ttp consulting

transport planning specialists

Westlake Property Limited

47a, 47 and 49 Lower Mortlake Road, Richmond, TW9 2LW

Transport Statement

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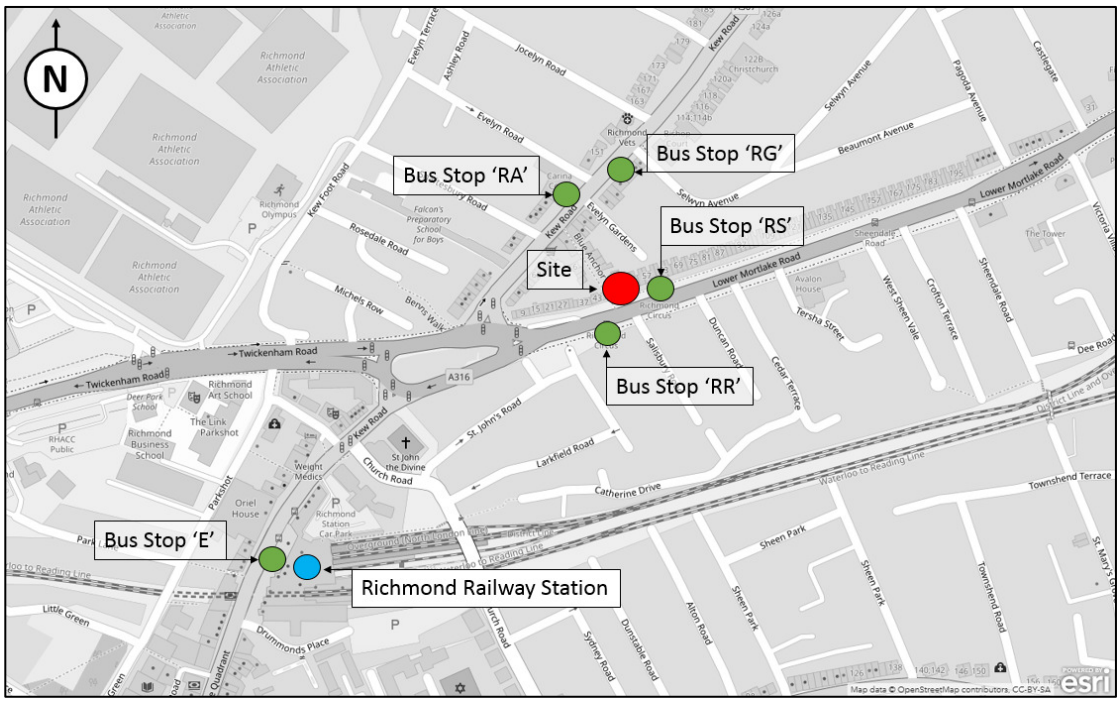
1 INTRODUCTION

1.1 TTP Consulting has been appointed by Westlake Property Limited ("the Applicant") to provide traffic and transport advice in relation to the Proposed Development at 47a, 47 and 49 Lower Mortlake Road, within the London Borough of Richmond upon Thames (LBRuT).

1.2 The Site is located in a highly accessible area in close proximity to Richmond town centre and Richmond Rail and Underground Station, providing access to numerous local amenities and public transport services. Lower Mortlake Road forms part of the Transport for London Road Network (TLRN) connecting the Site immediately to the town centre, bus services, and the existing pedestrian and cycle networks. A Site location plan is shown at **Figure 1.1**

Figure 1.1: Site Location Plan



1.3 The existing Site comprises of an unused yard for 47a Lower Mortlake Road as well as below ground space beneath 47 and 49 Lower Mortlake Road, which are existing HMO properties. The yard is vacant with no formal land use. Vehicle access to the yard is served by an existing crossover on Lower Mortlake Road. For nos. 47 and 49, the planning application boundary consists of parts of the existing ground floor circulation space within these two buildings. These buildings contain 8 and 7 HMO rooms respectively.

1.4 The proposals consist of the construction of a part 1/2/3 storey building (plus lower ground) to provide 14 co-living units (sui generis) and associated internal amenity space at lower ground floor level, with new lower ground level amenity space to neighbouring buildings, and alongside external communal space at ground and lower ground level ("the Proposed Development"). The Proposed Development will be car-free with the existing vehicle crossover made redundant. Cycle parking and bin storage will also be provided.

1.5 A similar scheme at the Site for 16 bedrooms was refused in June 2020 (19/3352/FUL) and dismissed at Appeal in July 2021 (APP/L5810/D/20/3260364). There were however no highway objections or reasons for refusal. This application looks to address the reasons for refusal and are discussed in other documents supporting this planning application.

Scope of the Report

1.6 This Transport Statement considers the effects of the Proposed Development in traffic and transport terms including accessibility, trip generation, car and cycle parking, servicing requirements and refuse collection. The remainder of this report will be set out as follows:

- Section 2 describes the existing situation;
- Section 3 sets out the relevant national, regional and local policy;
- Section 4 details the proposals;
- Section 5 considers the effect of the Proposed Development and mitigation; and,
- Section 6 summarises and concludes.

2 EXISTING SITUATION

Site and Surrounding Area

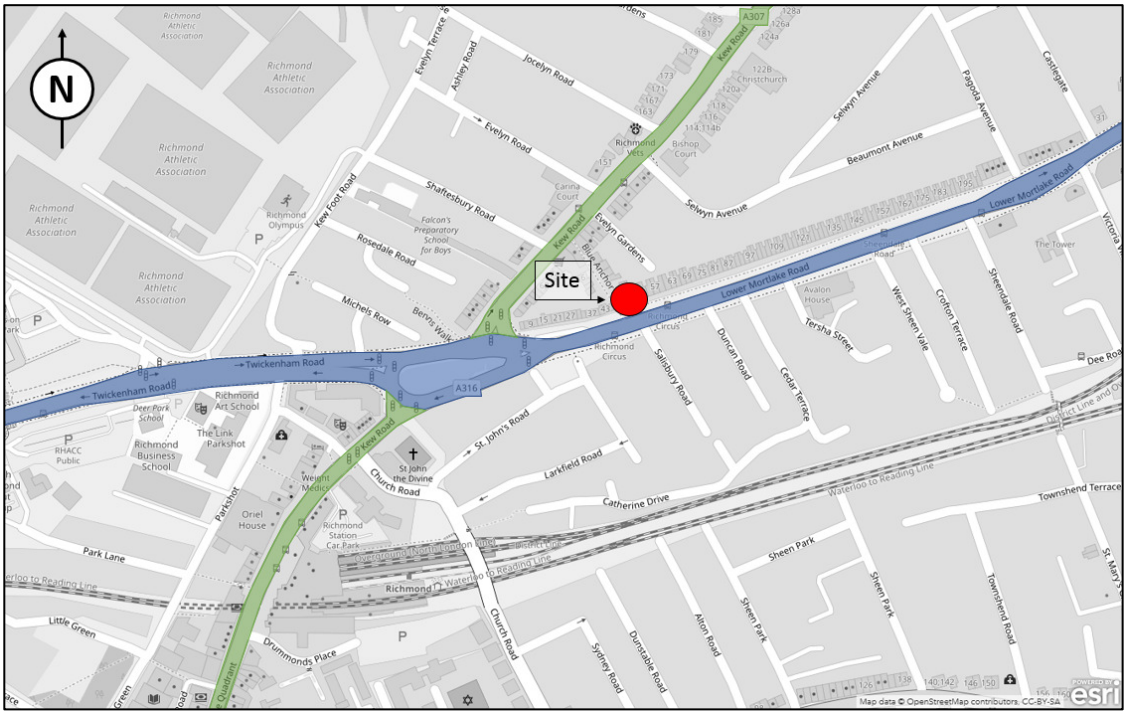
2.1 No.47a Lower Mortlake Road is currently unused and comprises of a concrete hardstanding which has previously functioned as a builders merchants. Vehicle access to the yard is served by an existing crossover on Lower Mortlake Road. For nos. 47 and 49, the planning application boundary consists of parts of the existing ground floor circulation space within these two buildings. These buildings contain 8 and 7 HMO rooms respectively.

2.2 The Site is located within a well-established residential area in close proximity to Richmond town centre. There are various commercial uses located within the town centre including a variety of restaurants and bars, medical services and convenience stores. Local bus stops are situated on Lower Mortlake Road in close proximity to the Site access, whilst Richmond Rail and Underground Station is a 400m walk to the west.

Local Highway Network

2.3 A plan of the local highway network in the vicinity of the Site is shown at **Figure 2.1**.

Figure 2.1: Local Highway Network



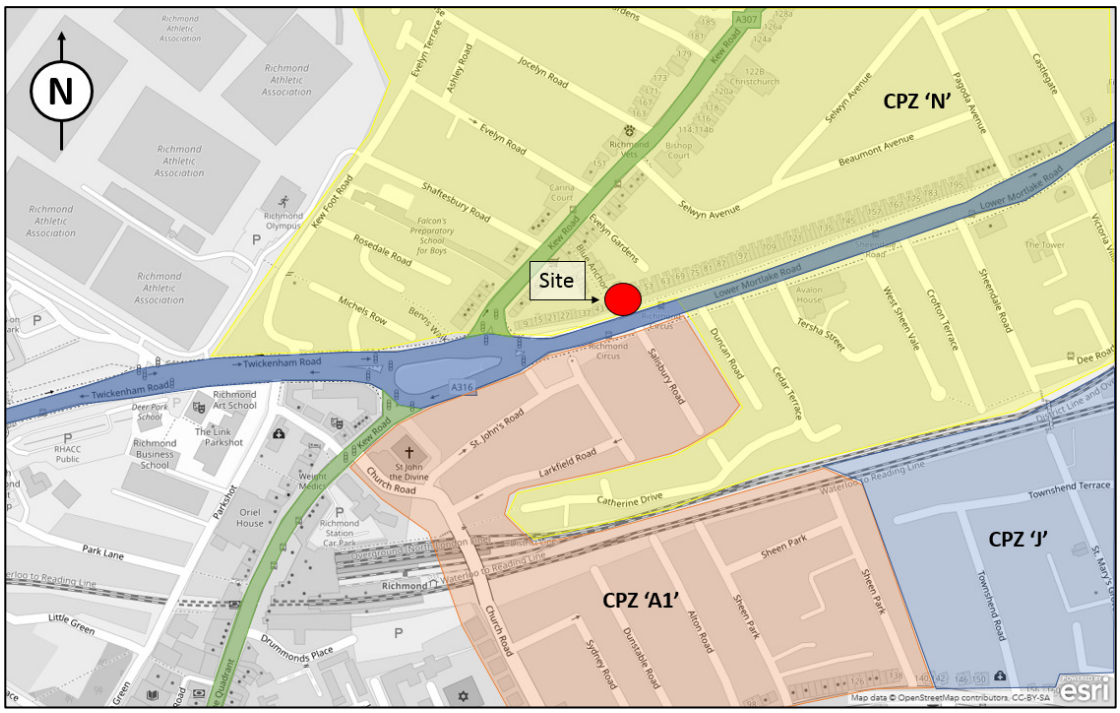
2.4 Lower Mortlake Road (A316) is a two-way dual carriageway orientated in an east to west direction between Richmond and North Sheen. It functions as a bus corridor with stops at intervals along its length including stop 'RS' immediately east of the Site. Further east on-street parking is provided along its northern side. Lower Mortlake Road forms part of the TLRN, and, as such, is subject to double red lines for the majority of its length.

2.5 Footways are provided on both sides of the road with trees and streetlighting at intervals along its length. Additionally, there is a loading bay immediately to the west of the Site access, which restricts stopping Monday-Saturday between 7am and 7pm, except loading for a maximum of 20 minutes.

On-Street Parking

2.6 The Site is within LBRuT Controlled Parking Zone 'N' (CPZ N) which operates restrictions Monday-Saturday from 10am to 4.30pm. CPZ 'A1' is also in close proximity to the Site and operates restrictions Monday-Saturday from 8.30am to 6.30pm. However, in part, controls also apply on Sundays and Bank Holidays, and between 8.30am to Midnight everyday. **Figure 2.2** shows a map of local parking restrictions.

Figure 2.2: Local Controlled Parking Zones



2.7 On-street parking opportunities are located in close proximity to the Site, there are resident parking bays, shared use spaces and single yellow line opportunities which can accommodate Blue Badge holders on most surrounding roads.

2.8 Blue Badge holders or drivers with a passenger who hold a valid badge can park in:

- Any disabled bay (observe time limits on signs in short-stay disabled bays);
- Permit holder bays, pay and display bays/pay by phone – free of charge and no time limit;
- Shared use (permit holders or pay and display) – free of charge and no time limit; and,
- Waiting restrictions (single or double yellow lines) – up to three hours, provided the clock card is displayed and set to time of arrival.

