

Transport Statement

Riverside House, Woolwich

26 July 2021

Prepared for

Shall Do Stoke Road Ltd



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Contents

1. INTRODUCTION	3
2. EXISTING SITUATION.....	6
3. DEVELOPMENT PROPOSALS	12
4. TRIP GENERATION	15
5. SUMMARY & CONCLUSION	21

Tables

Table 2.1	Local Trip Attractors	7
Table 2.2	Local Bus Services.....	9
Table 2.3	Local Rail Services.....	10
Table 4.1	Existing Office Trip Rates & Trips	15
Table 4.2	Census Method of Travel to Work Data (Workday Population)	16
Table 4.3	Exiting Office Multi-modal Trip Generation	17
Table 4.4	Proposed Residential Trip Rates & Trips	18
Table 4.5	Census Method of Travel to Work Data (Residential Population)	18
Table 4.6	Proposed Residential Multi-modal Trip Generation	19
Table 4.7	Net Change in Traffic Impact.....	20

Figures

Figure 1.1	Site Location Plan
Figure 3.1	Proposed Site Layout

Appendices

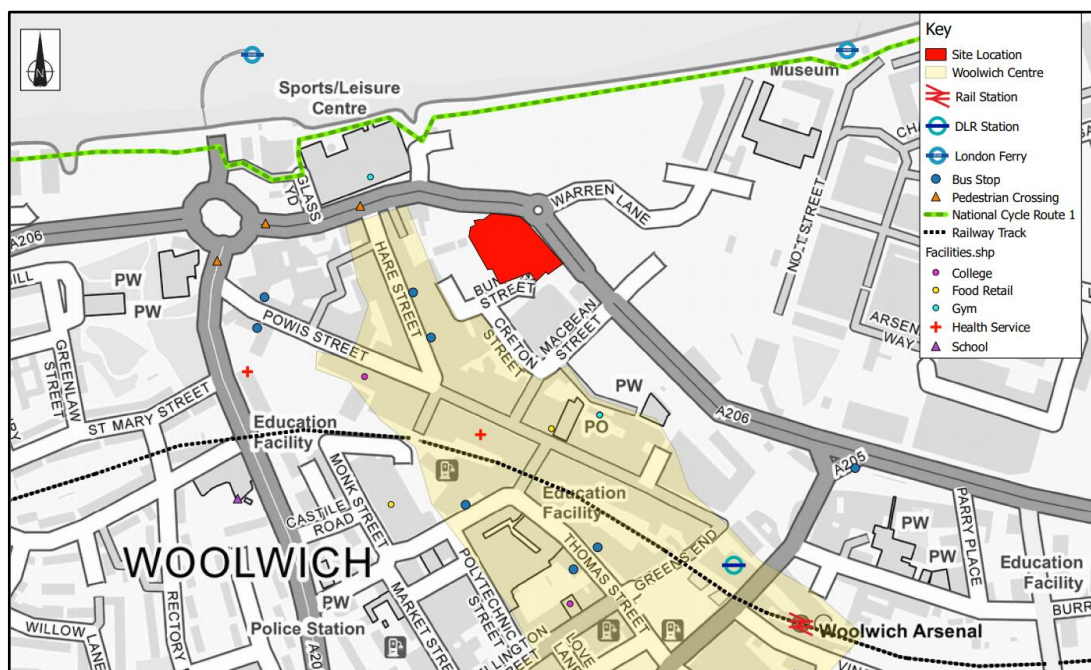
Appendix A – Existing Site Layout
Appendix B – PTAL Output
Appendix C – Proposed Site Layout
Appendix D – TRICS Output: Office
Appendix E – TRICS Output: Flats

1. Introduction

1.1 Preamble and Site Location

1.1.1 Markides Associates (MA) have been instructed by Shall Do Stoke Road Ltd (the Applicant) to prepare a Transport Statement (TS) in support of their development proposals for Riverside House, a site located south of the A206, within the Woolwich area of the Royal Borough of Greenwich (RBG), SE18 6BU. A site location plan is provided at **Figure 1.1**.

Figure 1.1 Site Location Plan



1.1.2 The site is located within the wider Woolwich Town Centre regeneration area, with Berkeley Homes Royal Arsenal Riverside development being delivered to the north of the A206, within which there is the site of a new Crossrail Station, which is anticipated to open in 2022.

1.1.3 The site has permitted use as E(g)(i) Office, with gross internal area (GIA) of approximately 15,054sqm, accommodated within a part 14-storey floor building to the north of the site and a part 6 storey 'L' shaped building to the south, with these two buildings linked at ground and first floor levels. The existing site layout is attached as **Appendix A**.

1.1.4 The site benefits from existing car parking provision totalling approximately 42 spaces, located to the rear of the existing buildings, and accessed from Bunton Street, from which all delivery and servicing activity also takes place. An additional 2 parking spaces that were historically accessed from Beresford Street are now inaccessible due to the relatively recent removal of the vehicle crossover that served them as a part of off-site public realm improvement works. There are no intentions to reintroduce this access.

1.2 Planning History

- 1.2.1 In January 2019, prior approval was granted for a permitted development scheme relating to the “*change of use of the site from office (Class B1a) to Residential (Class C3) forming 199 residential units*” (planning reference: 18/4120/PN2).
- 1.2.2 The proposal was supported by a transport statement prepared by MA. The transport statement outlined that the proposals would retain sufficient car parking to accommodate anticipated demand from blue badge holders, supported by policy-compliant cycle parking spaces. It was also proposed to maintain the established delivery and servicing strategies.
- 1.2.3 The officers delegated report summarised consultation responses from both TfL officers and RBG transport officers, which confirmed no objections, highlighting the highly accessible nature of the site. The decision notice confirmed a number of transport related conditions, including a requirement to impose a restriction that would prevent occupants of the site from obtaining on-street parking permits. Other transport related conditions required the implementation of a Travel Plan and the submission of details regarding cycle parking provision.

1.3 Development Proposals

- 1.3.1 The development proposals supported by this TS are also for the change of use of the existing office floor space to residential (C3 land use), with the delivery of a slightly larger scale of development to that previously approved, totalling 209 residential units, with accommodation mix as follows:
- 74 x 1 bedroom 1 person units
 - 60 x 1 bedroom 2 person units
 - 75 x 2 bedroom 3 person units
- 1.3.2 The development proposals will retain sufficient car parking to accommodate Blue Badge parking provision requirements (10% of total units – 21 spaces). The Applicant will otherwise accept similar restriction in terms of residents being unable to apply for on-street parking permits.
- 1.3.3 Cycle parking requirements in accordance with standards will be provided, accommodated within secure and sheltered stores within part of the existing external area.

1.4 TS Requirement & Scope

- 1.4.1 The Town and Country Planning (General Permitted Development) (England) Order 2015, which came into force on the 15th of April 2015, and its subsequent 2016 Amendment which came into force on the 6th April 2016, sets out the permitted development rights for the conversion of offices to residential development under Class O. Development of this nature (Class O) will consist of “a change of use of a building and any land within its curtilage from a use falling within Class B1(a) (offices) of the Schedule to the Use Classes Order, to a use falling within Class C3 (dwelling houses) of that Schedule.”

- 1.4.2 The Order states that the local planning authority must also have regard to the National Planning Policy Framework (NPPF), so far as relevant to the subject matter of the prior approval. The order states that development consisting of a change of use of a building and any land within its curtilage is permitted, subject to the condition that before the beginning of the development, the Applicant will apply to the local planning authority for a determination as to whether the prior approval of the authority will be required, with one of the considerations being the transport and highways impacts of the development.
- 1.4.3 This TS has therefore been prepared to support the proposed change of use and to demonstrate that there are no concerns generated regarding a material increase or a material change in the character of traffic in the vicinity of the site, providing RBG with the information necessary to conclude that prior approval is not required, or if it is required, it can be given. The TS follows the same format as the transport statement in support of the approved change of use.
- 1.4.4 Following this introduction, the TS is structured as follows:
- **Section 2** – Existing Situation reviews the accessibility of the site location in order to demonstrate that it is appropriate for residential development;
 - **Section 3** – Development Proposals outlines the application proposals in detail, including site access, car parking, cycle parking and servicing arrangements;
 - **Section 4** – Trip Generation and Impact undertakes a comparative trip generation assessment and;
 - **Section 5** – Summary and Conclusions provides an overview of the key points of this report and concludes.

