Policy Framework';*
- *provides a robust, short to medium term planning framework to provide a clear 'direction of travel' for the longer term, recognising that this may well have to be reviewed*
- *deals with minor changes in terms of fact;*
- *responds to changes in national policy;*
- *provides support for the Mayor's Housing and other strategies; and*
- *where relevant addresses other advice to the Mayor e.g. from the Outer London Commission.*

3.9 **Policy 6.1 Strategic Approach** states that *The Mayor will work with all relevant partners to encourage the closer integration of transport and development through the schemes and proposals shown in Table 6.1 and by:*

- *encouraging patterns and nodes of development that reduce the need to travel, especially by car*
- *seeking to improve the capacity and accessibility of public transport, walking and cycling, particularly in areas of greatest demand*
- *supporting development that generates high levels of trips at locations with high public transport accessibility and/or capacity.*

3.10 **Policy 6.13** also recommends the promotion of car-free developments in locations with high public transport accessibility (while still providing for disabled people).

3.11 Para 6.43 states that: *PTALs are used by TfL to produce a consistent London wide public transport access mapping facility to help boroughs*

with locational planning and assessment of appropriate parking provision by measuring broad public transport accessibility levels. There is evidence that car use reduces as access to public transport (as measured by PTALs) increases. Given the need to avoid over-provision, car parking should reduce as public transport accessibility increases. TfL may refine how PTALs operate and will consult on any proposed changes to the methodology.

3.12 Minor Alterations to the London Plan (MALP) were set out in August 2015, including changes to Parking Standards. However the highways/transport elements of these changes are applicable only to parking the outer London boroughs and therefore not relevant to this site.

London Borough of Camden's Core Strategy

3.13 LBC's Core Strategy sets out the key elements of the Council's planning vision and strategy for the borough. It is the central part of the London Development Framework (LDF), which sets out the planning strategy and policy for the Borough.

3.14 **Core Strategy Policy CS11** – *Promoting sustainable and efficient travel* states that the Council will promote the delivery of transport infrastructure and the availability of sustainable transport choices in order to support Camden's growth, reduce the environmental impact of travel, and relieve pressure on the borough's transport network.

3.15 Under the heading 'Making private transport more sustainable', **Policy CS11** sets out the approach to minimising congestion and addressing the environmental impacts of travel, with the Council: -

- Expanding the availability of car clubs and pool cars as an alternative to the private car;

- Minimise provision for private parking in new developments, in particular through:
    - Car free developments in the borough's most accessible locations, and
    - Car capped developments;
- Restrict new public parking and promote the use of low emission vehicles, including through the provision of electric charging points; and
- Ensuring that growth and development has regard to Camden's road hierarchy and does not cause harm to the management of the road network.

London Borough of Camden's Development Policies 2010 - 2025

3.16 Camden Development Policies form part of the LDF and contribute towards delivering the Core Strategy by setting out detailed planning policies that the Council will use when determining applications for planning permission in the Borough to achieve its vision and objectives.

3.17 **Policy DP16** – *The transport implications of development* states the Council will seek to ensure that development is properly integrated with the transport network and is supported by adequate walking, cycling and public transport links.

3.18 Thresholds for the requirement for Transport Assessments or submission for transport information is set out within Appendix 1 of this document, which states for developments of 80 units or more a Transport Assessment will be required, whilst for developments of 10 units or more minimum transport information will be required.

3.19 **Policy DP18** – *Parking standards and limiting the availability of car parking* states the Council will seek to ensure that developments

provide the minimum necessary car parking provision. With a requirement for developments within the Central London Area (where this site is located) to be car free.

3.20 Car-free development has no car parking within the site and occupiers are not issued with on-street parking permits, although people with disabilities who are Blue Badge holders may park in on-street spaces without a parking permit.

4.0 THE PROPOSED DEVELOPMENT

Introduction

4.1 This application is for a development of 13 residential dwelling, a net increase of 1 from the existing 12 dwellings. The proposed scheme layout is attached for illustrative purposes at **Appendix A**. The development proposals are for a car-free scheme.

4.2 The development proposals provide pedestrian access designed to be accessible for all users, including the mobility impaired. Stepped access is provided from Red Lion Square, with step-free access provided from Dane Street.

Refuse Provision

4.3 The proposals have provision for a communal waste storage area within a suitable carry distance of each dwelling, with bin stores located near the light well to the front of the property. A management company will be employed to move bins from the lower ground level to the street, allowing refuse collection as per the situation for the existing residential dwellings.

Cycle Parking Provision

4.4 Cycle parking is provided on site in-line with Camden's Development Policies which states that residents should have 1 storage or cycle parking space per unit.

4.5 A total of 16 on site cycle parking spaces are proposed which is in excess of these standards. This is also in excess of the situation for the existing 12 residential units which provides no dedicated cycle parking facilities.

4.6 In addition to this short stay cycle parking is available for visitors on Red Lion Square itself within a short walk of the main site.

Disabled Parking Provision

4.7 Disabled parking provision is able to be provided on-street, with Blue Badge holders able to use parking spaces within the CPZ without a parking permit. However, an existing on-street bay could be re-designated on-street if necessary.

5.0 TRIP ATTRACTION/GENERATION

Introduction

5.1 As detailed in **Section 1.0**, the existing site is currently occupied by 12 residential units, with the proposals for a renovation of the site to provide a total of 13 residential units, which equates to a net increase of 1 unit.

Trip Generation

5.2 We have derived the expected trip generation of both the existing and proposed development by deriving trip rates from the TRICS database, see output attached at **Appendix C**.

5.3 For the residential element of the site, the TRICS categories residential flats privately owned has been used. The sites chosen are the most comparable available within the TRICS database with no car parking and good PTALs, as shown on the outputs attached at **Appendix C**.

5.4 The multi-modal trip rates are summarised in **Table 5.1** below, whilst **Table 5.2** derives the anticipated number of existing trips associated with the existing use based on these trip rates.

Table 5.1: Proposed Residential: Weekday peak hour and daily multi-modal trip rates (per unit)

	Weekday am peak hour (08:00-09:00)			Weekday pm peak hour (17:00-18:00)			Daily (07:00-19:00)		
	In	*Out*	*Two-way*	*In*	*Out*	*Two-way*	*In*	*Out*	*Two-way*
Vehicles	0.027	0.040	0.067	0.034	0.027	0.061	0.411	0.429	0.840
Taxis	0.000	0.000	0.000	0.000	0.000	0.000	0.014	0.014	0.028
OGVs	0.000	0.000	0.000	0.007	0.007	0.014	0.021	0.021	0.042
PSVs	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cyclists	0.007	0.020	0.027	0.007	0.000	0.007	0.061	0.060	0.121
Vehicle Occ	0.034	0.047	0.081	0.034	0.034	0.068	0.538	0.559	1.097
Pedestrians	0.034	0.134	0.168	0.094	0.094	0.188	0.745	0.812	1.557
Bus	0.007	0.114	0.121	0.121	0.020	0.141	0.431	0.564	0.995
Rail	0.007	0.040	0.047	0.020	0.000	0.020	0.135	0.222	0.357
Coach	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Public Transport	0.013	0.154	0.167	0.141	0.020	0.161	0.563	0.784	1.347
Total People	**0.087**	**0.356**	**0.443**	**0.275**	**0.148**	**0.423**	**1.905**	**2.215**	**4.120**

Table 5.2: Proposed Residential: Weekday peak hour and daily multi-modal trips (12 residential units)

	Weekday am peak hour (08:00-09:00)			Weekday pm peak hour (17:00-18:00)			Daily (07:00-19:00)		
	In	*Out*	*Two-way*	*In*	*Out*	*Two-way*	*In*	*Out*	*Two-way*
Vehicles	0	0	1	0	0	1	5	5	10
Taxis	0	0	0	0	0	0	0	0	0
OGVs	0	0	0	0	0	0	0	0	1
PSVs	0	0	0	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0	1	1	1
Vehicle Occ	0	1	1	0	0	1	6	7	13
Pedestrians	0	2	2	1	1	2	9	10	19
Bus	0	1	1	1	0	2	5	7	12
Rail	0	0	1	0	0	0	2	3	4
Coach	0	0	0	0	0	0	0	0	0
Public Transport	0	2	2	2	0	2	7	9	16
Total People	**1**	**4**	**5**	**3**	**2**	**5**	**23**	**27**	**49**

5.5 As shown in the above tables, the existing 12 residential units would generate in the region of 1 two-way vehicular movement during the each weekday peak hour. As would be expected given the central London location, the highest proportion of trips would be undertaken by pedestrians/public transport, with 35 two-way movements during each peak hour.

5.6 The expected multi-modal trip generation based on the proposed 13 residential units is provided in **Table 5.3**, whilst **Table 5.4** shows the net difference between the existing and proposed uses.