2.9 The existing occupants associated with 47 and 49 Lower Mortlake Road are currently permitted to apply for a parking permit should they wish, however, there is no intended increase in occupants for these buildings.

Parking Surveys

2.10 Overnight parking surveys were conducted on Sunday 15th September, Tuesday 17th September and Wednesday 18th September 2019 as part of the previous application to ascertain levels of parking within the local highway network during the typical busiest period. The survey covered a 200m walking distance from the Site and is still considered relevant and appropriate for the purpose of this assessment given the events of Covid-19 and lockdowns are temporarily affecting parking behaviour. A summary of the total number of parked cars and observed spaces is provided at **Table 2.1**. The full parking survey results are included at **Appendix A**.

Table 2.1: Parking Survey Summary

Table 2.1: Parking Survey Summary						
Area	**Sunday 15th September 2019**		**Tuesday 17th September 2019**		**Wednesday 18th September 2019**	
	Parked Cars	**Observed Spaces**	**Parked Cars**	**Observed Spaces**	**Parked Cars**	**Observed Spaces**
CPZ 'N'	269	64	278	59	280	54
CPZ 'A1'	79	8	86	4	87	4

Accessibility

On-Foot

2.11 Generally, a person's willingness to walk is dependent on many factors including; access to a car, safety, road congestion, weather, gradients, parking, health, direction of route, and purpose of journey. It is generally accepted that for journeys of up to 2km walking is an appropriate mode to replace car trips as set out in The Chartered Institution of Highways and Transportation (CIHT) Guidelines *(Guidelines for Providing for Journeys on Foot, 2000)* which suggests a maximum 'acceptable' walking distance for pedestrians without mobility impairment of 2km. The Transport for London guidance document "Walking Best Practice", April 2012, also refers to car journeys up to 2km in length which could easily be walked in less than 30 minutes.

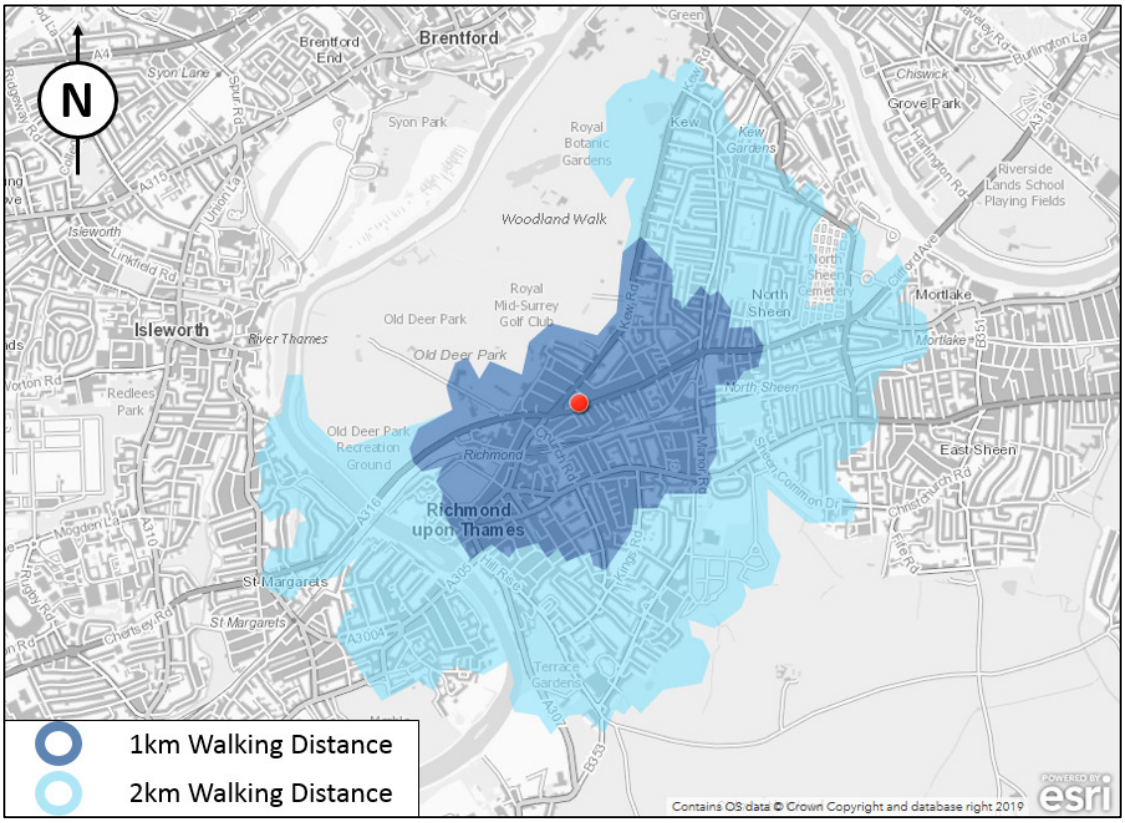
2.12 Richmond town centre is within an acceptable walking distance and accommodates a variety of facilities that serve the local catchment areas including bars, restaurants, a Post Office, an food stores, a gym, coffee shops and public houses.

2.13 There is a network of footways in the surrounding area, providing access to public transport facilities and local amenities. There is a step-free route between the Site and Richmond High Street which involves the crossing of Lower Mortlake Road. Pedestrian crossings are provided with tactile paving, rotating cones, green-man and push button controls. The crossing is staggered with a barriered refuge island.

2.14 Footways are provided on both sides of most local roads with all main road providing at least 2m wide footways. Walking routes utilising Lower Mortlake Road and the Richmond gyratory to local transport opportunities are step-free, including Richmond Station which is step free from entrance to all platforms and from platform to train.

2.15 **Figure 2.3** highlights the Site's 1km and 2km walking catchments.

Figure 2.3: Walking Isochrone Catchment Map



2.16 There are a number of public transport opportunities located within a 1km walking distance of the Site. TfL's published Healthy Streets initiatives refers to approximately one third of car trips which could be replaced by 25-minute walk, equivalent to a 2km distance.

2.17 **Table 2.2** sets out details of approximate distances to public transport opportunities.

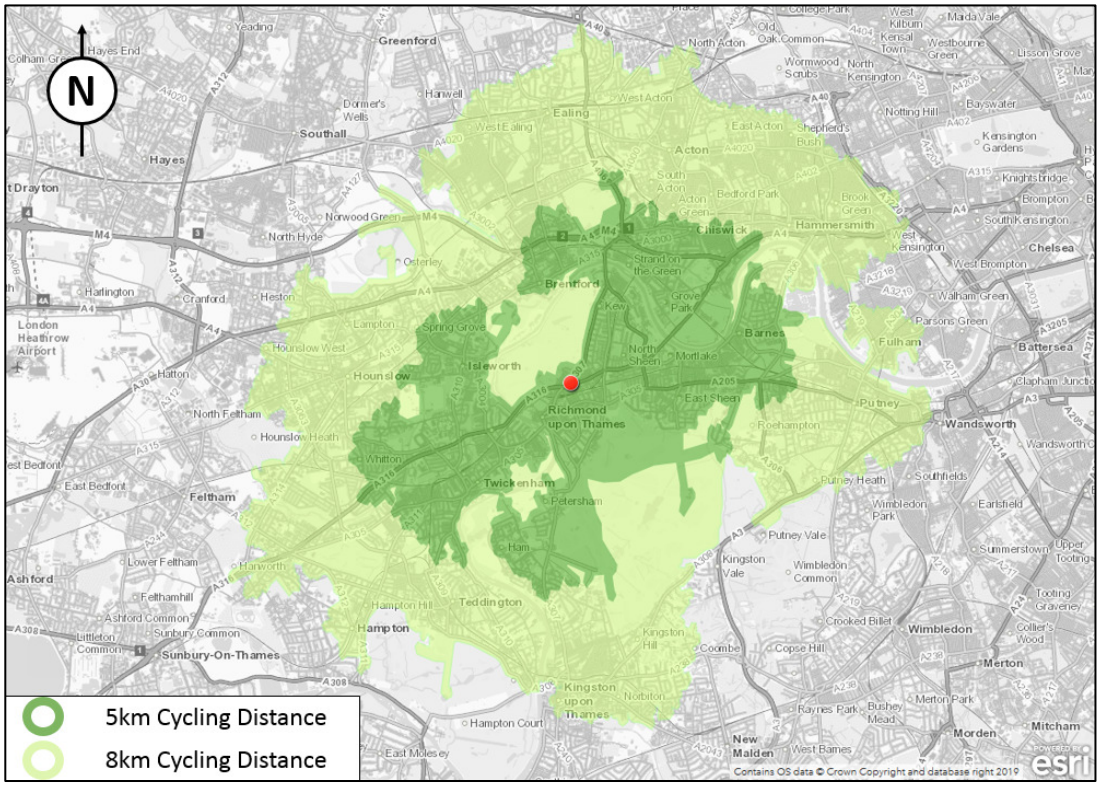
Table 2.2: Approximate Distance to Public Transport Opportunities

Amenity	Location	Distance	Approximate Walking Time
Public Transport Opportunity			
Bus Stops	Lower Mortlake Road (Stop 'RS')	<100m	1-minute
	Lower Mortlake Road (Stop 'RR')	<100m	1-minute
	Kew Road (Stop 'RA')	150m	2-minutes'
	Kew Road (Stop 'RG')	150m	2-minutes'
Stations	Richmond Railway, Overground and Underground Station	400m	5-minutes'

By Bicycle

2.18 It is generally accepted that cycling is a suitable mode of travel for journeys up to 8km in length although in London, longer journeys are commonplace. A number of town centres are within a 5km ride of the Site. All of Richmond as well as Kew, Twickenham, Teddington, Hounslow, Acton, Kingston upon Thames, Putney and Hammersmith & Fulham are within an 8km cycle ride from the Site, as shown in **Figure 2.4**.

Figure 2.4: Cycling Isochrone Catchment Map



2.19 There is a two-way stepped cycle track located on the southern footway of Lower Mortlake Road, which provides access from Richmond gyratory east towards North Sheen and along Lower Richmond Road towards Hammersmith.

2.20 Cycle parking is provided at Richmond Station located in the car park accessed via Drummonds Place.

Public Transport

<u>Public Transport Accessibility Level (PTAL)</u>

2.21 Public Transport Accessibility Levels (PTALs) are a theoretical measure of the accessibility of a given point to the public transport network, taking into account walk access time and service

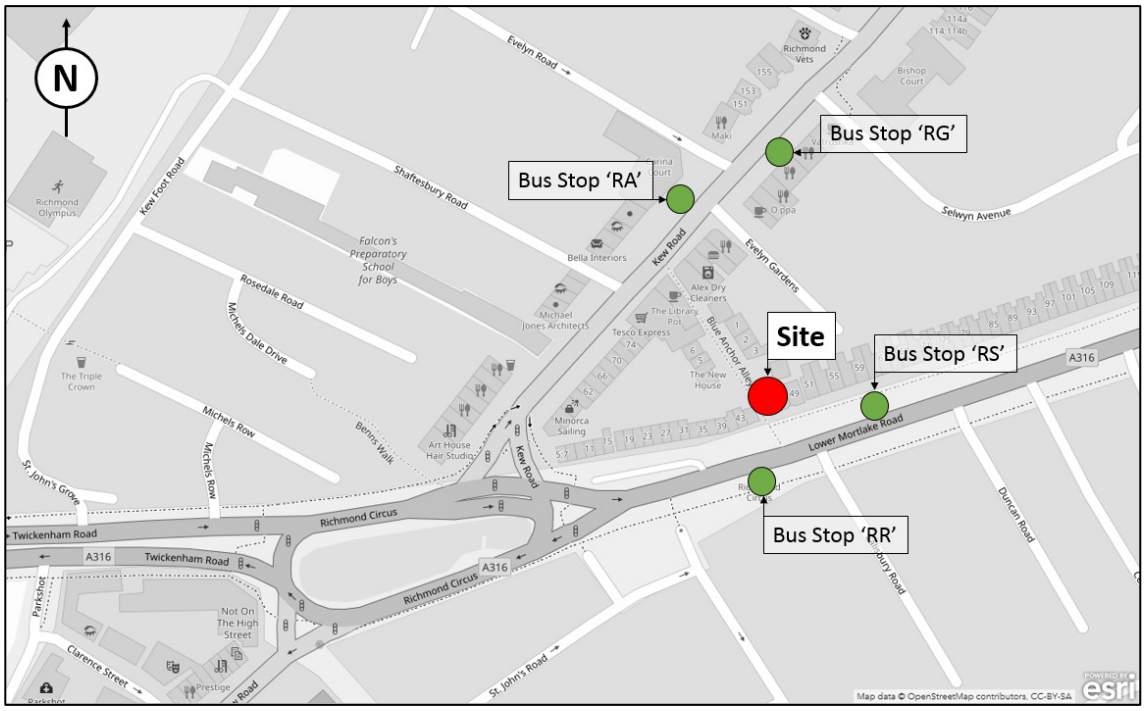
availability. The PTAL is categorised in six levels, where 6 represents a high level of accessibility and 1 a low level of accessibility.