2. Existing Situation

2.1 Overview

2.1.1 This section of the TS provides a review of the site location, accessibility and existing transport infrastructure that serves the site, as indicated in **Figure 1.1**.

2.2 Site Location

2.2.1 The site is located within the wider Woolwich Town Centre regeneration area, with Berkeley Homes Royal Arsenal Riverside development being delivered to the north of the A206, within which there is the site of a new Crossrail Station, which is anticipated to open in 2022. Once complete this site will deliver 5,000 homes, as well as employment, leisure and cultural facilities.

2.2.2 The site is located at the A206 Beresford Street junction with the A206 Woolwich High Street, which forms the site's eastern and northern boundaries respectively. To the west the site is bound by Callis Yard, a site for which planning permission was granted (application reference 14/1355/F) for a mixed-use development including 152 residential units, together with an indoor children's play centre, ancillary gym, and associated car parking.

2.2.3 To the south, the site is bound by Bunton Street, which comprises a single-carriageway access road providing rear access to the site, Callis Yard, and other retail and commercial land uses adjacent.

2.3 Existing Land Use

2.3.1 The site is currently vacant but has permitted use as E(g)(i) Office, with GIA of approximately 15,054sqm, accommodated within a part 14 storey building to the north of the site and a part six storey 'L' shaped building to the south, with these two buildings linked at ground and first floor levels.

2.3.2 In terms of existing access arrangements, the site has a vehicle access from the A206 Beresford Street, which serves a small service yard, although this access has been closed off for some time. Two additional vehicle accesses are located at the rear of the site, accessed via Bunton Street. The first access leads into a car park with 10 car parking spaces, 7 of which are disabled, with 3 demarked for delivery and servicing. The second access is located immediately adjacent, which serves an internal access road that runs under the 4-floor building, leading to a rear parking area that comprises 2 disabled spaces and some 30 standard car parking spaces.

2.3.3 Adjacent to this access, and within the undercroft, there are a total of 15 cycle parking stands.

2.3.4 Pedestrian access to the site is also taken from both the Woolwich High Street and Bunton Road frontages, with the former including both stepped access and wheelchair accessible ramps.

2.4 Local Facilities and Amenities

- 2.4.1 Reflecting the town centre location, the site benefits from being situated within close proximity of a range of social infrastructure that acts as typical trip attractors for residential land uses, including education, health, leisure land use and retail facilities.
- 2.4.2 Examples of this social infrastructure, and their associated walk distance, are detailed below in **Table 2.1**.

Table 2.1 Local Trip Attractors

Attractor Land Use	Site	Assumed Walk Route	Approx. Walk Distance
Education	St Mary Magdalene All Through School	Creton St. – Barnard Cl. – Clara Pl. – Kingsman St.	600m
	South London Academy Vocational Education	Creton St. – Powis St.	350m
	JFC Training College	Creton St. – Thomas St. – Wellington St.	550m
Food Retail	Lidl	A206 – Macbean St.	250m
	Iceland	Creton St. – Macbean St.	210m
	Sainsbury's	Creton St. – Calderwood St.	500m
Comparison Retail	Woolwich Centre	Creton St. – Macbean St.	220m
Leisure	Better Gym	A206 – Macbean St.	260m
	Waterfront Leisure Centre	A206	170m
Health	NHS Ferryview Health Centre	Creton St. – Barnard Cl. – Clara Pl. – South Circular Road	600m
	NHS JH Patel & Partners Dental Practice	Creton St. – Woolwich Centre	350m

- 2.4.3 **Table 2.1** confirms that a range of land uses are located within close proximity, which ensures that these trip attractors can be accessed by modes other than the private car and realistically on foot, thereby reflecting fundamental requirements of national, regional and local planning policy for creating sustainable communities. The Chartered Institute of Highways and Transportation's (CIHT) March 2015 guidance document, 'Planning for Walking,' states that 'walkable neighbourhoods' are those with a typical catchment of around 800m, with all identified land uses being within this walk distance threshold.

2.5 Walking & Cycle Infrastructure

- 2.5.1 There are footways on both sides of the A206 leading from the site to local facilities, with frequent crossing provision, including a signalised crossing immediately east of the main building access, an additional signalised pedestrian crossing 150m west of the site near the junction of Hare Street, and a zebra crossing with Belisha beacons at the A206/A2204/South Circular Road roundabout further west.
- 2.5.2 Within Woolwich Town Centre, to the rear of the site off Creton Street, there is a network of pedestrian priority streets that provide a shorter and more pleasant walking/cycling route

towards key trip attractors such as Woolwich Arsenal Station, with the terrain being generally flat.

- 2.5.3 National Cycle Route 1 (NCR1) follows the banks of the Thames some 200m north of the site, providing a largely off-road cycle link to Greenwich Peninsula to the west (21 minutes' cycle ride) and Belvedere and associated industrial employment to the east (25-30 minutes' cycle).
- 2.5.4 Local cycle route spurs of NCR1 additionally provide off-road links to Plumstead and on-road links to Queen Elizabeth Hospital, each within a 10-minute cycle ride of the site.
- 2.5.5 The site benefits from being located within close proximity of the Woolwich foot tunnel, which allows pedestrians and cyclists to cross the River Thames, emerging in North Woolwich adjacent Royal Victoria Gardens.

2.6 Public Transport Infrastructure

PTAL Assessment

- 2.6.1 A general measure of public transport accessibility of a site is established using the PTAL rating. This is a calculation based on the proximity, frequency and number of public transport services. All bus routes with stops within 640m and underground/train stations within 960m are taken into account. PTALs are measured on a scale of 1 to 6b, with 1 being the lowest level of public transport accessibility and 6b being the highest.
- 2.6.2 A PTAL assessment for the site has therefore been undertaken using the TfL land use planning PTAL assessment tool (<http://www.webcat.org.uk/>), using the site centre as the chosen point of interest (POI). The assessment identifies the site as having PTAL rating of 6a, with output attached as **Appendix B**.
- 2.6.3 The PTAL rating is achieved by the site being within close proximity of Woolwich Arsenal station and existing bus stop provision on Thomas Street, Wellington Street, Bereford Street, New Road and Hare Street.

Bus Services

- 2.6.4 The nearest bus stops are located on the A206, some 200m west of the site, named Woolwich High Street (Stop C) and Woolwich Ferry (Stop A). Access between the bus stops in both directions and the site is facilitated by the crossings already described.
- 2.6.5 These stops are served by the 51, 99, 386, 161, 177, 180, 472 and N1 bus routes. Further services are available from Calderwood Street (Stop V), 450m south of the site. This stop is served by the 51, 161, and 386 bus services and additionally the 178 and 291 routes. Finally, there are two bus stops on Thomas Street (Stop T and Stop W) 450m south of the site, which are served by the number 178, 99, 177, 180, 472 and N1 bus services and additionally the number 96.
- 2.6.6 These services, their routes and frequencies are summarised in **Table 2.2** whilst the bus stop locations are shown diagrammatically in **Figure 1.1**.

Table 2.2 Local Bus Services

Service	Route	Peak Frequency		
		Weekday Peak Hour	Saturday	Sunday
Buses from Woolwich High Street				
51	Woolwich High Street – Orpington Station	7-11 mins	8-12 mins	13-14 mins or 3-5 per hour
99	Woolwich High Street – Geddes Place	10-13 mins	12-13 mins	2-5 per hour
386	Woolwich High Street – Royal Parade	4-5 per hour	3-5 per hour	3 per hour
161	Chislehurst War Memorial – North Greenwich Station	8-12 mins	9-12 mins or 2-3 per hour	10-13 mins or 2-3 per hour
177	Thamesmead Town Centre – Peckham Bus Station	8-11 mins	9-13 mins	11-13 mins or 4-5 per hour
180	Crabtree Manor North – Molesworth Street	9-12 mins	8-10 mins	13-14 mins or 3-4 per hour
472	North Greenwich Station – Thamesmead Town Centre	4-7 mins	7-11 mins	8-11 mins or 4 per hour
N1	New Oxford Street – Titmus Avenue	1-2 per hour	1-4 per hour	1-2 per hour
Additional Services from Calderwood Street				
178	Calderwood Street – Lewisham Station	11-14 mins	4 per hour	3 per hour
291	Queen Elizabeth Hospital – Garland Road Clinic	8-11 mins	9-10 mins or 4 per hour	3-4 per hour
Additional Services from Thomas Street				
96	Bluewater Shopping Centre – Thomas Street	8-12 mins	5 per hour	10-13 mins or 4 per hour

2.6.7 **Table 2.2** demonstrates that the site has good access to bus provision, including weekend, evening and night services in line with typical commuting hours.