Table 5.3: Proposed Residential: Weekday peak hour and daily multi-modal trips (13 residential units)

	Weekday am peak hour (08:00-09:00)			Weekday pm peak hour (17:00-18:00)			Daily (07:00-19:00)		
	In	*Out*	*Two-way*	*In*	*Out*	*Two-way*	*In*	*Out*	*Two-way*
Vehicles	0	1	1	0	0	1	5	6	11
Taxis	0	0	0	0	0	0	0	0	0
OGVs	0	0	0	0	0	0	0	0	1
PSVs	0	0	0	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0	1	1	2
Vehicle Occ	0	1	1	0	0	1	7	7	14
Pedestrians	0	2	2	1	1	2	10	11	20
Bus	0	1	2	2	0	2	6	7	13
Rail	0	1	1	0	0	0	2	3	5
Coach	0	0	0	0	0	0	0	0	0
Public Transport	0	2	2	2	0	2	7	10	18
Total People	**1**	**5**	**6**	**4**	**2**	**5**	**25**	**29**	**54**

5.7 As shown in the above tables, the proposed 13 residential units would be expected to generate in the region of 1 two-way vehicular movement and 2 two-way pedestrian/public trips during each weekday peak hour.

Table 5.4: Net Difference between proposed and existing uses (Table 5.3 minus Table 5.2)

	Weekday am peak hour (08:00-09:00)			Weekday pm peak hour (17:00-18:00)			Daily (07:00-19:00)		
	In	*Out*	*Two-way*	*In*	*Out*	*Two-way*	*In*	*Out*	*Two-way*
Vehicles	0	0	0	0	0	0	0	0	1
Taxis	0	0	0	0	0	0	0	0	0
OGVs	0	0	0	0	0	0	0	0	0
PSVs	0	0	0	0	0	0	0	0	0
Cyclists	0	0	0	0	0	0	0	0	0
Vehicle Occ	0	0	0	0	0	0	1	1	1
Pedestrians	0	0	0	0	0	0	1	1	2
Bus	0	0	0	0	0	0	0	1	1
Rail	0	0	0	0	0	0	0	0	0
Coach	0	0	0	0	0	0	0	0	0
Public Transport	0	0	0	0	0	0	1	1	1
Total People	0	0	0	0	0	0	2	2	4

5.8 As shown above the proposed development would result in no discernible increase in the number of vehicular movements during the weekday am and pm peak hours, with an increase of just 2 two-way person trips over the course of a typical weekday. There is also a negligible increase in public transport and walking trips with an increase of 1 two-way trip over the course of a typical weekday.

6.0 SUMMARY AND CONCLUSIONS

6.1 13-17 Red Lion Square LLP has submitted a detailed planning application to the London Borough of Camden for a 13 unit residential development, representing an increase of 1 unit from the existing 12 residential units provided on site. This TS has been prepared to accompany the application and has been prepared in accordance with national, regional and local guidance.

6.2 The site is within walking distance numerous local retail, employment, education and leisure services, as well as national rail, underground, overground and bus services, which is demonstrated by the site's excellent PTAL.

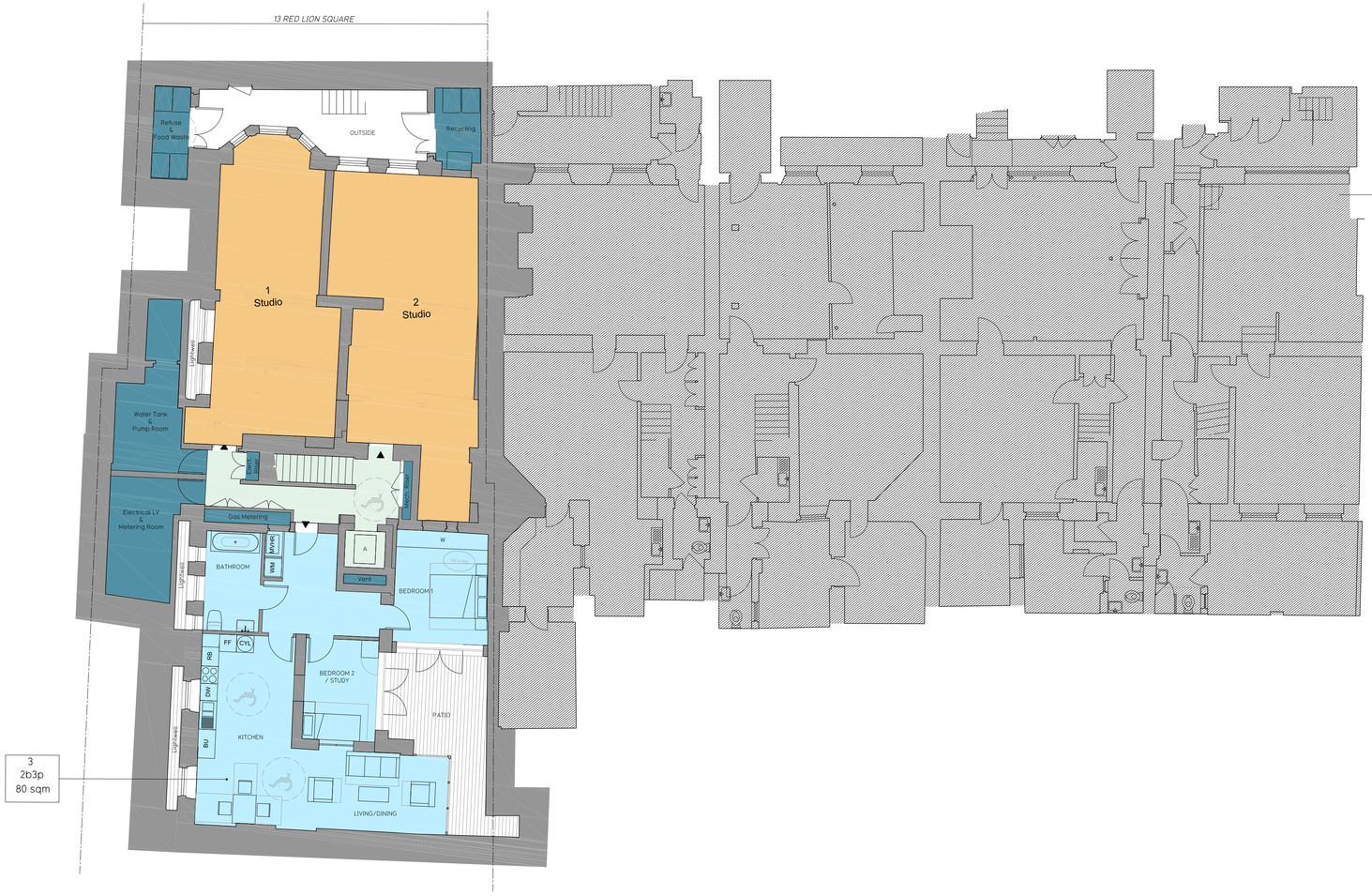
6.3 We have derived the predicted weekday peak hour trip attraction/ generation of the development by mode of travel using the TRICS database, and found that there would be no difference in the number vehicular trips associated with the proposed development, and a negligible difference in the number of walk, cycle and public transport trips.

6.4 Suitable cycle parking is provided as part of these proposals, in-line with Camden's cycle parking standards.

6.5 In view of this we consider that there are no grounds to object to the application on highways and transportation grounds.

Appendix A

Proposed Layout



SEE SEPARATE APPLICATION

1 / 110 Proposed Lower Ground

SCALE 1:100

0 1 2 5 10m

LOCATION PLAN SCALE 1/1,000

NOTES

KEY

- Studio
- 1 Bedroom
- 2 Bedroom
- 3 Bedroom
- 4 Bedroom

Revisions

No		Date	By
A	Lifetime Homes Revision	19-Nov-2015	IA
B	Area update	23-Nov-2015	CM
C	General Revision	27-Nov-2015	IA
D	General Revision	16-Dec-2015	CM
E	General Revision	18-Dec-2015	CM
F	General Revision	18-Dec-2015	CM

Client

13-17 Red Lion Square LLP

Stage

Planning

HWO Architects
407-8 ScreenWorks
22 Highbury Grove
London N5 2ER
T +44 (0)20 7566 0006
E info@hwo-architects.com