2.22 The Site has a PTAL level of 6a, demonstrating that it has an excellent level of accessibility to public transport. **Appendix B** includes a summary of the PTAL report.

Bus Services

2.23 There are regular services from a number of bus stops located within a 100m walk of the Site. The bus stops on Lower Mortlake Road and Kew Road are the closest to the Site and are shown in **Figure 2.5**.

Figure 2.5: Bus Stop Locations



2.24 All bus stops have the following features:

- Security (including lighting);
- Bus stop post and flag;
- Surface markings for buses;
- Bus passenger shelter and seating;
- Information (including timetables and maps); and,
- Connectivity with the footway.

2.25 The local area TfL bus spider map is included at **Appendix C** which provides further information regarding the bus routes listed in the table.

Table 2.3: Summary of Bus Services				
Service No.	**Route**	**Service Frequency (every 'x' minutes)**		
		Mon-Fri	Sat	Sun
65	Brook Street – Ealing Broadway Station	4-8	5-9	8-12
190	George Street – Empress State Bldg/ West Brompton Station	12-16	15	20
371	Manor Road/Sainsbury's – Kingston Hall Road	9-12		11-12
391	George Street – Sands End/Sainsbury's	11-14		11-13
419	George Street – Barnes Pond	11-16		25-30
493	St George's/University of London – Richmond/Manor Road	10-14		19-21
H22	The Bell – Manor Road	11-14		19-21
H37	Hounslow Blenheim Centre – Manor Road	6-10	5-8	7-10
N22	South/Fulwell – Margaret Street/Oxford Circus	30 from 00.00 until 5.22am		
N65	Chessington World of Adventures – Ealing Broadway Station	30 from 00.00 until 5.24am		
R68	Kew Retail Park – Hampton Court Station	15	11-15	15
R70	Nurserylands Shopping Centre – Richmond/Manor Road	6-10		15

Rail Services

2.26 Richmond Railway Station is located 400m (5-minute walk) to the west of the Site and provides access to South Western Railway, London Overground and London Underground services. Richmond Station is step-free from the entrance to all platforms and trains. The station is run and managed by South Western Railway.

2.27 Rail services run from Richmond to London Waterloo, Wimbledon and Reading. There are approximately 11 London bound services every hour and 6 outward bound services towards Reading and Windsor.

2.28 London Overground services terminate at Richmond and run to Stratford calling at all stations between. Four services leave the station towards Stratford every hour, calling at key stations such as Willesden Junction, Gospel Oak, Highbury & Islington, Hackney Central and Stratford.

2.29 A branch of the London Underground District Line serves and terminates at Richmond Station. Services run towards Upminster with opportunities to interchange at stations such as Earl's Court, Victoria, Embankment and Monument. There are approximately 7 services leaving the terminus during the peak hours from Richmond towards Earl's Court.

Car Clubs

2.30 Car clubs provide access to a car without the need to own one or pay for maintenance and running costs. The closest vehicle is located on Selwyn Avenue circa 160m (2-minute walk) from the Site and run by Enterprise Car Club.

Car Ownership

2.31 The 2011 Census has been interrogated to ascertain car ownership levels for private rented accommodation (1-3 rooms) in the Lower Super Output Area in which the Site is located, Richmond upon Thames 004C. The data suggests that 62% of households do not own a car.

Method of Journey to Work

2.32 The 2011 Census has also been examined to establish the method of journey to work for residents in the area (associated with the longest part of their journey). This is shown at **Table 2.4**.

Table 2.4: Census 2011 Travel to Work Data (Resident Population)

Modal Split	Baseline
Underground	22%
Train	32%
Bus	6%
Taxi	0%
Motorcycle	1%
Car or Van	24%
Walk and Cycle	15%

3 POLICY

National Policy

National Planning Policy Framework

3.1 The National Planning Policy Framework (NPPF) was most recently updated in July 2021 setting out the Government's planning policies for England and how these are expected to be applied.

3.2 Paragraph 111 advises that:

- *"Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe."*

3.3 Paragraph 112 states that:

"Within this context, applications for development should:

a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;

b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;

c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;

d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and

e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations."

3.4 When considering the transport effects of a development, NPPF states that:

- *"all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment and that development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."*

Regional Policy

The London Plan

3.5 The London Plan was published in March 2021 and is the Spatial Development Strategy which forms the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.

3.6 Policy T1 'Strategic approach to transport' states that development proposals should facilitate the delivery of the Mayor's strategic target of 80% of trips in London to be made by foot, cycle or public transport by 2041.

3.7 Policy T2 'Healthy Streets' states that:

"Development proposals and Development Plans should deliver patterns of land use that facilitate residents making shorter, regular trips by walking or cycling."

3.8 The policy goes on to state that development proposals should:

"1) demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators in line with Transport for London guidance.
2) reduce the dominance of vehicles on London's streets whether stationary or moving.
3) be permeable by foot and cycle and connect to local walking and cycling networks as well as public transport."

3.9 Paragraph 10.2.4 describes that Londoners' direct interaction with the Healthy Streets Approach will be through the streets they use every day. The dominance of vehicles should be reduced by using design to ensure slower vehicle speeds and safer driver behaviour in line with the Mayor's Vision Zero ambition.

3.10 Policy T4 'Assessing and mitigating transport impacts' states that transport assessments / statements should be submitted with development proposals to ensure that impacts on the capacity of the transport network are fully addressed. Travel Plans, Parking Design and Management Plans, Construction Logistics Plans and Delivery and Servicing Plans will be required in accordance with relevant Transport for London guidance.

3.11 Policy T5, 'Cycling', suggests that barriers to cycling can be removed and that a healthy environment in which people choose to cycle can be created through appropriate levels of cycle parking which are fit for purpose, secure and well-located.

3.12 For sui generis developments, the London Plan states that cycle parking should be provided at the most relevant other standard. For shared living schemes, the C3-studio figure should be used.

3.13 Policy T6 refers to parking and makes a number of statements to consider. These include:

- *"Car parking should be restricted in line with levels of existing and future public transport accessibility and connectivity;*
- *Car free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite'); and*
- *Adequate provision should be made for efficient deliveries and servicing."*

Local Policy

The London Borough of Richmond upon Thames Local Plan (2018)

3.14 The Local Plan sets out the strategic planning framework for the next 15 years.

3.15 Policy LP44 outlines Sustainable Travel Choices and how the borough is to promote them.

"The Council will work in partnership to promote safe, sustainable and accessible transport solutions, which minimise the impacts of development including in relation to congestion, air pollution and carbon dioxide emissions, and maximise opportunities including for health benefits and providing access to services, facilities and employment."

3.16 The Council will:

"Encourage high trip generating development to be located in areas with good public transport with sufficient capacity, or which are capable of supporting improvements to provide good public transport accessibility and capacity, taking account of local character and context.

Ensure that new development is designed to maximise permeability within and to the immediate vicinity of the development site through the provision of safe and convenient walking and cycling routes, and to provide opportunities for walking and cycling, including through the provision of links and enhancements to existing networks.

Ensure that major new developments maximise opportunities to provide safe and convenient access to public transport services.

Ensure that new development does not have a severe impact on the operation, safety or accessibility to the local or strategic highway networks. Any impacts on the local or strategic highway networks, arising from the development itself or the cumulative effects of development,

including in relation to on-street parking, should be mitigated through the provision of, or contributions towards, necessary and relevant transport improvements."

3.17 LP45 includes parking standards for the borough – stating:

"The Council will require new development to make provision for the accommodation of vehicles in order to provide for the needs of the development while minimising the impact of car based travel including on the operation of the road network and local environment, and ensuring making the best use of land.

Car free housing development may be appropriate in location with high public transport accessibility, such as areas with a PTAL of 5 or 6, subject to the provision of disabled parking, appropriate servicing arrangements and demonstrating the proper controls can be put in place to ensure that the proposal will not contribute to on-street parking stress in the locality."

4 PROPOSED DEVELOPMENT

4.1 The Proposed Development consists of the "*Construction of a part 1/2/3 storey building (plus lower ground) to provide 14 co-living units (sui generis) and associated internal amenity space at lower ground floor level, with new lower ground level amenity space to neighbouring buildings, and alongside external communal space at ground and lower ground level*".

Access

4.2 The Proposed Development will front onto Lower Mortlake Road with pedestrian access located towards the western side of the building for 47a. The building outline has been designed to open up Blue Anchor Alley at its connection with Lower Mortlake Road. Access for nos. 47 and 49 would be retained direct from Lower Mortlake Road.

4.3 The Proposed Development will not provide any vehicle access. As such, the existing vehicle access on Lower Mortlake Road will be made redundant and can be reinstated as footway.

Parking

4.4 No vehicle parking is proposed with this Site. As such, it will be car-free. Future residents of No.47a would also be subject to a permit-free agreement, whilst occupants of Nos.47 & 49 would continue with no restrictions as existing given there is no change in the number of associated rooms. Any demand for disabled parking would be met on-street locally in line with existing restrictions.

4.5 Cycle parking will be provided in accordance with standards and positioned at ground floor level within a secure cycle store. The store is located at the front of the Site, with cycle parking provided in a two-tier format. There will be 16 spaces provided in total including space for residents and visitors of 47a. Whilst there is considered to be no cycle parking requirement for nos.47 and 49, 2 new spaces will be proposed for each building (4 in total) to encourage sustainable travel.

Deliveries and Servicing

4.6 Deliveries and servicing activity to the Proposed Development will be accommodated on-street with vehicles stopping within the loading bay on Lower Mortlake Road, immediately west of the Site.

Refuse Storage and Collection

4.7 Refuse stores are provided at ground and lower ground floor levels for 47a. The number of bins proposed is in accordance with local guidance such that it is proposed for the Council to collect the waste. On-site management will however be responsible for transferring bins between the lower and ground floor stores to ensure the right bins are at ground floor prior to collection.

4.8 For nos. 47 and 49, bins will continue to be stored at the front of the property, as existing. As set out, there will be no new occupants of 47 or 49 associated with the Proposed Development.

4.9 Refuse vehicles will be able to stop within the loading bay on Lower Mortlake Road with operatives transferring bins to and from the rear of the vehicle before returning the bins to the store. This arrangement was previously accepted by LBRuT Officers.

5 EFFECTS OF DEVELOPMENT

Trip Generation

5.1 A trip generation assessment for the Proposed Development by all modes of transport has been undertaken for the typical weekday morning peak period (7am – 10am) and evening peak period (4pm – 7pm). The trip generation data is provided to determine the impact of the Proposed Development on the local highway and public transport networks. Consideration has only been given to No.47a as there is no uplift in rooms associated with nos. 47 and 49, and therefore no anticipated change.

5.2 Total person trip rates have been obtained from comparable sites within the TRICS database, based on similar characteristics such as location and size, including sites between 0-25 units with no car parking. All surveys included were undertaken in the last 5 years. The TRICS data is contained in **Appendix D**. The same rates used during the previous application have been used for this assessment.

5.3 Trip rates per unit and the total number of predicted trips for 14 units are contained in **Table 5.1**.

Table 5.1: Trip Generation Summary for Proposed Use (14 units)

Period	Trip Rates		Total Persons	
	IN	OUT	IN	OUT
7am – 8am	0.034	0.310	1	5
8am – 9am	0.034	0.586	1	9
9am – 10am	0.034	0.345	1	5
7am – 10am	**0.102**	**1.241**	**3**	**19**
PM Period				
4pm – 5pm	0.310	0.103	5	2
5pm – 6pm	0.276	0.034	4	1
6pm – 7pm	0.379	0.241	6	4
4pm – 7pm	**0.965**	**0.378**	**15**	**7**
Daily Total (12 hours)				
7am – 7pm	**1.514**	**2.308**	**22**	**33**

5.4 **Table 5.1** shows that the morning peak period of 7am – 10am is expected to generate 22 two-way person trips in the morning peak period (3 arrivals and 19 departures), whilst the evening peak period of 4pm – 7pm is expected to generate 22 two-way trips (15 arrivals and 7 departures).

5.5 The travel to work Census data, provided in Section 2, has been modified according to the Proposed Development's characteristics i.e. reducing car driver trips from 24% locally to 0% to reflect the car-free nature of the Proposed Development. The resultant mode split is shown in **Table 5.2**.

Table 5.2: Modal split – Residents Journey to Work (Longest Leg)		
Modal Split	**Baseline**	**Adjusted**
Underground	22%	30%
Train	32%	42%
Bus	6%	9%
Taxi	0%	0%
Motorcycle	1%	1%
Car or Van	24%	0%
Walk and Cycle	15%	18%
Total	100%	100%

5.6 **Table 5.3** sets out the estimated multi-modal trip generation summary for the Proposed Development during the morning peak hours (7am – 10am) and afternoon peak (4pm – 7pm).