Rail Services

2.6.8 The nearest railway station is located at Woolwich Arsenal some 550m to the south of the site and is served by DLR services, operating between Bank and Stratford International, and Thameslink and Southeastern rail routes with direct destinations including London Cannon Street, Luton, Dartford, London Bridge and London Charing Cross.

2.6.9 These services and their peak hour frequency are outlined in **Table 2.3**.

Table 2.3 Local Rail Services

Destination	Peak Frequency			Approximate Journey Time (Minutes)
	Weekday Peak Hour	Saturday	Sunday	
National Rail Services				
London Cannon Street	4 Services per Hour	No Service		30
London Charing Cross	2 Services per Hour			40
London Bridge	8 Services per Hour		3 Services per Hour	25
Luton	1 Service per Hour	No Service		90
Dartford	4 Services per Hour	3 Services per Hour		30
DLR Services				
Bank	8 Services per Hour	6 Services per Hour		30
Stratford International	8 Services per Hour	6 Services per Hour		25

2.6.10 **Table 2.3** demonstrates that there are frequent direct rail services with journey times of less than an hour to key interchange and employment/leisure destinations including central London.

2.6.11 Furthermore, once fully operational, Crossrail services will allow passengers to travel direct to Paddington, Heathrow and Reading to the west and Abbey Wood to the east, with a train every five minutes during peak times.

Ferry Services

2.6.12 Woolwich Ferry South Pier is located some 600m northwest of the site and provides a water transport connection to North Woolwich. Ferry services operate between 06:10 and 19:45 Monday to Saturday every 10 minutes, and 11:30 – 19:15 Sundays.

2.6.13 Woolwich Royal Arsenal River Bus Stop is located 550m northeast of the site and is served by the RB1 and RB5 ferry services to Westminster and North Greenwich. The RB1 operates 05:45 – 21:05 Monday to Friday with frequencies of 2-3 services per hour. The RB5 operates weekend services only between 11:02 and 17:32, with journey times of 10 minutes and frequencies of 2 services per hour. The RB1 and RB5 river boat services are now available as part of UberBoat by Thames Clippers.

2.7 Car Clubs

2.7.1 There are a number of car club spaces operating in the vicinity of the site. A Zipcar vehicle is available from Bunton Street, to the south of the site, with an additional two vehicles operated by Enterprise Car Club located on Calderwood Street.

2.8 Local Highway Network

- 2.8.1 The A206 is a dual carriageway road that links to the A205, South Circular Road, at Ferry roundabout. The A205 is part of the TfL Road Network (TLRN), which, via the Woolwich Ferry, joins with the A1020 and subsequently the A406 North Circular. The section of the A206 immediately east of the Ferry Roundabout is Woolwich High Street. The nearside lane of the westbound carriageway of the A206, immediately adjacent to the site, accommodates a number of bus overlay stands and therefore westbound traffic is reduced to a single lane in this location.
- 2.8.2 The site falls within a Controlled Parking Zone (CPZ) which encompasses the Woolwich Arsenal area and operates Monday to Saturday from 08.30 to 18.30.

2.9 Summary

- 2.9.1 In summary, the site is located within a highly accessible location, with frequent train and bus services accessible within walk and cycle distance. In combination with the good quality active travel infrastructure surrounding the site, the very accessible nature of the site has the potential to support the car-free proposals.

3. Development Proposals

3.1 Scale of Development & Layout

3.1.1 The development proposals supported by this TS are for the change of use of the existing office floor space to residential (C3 land use), with the delivery of 209 residential units, with schedule of accommodation as follows:

- 74 x 1 bedroom 1 person units
- 60 x 1 bedroom 2 person units
- 75 x 2 bedroom 3 person units

3.1.2 The proposed site plan is attached as **Appendix C**.

3.2 Pedestrian Access

3.2.1 Pedestrian access to the residential units will reflect the existing arrangement, with the main access taken direct from Woolwich High Street and rear access via Bunton Street.

3.3 Cycle Access & Parking

3.3.1 The London Plan long-stay cycle parking requirements for C3 residential dwellings are:

- 1 space per studio or 1 person, 1-bedroom dwelling;
- 1.5 spaces per 2-person, 1 bedroom dwelling; and
- 2 spaces per all other dwellings.

3.3.2 Based on the proposed scale of development, a total of 314 cycle parking spaces are required across the development for residents. In terms of short-stay cycle parking, the London Plan requirements are 2 spaces for between 5 and 40 dwellings, with 1 space provided per 40 dwellings thereafter. This equates to a total requirement of 5 short-stay spaces for the development.

3.3.3 The proposed site plan confirms the intention to deliver cycle parking within the site's existing external areas, accommodated within two separate secure and sheltered compounds, sized to accommodate the required quantum, with level access. The compounds are provided at the expense of existing car parking spaces. Furthermore, the provision has included a mix of both two tier racks and traditional Sheffield stands, with a proportion of the latter also benefiting from additional access space to accommodate larger bikes.

3.3.4 It is confirmed that works to the public realm constituting development would be the subject to a separate application for planning permission.

3.4 Vehicle Access

3.4.1 Vehicle access will be retained as per the existing arrangement, to the rear of the building, via Bunton Street. There is no intention to restore any historical access via Beresford Street.

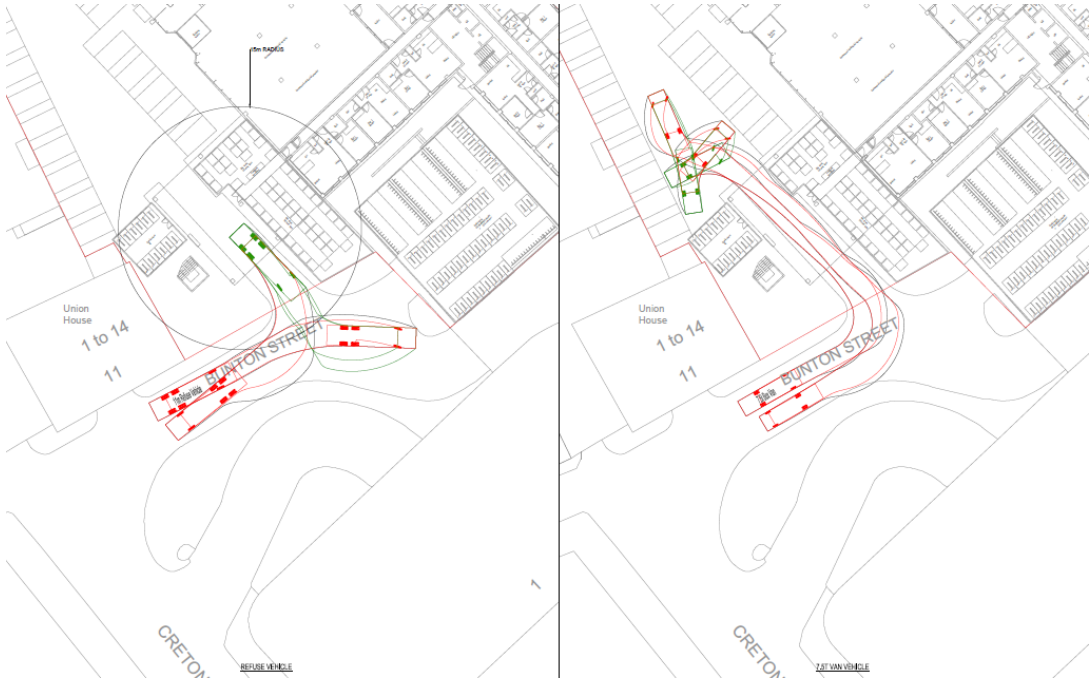
3.5 Car Parking

- 3.5.1 Based on the highly accessible site location, it is proposed to adopt a car-free parking strategy, except for the provision of disabled parking, reflecting the strategy for the previous proposal. Achieving this strategy will be based on removing existing car parking spaces at the expense of providing cycle parking compounds, as described above.
- 3.5.2 In terms of benchmarking this approach against parking standards, the adopted London Plan (2021) sets out within Table 10.3 that the maximum car parking standards for all areas PTAL 5-6 is car-free, with Policy T6, 'Car Parking' stating that "*car-free development should be the starting point for all development*" and that "*where sites are redeveloped, parking provision should reflect the current approach and not be re-provided at previous levels where this exceeds the standards set out in this policy.*"
- 3.5.3 To ensure that this strategy does not result in the development proposals generating additional on-street parking demand, the Applicant will accept any planning restriction that prevents residents other than blue badge holders from applying for parking permits within the CPZ, thus deeming the proposals car-free.
- 3.5.4 In terms of the disabled parking provision, it is proposed to reallocate part of the existing car parking area to allow the delivery of a total of 21 Blue Badge spaces on-site, therefore meeting the traditional London Plan policy requirement of 3% blue badge parking from the outset and a further 7% for additional demand.
- 3.5.5 The proposals will also provide 20% of parking spaces with active electric vehicle charging infrastructure, with the remainder provided with passive charging infrastructure. It is assumed that the submission and approval of further details can be secured via a planning condition.