Job title

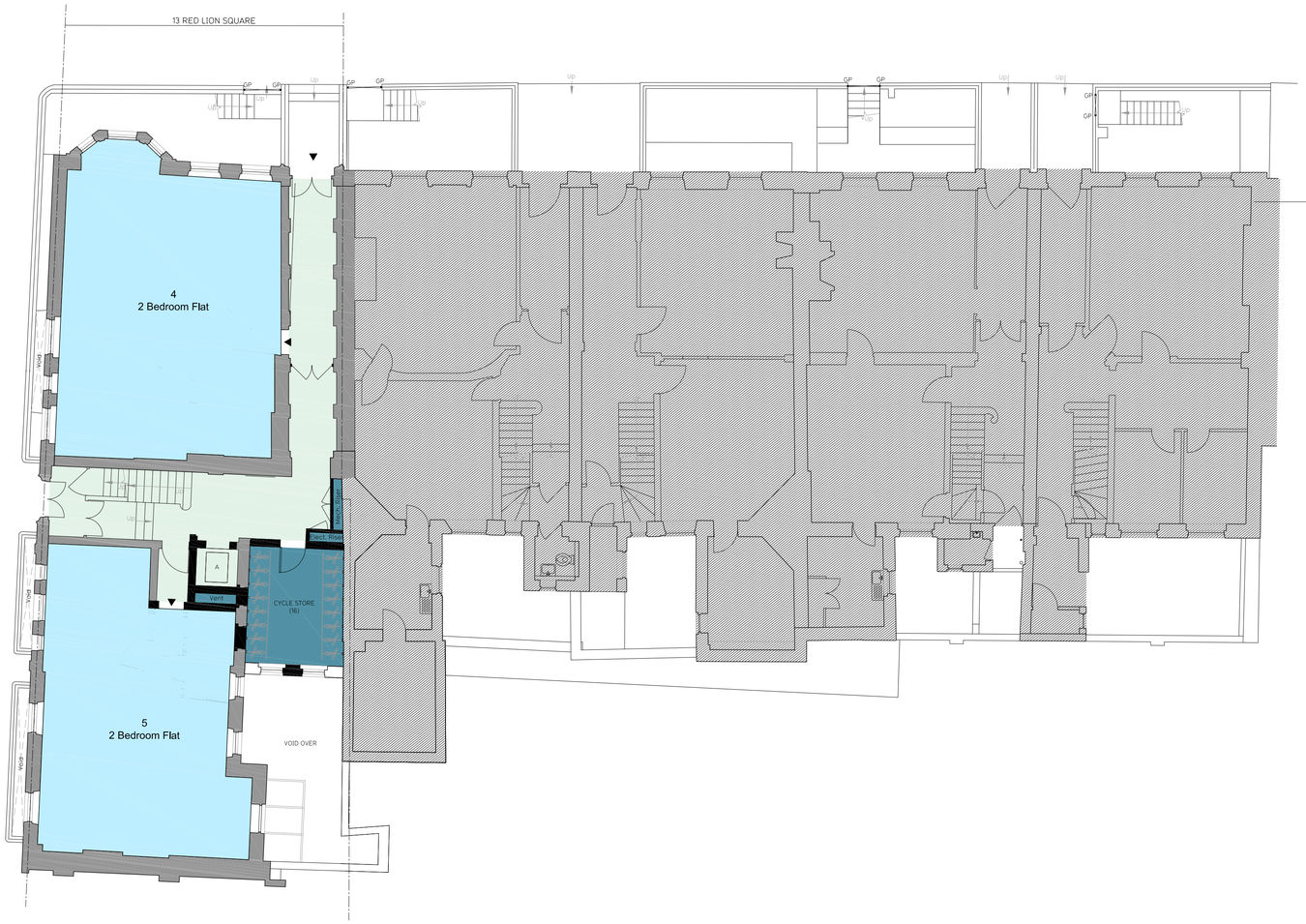
13 Red Lion Square
London, WC1R 4QH

Drawing title

Proposed Floor Plans
Basement

Created by	Checked by	Scale	Date
IA	**NK**	**1:100@ A1**	**3-NOV-2015**

Job	Stage	Drawing	Revision
432	**- S2 -**	**110**	**F**



SEE SEPARATE APPLICATION

1 / 111 Proposed Ground Floor
SCALE 1:100

0 1 2 5 10m

LOCATION PLAN SCALE 1/1,000

NOTES

KEY

- Studio
- 1 Bedroom
- 2 Bedroom
- 3 Bedroom
- 4 Bedroom

Revisions

No		Date	By
A	General Revision	23-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	18-Dec-2015	CM
E	General Revision	18-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
Planning

HWO Architects
407-8 ScreenWorks
22 Highbury Grove
London N5 2ER
T +44 (0)20 7566 0006
E info@hwo-architects.com

Job title
13 Red Lion Square
London, WC1R 4QH

Drawing title
Proposed Floor Plans
Ground Floor

Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	111	E

1 / 112 Proposed First Floor
SCALE 1:100

0 1 2 5 10m

LOCATION PLAN SCALE 1/1,000

NOTES

KEY

- Studio
- 1 Bedroom
- 2 Bedroom
- 3 Bedroom
- 4 Bedroom

Revisions

No		Date	By
A	General Revision	23-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	18-Dec-2015	CM
E	General Revision	18-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
Planning

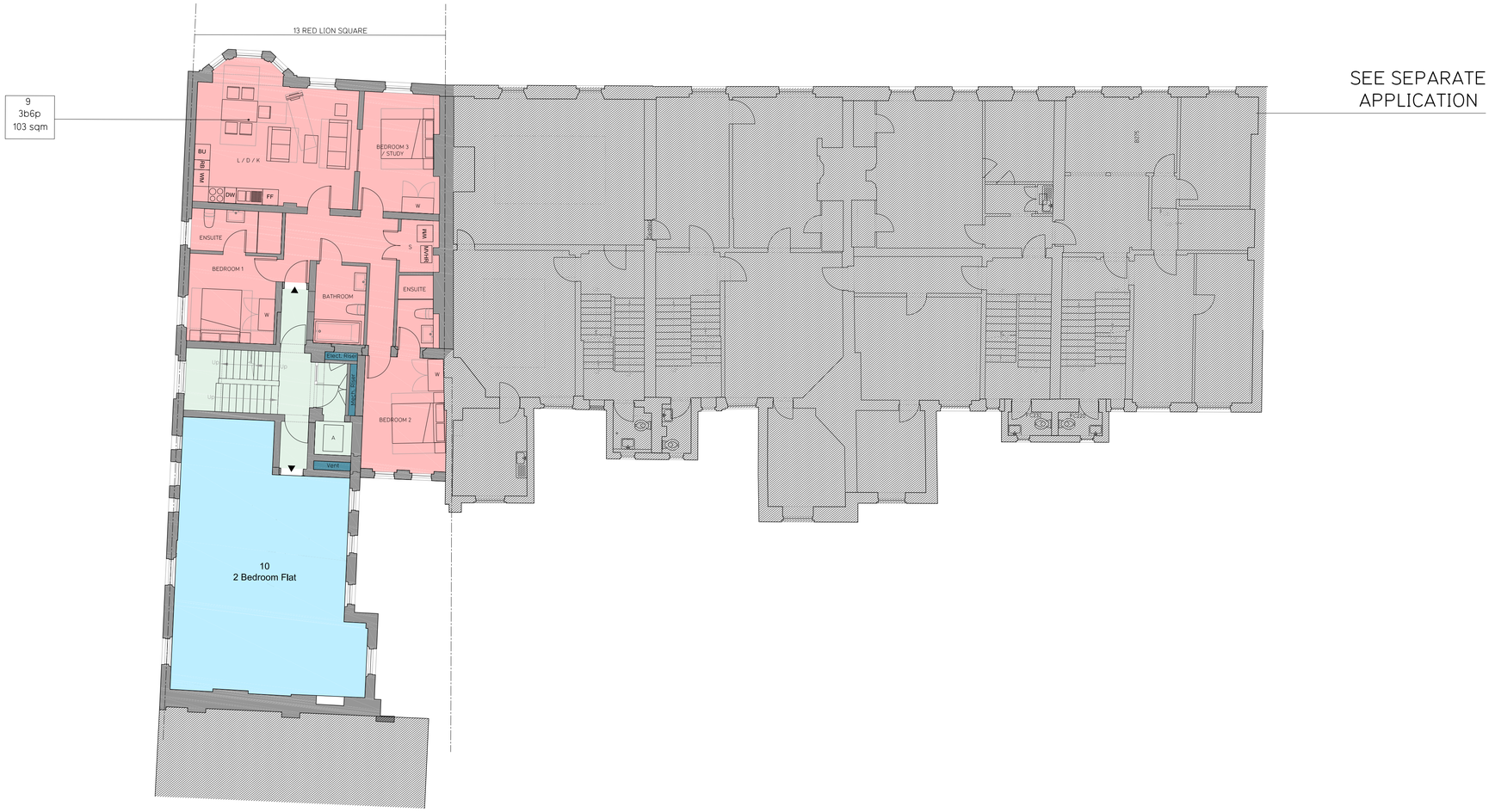
HWO Architects
407-8 ScreenWorks
22 Highbury Grove
London N5 2ER
T +44 (0)20 7566 0006
E info@hwo-architects.com