Table 5.3 – Predicted Residential Trips by Mode				
Mode	**AM Peak (7am – 10am)**		**PM Peak (4pm – 7pm)**	
	Arrive	**Depart**	**Arrive**	**Depart**
Underground	1	6	5	2
Train	1	8	6	3
Bus	0	2	1	1
Taxi	0	0	0	0
Motorcycle	0	0	0	0
Car or Van	0	0	0	0
Walk and cycle	1	3	3	1
Total	**3**	**19**	**15**	**7**

Highway Impact

5.7 The Site has a PTAL rating of 6a, will not be providing on-site parking and is located within a controlled parking zone with future occupants of 47a prevented from applying for permits. On this basis, and the adjusted modal split, vehicle activity associated with the Proposed Development will be limited to deliveries, taxis and servicing and therefore the impact on the local highway network is expected to be negligible.

Public Transport Impact

5.8 During the 3-hour assessment periods, there are expected to be an additional 7 trips undertaken by underground (1 arrival and 6 departures), and 7 trips in the evening (5 arrivals and 2 departures) as a result of the Proposed Development. Given that Richmond Station is serviced by the District Line which has 7 services an hour towards the city as it is the terminus, this equates to 21 services within the three hour peak. As a result the Proposed Development is not expected to cause a noticeable difference to underground services.

5.9 By rail, there are expected to be an additional 9 trips (1 arrival and 8 departures) between 7am - 10am and 9 trips (6 arrivals and 3 departures) between 4pm – 7pm. Given that there are 11 London bound services and 6 outbound services plus 4 Overground services an hour (33 London bound, 18 outbound and 12 Overground), an increase of 9 trips in either peak period is not expected to have a noticeable impact.

5.10 On local bus services there are expected to be an additional 2 trips made in the morning and evening peak periods. There are 10 bus routes providing approximately 40 services in each direction during each peak period, thus an extra 2 trips in either peak period is not going to have a noticeable impact on passenger loadings.

Parking

5.11 The Site is proposed to be car-free and therefore does not provide any on-site car parking. Future residents of No.47a will also be unable to apply for a permit and thus not able to park within the CPZ during active hours. Nos. 47 & 49 would continue any parking arrangement as existing.

5.12 The provision of a car-free development is considered appropriate given the location of the Site and its excellent accessibility. The permit-free agreement for 47a is also considered to significantly reduce car ownership levels and avoid any potential impact on-street.

5.13 It is acknowledged that CPZ N does not restrict parking all day which in theory could allow residents to own a car and park it overnight, however, this would require vehicles to be moved out of the zone between 10am and 4.30pm every day of the year, which is considered highly unlikely. Notwithstanding this, an assessment to understand the impact on parking levels has been undertaken.

5.14 The car ownership levels presented in Section 2 suggest that 14 rooms could generate a parking demand for 5 vehicles. As such, if these were to park on-street locally within CPZ N outside of hours, there would still be approximately 49 observed spaces during the weekday overnight period and 59 observed spaces during the weekend overnight period. The level of additional parking demand is therefore unlikely to affect local occupancy levels.

5.15 There is no proposed disabled parking, however, any demand could be accommodated on-street in line with existing restrictions for blue badge holders.

5.16 Cycle parking is provided in accordance with the London Plan for 47a, in the form of two-tier stands within a secure sheltered cycle store. A total of 16 spaces are proposed space for visitors included. Whilst there is considered to be no requirement for nos. 47 and 49, 2 new spaces will be proposed for each building to encourage travel by sustainable modes.

Access

5.17 The Proposed Development will no longer require the use of the existing vehicle crossover on Lower Mortlake Road. As such, this could be reinstated as footway or used for other purposes such as an extension of the existing loading bay which is located west of the Site. Any amendments to the crossover would require agreement with Transport for London.

Deliveries and Servicing

5.18 Deliveries associated with the Proposed Development will be undertaken on-street within the existing inset loading bay on Lower Mortlake Road, immediately west of the Site. The Proposed Development is likely to generate approximately 1-2 deliveries per day.

5.19 Deliveries would include postal deliveries, deliveries of food and or other goods purchased on-line. In this regard, post and on-line food deliveries are likely to be linked with another delivery elsewhere in the local area, whilst the delivery of purchases such as household / white goods is likely to be dedicated deliveries.

5.20 Based on the above, and given dwell times associated with most deliveries would be typically under 15-minutes, delivery activity associated with the Proposed Development would not result in a material impact on the highway.

5.21 Waste is proposed to be collected by the council from the ground floor bin store locations, with operatives transferring bins to and from the loading bay on Lower Mortlake Road.

Healthy Streets

5.22 The Proposed Development makes a positive contribution to the Healthy Street Approach as follows:

- Reduced car dependence by locating development in an area benefitting from excellent access to public transport opportunities and amenities which are convenient for travel by walking or cycling;
- Reduced car dependence by limiting car parking provision and preventing residents from participation in the local permit controlled parking zone;

- Improving pedestrian links in the vicinity and an improved public realm; and,
- Providing cycle parking facilities and direct access onto the cycle network on Lower Mortlake Road.

Mitigation

Construction Management Statement

5.23 A draft Construction Management Statement (CMS) has been prepared to detail how the Site will function during construction, however, a full CMS would be secured via condition and prepared upon appointment of a contractor. The document details how the Site would be set up including details of access arrangements, vehicle loading and storage facilities, information on vehicle numbers and vehicle routes, and reference to working hours and any remedial measures.

5.24 The purpose of the CMS will be to mitigate the potential impacts of construction activity associated with the Proposed Development.

Travel Plan Statement

5.25 This Travel Plan Statement has been prepared for the future occupants of the Proposed Development.

5.26 The main objectives of the Travel Plan Statement are to ensure residents are aware of the opportunities to travel by sustainable modes. A series of measures are set out to ensure trips can be undertaken by non-car modes.

Measures

5.27 The following measures will help to encourage sustainable travel:

- Provision of a car-free development;
- Provision of a Welcome Pack to residents;
- Provision of Travel information;
- Secure and undercover cycle parking facilities;
- Promotion of the health benefits associated with sustainable travel;
- Information on pedestrian and cycle routes as well as public transport timetables; and,
- Participation in walk-to-work week and cycle-to-work events will be encouraged.

6 SUMMARY AND CONCLUSION

Summary

6.1 TTP Consulting has been appointed by Westlake Property Limited to provide traffic and transport advice in relation to the Proposed Development at 47a, 47 & 49 Lower Mortlake Road, in the London Borough of Richmond upon Thames.

6.2 In summary:

- The Site achieves a PTAL rating of 6a and is very accessible by all modes. As such, it is anticipated that the majority of trips associated with the Site would be undertaken using sustainable modes of travel. Given the number of public transport services available within walking distance, the proposals are not expected to have material impact on public transport networks;

- The Proposed Development will be car-free with future residents of 47a subject to a permit-free agreement. This is in accordance with policy and considered appropriate given the Site's location, proximity to public transport opportunities and given there are existing CPZ restrictions operating within the local area;

- Notwithstanding the car-free nature of the scheme, and the proposed permit-free agreement, an assessment of car ownership levels and parking surveys suggest that there is still capacity on local streets to accommodate parking demand in the event a resident still chose to own a car;

- Cycle parking will be provided in accordance with policy requirements for 47a. A total of 16 spaces are proposed to the front of the Site within a secure cycle store. Whilst it is considered that there is no requirement for cycle parking for nos.47 and 49, 2 new spaces will be provided for each building; and,

- Servicing and delivery activity will be undertaken on-street utilising the existing loading bay on Lower Mortlake Road. There is expected to be approximately 1-2 deliveries per day which is not expected to affect the local highway network. Refuse collections will be undertaken by the Council with bins transferred from the ground floor bin store locations to the collection vehicle.

Conclusion

6.3 In light of the above, we conclude that the Proposed Development will not result in a material impact in highways and transportation terms. Furthermore, in accordance with NPPF paragraph 111, the residual cumulative impacts of the Proposed Development are not considered to be severe, and, as such, the Proposed Development should not be prevented or refused on highways grounds.

Appendix A


London Welsh Rugby Club
Old Deer Park Gardens
Tower Rise
Evelyn Terrace
Jocelyn Rd
Ashley Rd
Ebenezer Strict Baptist Chapel
Kew Foot Rd
Evelyn Rd
A307
Kew Rd
Richmond Vets
Selwyn Ave
Beaumont Ave
Little Lul
Zest Coffee & Patisserie
Rock And Rose
Educated Palate
NG Wines
Shaftesbury Rd
Falcons Prep Richmond
VPAR Golf
Namco UK
Givergy UK
Wonderhatch Ltd
Original Bathrooms
Mae Hair Specialist
Treviso
Rosedale Rd
Academy Signs
Kleo Beauty Nails Tanning
Library Pot
SWAT Engineering Ltd - Air Conditioning...
A316
Lower Mortlake Rd
CACI
W Sheen Vale
William Gr & Sons Dis
Tersha St
Michelsdale Dr
Triple Crown
Red Group
The Shaftesbury
The Hope
Restaurant 109
NYR Organic Marie-Claire Danner...
Richmond Windows
Paya Thai Market
Michels Row
Twickenham Rd
Duncan Rd
Salisbury Rd
Cedar Terrace
Bu
TH Sanders & Sons Funeral Directors
WTS Tyres Richmond
St John's Rd
Larkfield Rd
larkfield apartments
yogahaven Richmond
St John the Divine, Richmond
I Like Music
Church Rd
Catherine Dr
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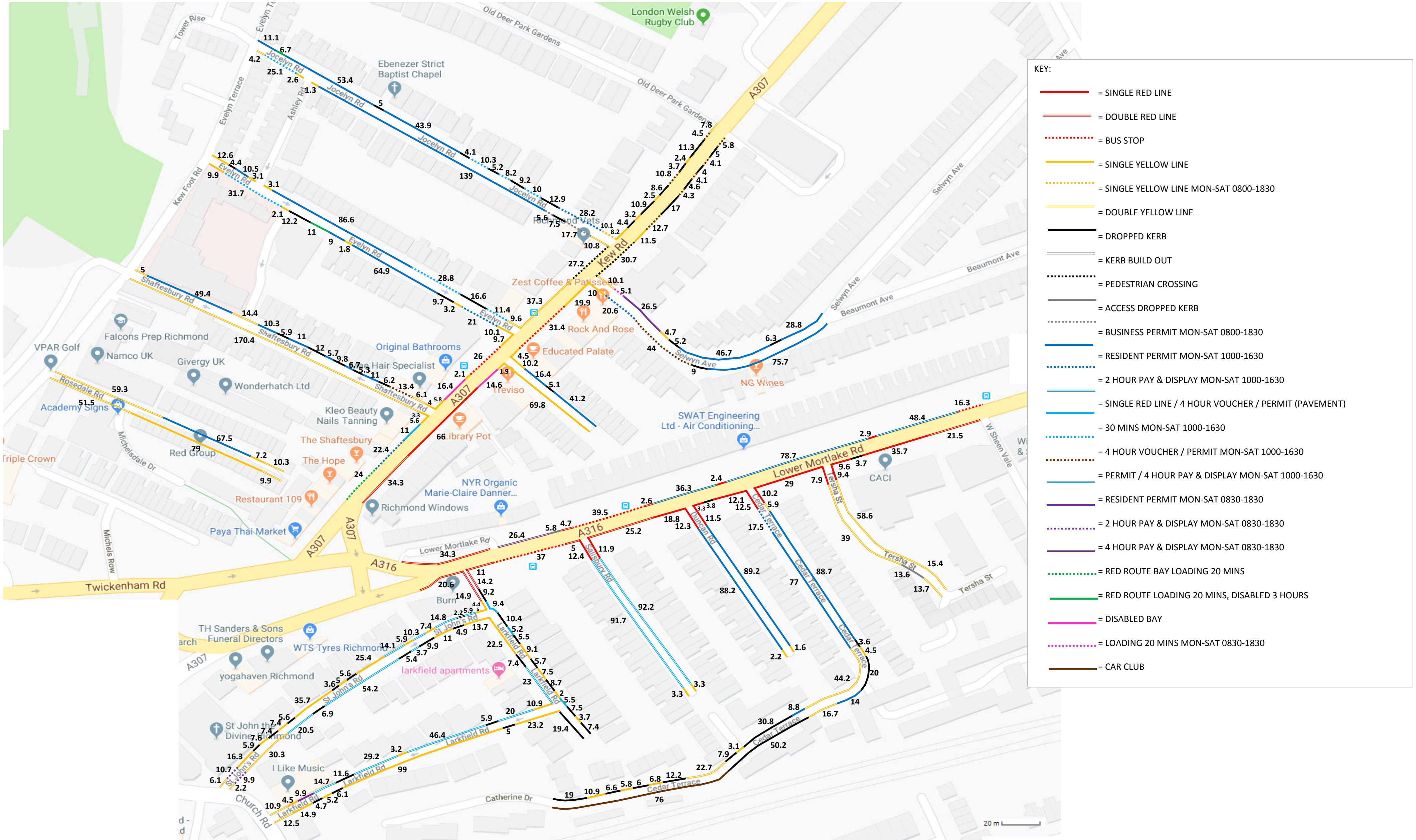