3.6 Delivery & Servicing

- 3.6.1 Delivery and servicing vehicle movements, including refuse collection, will reflect the established arrangement, with vehicles accessing dedicated bin storage areas to the rear of the site, via Bunton Street. There will be no delivery reliance via Beresford Street.
- 3.6.2 Such arrangements are detailed on drawing number **0120**, attached to this TS, with extract below as **Figure 3.1**, confirming that a refuse vehicle can get within 15m of the proposed bin store and that a delivery vehicle can enter and egress the rear parking area in forward gear.

Figure 3.1 Vehicle Swept Path Analysis – Drawing 0120 Extract



3.6.3 It is anticipated that emergency vehicles will adopt a similar arrangement to access the site.

4. Trip Generation

4.1 Overview

4.1.1 This section of the TS undertakes a comparative multimodal trip generation assessment, quantifying the number of trips generated by both the existing and proposed land uses to infer the net impact.

4.2 Existing Land Use

4.2.1 The site currently operates as E(g)(i) Office with approximately 15,054sqm GIA, supported by 42 car parking spaces, a parking ratio of 1 space per 358sqm.

4.2.2 Based on the Home and Community Agency Employment Density Guide (2017), B1a Office land uses accommodate, on average, 1 employee per 12sqm, which amounts to approximately 1,250 employees for the existing scale of development. Based on the available on-site car parking, only 3.4% of these existing staff would therefore be able to drive to work and park on-site.

4.2.3 In terms of trip generation, there is no historical survey data available that details the number of trips generated by the existing operation. The industry standard TRICS database has therefore been relied upon to estimate the potential trip generation associated with the existing scale of development. Proxy site selection has been adopted that fulfilled the following selection criteria:

- Office Sites
- Located within Greater London
- Weekday surveys
- Town Centre and Edge of Town Centre Locations

4.2.4 This search generated 4 proxy sites from which the 'all person' trip rate per 100sqm GFA has been derived. This trip rate has been applied to the existing GIA to quantify the anticipated number of 'all person' trips generated by the existing site, with results indicated on **Table 4.1**, with TRICS outputs provided at **Appendix D**.

Table 4.1 Existing Office Trip Rates & Trips

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)			Daily (07:00-19:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
Trip Rates	2.596	0.054	2.65	0.14	2.356	2.496	8.024	7.916	15.94
Trips	391	8	399	21	355	376	1208	1192	2400

4.2.5 **Table 4.1** demonstrates that the existing office has the potential to generate some 399 'all person' trips in the AM peak, 376 in the PM peak and 2,400 throughout the day.

4.2.6 In terms of proportioning these ‘all person’ trips into different modes of travel, Method of Travel to Work data for all employees who work within the Middle Super Output Area (MSOA) within which the site is based (Greenwich 004), has been sourced from the 2011 Census, reproduced below in **Table 4.2**. This demonstrates that 49% of existing employees within the MSOA drive to work. However, applying this proportion to the ‘all person’ trips detailed in **Table 4.1** would result in vehicular trip generation way in excess of the available parking spaces. The modal split proportions have therefore been manually adjusted by adopting 3.5% as the car driver proportion, reflecting the number of employees that can drive to work and park, with the other modes of travel adjusted on a pro-rata basis, also indicated on **Table 4.2** below.

Table 4.2 Census Method of Travel to Work Data (Workday Population)

Mode	2011 Census Proportion	Manually Adjusted Proportion
Underground, Metro, Light Rail, Tram	7%	13%
Train	9%	16%
Bus, Minibus or Coach	20%	39%
Taxi	0%	0%
Motorcycle, Scooter or Moped	1%	2%
Driving a Car or Van	49%	3%
Passenger in a Car or Van	3%	6%
Bicycle	2%	4%
On Foot	8%	15%
Other	0%	1%
Total	100%	100%

4.2.7 The manually adjusted modal split proportions detailed in **Table 4.2** have then been applied to the ‘all person’ trips in **Table 4.1** to quantify the anticipated multimodal trip generation generated by the existing office land use, detailed below in **Table 4.3**.

Table 4.3 Exiting Office Multi-modal Trip Generation

Mode	Adjusted Mode Split	AM Peak			PM Peak			Daily Flows		
		(08:00-09:00)			(17:00-18:00)			(07:00-21:00)		
		In	Out	Total	In	Out	Total	In	Out	Total
Underground, metro, light rail or tram	13%	51	1	52	3	46	49	157	155	313
Train	16%	64	1	65	3	58	62	198	195	394
Bus, minibus or coach	39%	151	3	154	8	137	145	468	461	929
Taxi	0%	1	0	1	0	1	1	4	4	9
Motorcycle, scooter or moped	2%	9	0	9	0	8	9	29	28	57
Driving a car or van	3%	13	0	13	1	12	13	41	40	81
Passenger in a car or van	6%	23	0	24	1	21	23	73	72	144
Bicycle	4%	14	0	14	1	13	14	44	43	87
On foot	15%	60	1	61	3	54	58	185	183	368
Other method of travel to work	1%	3	0	3	0	3	3	10	10	20
Total	100%	391	8	399	21	355	376	1208	1192	2400

4.2.8 **Table 4.3** therefore identifies that the existing office land use had the potential to generate approximately 13 vehicle movements during the AM peak, 13 during the PM peak and some 81 across the day.

4.3 Proposed Land Use

4.3.1 The proposals are for the change of use of the existing commercial floor space to residential, comprising 209 flats.

4.3.2 The development is proposed to be car free with 21 parking spaces provided for blue badge holders, 10% of the total number of units.

4.3.3 Once again, the industry standard TRICS database has been relied upon to estimate the potential trip generation associated with the proposed scale of development. Proxy site selection has been adopted that fulfilled the following selection criteria:

- C3 Residential, Flats Privately Owned
- Greater London Region
- Weekday multimodal surveys
- Town Centre and Edge of Town Centre Locations
- Bedroom Ratio of 1.5-2.5 bedrooms per unit

4.3.4 This search generated 11 proxy sites from which the 'all person' trip rate per unit has been derived. This trip rate has been applied to the proposed number of units to quantify the

anticipated 'all person' trips generated by the scale of development, with results indicated on **Table 4.4**, with TRICS outputs provided at **Appendix E**.

Table 4.4 Proposed Residential Trip Rates & Trips

	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)			Daily (07:00-19:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total	Arrivals	Departures	Total
Trip Rates	0.124	0.573	0.697	0.347	0.196	0.543	2.707	2.815	5.522
Trips (209 units)	26	120	146	73	41	113	566	588	1154

4.3.5 **Table 4.4** demonstrates that the proposed residential units have the potential to generate some 146 'all person' trips in the AM peak, 113 in the PM peak and 1154 throughout the day.

4.3.6 In terms of proportioning these 'all person' trips into different modes of travel, again, Method of Travel to Work data for all residents of MSOA 004, has been sourced from the 2011 Census, reproduced below in **Table 4.5**. This demonstrates that 18% of existing residents within the MSOA drive to work. However, given parking provision at the site will reflect only 10% of units, it is necessary to manually amend the proportions to reflect, with the other modes of travel having been amended on a pro-rata basis, also detailed below on **Table 4.5**. It is assumed however that not all of those with blue badges would drive for every trip either during peak hours or across the day and therefore a 5% modal split proportion has been adopted.