Job title
13 Red Lion Square
London, WC1R 4QH

Drawing title
Proposed Floor Plans
First Floor

Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	112	E



1 / 113 Proposed Second Floor

SCALE 1:100

0 1 2 5 10m

LOCATION PLAN SCALE 1/1,000

NOTES

KEY

- Studio
- 1 Bedroom
- 2 Bedroom
- 3 Bedroom
- 4 Bedroom

Revisions

No		Date	By
A	General Revision	20-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	18-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
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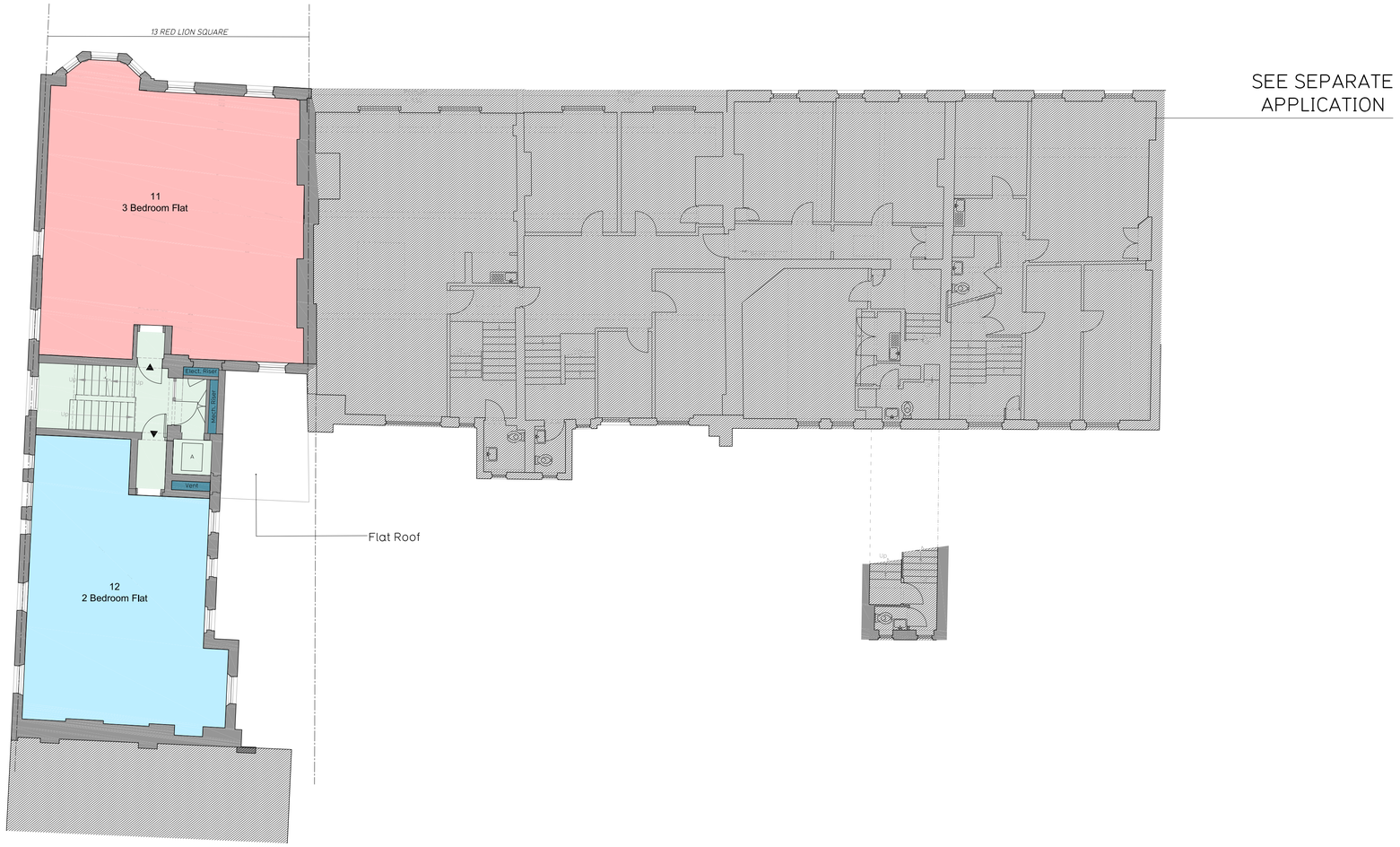
Job title
13 Red Lion Square
London, WC1R 4QH

Drawing title
Proposed Floor Plans
Second Floor

Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	113	D



1 / 114 Proposed Third Floor
SCALE 1:100

LOCATION PLAN SCALE 1/1,000

NOTES

KEY

- Studio
- 1 Bedroom
- 2 Bedroom
- 3 Bedroom
- 4 Bedroom

Revisions

No		Date	By
A	General Revision	20-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	16-Dec-2015	CM
E	General Revision	16-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
Planning

HWO Architects
407-8 ScreenWorks
22 Highbury Grove
London N5 2ER
T +44 (0)20 7566 0006
E info@hwo-architects.com

Job title
13 Red Lion Square
London, WC1R 4QH

Drawing title
Proposed Floor Plans
Third Floor

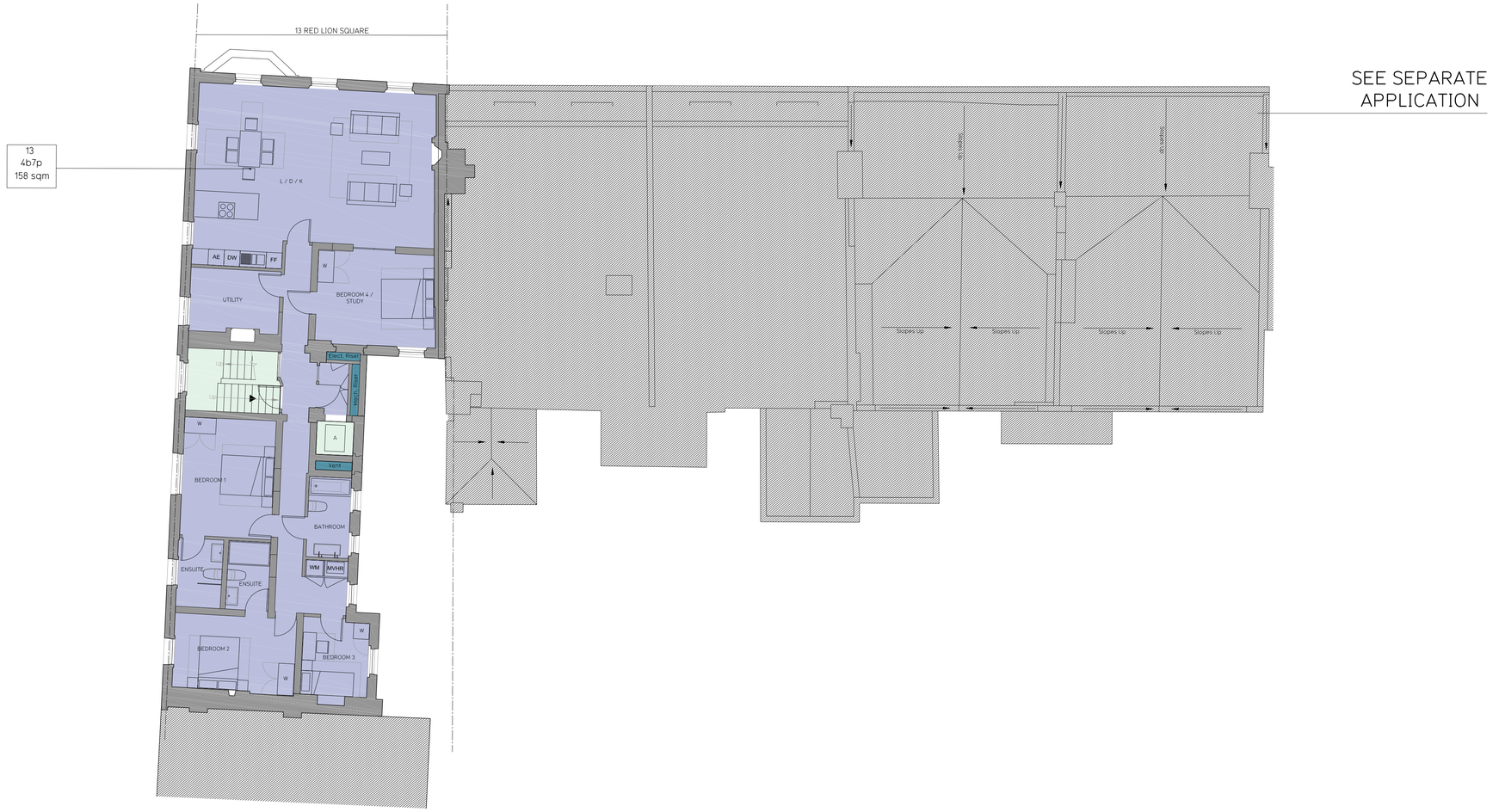
Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	114	E

13 RED LION SQUARE

13
4b7p
158 sqm

SEE SEPARATE APPLICATION



1
115
Proposed Fourth Floor
SCALE 1:100

0 1 2 5 10m

LOCATION PLAN SCALE 1/1,000

NOTES

KEY

- Studio
- 1 Bedroom
- 2 Bedroom
- 3 Bedroom
- 4 Bedroom

Revisions

No		Date	By
A	General Revision	20-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	18-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
Planning