KEY:
= SINGLE RED LINE
= DOUBLE RED LINE
= BUS STOP
= SINGLE YELLOW LINE
= SINGLE YELLOW LINE MON-SAT 0800-1830
= DOUBLE YELLOW LINE
= DROPPED KERB
= KERB BUILD OUT
= PEDESTRIAN CROSSING
= ACCESS DROPPED KERB
= BUSINESS PERMIT MON-SAT 0800-1830
= RESIDENT PERMIT MON-SAT 1000-1630
= 2 HOUR PAY & DISPLAY MON-SAT 1000-1630
= SINGLE RED LINE / 4 HOUR VOUCHER / PERMIT (PAVEMENT)
= 30 MINS MON-SAT 1000-1630
= 4 HOUR VOUCHER / PERMIT MON-SAT 1000-1630
= PERMIT / 4 HOUR PAY & DISPLAY MON-SAT 1000-1630
= RESIDENT PERMIT MON-SAT 0830-1830
= 2 HOUR PAY & DISPLAY MON-SAT 0830-1830
= 4 HOUR PAY & DISPLAY MON-SAT 0830-1830
= RED ROUTE BAY LOADING 20 MINS
= RED ROUTE LOADING 20 MINS, DISABLED 3 HOURS
= DISABLED BAY
= LOADING 20 MINS MON-SAT 0830-1830
= CAR CLUB
London Welsh Rugby Club
Old Deer Park Gardens
Ebenezer Strict Baptist Chapel
Jocelyn Rd
Evelyn Rd
Evelyn Terrace
Ashley Rd
Kew Foot Rd
Tower Rise
Shaftesbury Rd
Rosedale Rd
Michelsdale Dr
Michels Row
Kew Rd
A307
A316
Twickenham Rd
Lower Mortlake Rd
Selwyn Ave
Beaumont Ave
W Sheen Vale
Tersha St
Salisbury Rd
Duncan Rd
Cedar Terrace
Catherine Dr
St John's Rd
Larkfield Rd
Church Rd
Zest Coffee & Patisserie
Rock And Rose
Educated Palate
Treviso
NG Wines
Original Bathrooms
Hair Specialist
Kleo Beauty Nails Tanning
The Shaftesbury
The Hope
Library Pot
Restaurant 109
Paya Thai Market
Falcons Prep Richmond
Namco UK
VPAR Golf
Givergy UK
Wonderhatch Ltd
Academy Signs
Red Group
Triple Crown
SWAT Engineering Ltd - Air Conditioning...
NYR Organic
Marie-Claire Danner...
Richmond Windows
CACI
TH Sanders & Sons Funeral Directors
WTS Tyres Richmond
yogahaven Richmond
larkfield apartments
St John the Divine Richmond
I Like Music
20 m