Table 4.5 Census Method of Travel to Work Data (Residential Population)

Mode	2011 Census Proportion	Manually Adjusted Proportion
Underground, Metro, Light Rail, Tram	30%	35%
Train	21%	25%
Bus, Minibus or Coach	16%	19%
Taxi	0%	0%
Motorcycle, Scooter or Moped	1%	1%
Driving a Car or Van	18%	5%
Passenger in a Car or Van	1%	1%
Bicycle	2%	2%
On Foot	7%	8%
Other	4%	5%
Total	100%	100%

4.3.7 The manually adjusted modal split proportions detailed in **Table 4.5** have then been applied to the 'all person' trips in **Table 4.4** to quantify the anticipated multimodal trip generation generated by the existing office land use, detailed below in **Table 4.6**.

Table 4.6 Proposed Residential Multi-modal Trip Generation

Mode	Adjusted Mode Split	AM Peak			PM Peak			Daily Flows		
		(08:00-09:00)			(17:00-18:00)			(07:00-21:00)		
		In	Out	Total	In	Out	Total	In	Out	Total
Underground, metro, light rail or tram	35%	9	42	51	26	14	40	199	207	406
Train	25%	6	30	36	18	10	28	140	145	285
Bus, minibus or coach	19%	5	23	27	14	8	21	107	111	217
Taxi	0%	0	0	0	0	0	0	1	1	1
Motorcycle, scooter or moped	1%	0	1	1	1	0	1	5	5	10
Driving a car or van	5%	1	6	7	4	2	6	28	29	58
Passenger in a car or van	1%	0	1	1	1	0	1	6	6	11
Bicycle	2%	0	2	3	1	1	2	11	11	22
On foot	8%	2	9	11	6	3	9	43	45	89
Other method of travel to work	5%	1	6	7	3	2	5	27	28	55
Total	100%	26	120	146	73	41	113	566	588	1154

4.3.8 **Table 4.6** therefore identifies that the proposed residential use is anticipated to generate approximately 7 vehicle movements in the AM peak, 6 in the PM peak and 58 across the day.

4.4 Net Change

4.4.1 Having established the trip generation associated with both the existing and proposed land uses, **Table 4.7** details the net change in trips across all modes.

Table 4.7 Net Change in Traffic Impact

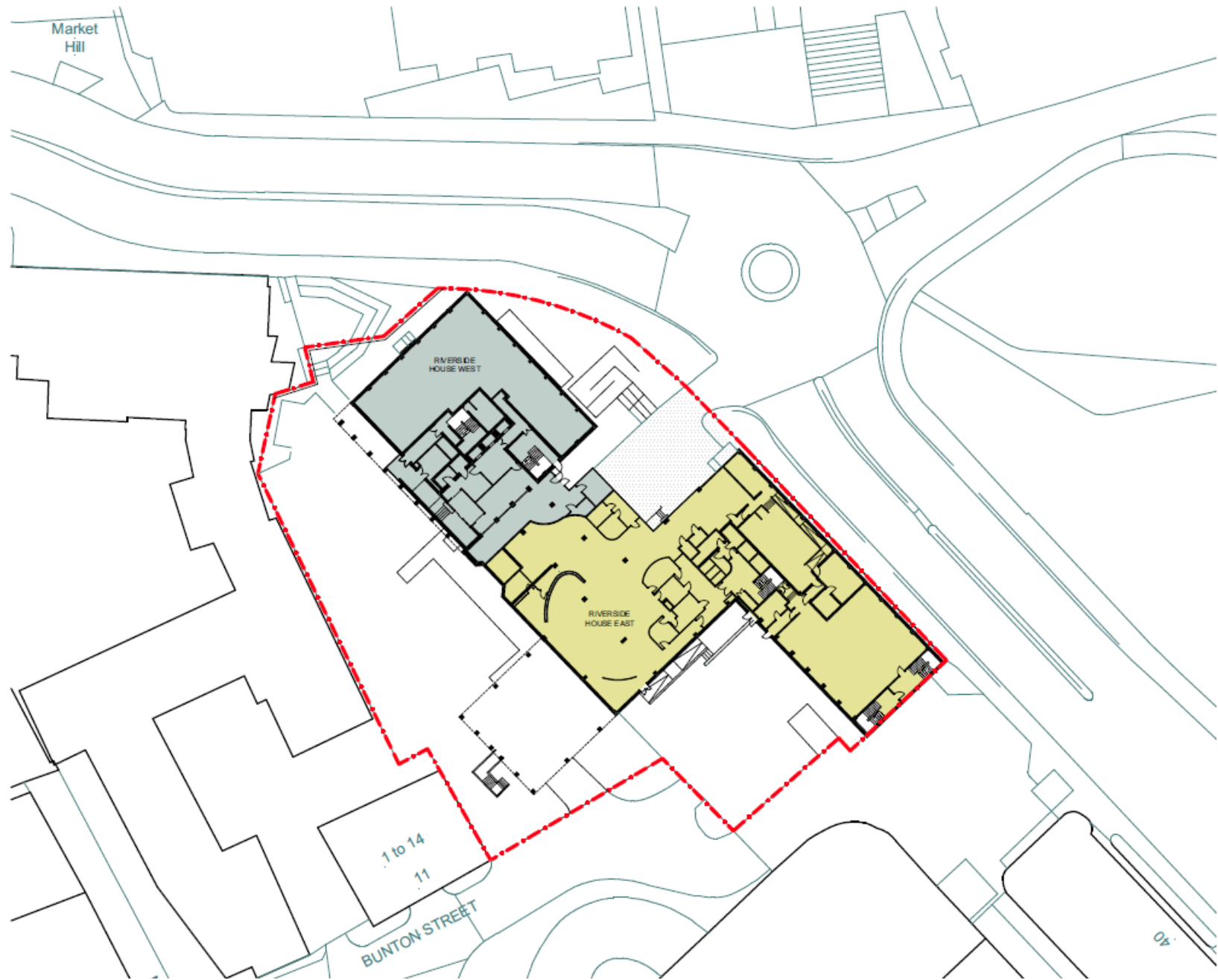
Mode	AM Peak (08:00-09:00)			PM Peak (17:00-18:00)			Daily Flows (07:00-21:00)		
	In	Out	Total	In	Out	Total	In	Out	Total
Underground, metro, light rail or tram	-42	41	-1	23	-32	-9	42	52	93
Train	-58	29	-29	15	-48	-34	-58	-50	-109
Bus, minibus or coach	-146	20	-127	6	-129	-124	-361	-350	-712
Taxi	-1	0	-1	0	-1	-1	-3	-3	-8
Motorcycle, scooter or moped	-9	1	-8	1	-8	-8	-24	-23	-47
Driving a car or van	-12	6	-6	3	-10	-7	-13	-11	-23
Passenger in a car or van	-23	1	-23	0	-21	-22	-67	-66	-133
Bicycle	-14	2	-11	0	-12	-12	-33	-32	-65
On foot	-58	8	-50	3	-51	-49	-142	-138	-279
Other method of travel to work	-2	6	4	3	-1	2	17	18	35
Total	-365	112	-253	52	-314	-263	-642	-604	-1246

- 4.4.2 From **Table 4.7** it is apparent that the proposals are anticipated to result in a reduction in 'all person' trips during peak hours and across the day, with reductions across all modes of travel during each peak hour.
- 4.4.3 **Table 4.7** also indicates that the proposed change of use is anticipated to result in a reduction in vehicle movements during the peak hours and across the day.
- 4.4.4 On this basis, the proposed change of use represents a betterment in terms of impact on the local highway and transport network during peak hours and is not anticipated to result in any material change in character of trips across the local transport network. Mitigation is not, therefore, needed to make the development impact acceptable.