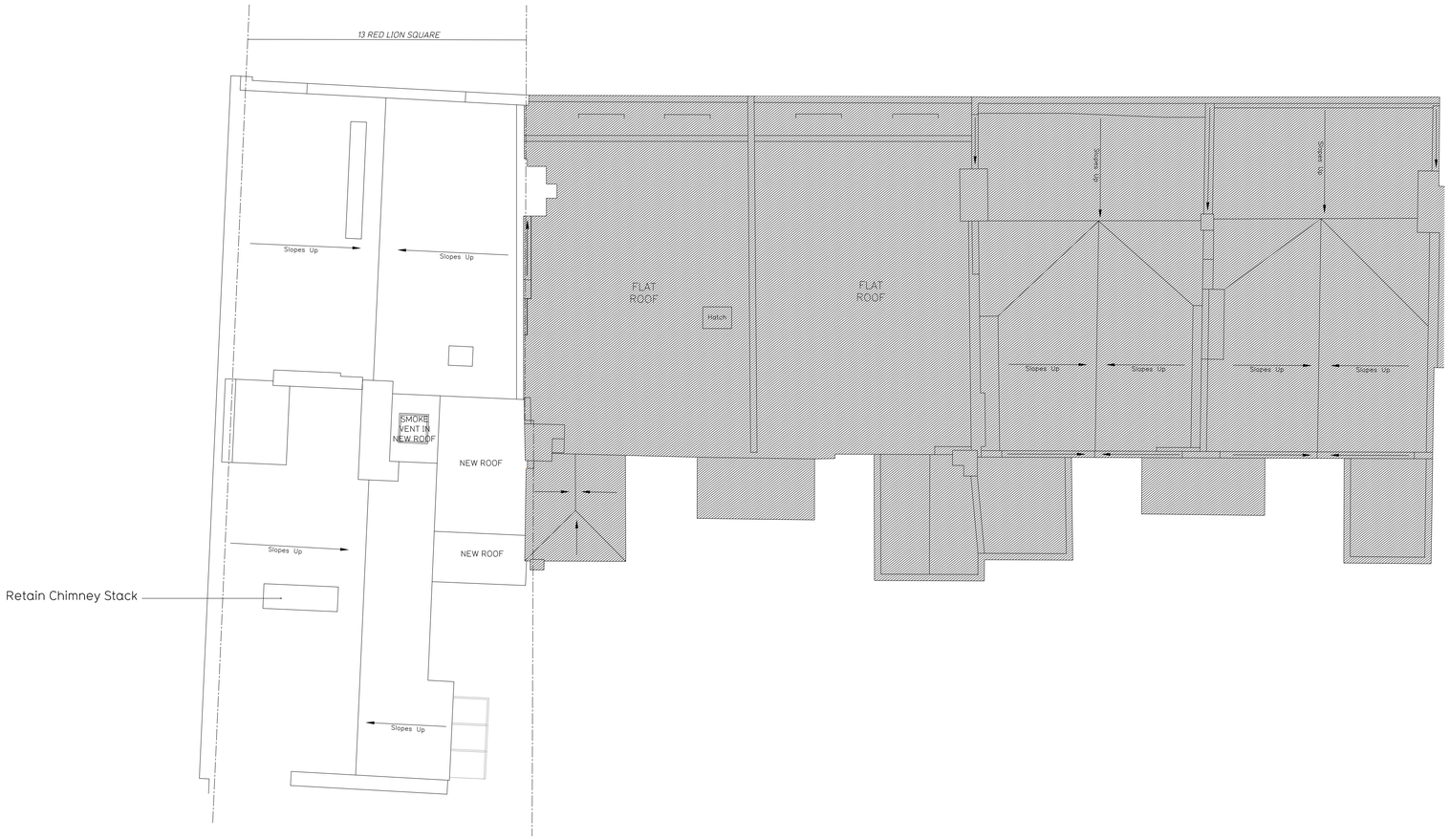
HWO Architects
407-8 ScreenWorks
22 Highbury Grove
London N5 2ER
T +44 (0)20 7566 0006
E info@hwo-architects.com

Job title
13 Red Lion Square
London, WC1R 4QH

Drawing title
Proposed Floor Plans
Fourth Floor

Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	115	D



1 / 116 Proposed Roof Plan
SCALE 1:100

0 1 2 5 10m

LOCATION PLAN SCALE 1/1,000

NOTES

Revisions

No		Date	By
A	General Revision	27-Nov-2015	IA

Client
13-17 Red Lion Square LLP

Stage
Planning

HWO Architects
407-8 ScreenWorks
22 Highbury Grove
London N5 2ER
T +44 (0)20 7566 0006
E info@hwo-architects.com

Job title
13 Red Lion Square
London, WC1R 4QH

Drawing title
Proposed Floor Plans
Roof Plan

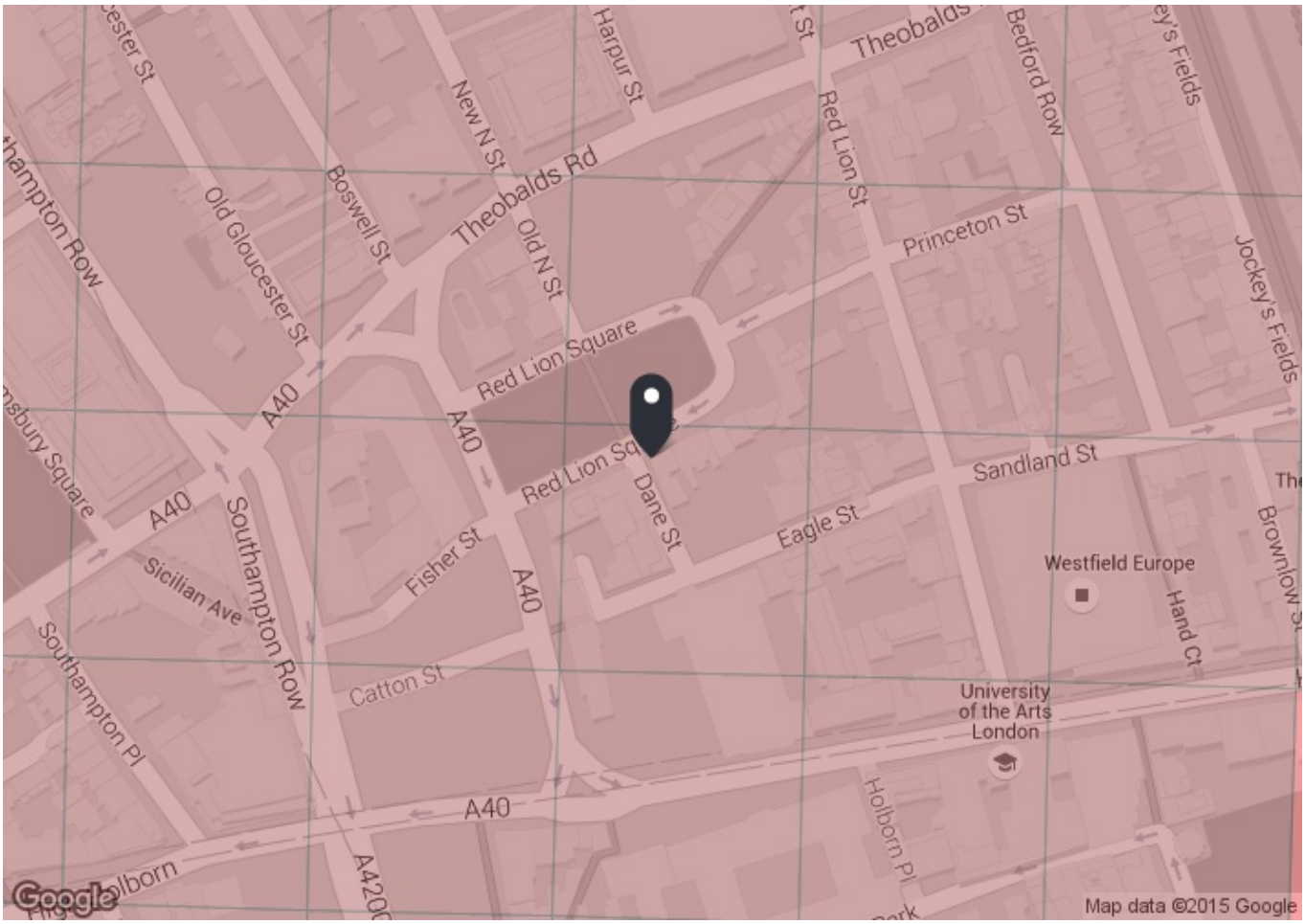
Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	116	A

Appendix B

PTAL Outputs

TRANSPORT FOR LONDON



PTAL output for 2011 (Base year)

6b

5 Dane St, London WC1R, UK

Easting: 530633, Northing: 181681

Grid Cell: 86360

Report generated: 24/11/2015

Map key - PTAL

0 (Worst)	1a
1b	2
3	4
5	6a
6b (Best)	