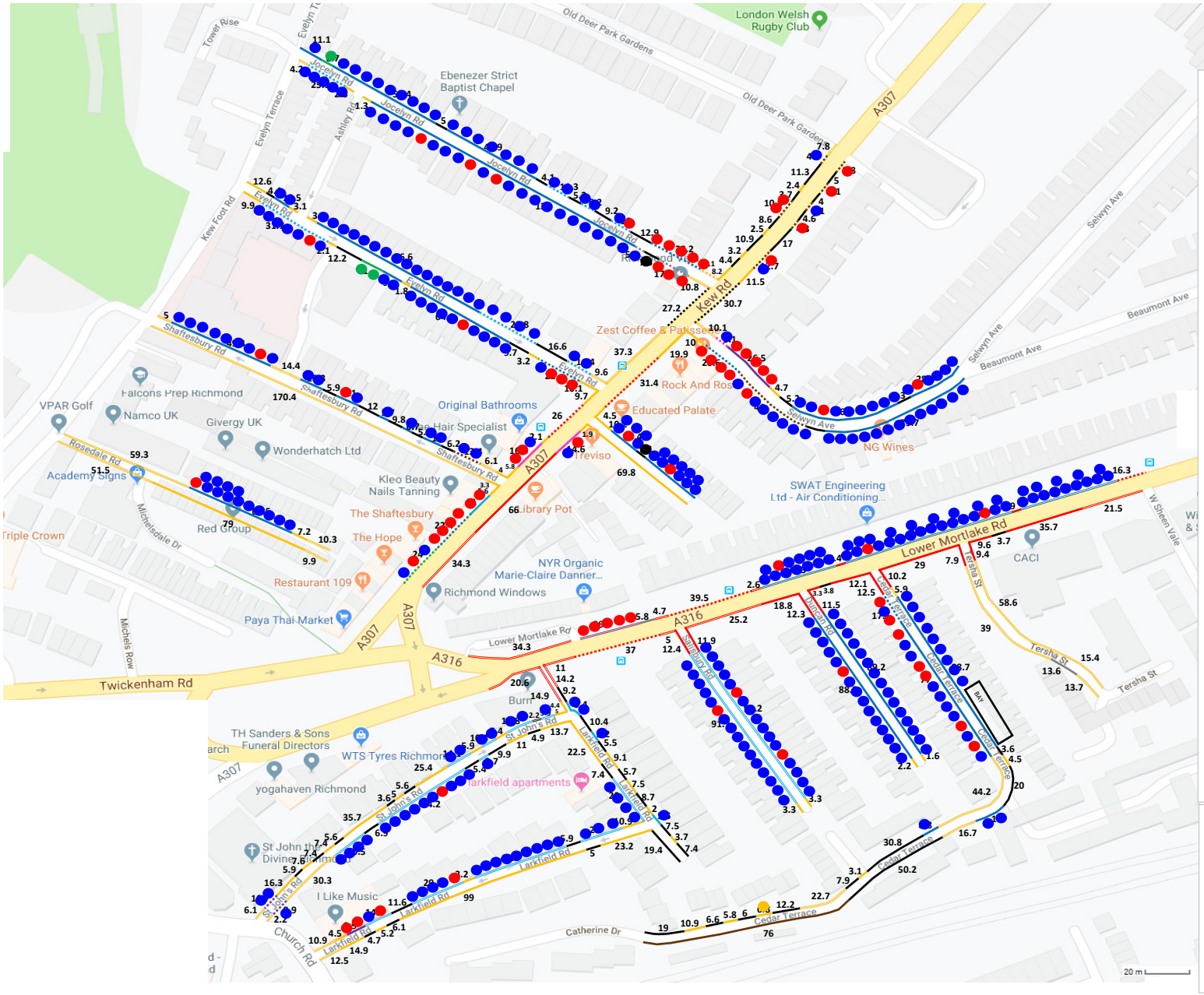
K&M TRAFFIC SURVEYS

DATE : 15th, 17th & 18th SEPTEMBER 2019

DAY : SUNDAY, TUESDAY, AND WEDNESDAY

LOCATION : LOWER MORTLAKE RD, RICHMOND

					SUNDAY 15th SEPTEMBER 2019			TUESDAY 17th SEPTEMBER 2019			WEDNESDAY 18th SEPTEMBER 2019		
					TIME : 0400			TIME : 0315			TIME : 0245		
ROAD NAME	ZONE	RESTRICTION	METRES	5 METRES = 1 SPACE	PARKED	OBSERVED SPACES	%STREET STRESS	PARKED	OBSERVED SPACES	%STREET STRESS	PARKED	OBSERVED SPACES	%STREET STRESS
LOWER MORTLAKE RD	1	RED DOUBLE LINES	21.5										
		SINGLE RED LINES	45.3										
		DROP KERB	3.7										
TERSHA ST	2	SINGLE RED LINES	9.4										
		DOUBLE YELLOW LINES	74										
	3	DOUBLE YELLOW LINES	52.7										
		ACCESS DROP KERB	13.6										
		SINGLE RED LINES	7.9										
LOWER MORTLAKE RD	4	SINGLE RED LINES	29										
CEDAR TELL	5	SINGLE RED LINES	10.2										
		DOUBLE YELLOW LINES	22.6										
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	102.7	19	11	0	100.0%	12	4	75.0%	14	2	87.5%
		DROP KERB	73.8										
		ROADWORKS	76										
		YELLOW SINGLE LINES	4.5										
	6	DROP KERB	82.5										
		YELLOW SINGLE LINES	26.6		1			1			1		
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	85.8	16	9	5	64.3%	10	4	71.4%	11	2	84.6%
		2HOUR PAY AND DISPAY MON-FRI 1000-430PM	17.5	3	1	2	33.3%	1	2	33.3%	0	3	0.0%
		SINGLE RED LINES	12.5										
		DOUBLE YELLOW LINES	66.9										
LOWER MORTLAKE RD	7	SINGLE RED LINES	15.4										
		DROP KERB	3.8										
DUNCAN RD	8	SINGLE RED LINES	11.5										
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	89.2	17	15	0	100.0%	14	0	100.0%	15	1	93.8%
		YELLOW SINGLE LINES	1.6										
	9	YELLOW SINGLE LINES	2.2										
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	88.2	17	14	1	93.3%	14	1	93.3%	14	1	93.3%
		SINGLE RED LINES	12.3										
LOWER MORTLAKE RD	10	SINGLE RED LINES	18.8										
		RED DOUBLE LINES	25.2										
SALISBURY RD	11	SINGLE RED LINES	11.9										
		MON-SAT 830-630PM RESIDENT PERMIT HOLDER	92.2	18	15	2	88.2%	17	0	100.0%	17	0	100.0%
		YELLOW SINGLE LINES	3.3										
	12	YELLOW SINGLE LINES	3.3										
		MON-SAT 830-630PM RESIDENT PERMIT HOLDER	91.7	18	15	1	93.8%	16	1	94.1%	16	1	94.1%
		SINGLE RED LINES	12.4										
LOWER MORTLAKE RD	13	RED DOUBLE LINES	16										
		BUS STOP DOUBLE RED LINES	37										
LARKFIELD RD	14	RED DOUBLE LINES	14.2										
		DROP KERB	54.4										
		MON-SAT 830-630PM RESIDENT PERMIT HOLDER	20.1	3	4	0	100.0%	4	0	100.0%	4	0	100.0%
		YELLOW SINGLE LINES	22.3										
	15	DROP KERB	19.4					1					
	16	YELLOW SINGLE LINES	142.3										
		DROP KERB	15.8										
		DOUBLE YELLOW LINES	12.5										
	17	DOUBLE YELLOW LINES	10.9										
		YELLOW SINGLE LINES	18.6								1		
		PAY AND DISPLAY 2HR MON-SAT 830-630PM	9.9	2	0	2	0.0%	1	1	50.0%	1	1	50.0%
		DROP KERB	17.5										
		MON-SAT 830-630PM RESIDENT PERMIT HOLDER	110.3	20	17	2	89.5%	19	1	95.0%	21	0	100.0%
	18	MON-SAT 830-630PM RESIDENT PERMIT HOLDER	23	4	4	0	100.0%	4	0	100.0%	4	0	100.0%
		DROP KERB	7.4										
		YELLOW SINGLE LINES	22.5					1					
ST JOHNS RD	19	YELLOW SINGLE LINES	24.7										
		DROP KERB	27.1										
		MON-SAT 830-630PM RESIDENT PERMIT HOLDER	78.4	14	14	1	93.3%	15	0	100.0%	14	1	93.3%
		4HOUR PAY AND DISPLAY MON-SAT 830-630PM	9.9	1	1	0	100.0%	1	0	100.0%	1	0	100.0%
		DOUBLE YELLOW LINES	32.5										
	20	DOUBLE YELLOW LINES	6.1										
		4HOUR PAY AND DISPLAY MON-SAT 830-630PM	10.7	2	2	0	100.0%	1	1	50.0%	2	0	100.0%
		YELLOW SINGLE LINES	115.7										
		DROP KERB	28.1										
		MON-SAT 830-630PM RESIDENT PERMIT HOLDER	45.1	7	7	0	100.0%	8	0	100.0%	7	1	87.5%
		KERB BUILD OUT	2.2										
LARKFIELD RD	21	YELLOW SINGLE LINES	4.4										
		RED DOUBLE LINES	14.9										
LOWER MORTLAKE RD	22	RED DOUBLE LINES	20.6										
	23	RED DOUBLE LINES	34.3										
	24	7-7 MON-SAT RED ROUTE BAY LOADING 20MINS	26.4	5	0	5	0.0%	0	5	0.0%	0	5	0.0%
		ACCESS DROP KERB	5.8										
		RED DOUBLE LINES	7.3										
		1000-430PM MON-SAT SINGLE RED LINES/4HR VOUCHER/PERMIT PAV - nose in parking	163.4	app 50 spaces	49	3	94.2%	49	3	94.2%	50	2	96.2%
		BUS STOP DOUBLE RED LINES	55.8										
		SINGLE RED LINES	5.3										
KEW RD	25	DISABLED BAY 3 HOUR RED ROUTE LOADING 20MINS MON-SAT 7-7	24	4	2	1	66.7%	2	1	66.7%	0	4	0.0%
		2HOUR PAY AND DISPAY MON-FRI 1000-430PM	22.4	4	0	4	0.0%	2	2	50.0%	1	3	25.0%
		30MINS RESIDENT PERMIT HOLDER MON-SAT 100-430PM	11	2	0	2	0.0%	0	2	0.0%	0	2	0.0%
		YELLOW SINGLE LINES	5.6										
SHAFTESBURY RD	26	YELLOW SINGLE LINES	3.3										
		DOUBLE YELLOW LINES	170.4										
ROSEDALE RD	27	DOUBLE YELLOW LINES	69.6										
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	67.5	13	13	1	92.9%	14	0	100.0%	14	0	100.0%
		YELLOW SINGLE LINES	7.2										
	28	DOUBLE YELLOW LINES	61.4										
		YELLOW SINGLE LINES	79										
SHAFTESBURY RD	29	DOUBLE YELLOW LINES	25.5										
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	94.1	17	15	2	88.2%	16	1	94.1%	17	0	100.0%
		DROP KERB	39.2										
		PERMIT/4HOUR PAY AND DISPLAY MON-SAT 1000-430PM	13.4	2	2	0	100.0%	2	0	100.0%	2	0	100.0%
		YELLOW SINGLE LINES	4										
KEW RD	30	YELLOW SINGLE LINES	17.6										
		LOADING 20MINS MON-SAT 830-630	16.4	3	1	2	33.3%	2	1	66.7%	2	0	100.0%
		BUS STOP	26										
EVELYN RD	31	YELLOW SINGLE LINES	27.1										
		2HOUR PAY AND DISPAY MON-FRI 1000-430PM	21	4	1	3	25.0%	2	2	50.0%	2	2	50.0%
		DROP KERB	21.9										
		830-630 MON-FRI DISABLED BAY	11	2	2	0	100.0%	2	0	100.0%	2	0	100.0%
		1000-430PM MON-SAT SINGLE RED LINES/4HR VOUCHER/PERMIT PAV	31.7	6	6	1	85.7%	7	0	100.0%	6	1	85.7%
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	73.9	13	11	1	91.7%	12	0	100.0%	12	0	100.0%
	32	YELLOW SINGLE LINES	15.7										
		DROP KERB	4.4										
		MON-SAT 830-630PM RESIDENT PERMIT HOLDER	10.5	2	2	0	100.0%	2	0	100.0%	2	0	100.0%
		YELLOW SINGLE LINES	3.1										
	33	RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	86.6	17	16	0	100.0%	16	1	94.1%	14	2	87.5%
		PERMIT/4HOUR PAY AND DISPLAY MON-SAT 1000-430PM	40.2	7	6	0	100.0%	6	1	85.7%	7	0	100.0%
		DOUBLE YELLOW LINES	9.6										
		DROP KERB	16.6										
KEW RD	34	DOUBLE YELLOW LINES	37.3										
		PEDESTRIAN CROSSING	27.2										
JOCELYN RD	35	DOUBLE YELLOW LINES	10.8										
		BUSINESS PERMIT MON-SAT 830-630	23.3	4	1	3	25.0%	1	3	25.0%	1	3	25.0%
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	139	27	18	3	85.7%	19	2	90.5%	20	1	95.2%
		DROP KERB	7.5		1			1					
		YELLOW SINGLE LINES	1.3										
	36	YELLOW SINGLE LINES	2.6										
		4HOUR PAY AND DISPLAY MON-SAT 830-630PM	25.1	5	5	0	100.0%	5	0	100.0%	4	0	100.0%
		DOUBLE YELLOW LINES	4.2										
	37	RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	108.4	20	17	0	100.0%	15	1	93.8%	16	0	100.0%
		DISABLED BAY	6.7	1	1	0	100.0%	1	0	100.0%	1	0	100.0%
		4HOUR PAY AND DISPLAY MON-SAT 830-630PM	28.5	5	5	1	83.3%	6	0	100.0%	6	0	100.0%
		2HOUR PAY AND DISPAY MON-FRI 1000-430PM	28.2	5	0	5	0.0%	0	5	0.0%	1	4	20.0%
		DROP KERB	36.4										
		830-630 MON-SAT SINGLE YELLOW	10.1										
KEW RD	38	YELLOW SINGLE LINES	16.3										
		DROP KERB	38.9										
		4HOUR PAY AND DISPLAY MON-SAT 830-630PM	15.3	3	1	2	33.3%	2	1	66.7%	3	0	100.0%
		DOUBLE YELLOW LINES	7.8										
	39	4HOUR PAY AND DISPLAY MON-SAT 830-630PM	31	6	2	4	33.3%	3	3	50.0%	1	5	16.7%
		DROP KERB	30.6										
		YELLOW SINGLE LINES	11.5										
		PEDESTRIAN CROSSING	30.7										
SELWYN AVE	40	DOUBLE YELLOW LINES	10.1										
		CAR CLUB	5.1	1	1	0	100.0%	1	0	100.0%	1	0	100.0%
		2HOUR PAY AND DISPAY MON-FRI 1000-430PM	26.5	5	0	5	0.0%	1	4	20.0%	2	3	40.0%
		YELLOW SINGLE LINES	4.7										
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	75.5	14	13	2	86.7%	12	3	80.0%	13	1	92.9%
		DROP KERB	11.5										
	41	RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	75.7	15	13	0	100.0%	10	3	76.9%	9	4	69.2%
		DROP KERB	9										
		4HOUR PAY AND DISPLAY MON-SAT 830-630PM	44	8	7	1	87.5%	7	0	100.0%	5	2	71.4%
		2HOUR PAY AND DISPAY MON-FRI 1000-430PM	20.6	4	0	4	0.0%	0	4	0.0%	0	4	0.0%
		YELLOW SINGLE LINES	10										
KEW RD	42	YELLOW SINGLE LINES	24.4										
		BUS STOP	31.4										
EVELYN RD	43	YELLOW SINGLE LINES	10.2										
		RESIDENT PERMIT HOLDER MON-SAT 1000-430PM	57.6	app 18 spaces	15	2	88.2%	16	1	94.1%	16	1	94.1%
		DROP KERB	5.1		1			2			2		
	44	YELLOW SINGLE LINES	69.8										
KEW RD	45	YELLOW SINGLE LINES	1.9										
		20MINS LOADING MON-SAT 830-630	14.6	2	1	1	50.0%	2	0	100.0%	1	1	50.0%
		RED DOUBLE LINES	34.3										
		SINGLE RED LINES	66										

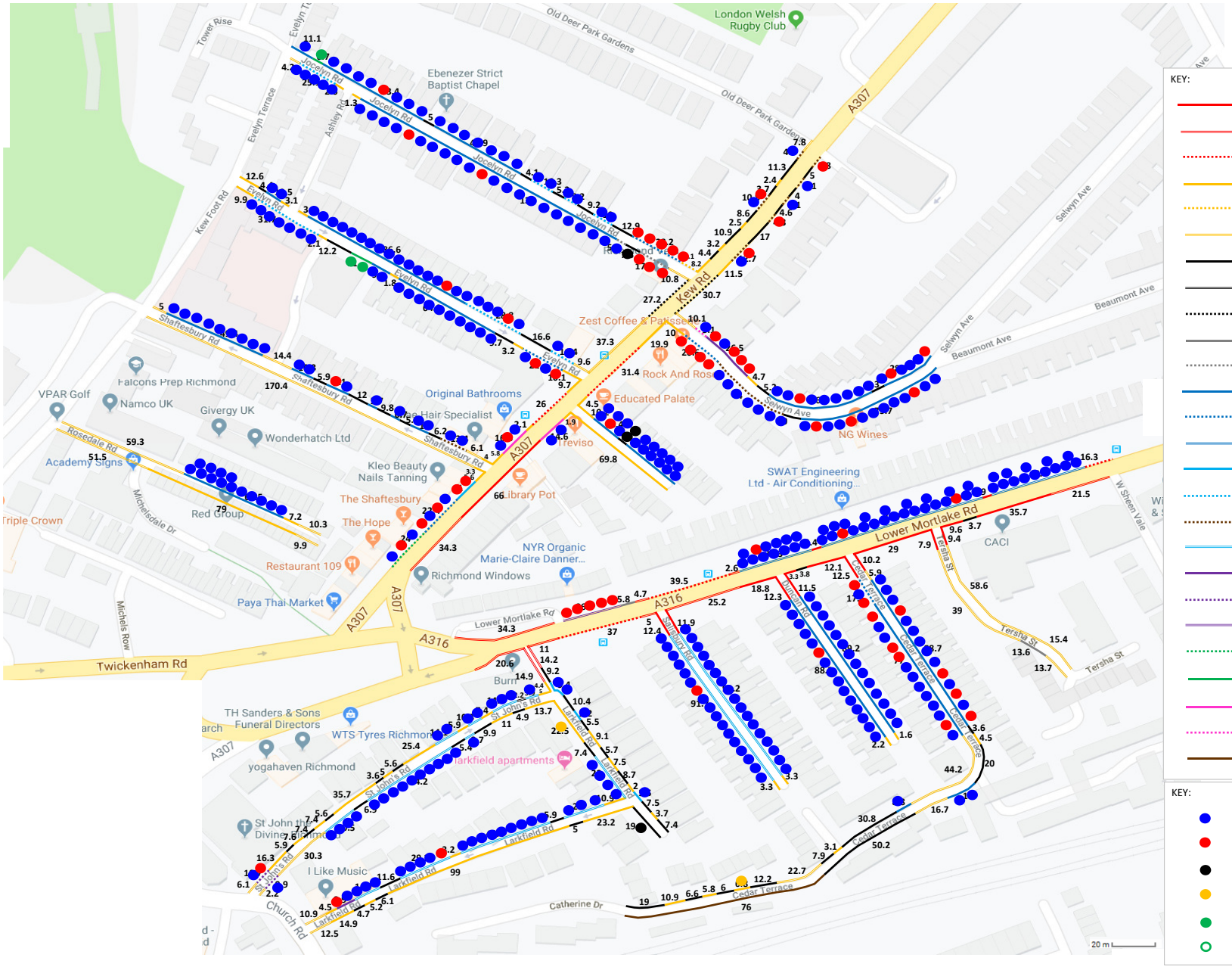


KEY:

- = SINGLE RED LINE
- = DOUBLE RED LINE
- = BUS STOP
- = SINGLE YELLOW LINE
- = SINGLE YELLOW LINE MON-SAT 0800-1830
- = DOUBLE YELLOW LINE
- = DROPPED KERB
- = KERB BUILD OUT
- = PEDESTRIAN CROSSING
- = ACCESS DROPPED KERB
- = BUSINESS PERMIT MON-SAT 0800-1830
- = RESIDENT PERMIT MON-SAT 1000-1630
- = 2 HOUR PAY & DISPLAY MON-SAT 1000-1630
- = SINGLE RED LINE / 4 HOUR VOUCHER / PERMIT (PAVEMENT)
- = 30 MINS MON-SAT 1000-1630
- = 4 HOUR VOUCHER / PERMIT MON-SAT 1000-1630
- = PERMIT / 4 HOUR PAY & DISPLAY MON-SAT 1000-1630
- = RESIDENT PERMIT MON-SAT 0830-1830
- = 2 HOUR PAY & DISPLAY MON-SAT 0830-1830
- = 4 HOUR PAY & DISPLAY MON-SAT 0830-1830
- = RED ROUTE BAY LOADING 20 MINS
- = RED ROUTE LOADING 20 MINS, DISABLED 3 HOURS
- = DISABLED BAY
- = LOADING 20 MINS MON-SAT 0830-1830
- = CAR CLUB

KEY:

- = PARKED VEHICLE
- = OBSERVED SPACE
- = DROPPED KERB
- = YELLOW LINES
- = DISABLED BAY (OCCUPIED)



KEY:

- = SINGLE RED LINE
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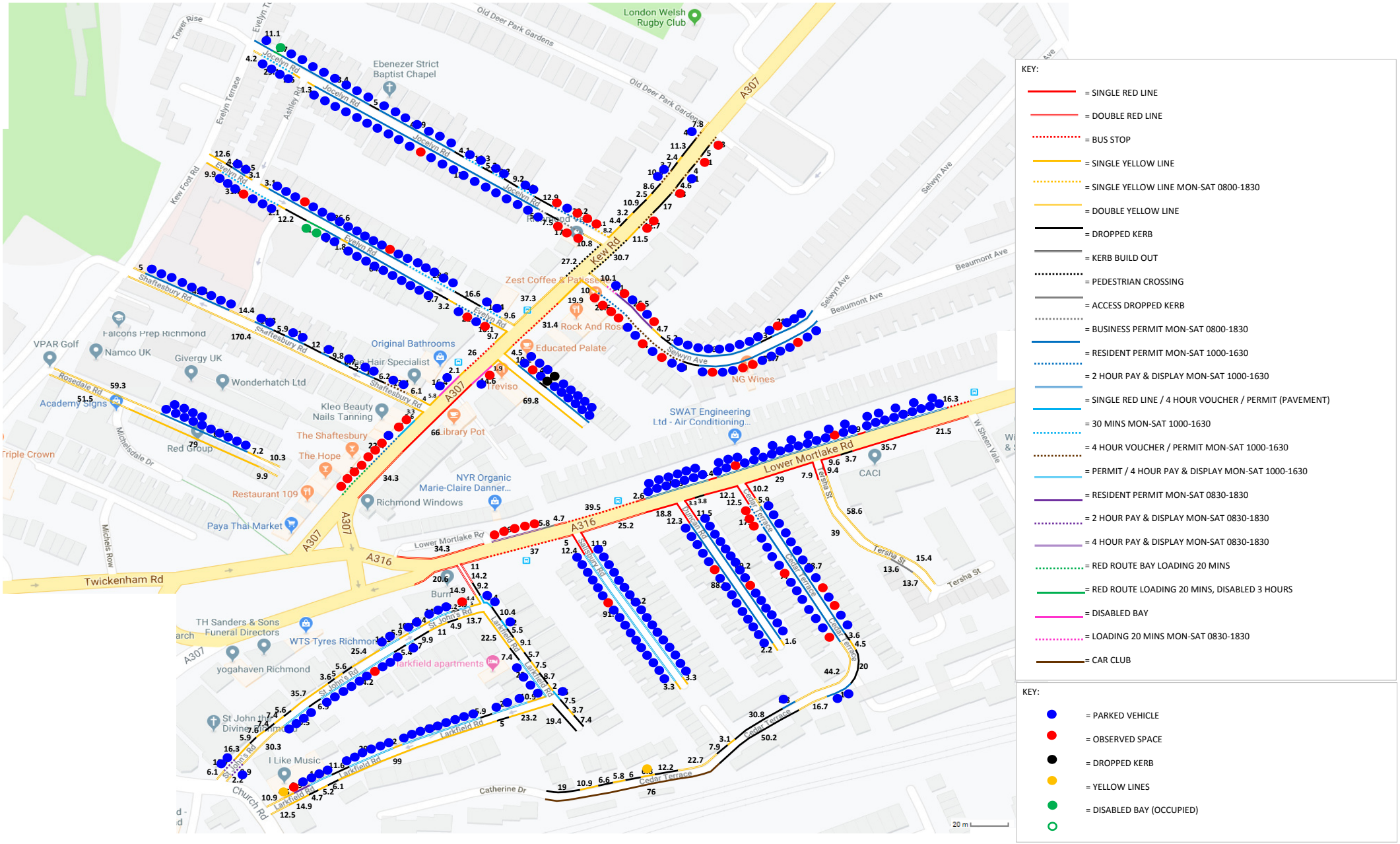
- = BUS STOP
- = SINGLE YELLOW LINE
- = SINGLE YELLOW LINE MON-SAT 0800-1830
- = DOUBLE YELLOW LINE
- = DROPPED KERB
- = KERB BUILD OUT
- = PEDESTRIAN CROSSING
- = ACCESS DROPPED KERB
- = BUSINESS PERMIT MON-SAT 0800-1830
- = RESIDENT PERMIT MON-SAT 1000-1630
- = 2 HOUR PAY & DISPLAY MON-SAT 1000-1630
- = SINGLE RED LINE / 4 HOUR VOUCHER / PERMIT (PAVEMENT)
- = 30 MINS MON-SAT 1000-1630
- = 4 HOUR VOUCHER / PERMIT MON-SAT 1000-1630
- = PERMIT / 4 HOUR PAY & DISPLAY MON-SAT 1000-1630
- = RESIDENT PERMIT MON-SAT 0830-1830
- = 2 HOUR PAY & DISPLAY MON-SAT 0830-1830
- = 4 HOUR PAY & DISPLAY MON-SAT 0830-1830
- = RED ROUTE BAY LOADING 20 MINS
- = RED ROUTE LOADING 20 MINS, DISABLED 3 HOURS
- = DISABLED BAY
- = LOADING 20 MINS MON-SAT 0830-1830
- = CAR CLUB

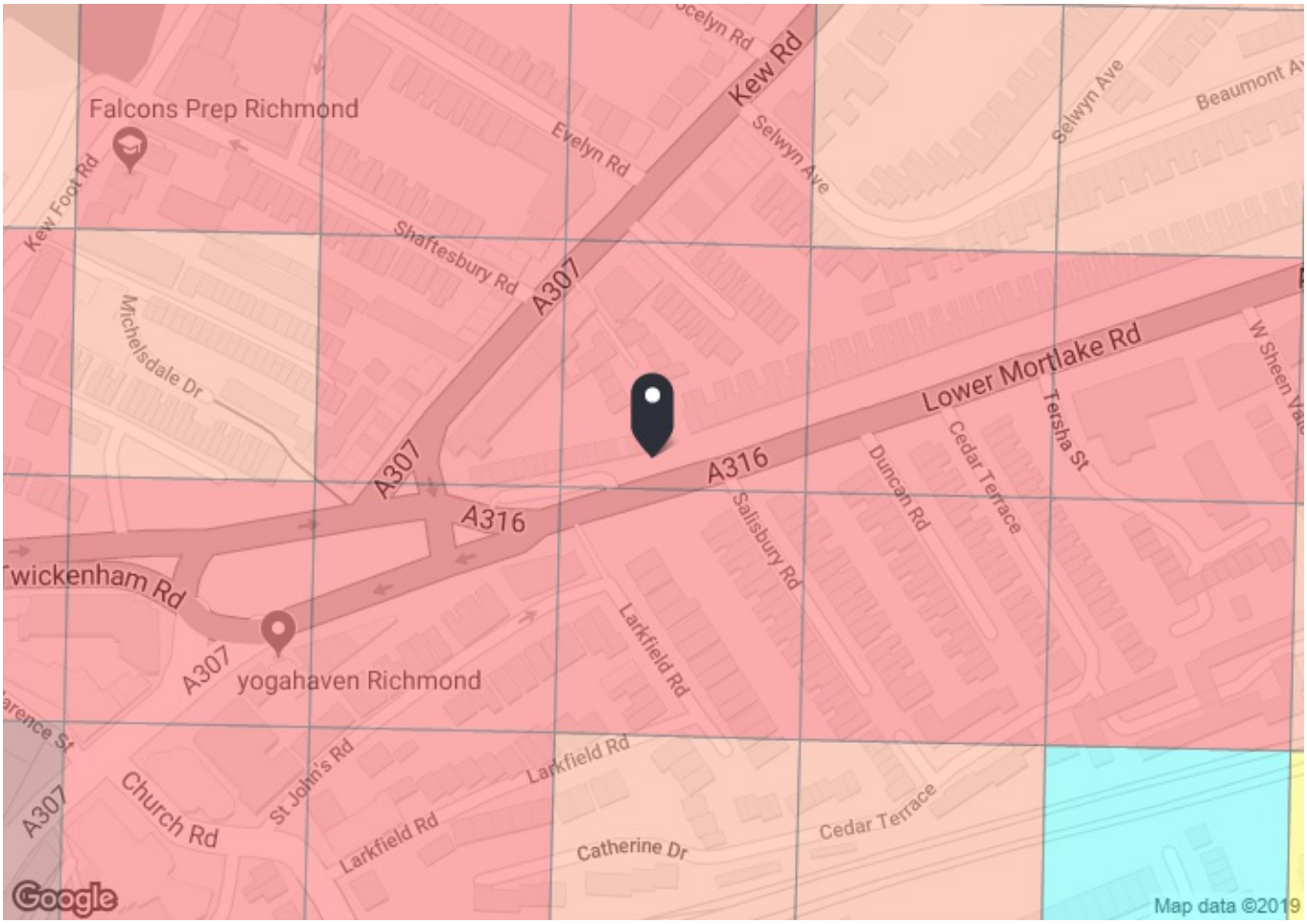
KEY:

- = PARKED VEHICLE
- = OBSERVED SPACE
- = DROPPED KERB
- = YELLOW LINES
- = DISABLED BAY (OCCUPIED)


KEY:
= SINGLE RED LINE
= DOUBLE RED LINE
= BUS STOP
= SINGLE YELLOW LINE
= SINGLE YELLOW LINE MON-SAT 0800-1830
= DOUBLE YELLOW LINE
= DROPPED KERB
= KERB BUILD OUT
= PEDESTRIAN CROSSING
= ACCESS DROPPED KERB
= BUSINESS PERMIT MON-SAT 0800-1830
= RESIDENT PERMIT MON-SAT 1000-1630
= 2 HOUR PAY & DISPLAY MON-SAT 1000-1630
= SINGLE RED LINE / 4 HOUR VOUCHER / PERMIT (PAVEMENT)
= 30 MINS MON-SAT 1000-1630
= 4 HOUR VOUCHER / PERMIT MON-SAT 1000-1630
= PERMIT / 4 HOUR PAY & DISPLAY MON-SAT 1000-1630
= RESIDENT PERMIT MON-SAT 0830-1830
= 2 HOUR PAY & DISPLAY MON-SAT 0830-1830
= 4 HOUR PAY & DISPLAY MON-SAT 0830-1830
= RED ROUTE BAY LOADING 20 MINS
= RED ROUTE LOADING 20 MINS, DISABLED 3 HOURS
= DISABLED BAY
= LOADING 20 MINS MON-SAT 0830-1830
= CAR CLUB
KEY:
= PARKED VEHICLE
= OBSERVED SPACE
= DROPPED KERB
= YELLOW LINES
= DISABLED BAY (OCCUPIED)
Twickenham Rd
Lower Mortlake Rd
Kew Rd
A307
A316
Jocelyn Rd
Evelyn Rd
Shaftesbury Rd
Selwyn Ave
Beaumont Ave
Old Deer Park Gardens
Tersha St
Larkfield Rd
St John's Rd
Cedar Terrace
Catherine Dr
Church Rd
Michels Row
Michelsdale Dr
Rosedale Rd
Kew Foot Rd
Tower Rise
Evelyn Terrace
Ashley Rd
W Sheen Vale
London Welsh Rugby Club
Ebenezer Strict Baptist Chapel
Zest Coffee & Patisserie
Rock And Rose
Educated Palate
NG Wines
Falcons Prep Richmond
VPAR Golf
Namco UK
Givergy UK
Wonderhatch Ltd
Original Bathrooms
The Hair Specialist
Academy Signs
Red Group
Kleo Beauty Nails Tanning
The Shaftesbury
The Hope
Restaurant 109
Treviso
Library Pot
NYR Organic Marie-Claire Danner...
Richmond Windows
Paya Thai Market
SWAT Engineering Ltd - Air Conditioning...
CACI
Triple Crown
TH Sanders & Sons Funeral Directors
WTS Tyres Richmond
yogahaven Richmond
Larkfield apartments
St John the Divine
I Like Music
20 m

Appendix B

TRANSPORT FOR LONDON



PTAL output for Base Year
6a

41 Lower Mortlake Rd, Richmond TW9 2LR, UK
Easting: 518334, Northing: 175407

Grid Cell: 55566

Report generated: 17/09/2019

Map key - PTAL

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

Map layers

PTAL (cell size: 100m)