5. Summary & Conclusion

- 5.1.1 This Transport Statement has been prepared in support of a prior approval application for the proposed change of use of Riverside House, an existing E(g)(i) Office site located within Woolwich Town Centre, within the London Borough of Greenwich.
- 5.1.2 The site is located within a wider regeneration area, with the Royal Arsenal Riverside development being delivered to the north of the site, within which there is the site of a new Crossrail Station, which is anticipated to open in 2022.
- 5.1.3 The proposals are to convert the existing commercial floor space totalling approximately 15,054sqm GFA, to C3 residential, with the introduction of 209 units.
- 5.1.4 The Transport Statement has established that the site benefits from being located within a highly accessible area, both in terms of proximity to a range of social infrastructure and sustainable transport infrastructure, and is therefore an appropriate location for residential use, ensuring that residents are not reliant on travel by private car. This accessibility will only improve with the delivery of Crossrail.
- 5.1.5 This accessibility has influenced the proposed car parking strategy for the site, with no allocated car parking made available to the residents other than spaces reserved for blue badge holders. To ensure this parking strategy does not result in additional on-street parking pressures, the Applicant will accept a planning restriction that prevents residents from being able to apply for parking permits within the adjacent Controlled Parking Zone.
- 5.1.6 The Transport Statement has undertaken a TRICS analysis to demonstrate that the proposed change of use represents a betterment in terms of impact on the local highway and is not anticipated to result in any material change in character of trips across the local transport network. On this basis, there is no justification for any request to mitigate the development impact.
- 5.1.7 The development proposals will include an appropriate number of secure and sheltered cycle parking spaces in accordance with adopted standards.
- 5.1.8 Delivery and servicing demands, including refuse collection, will reflect the existing arrangement, accommodated to the rear of the site via Bunton Street.
- 5.1.9 On the basis of this analysis, Markides Associates are of the view that there are no transport related reasons why the proposed change of use requires prior approval or, should prior approval be considered necessary, there are no transport related reasons why it should be refused.

APPENDIX A – EXISTING SITE LAYOUT



Market Hill

RIVERSIDE HOUSE WEST

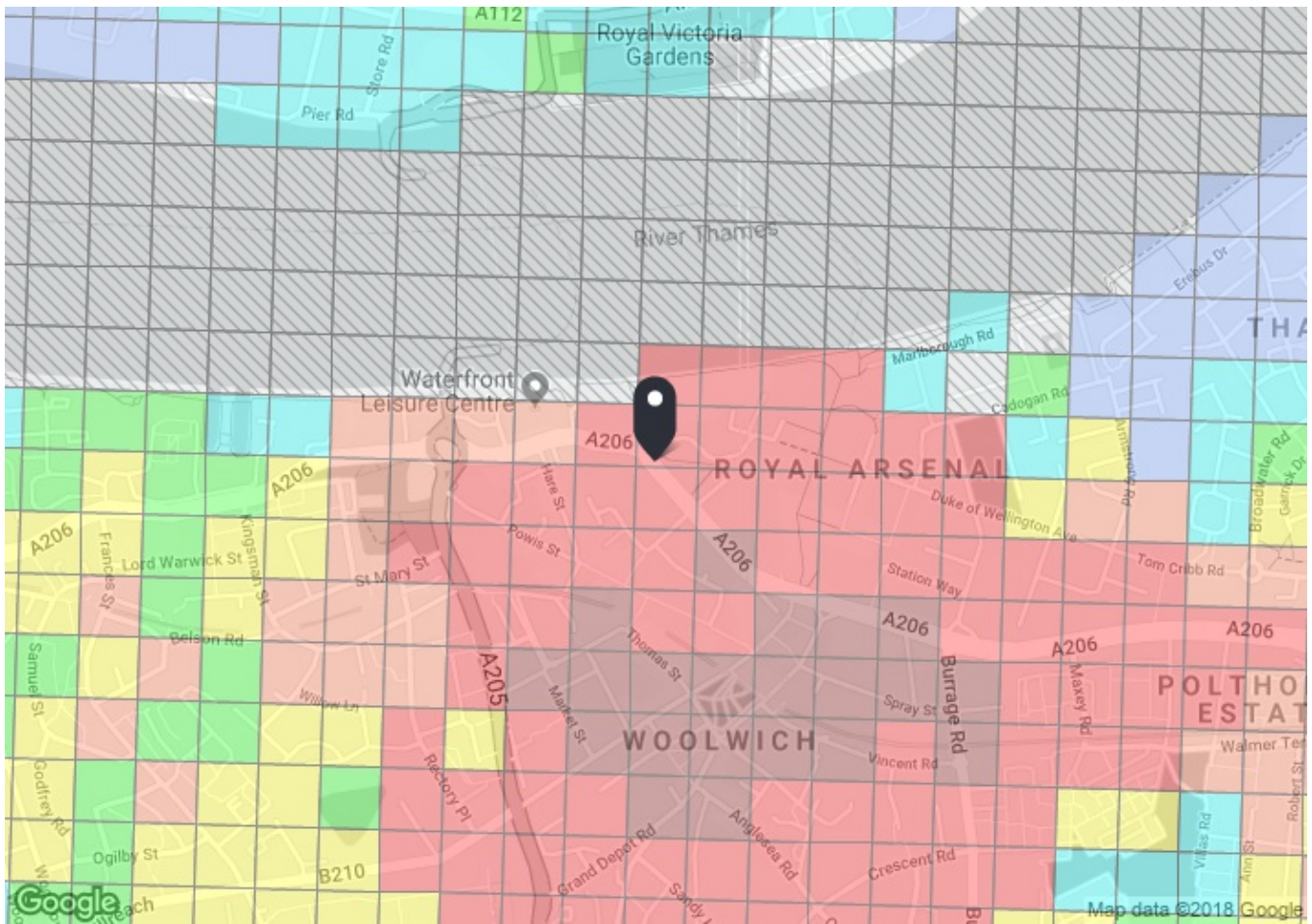
RIVERSIDE HOUSE EAST

1 to 14
11

BUNTON STREET

40

APPENDIX B – PTAL OUTPUT



PTAL output for Base Year 6a

SE18 6BU
Woolwich, London SE18 6BU, UK
Easting: 543529, Northing: 179195

Grid Cell: 74089

Report generated: 20/11/2018

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

Map key - PTAL

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

Map layers

- PTAL (cell size: 100m)