Map layers

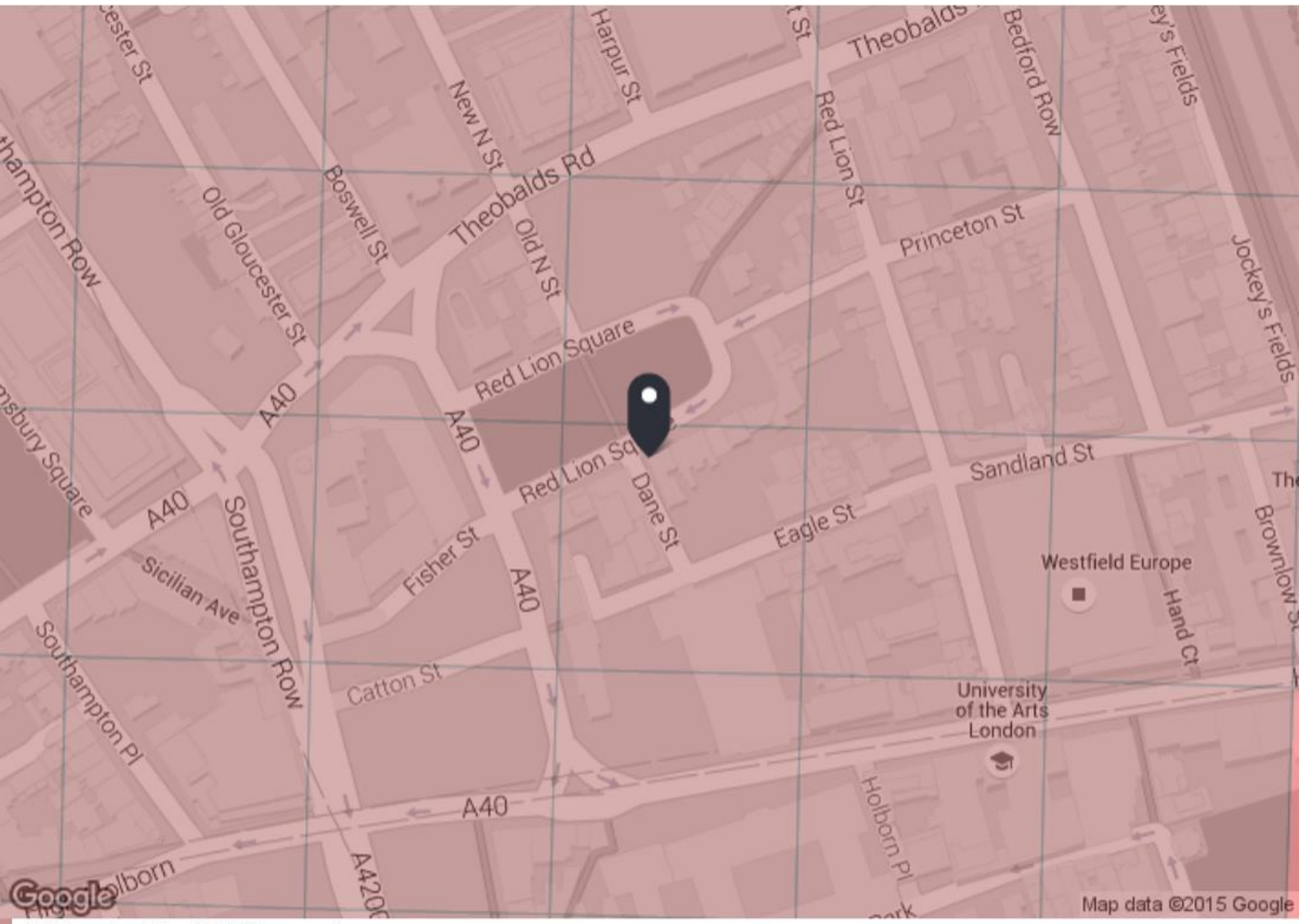
PTAL (cell size: 100m)

Calculation Parameters

Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency(vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	CONWAY HALL	243	289.3	11	3.62	4.73	8.34	3.6	0.5	1.8
Bus	CONWAY HALL	38	289.3	10	3.62	5	8.62	3.48	0.5	1.74
Bus	CONWAY HALL	19	289.3	8	3.62	5.75	9.37	3.2	0.5	1.6
Bus	CONWAY HALL	55	289.3	10	3.62	5	8.62	3.48	0.5	1.74
Bus	HIGH HOLBORN PROCTER ST	8	222.59	10	2.78	5	7.78	3.85	0.5	1.93
Bus	HIGH HOLBORN PROCTER ST	521	222.59	27	2.78	3.11	5.89	5.09	1	5.09
Bus	HIGH HOLBORN PROCTER ST	242	222.59	6.5	2.78	6.62	9.4	3.19	0.5	1.6
Bus	HIGH HOLBORN PROCTER ST	25	222.59	8	2.78	5.75	8.53	3.52	0.5	1.76
Bus	S'HAMPTON ROW/T'BALDS RD	59	337.62	10	4.22	5	9.22	3.25	0.5	1.63
Bus	S'HAMPTON ROW/T'BALDS RD	91	337.62	9	4.22	5.33	9.55	3.14	0.5	1.57
Bus	S'HAMPTON ROW/T'BALDS RD	68	337.62	9	4.22	5.33	9.55	3.14	0.5	1.57
Bus	S'HAMPTON ROW/T'BALDS RD	X68	337.62	4	4.22	9.5	13.72	2.19	0.5	1.09
Bus	S'HAMPTON ROW/T'BALDS RD	188	337.62	8	4.22	5.75	9.97	3.01	0.5	1.5
Bus	S'HAMPTON ROW/T'BALDS RD	168	337.62	9	4.22	5.33	9.55	3.14	0.5	1.57
Bus	BLOOMSBURY SQUARE	1	353.01	8	4.41	5.75	10.16	2.95	0.5	1.48
Bus	BLOOMSBURY SQUARE	171	353.01	7.5	4.41	6	10.41	2.88	0.5	1.44
Bus	BRITISH MUSEUM	98	585.9	9	7.32	5.33	12.66	2.37	0.5	1.19
LUL	Chancery Lane	'Epping-NActon'	583.03	1	7.29	30.75	38.04	0.79	0.5	0.39
LUL	Chancery Lane	'Debden-WRuislip'	583.03	0.33	7.29	91.66	98.95	0.3	0.5	0.15
LUL	Chancery Lane	'Hainault-NP-Northolt'	583.03	1	7.29	30.75	38.04	0.79	0.5	0.39
LUL	Holborn	'Ealing-Epping'	330.36	3	4.13	10.75	14.88	2.02	0.5	1.01
LUL	Holborn	'Epping-Wruislip'	330.36	3	4.13	10.75	14.88	2.02	0.5	1.01
LUL	Holborn	'RuislipGar-Epping'	330.36	1	4.13	30.75	34.88	0.86	0.5	0.43
LUL	Holborn	'WhiteCity-Epping'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
LUL	Holborn	'Northolt-Epping'	330.36	0.67	4.13	45.53	49.66	0.6	0.5	0.3
LUL	Holborn	'WhiteCity-Debden'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
LUL	Holborn	'Debden-Northolt'	330.36	1	4.13	30.75	34.88	0.86	0.5	0.43
LUL	Holborn	'RuislipGdns-Debden'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
LUL	Holborn	'Loughton-WRuislip'	330.36	1	4.13	30.75	34.88	0.86	0.5	0.43
LUL	Holborn	'NActon-Loughton'	330.36	0.67	4.13	45.53	49.66	0.6	0.5	0.3
LUL	Holborn	'RuislipGdns-Loughton'	330.36	0.67	4.13	45.53	49.66	0.6	0.5	0.3
LUL	Holborn	'Loughton-WhiteCity'	330.36	0.67	4.13	45.53	49.66	0.6	0.5	0.3
LUL	Holborn	'Loughton-Northolt'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
LUL	Holborn	'Ealing-Loughton'	330.36	1	4.13	30.75	34.88	0.86	0.5	0.43
LUL	Holborn	'Ealing-NewburyPark'	330.36	0.67	4.13	45.53	49.66	0.6	0.5	0.3
LUL	Holborn	'WRuislip-NewburyPark'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
LUL	Holborn	'NActon-NewburyPark'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
LUL	Holborn	'Ealing-Hainault'	330.36	5	4.13	6.75	10.88	2.76	0.5	1.38
LUL	Holborn	'Hainault-Nacton'	330.36	1.33	4.13	23.31	27.44	1.09	0.5	0.55
LUL	Holborn	'Hainault-WRuislip'	330.36	3.33	4.13	9.76	13.89	2.16	0.5	1.08
LUL	Holborn	'RuislipGdns-NP-Hain'	330.36	0.67	4.13	45.53	49.66	0.6	0.5	0.3
LUL	Holborn	'Hainault-WhiteCity'	330.36	1.67	4.13	18.71	22.84	1.31	0.5	0.66
LUL	Holborn	'GrangeHill-WD-Eal'	330.36	1	4.13	30.75	34.88	0.86	0.5	0.43
LUL	Holborn	'GrangeHill-Wdfd-Whit'	330.36	0.67	4.13	45.53	49.66	0.6	0.5	0.3
LUL	Holborn	'GrangeHill-Wdfd-WRsp'	330.36	0.67	4.13	45.53	49.66	0.6	0.5	0.3
LUL	Holborn	'Cockfosters-LHRT4LT'	330.36	4.67	4.13	7.17	11.3	2.65	0.5	1.33
LUL	Holborn	'RayLane-Cockfosters'	330.36	3.67	4.13	8.92	13.05	2.3	0.5	1.15
LUL	Holborn	'LHRT4LT-ArnosGrove'	330.36	4.67	4.13	7.17	11.3	2.65	0.5	1.33
LUL	Holborn	'ArnosGrove-RayLane'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
LUL	Holborn	'ArnosGrove-Nthfields'	330.36	3	4.13	10.75	14.88	2.02	0.5	1.01
LUL	Holborn	'Oakwood-RayLane'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
LUL	Holborn	'Nthfields-Cockfoster'	330.36	1	4.13	30.75	34.88	0.86	0.5	0.43
LUL	Holborn	'LHRT5-Cockfosters'	330.36	6	4.13	5.75	9.88	3.04	1	3.04
LUL	Holborn	'Cockfosters-Uxbridge'	330.36	2.67	4.13	11.99	16.12	1.86	0.5	0.93
LUL	Holborn	'Ruislip-Cockfosters'	330.36	2.33	4.13	13.63	17.76	1.69	0.5	0.84
LUL	Holborn	'ArnosGrove-Uxbridge'	330.36	1	4.13	30.75	34.88	0.86	0.5	0.43
LUL	Holborn	'Oakwood-Uxbridge'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
LUL	Holborn	'Oakwood-Ruislip'	330.36	0.33	4.13	91.66	95.79	0.31	0.5	0.16
									Total Grid Cell AI:	53.55