Calculation Parameters

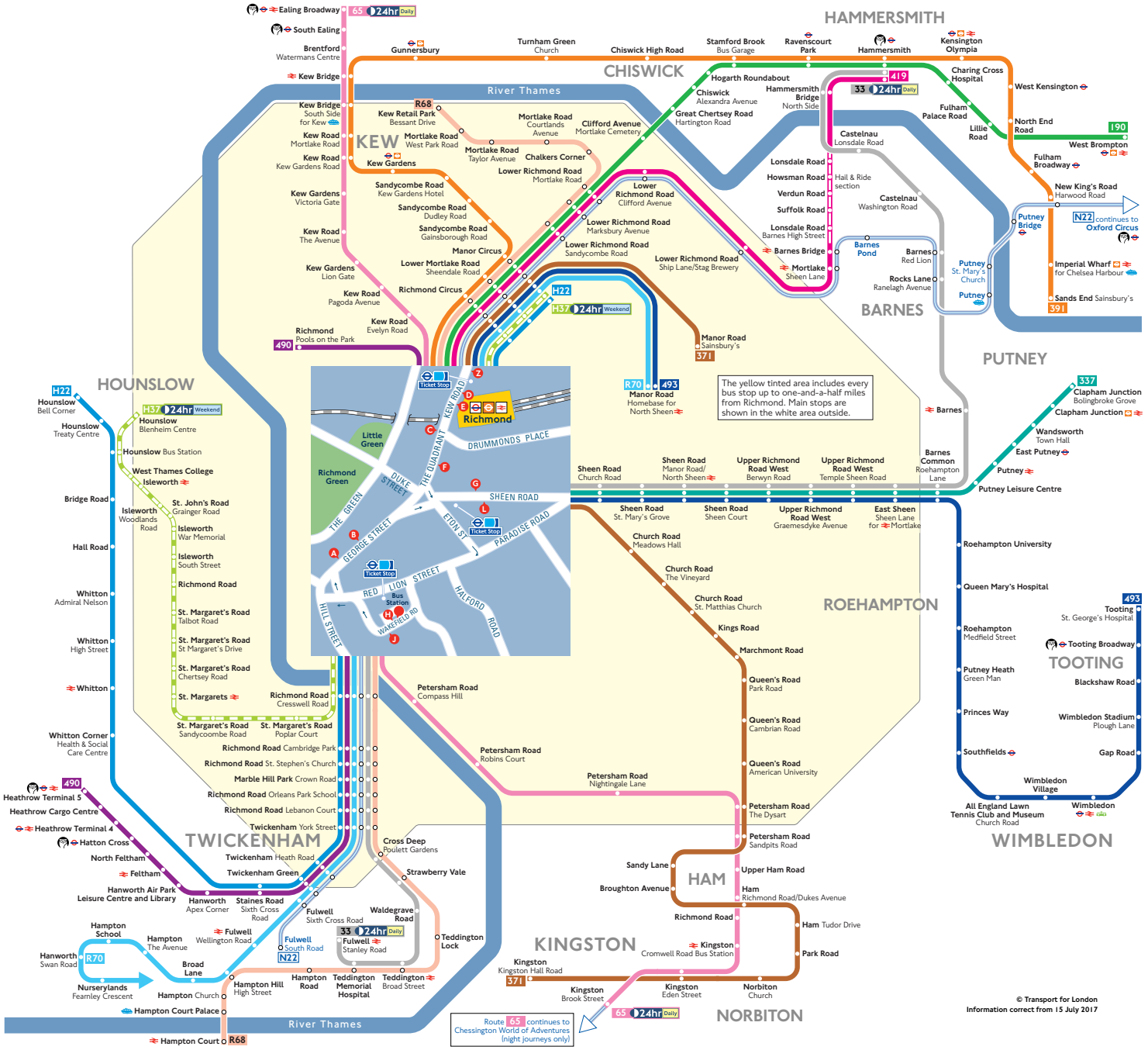
Day of Week	M-F
Time Period	AM Peak
Walk Speed	4.8 kph
Bus Node Max. Walk Access Time (mins)	8
Bus Reliability Factor	2.0
LU Station Max. Walk Access Time (mins)	12
LU Reliability Factor	0.75
National Rail Station Max. Walk Access Time (mins)	12
National Rail Reliability Factor	0.75

Calculation data

Mode	Stop	Route	Distance (metres)	Frequency (vph)	Walk Time (mins)	SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	KEW ROAD RICHMOND CIRCUS	65	90.43	9	1.13	5.33	6.46	4.64	1	4.64
Bus	RICHMOND CIRCUS (L M RD)	371	354.92	7	4.44	6.29	10.72	2.8	0.5	1.4
Bus	RICHMOND CIRCUS (L M RD)	493	354.92	5	4.44	8	12.44	2.41	0.5	1.21
Bus	RICHMOND CIRCUS (L M RD)	190	354.92	4	4.44	9.5	13.94	2.15	0.5	1.08
Bus	RICHMOND CIRCUS (L M RD)	419	354.92	4	4.44	9.5	13.94	2.15	0.5	1.08
Bus	RICHMOND CIRCUS (L M RD)	H37	354.92	10	4.44	5	9.44	3.18	0.5	1.59
Bus	RICHMOND CIRCUS (L M RD)	R68	354.92	4	4.44	9.5	13.94	2.15	0.5	1.08
Bus	RICHMOND CIRCUS (L M RD)	R70	354.92	6	4.44	7	11.44	2.62	0.5	1.31
Bus	RICHMOND CIRCUS (L M RD)	391	354.92	6	4.44	7	11.44	2.62	0.5	1.31
Bus	RICHMOND CIRCUS (L M RD)	H22	354.92	5	4.44	8	12.44	2.41	0.5	1.21
Bus	RICHMOND STATION	490	476.96	5	5.96	8	13.96	2.15	0.5	1.07
Rail	Richmond	'RICHMND-GUILDFD 2N13'	526.44	0.33	6.58	91.66	98.24	0.31	0.5	0.15
Rail	Richmond	'ALDRSHT-WATRLMN 1N90'	526.44	1	6.58	30.75	37.33	0.8	0.5	0.4
Rail	Richmond	'RDNG4AB-WATRLMN 2C10'	526.44	0.67	6.58	45.53	52.11	0.58	0.5	0.29
Rail	Richmond	'WATRLMN-RDNG4AB 2C13'	526.44	0.67	6.58	45.53	52.11	0.58	0.5	0.29
Rail	Richmond	'RDNG4AB-WATRLMN 2C14'	526.44	0.33	6.58	91.66	98.24	0.31	0.5	0.15
Rail	Richmond	'RDNG4AB-WATRLMN 2C16'	526.44	0.33	6.58	91.66	98.24	0.31	0.5	0.15
Rail	Richmond	'WATRLMN-RDNG4AB 2C17'	526.44	1.33	6.58	23.31	29.89	1	0.5	0.5
Rail	Richmond	'RDNG4AB-WATRLMN 2C18'	526.44	0.67	6.58	45.53	52.11	0.58	0.5	0.29
Rail	Richmond	'WATRLMN-RDNG4AB 2C85'	526.44	0.33	6.58	91.66	98.24	0.31	0.5	0.15
Rail	Richmond	'WATRLMN-RDNG4AB 2C87'	526.44	0.33	6.58	91.66	98.24	0.31	0.5	0.15
Rail	Richmond	'RDNG4AB-WATRLMN 2C90'	526.44	0.33	6.58	91.66	98.24	0.31	0.5	0.15
Rail	Richmond	'SHEPRTN-WATRLMN 2H92'	526.44	1	6.58	30.75	37.33	0.8	0.5	0.4
Rail	Richmond	'WDON-WATRLMN 2K03'	526.44	0.33	6.58	91.66	98.24	0.31	0.5	0.15
Rail	Richmond	'WATRLMN-WATRLMN 2K09'	526.44	2	6.58	15.75	22.33	1.34	1	1.34
Rail	Richmond	'WATRLMN-WATRLMN 2O09'	526.44	2	6.58	15.75	22.33	1.34	0.5	0.67
Rail	Richmond	'WATRLMN-WATRLMN 2R09'	526.44	2	6.58	15.75	22.33	1.34	0.5	0.67
Rail	Richmond	'WSORAER-WATRLMN 2U10'	526.44	2	6.58	15.75	22.33	1.34	0.5	0.67
Rail	Richmond	'WATRLMN-WSORAER 2U13'	526.44	2	6.58	15.75	22.33	1.34	0.5	0.67
Rail	Richmond	'HOUNSLW-WATRLMN 2V05'	526.44	0.33	6.58	91.66	98.24	0.31	0.5	0.15
LUL	Richmond	'Upminster-Richmond'	526.44	6	6.58	5.75	12.33	2.43	1	2.43
LUL	Richmond	'Richmond-Dag East'	526.44	0.67	6.58	45.53	52.11	0.58	0.5	0.29
									Total Grid Cell AI:	**27.08**

Appendix C

Buses from Richmond



Route finder

Bus route	Towards	Bus stops
33 24hr Daily	Fulwell	J L
	Hammersmith	A G
65 24hr Daily	Ealing Broadway	B C
	Kingston	D F J
	Chessington World of Adventures (nights only)	D F J
190	West Brompton	B C
337	Clapham Junction	A G H
371	Kingston	D F G
	Manor Road Sainsbury's	B C J L
391	Sands End	B C
419	Hammersmith	B C
490	Heathrow Terminal 5	E F J
	Pools on the Park	B C
493	Manor Road Homebase	B C J L
	Tooting	D F G
H22	Hounslow	E F J
	Manor Circus	B C
H37 24hr Weekend	Hounslow	E F J
	Manor Circus	B C
R68	Hampton Court	E F J
	Kew Retail Park	B C
R70	Manor Road Homebase	B C
	Nurserylands	E F J

Night Buses

Bus route	Towards	Bus stops
N22	Fulwell	E F J
	Oxford Circus	B C

Other Buses

Bus route	Towards	Bus stops
969	Roehampton Vale ASDA ▼	B G
	Whitton ▼	J L

Key

33	Day buses in black
N22	Night buses in blue
	Connections with London Underground
	Connections with London Overground
	Connections with National Rail
DLR	Connections with DLR
	Connections with London Trams
	Connections with river boats
▼	One journey on Tuesdays and Fridays only
	Operates daily with 24-hour service Friday and Saturday nights
	Tube station with 24-hour service Friday and Saturday nights

Ways to pay

Ticket Stop

Top up your Oyster pay as you go credit or buy Travelcards and bus & tram passes at around 4,000 shops across London.

TFL33241.06.17 (P)

Appendix D

Calculation Reference: AUDIT-752101-190916-0939

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:
01 GREATER LONDON
IS ISLINGTON 2 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 15 (units:)
Range Selected by User: 9 to 25 (units:)

Parking Spaces Range: Selected: 0 to 0 Actual: 2 to 290

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/11 to 08/11/17

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

Selected survey days:
Monday 1 days
Wednesday 1 days

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

Selected survey types:
Manual count 2 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:
Edge of Town Centre 2

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

Selected Location Sub Categories:
Residential Zone 1
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:
C3 2 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:

50,001 to 100,000	1 days
100,001 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	2 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

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

Travel Plan:

No	2 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:

6a Excellent	2 days

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

LIST OF SITES relevant to selection parameters

1 IS-03-C-05 BLOCK OF FLATS ISLINGTON
LEVER STREET
FINSBURY

Edge of Town Centre
Built-Up Zone
Total Number of dwellings: 15
Survey date: WEDNESDAY *29/06/16* *Survey Type: MANUAL*

2 IS-03-C-06 BLOCK OF FLATS ISLINGTON
CALEDONIAN ROAD
HOLLOWAY

Edge of Town Centre
Residential Zone
Total Number of dwellings: 14
Survey date: MONDAY *27/06/16* *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 TOTAL PEOPLE
Calculation factor: 1 DWELLS
Estimated TRIP rate value per 16 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	2	15	0.034	0.552	2	15	0.310	4.966	2	15	0.344	5.518
08:00 - 09:00	2	15	0.034	0.552	2	15	0.586	9.379	2	15	0.620	9.931
09:00 - 10:00	2	15	0.034	0.552	2	15	0.345	5.517	2	15	0.379	6.069
10:00 - 11:00	2	15	0.069	1.103	2	15	0.241	3.862	2	15	0.310	4.965
11:00 - 12:00	2	15	0.069	1.103	2	15	0.069	1.103	2	15	0.138	2.206
12:00 - 13:00	2	15	0.034	0.552	2	15	0.069	1.103	2	15	0.103	1.655
13:00 - 14:00	2	15	0.138	2.207	2	15	0.103	1.655	2	15	0.241	3.862
14:00 - 15:00	2	15	0.034	0.552	2	15	0.069	1.103	2	15	0.103	1.655
15:00 - 16:00	2	15	0.103	1.655	2	15	0.138	2.207	2	15	0.241	3.862
16:00 - 17:00	2	15	0.310	4.966	2	15	0.103	1.655	2	15	0.413	6.621
17:00 - 18:00	2	15	0.276	4.414	2	15	0.034	0.552	2	15	0.310	4.966
18:00 - 19:00	2	15	0.379	6.069	2	15	0.241	3.862	2	15	0.620	9.931
19:00 - 20:00	2	15	0.517	8.276	2	15	0.103	1.655	2	15	0.620	9.931
20:00 - 21:00	2	15	0.241	3.862	2	15	0.138	2.207	2	15	0.379	6.069
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			2.272	36.415			2.549	40.826			4.821	77.241

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.*