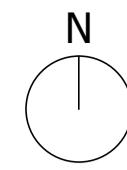
Calculation data

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	WOOLMCH HIGH ST/HARE ST	180	109.74	5	1.37	8	9.37	3.2	0.5	1.6
Bus	WOOLMCH HIGH ST/HARE ST	386	109.74	4	1.37	9.5	10.87	2.76	0.5	1.38
Bus	WOOLMCH HIGH ST/HARE ST	177	109.74	6	1.37	7	8.37	3.58	0.5	1.79
Bus	WOOLMCH HIGH ST/HARE ST	99	109.74	5	1.37	8	9.37	3.2	0.5	1.6
Bus	WOOLMCH HIGH ST/HARE ST	51	109.74	6	1.37	7	8.37	3.58	0.5	1.79
Bus	WOOLMCH HIGH ST/HARE ST	161	109.74	6	1.37	7	8.37	3.58	0.5	1.79
Bus	WOOLMCH HIGH ST/HARE ST	472	109.74	10	1.37	5	6.37	4.71	1	4.71
Bus	WOOLMCH THOMAS STREET	291	358.97	6	4.49	7	11.49	2.61	0.5	1.31
Bus	WOOLMCH THOMAS STREET	96	358.97	8	4.49	5.75	10.24	2.93	0.5	1.47
Bus	WOOLMCH THOMAS STREET	178	358.97	4	4.49	9.5	13.99	2.14	0.5	1.07
Bus	WOOLMCH PLUMSTEAD ROAD	54	439.62	6	5.5	7	12.5	2.4	0.5	1.2
Bus	WOOLMCH PLUMSTEAD ROAD	380	439.62	6	5.5	7	12.5	2.4	0.5	1.2
Bus	WOOLMCH PLUMSTEAD ROAD	469	439.62	4	5.5	9.5	15	2	0.5	1
Bus	WOOLMCH PLUMSTEAD ROAD	244	439.62	6	5.5	7	12.5	2.4	0.5	1.2
Bus	WOOLMCH PLUMSTEAD ROAD	122	439.62	5	5.5	8	13.5	2.22	0.5	1.11
Bus	WOOLMCH PLUMSTEAD ROAD	422	439.62	6	5.5	7	12.5	2.4	0.5	1.2
Bus	WOOLMCH PLUMSTEAD ROAD	53	439.62	8	5.5	5.75	11.25	2.67	0.5	1.33
Rail	Woolwich Arsenal	'GRVSEND-CANONST 1B89'	566.78	0.67	7.08	45.53	52.61	0.57	0.5	0.29
Rail	Woolwich Arsenal	'STROOD-CANONST 1B91'	566.78	0.67	7.08	45.53	52.61	0.57	0.5	0.29
Rail	Woolwich Arsenal	'GRVSEND-CANONST 1B97'	566.78	0.33	7.08	91.66	98.74	0.3	0.5	0.15
Rail	Woolwich Arsenal	'GLNGHMK-CANONST 2A91'	566.78	0.33	7.08	91.66	98.74	0.3	0.5	0.15
Rail	Woolwich Arsenal	'DARTFD-CANONST 2B07'	566.78	2.33	7.08	13.63	20.71	1.45	1	1.45
Rail	Woolwich Arsenal	'SLADEGN-CANONST 2B29'	566.78	0.33	7.08	91.66	98.74	0.3	0.5	0.15
Rail	Woolwich Arsenal	'CANONST-DARTFD 2E11'	566.78	2	7.08	15.75	22.83	1.31	0.5	0.66
Rail	Woolwich Arsenal	'CANONST-BRNHRST 2E23'	566.78	0.33	7.08	91.66	98.74	0.3	0.5	0.15
Rail	Woolwich Arsenal	'CANONST-SLADEGN 2E25'	566.78	1.67	7.08	18.71	25.8	1.16	0.5	0.58
Rail	Woolwich Arsenal	'CANONST-BRNHRST 2E27'	566.78	0.33	7.08	91.66	98.74	0.3	0.5	0.15
Rail	Woolwich Arsenal	'CANONST-CANONST 2I13'	566.78	0.33	7.08	91.66	98.74	0.3	0.5	0.15
Rail	Woolwich Arsenal	'CANONST-CANONST 2I15'	566.78	1.33	7.08	23.31	30.39	0.99	0.5	0.49
Rail	Woolwich Arsenal	'CANONST-CANONST 2O19'	566.78	1.33	7.08	23.31	30.39	0.99	0.5	0.49
Rail	Woolwich Arsenal	'GLNGHMK-CHRX 2A08'	566.78	0.33	7.08	91.66	98.74	0.3	0.5	0.15
Rail	Woolwich Arsenal	'GRVSEND-CHRX 2A22'	566.78	0.33	7.08	91.66	98.74	0.3	0.5	0.15
Rail	Woolwich Arsenal	'SLADEGN-CHRX 2B14'	566.78	2	7.08	15.75	22.83	1.31	0.5	0.66
Rail	Woolwich Arsenal	'CHRX-GLNGHMK 2L10'	566.78	1.67	7.08	18.71	25.8	1.16	0.5	0.58
Rail	Woolwich Arsenal	'CHRX-GLNGHMK 2L12'	566.78	0.33	7.08	91.66	98.74	0.3	0.5	0.15
LUL	Woolwich Arsenal	'VWARSL-BANK'	566.78	7.5	7.08	4.75	11.83	2.53	1	2.53
LUL	Woolwich Arsenal	'VWARSL-STRATINT'	566.78	7.5	7.08	4.75	11.83	2.53	0.5	1.27

Total Grid Cell AI: 37.4

APPENDIX C – PROPOSED SITE LAYOUT

SCALE 1:200
SCALE 1:1



THE CONTRACTOR MUST VERIFY ALL DIMENSIONS ON SITE BEFORE MAKING SHOP DRAWINGS OR COMMENCING WORK OF ANY KIND. NO DIMENSIONS TO BE SCALED FROM THIS DRAWING.

REV.	DATE	REVISION
A	12.07.21	Daylight / sunlight amendments
B	15.07.21	Daylight / sunlight amendments
P4	21.07.21	Cycles and bins added
P5	22.07.21	Landscape note added



key

- 1B1P
- 1B2P
- 2B4P

Unit schedule

- Block A**
 3 x 2 bedroom / 3 person
 1 x 1 bedroom / 2 person
 1 x 1 bedroom / 1 person
 Sub-total = 5 units
- Block B**
 2 x 2 bedroom / 3 person
 7 x 1 bedroom / 2 person
 1 x 1 bedroom / 1 person
 Sub-total = 10 units
 Total = 16 units

NB: Hard and soft landscaping will be the subject of a separate planning application.

PLANNING

Osel architecture

PROJECT:
RIVERSIDE HOUSE,
BERESFORD ST, WOOLWICH
LONDON SE18 6BU

CLIENT:
MDPL (Woolwich)
LIMITED

DRAWING:
PERMITTED DEVELOPMENT
GROUND FLOOR
PLAN

DRAWING No.: **E21-027-PD000** REV: **P5**

SCALE: 1:200@A1
 DRAWN: WTM DATE: 18.06.21
 CHECKED: - DATE: -
 G.04 | The Record Hall | 16-16A Baldwin's Gardens | London | EC1N 7RJ
 Tel: 020 7224 2447

E-mail: admin@oselarch.co.uk Web: www.oselarchitecture.co.uk
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0 Ground Floor Plan
Scale 1:200

APPENDIX D – TRICS OUTPUT: OFFICE

Filtering Summary

Land Use	02/A	EMPLOYMENT/OFFICE
Selected Trip Rate Calculation Parameter Range	408-120000 sqm GFA	
Actual Trip Rate Calculation Parameter Range	1215-15000 sqm GFA	
Date Range	Minimum: 01/01/10	Maximum: 05/07/17
Days of the week selected	Tuesday	1
	Thursday	1
	Friday	2
Main Location Types selected	Town Centre	3
	Edge of Town Centre	1
Population <1 Mile ranges selected	10,001 to 15,000	1
	25,001 to 50,000	1
	50,001 to 100,000	2
Population <5 Mile ranges selected	250,001 to 500,000	1
	500,001 or More	3
Car Ownership <5 Mile ranges selected	0.5 or Less	2
	0.6 to 1.0	1
	1.1 to 1.5	1
PTAL Rating	4 Good	2
	5 Very Good	1
	6b (High) Excellent	1

Calculation Reference: AUDIT-860401-180828-0817

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
 Category : A - OFFICE
 MULTI-MODAL VEHICLES

Selected regions and areas:

01	GREATER LONDON	
	CI CITY OF LONDON	2 days
	HD HILLINGDON	1 days
	WH WANDSWORTH	1 days

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

Secondary Filtering selection:

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

Parameter: Gross floor area
 Actual Range: 1215 to 15000 (units: sqm)
 Range Selected by User: 408 to 120000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 05/07/17

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

Selected survey days:

Tuesday	1 days
Thursday	1 days
Friday	2 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 undertaken using machines.

Selected Locations:

Town Centre	3
Edge of Town 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:

Commercial Zone	3
Built-Up 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.

Secondary Filtering selection:

Use Class:

B1	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®.

Secondary Filtering selection (Cont.):

Population within 1 mile:

10,001 to 15,000	1 days
25,001 to 50,000	1 days
50,001 to 100,000	2 days

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

Population within 5 miles:

250,001 to 500,000	1 days
500,001 or More	3 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	2 days
0.6 to 1.0	1 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:

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.

PTAL Rating:

4 Good	2 days
5 Very Good	1 days
6b (High) Excellent	1 days

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

LIST OF SITES relevant to selection parameters

- 1 CI-02-A-02 OFFICES CITY OF LONDON
GRACECHURCH STREET
CITY OF LONDON
MONUMENT
Town Centre
Commercial Zone
Total Gross floor area: 9803 sqm
Survey date: FRIDAY 29/11/13 *Survey Type: MANUAL*
- 2 CI-02-A-03 OFFICES CITY OF LONDON
MONUMENT STREET
CITY OF LONDON
MONUMENT
Town Centre
Commercial Zone
Total Gross floor area: 1951 sqm
Survey date: FRIDAY 29/11/13 *Survey Type: MANUAL*
- 3 HD-02-A-08 DATA CENTRE HILLINGDON
MILLINGTON ROAD
HAYES
HYDE PARK
Edge of Town Centre
Commercial Zone
Total Gross floor area: 15000 sqm
Survey date: TUESDAY 14/06/16 *Survey Type: MANUAL*
- 4 WH-02-A-02 OFFICES WANDSWORTH
BATTERSEA PARK ROAD
BATTERSEA

Town Centre
Built-Up Zone
Total Gross floor area: 1215 sqm
Survey date: THURSDAY 10/05/12 *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.