PTAL output for 2011 (Base year)

6b

Easting: 530633, Northing: 181681

Map key - PTAL

- 0 (Worst)
- 1a
- 1b
- 2
- 3
- 4
- 5
- 6a
- 6b (Best)

Map layers

PTAL (cell size: 100m)

TRANSPORT FOR LONDON

Appendix C

TRICS Outputs

Calculation Reference: AUDIT-437201-151124-1159

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

01	GREATER LONDON		
	HK	HACKNEY	1 days
	HM	HAMMERSMITH AND FULHAM	1 days
	HO	HOUNSLOW	1 days
	NH	NEWHAM	1 days

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

Filtering Stage 2 selection:

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

Parameter: Number of dwellings
Actual Range: 9 to 86 (units:)
Range Selected by User: 9 to 530 (units:)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/07 to 23/04/15

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

Selected survey days:

Tuesday	1 days
Wednesday	2 days
Thursday	1 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Town Centre	3
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	1
Built-Up Zone	2
High Street	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	4 days

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

Population within 1 mile:

25,001 to 50,000	1 days
50,001 to 100,000	2 days
101,000 or More	1 days

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

Population within 5 miles:

500,001 or More	4 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	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:

Yes	1 days
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.

LIST OF SITES relevant to selection parameters

1	HK-03-C-02	BLOCK OF FLATS		HACKNEY
	HOXTON			
	SHOREDITCH			
	Town Centre			
	Built-Up Zone			
	Total Number of dwellings:		9	
	Survey date: TUESDAY		11/11/08	Survey Type: MANUAL
2	HM-03-C-01	BLOCK OF FLATS		HAMMERSMITH AND FULHAM
	VANSTON PLACE			
	FULHAM			
	Town Centre			
	High Street			
	Total Number of dwellings:		42	
	Survey date: WEDNESDAY		16/07/14	Survey Type: MANUAL
3	HO-03-C-02	BLOCK OF FLATS		HOUNSLOW
	HIGH STREET			
	BRENTFORD			
	Town Centre			
	Built-Up Zone			
	Total Number of dwellings:		86	
	Survey date: WEDNESDAY		03/09/14	Survey Type: MANUAL
4	NH-03-C-01	BLOCK OF FLATS		NEWHAM
	ARTHINGWORTH STREET			
	STRATFORD			
	Neighbourhood Centre (PPS6 Local Centre)			
	Residential Zone			
	Total Number of dwellings:		12	
	Survey date: THURSDAY		14/11/13	Survey Type: MANUAL

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL VEHICLES
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 15 DWELLS shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	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	4	37	0.034	0.503	4	37	0.060	0.906	4	37	0.094	1.409
08:00 - 09:00	4	37	0.027	0.403	4	37	0.040	0.604	4	37	0.067	1.007
09:00 - 10:00	4	37	0.020	0.302	4	37	0.040	0.604	4	37	0.060	0.906
10:00 - 11:00	4	37	0.027	0.403	4	37	0.027	0.403	4	37	0.054	0.806
11:00 - 12:00	4	37	0.040	0.604	4	37	0.027	0.403	4	37	0.067	1.007
12:00 - 13:00	4	37	0.034	0.503	4	37	0.020	0.302	4	37	0.054	0.805
13:00 - 14:00	4	37	0.020	0.302	4	37	0.034	0.503	4	37	0.054	0.805
14:00 - 15:00	4	37	0.020	0.302	4	37	0.047	0.705	4	37	0.067	1.007
15:00 - 16:00	4	37	0.034	0.503	4	37	0.040	0.604	4	37	0.074	1.107
16:00 - 17:00	4	37	0.087	1.309	4	37	0.054	0.805	4	37	0.141	2.114
17:00 - 18:00	4	37	0.034	0.503	4	37	0.027	0.403	4	37	0.061	0.906
18:00 - 19:00	4	37	0.034	0.503	4	37	0.013	0.201	4	37	0.047	0.704
19:00 - 20:00												
20:00 - 21:00												
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.411	6.140			0.429	6.443			0.840	12.583

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected:	9 - 86 (units:)
Survey date date range:	01/01/07 - 23/04/15
Number of weekdays (Monday-Friday):	4
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.

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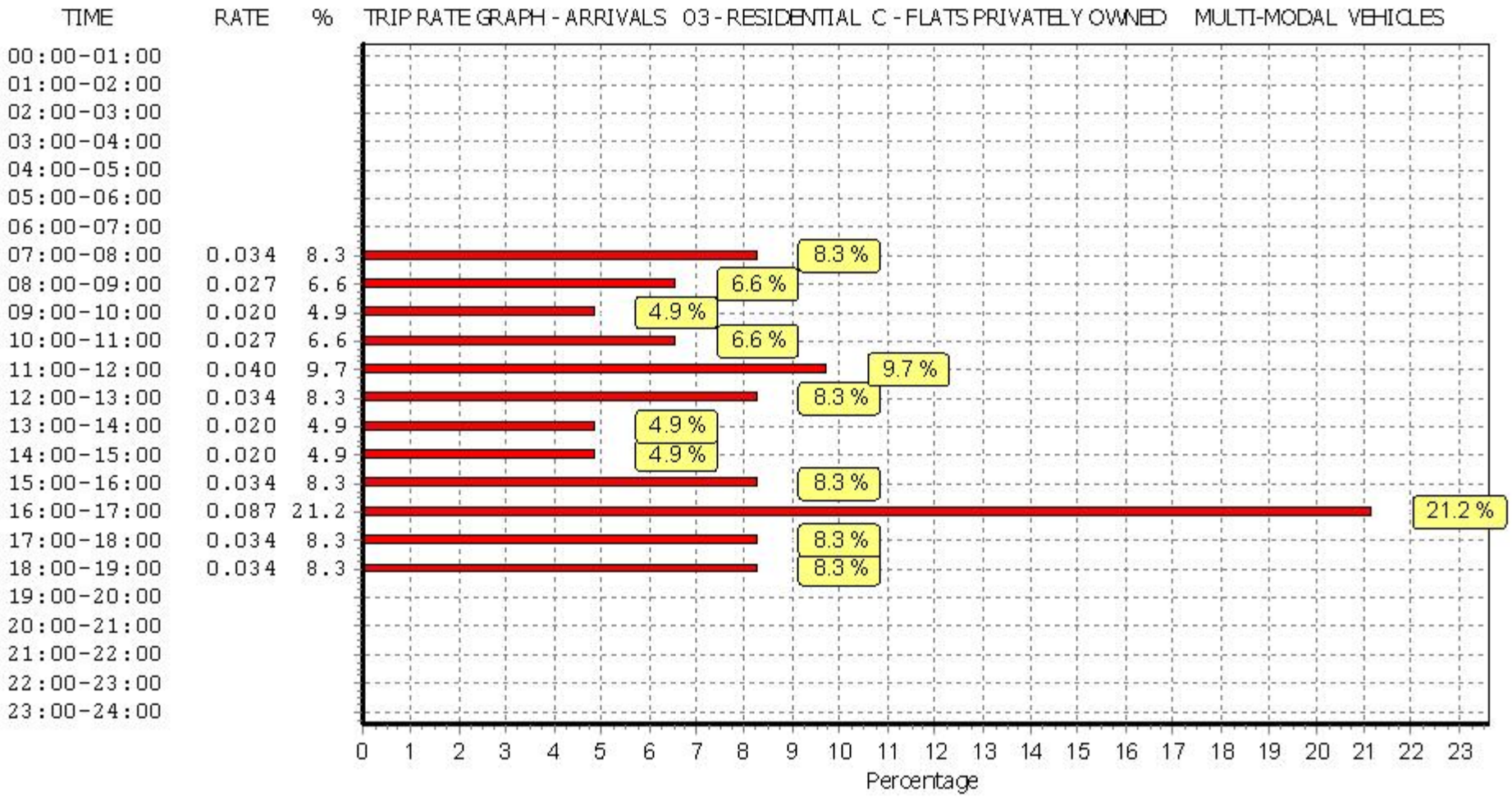

This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through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

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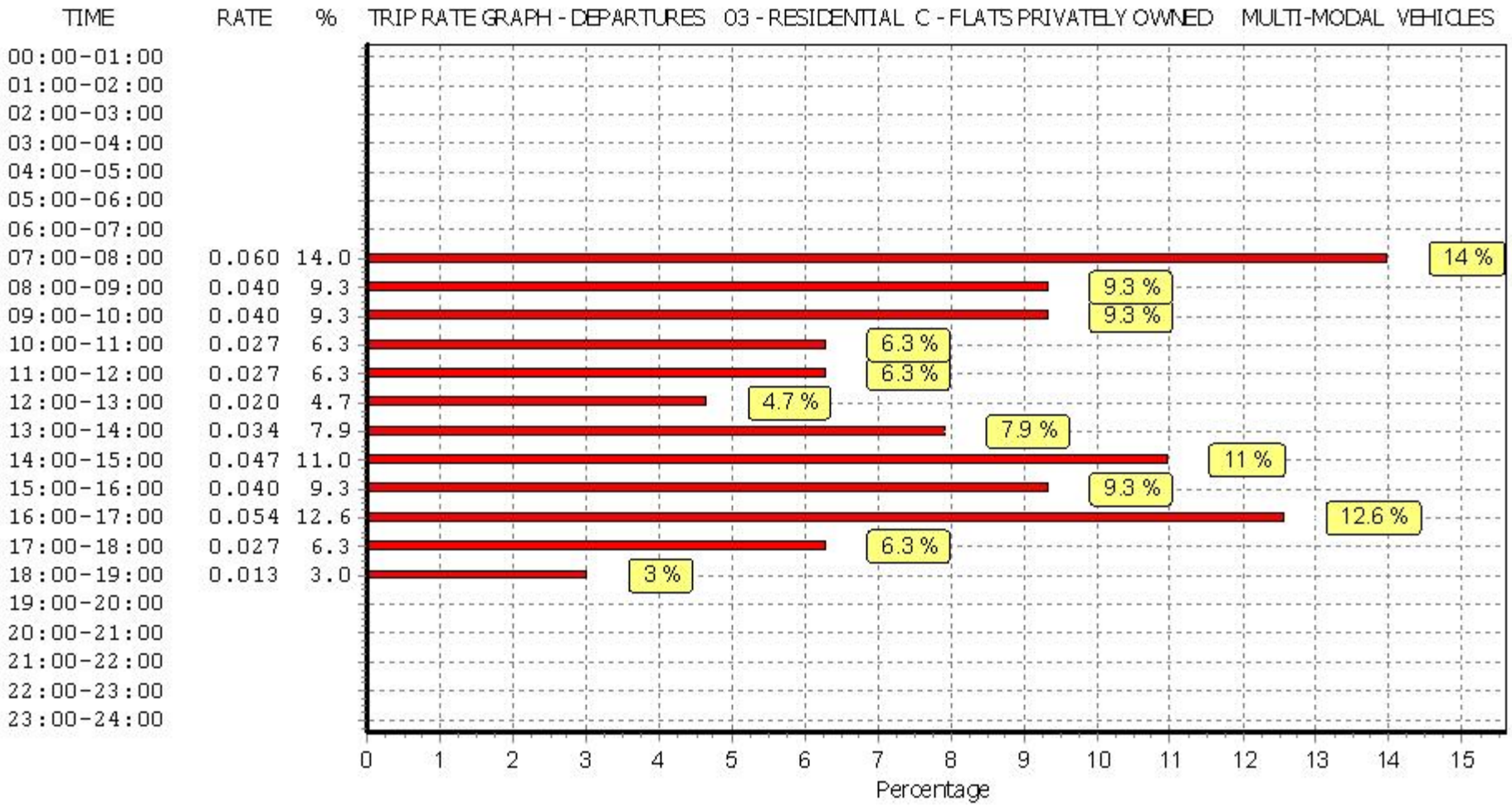

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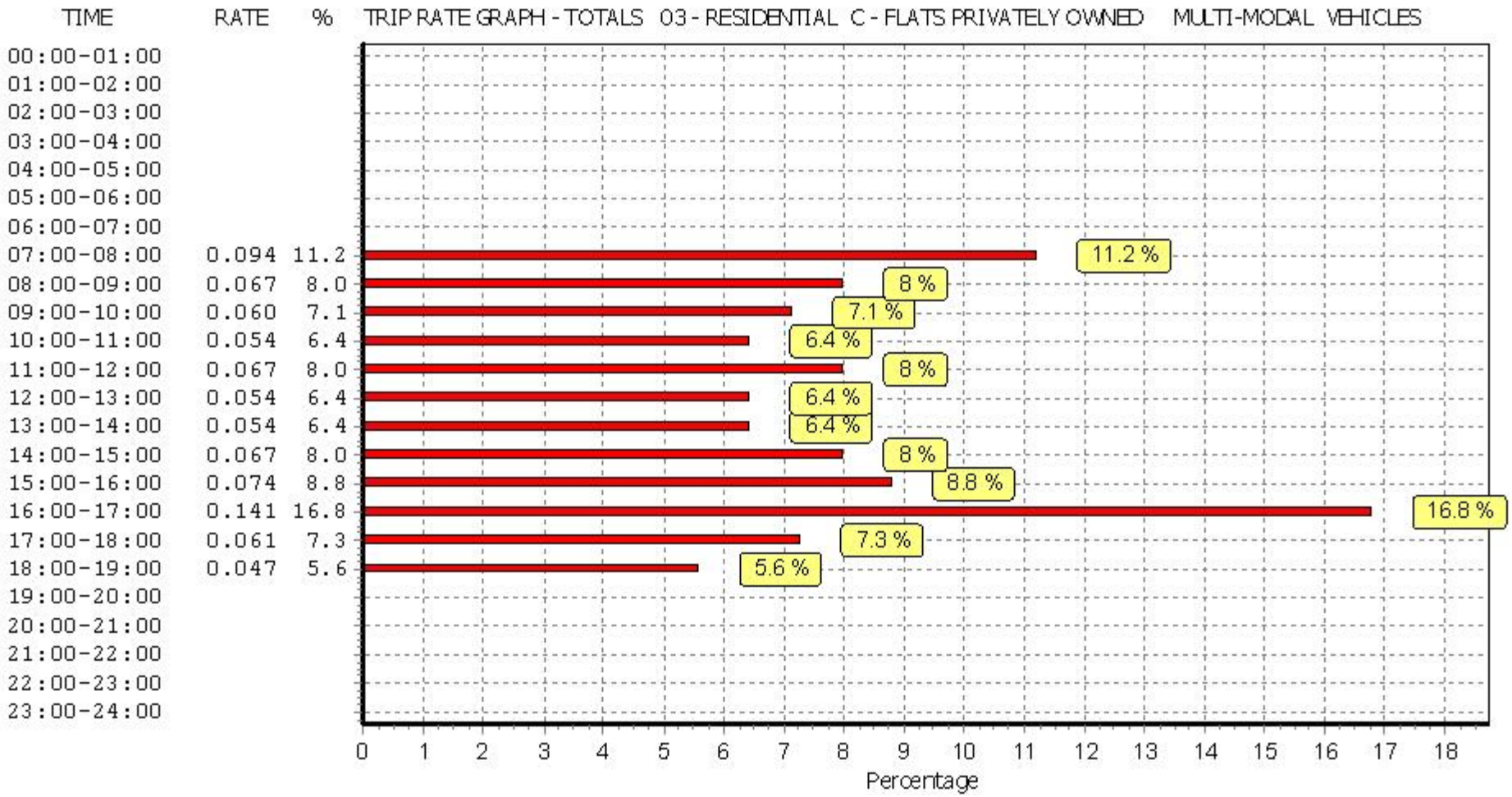

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