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

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	4	6992	0.358	4	6992	0.021	4	6992	0.379
07:30 - 08:00	4	6992	0.629	4	6992	0.036	4	6992	0.665
08:00 - 08:30	4	6992	1.305	4	6992	0.029	4	6992	1.334
08:30 - 09:00	4	6992	1.291	4	6992	0.025	4	6992	1.316
09:00 - 09:30	4	6992	0.651	4	6992	0.021	4	6992	0.672
09:30 - 10:00	4	6992	0.297	4	6992	0.089	4	6992	0.386
10:00 - 10:30	4	6992	0.179	4	6992	0.125	4	6992	0.304
10:30 - 11:00	4	6992	0.193	4	6992	0.093	4	6992	0.286
11:00 - 11:30	4	6992	0.143	4	6992	0.189	4	6992	0.332
11:30 - 12:00	4	6992	0.111	4	6992	0.229	4	6992	0.340
12:00 - 12:30	4	6992	0.297	4	6992	0.483	4	6992	0.780
12:30 - 13:00	4	6992	0.518	4	6992	0.619	4	6992	1.137
13:00 - 13:30	4	6992	0.529	4	6992	0.486	4	6992	1.015
13:30 - 14:00	4	6992	0.390	4	6992	0.189	4	6992	0.579
14:00 - 14:30	4	6992	0.243	4	6992	0.193	4	6992	0.436
14:30 - 15:00	4	6992	0.207	4	6992	0.186	4	6992	0.393
15:00 - 15:30	4	6992	0.118	4	6992	0.218	4	6992	0.336
15:30 - 16:00	4	6992	0.104	4	6992	0.333	4	6992	0.437
16:00 - 16:30	4	6992	0.139	4	6992	0.633	4	6992	0.772
16:30 - 17:00	4	6992	0.129	4	6992	0.501	4	6992	0.630
17:00 - 17:30	4	6992	0.072	4	6992	1.105	4	6992	1.177
17:30 - 18:00	4	6992	0.068	4	6992	1.251	4	6992	1.319
18:00 - 18:30	4	6992	0.039	4	6992	0.576	4	6992	0.615
18:30 - 19:00	4	6992	0.014	4	6992	0.286	4	6992	0.300
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:			8.024			7.916			15.940

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.

APPENDIX E – TRICS OUTPUT: FLATS

Calculation Reference: AUDIT-860401-180904-0925

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

01	GREATER LONDON	
	HM	HAMMERSMITH AND FULHAM 1 days
	HO	HOUNSLOW 2 days
	IS	ISLINGTON 2 days
	KI	KINGSTON 1 days
	KN	KENSINGTON AND CHELSEA 2 days
	SK	SOUTHWARK 2 days
	WH	WANDSWORTH 1 days

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

Secondary Filtering selection:

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

Parameter: Number of dwellings
 Actual Range: 14 to 294 (units:)
 Range Selected by User: 9 to 493 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 30/11/16

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

Selected survey days:

Monday	2 days
Tuesday	1 days
Wednesday	4 days
Thursday	1 days
Friday	3 days

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

Selected survey types:

Manual count	11 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:

Town Centre	2
Edge of Town Centre	9

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:

Development Zone	1
Residential Zone	4
Built-Up Zone	4
High Street	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.

Secondary Filtering selection:

Use Class:

C3 11 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:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
25,001 to 50,000	3 days
50,001 to 100,000	3 days
100,001 or More	3 days

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

Population within 5 miles:

125,001 to 250,000	1 days
250,001 to 500,000	1 days
500,001 or More	9 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	3 days
0.6 to 1.0	7 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:

Yes	3 days
No	8 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

2 Poor	1 days
3 Moderate	1 days
5 Very Good	2 days
6a Excellent	4 days
6b (High) Excellent	3 days

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

LIST OF SITES relevant to selection parameters

1	HM-03-C-01 VANSTON PLACE FULHAM	BLOCK OF FLATS		HAMMERSMITH AND FULHAM
	Town Centre High Street			
	Total Number of dwellings:		42	
	Survey date: WEDNESDAY		16/07/14	Survey Type: MANUAL
2	HO-03-C-02 HIGH STREET BRENTFORD	BLOCK OF FLATS		HOUNSLOW
	Town Centre Built-Up Zone			
	Total Number of dwellings:		86	
	Survey date: WEDNESDAY		03/09/14	Survey Type: MANUAL
3	HO-03-C-03 COMMERCE ROAD BRENTFORD	BLOCKS OF FLATS		HOUNSLOW
	Edge of Town Centre Development Zone			
	Total Number of dwellings:		150	
	Survey date: FRIDAY		18/11/16	Survey Type: MANUAL
4	IS-03-C-05 LEVER STREET FINSBURY	BLOCK OF FLATS		ISLINGTON
	Edge of Town Centre Built-Up Zone			
	Total Number of dwellings:		15	
	Survey date: WEDNESDAY		29/06/16	Survey Type: MANUAL
5	IS-03-C-06 CALEDONIAN ROAD HOLLOWAY	BLOCK OF FLATS		ISLINGTON
	Edge of Town Centre Residential Zone			
	Total Number of dwellings:		14	
	Survey date: MONDAY		27/06/16	Survey Type: MANUAL
6	KI-03-C-02 SOPWITH WAY KINGSTON UPON THAMES	BLOCK OF FLATS		KINGSTON
	Edge of Town Centre No Sub Category			
	Total Number of dwellings:		132	
	Survey date: MONDAY		14/06/10	Survey Type: MANUAL
7	KN-03-C-02 BECKFORD CLOSE SOUTH KENSINGTON	BLOCK OF FLATS		KENSINGTON AND CHELSEA
	Edge of Town Centre Residential Zone			
	Total Number of dwellings:		294	
	Survey date: TUESDAY		15/06/10	Survey Type: MANUAL
8	KN-03-C-03 ALLEN STREET KENSINGTON	BLOCK OF FLATS		KENSINGTON AND CHELSEA
	Edge of Town Centre Residential Zone			
	Total Number of dwellings:		72	
	Survey date: FRIDAY		11/05/12	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	SK-03-C-01 PARK STREET SOUTHWARK	BLOCK OF FLATS		SOUTHWARK
	Edge of Town Centre Built-Up Zone			
	Total Number of dwellings:	53		
	Survey date: FRIDAY	19/09/14		Survey Type: MANUAL
10	SK-03-C-02 LAMB WALK BERMONDSEY	BLOCK OF FLATS		SOUTHWARK
	Edge of Town Centre Built-Up Zone			
	Total Number of dwellings:	29		
	Survey date: THURSDAY	23/04/15		Survey Type: MANUAL
11	WH-03-C-01 AMIES STREET CLAPHAM JUNCTION	BLOCKS OF FLATS		WANDSWORTH
	Edge of Town Centre Residential Zone			
	Total Number of dwellings:	30		
	Survey date: WEDNESDAY	09/05/12		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.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
IS-03-C-04	Bedroom Ratio
KI-03-C-03	Bedroom Ratio

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	11	83	0.061	11	83	0.324	11	83	0.385
08:00 - 09:00	11	83	0.124	11	83	0.573	11	83	0.697
09:00 - 10:00	11	83	0.138	11	83	0.222	11	83	0.360
10:00 - 11:00	11	83	0.096	11	83	0.179	11	83	0.275
11:00 - 12:00	11	83	0.143	11	83	0.143	11	83	0.286
12:00 - 13:00	11	83	0.160	11	83	0.152	11	83	0.312
13:00 - 14:00	11	83	0.174	11	83	0.160	11	83	0.334
14:00 - 15:00	11	83	0.124	11	83	0.154	11	83	0.278
15:00 - 16:00	11	83	0.263	11	83	0.129	11	83	0.392
16:00 - 17:00	11	83	0.248	11	83	0.158	11	83	0.406
17:00 - 18:00	11	83	0.347	11	83	0.196	11	83	0.543
18:00 - 19:00	11	83	0.329	11	83	0.172	11	83	0.501
19:00 - 20:00	5	100	0.307	5	100	0.141	5	100	0.448
20:00 - 21:00	5	100	0.193	5	100	0.112	5	100	0.305
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.707			2.815			5.522

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