MARKIDES ASSOCIATES

Transport Statement

244 Powder Mill Lane, Twickenham TW2 6EJ

11 July 2024

Prepared for Linden Hill – Capital Homes – KUPG PROP Limited

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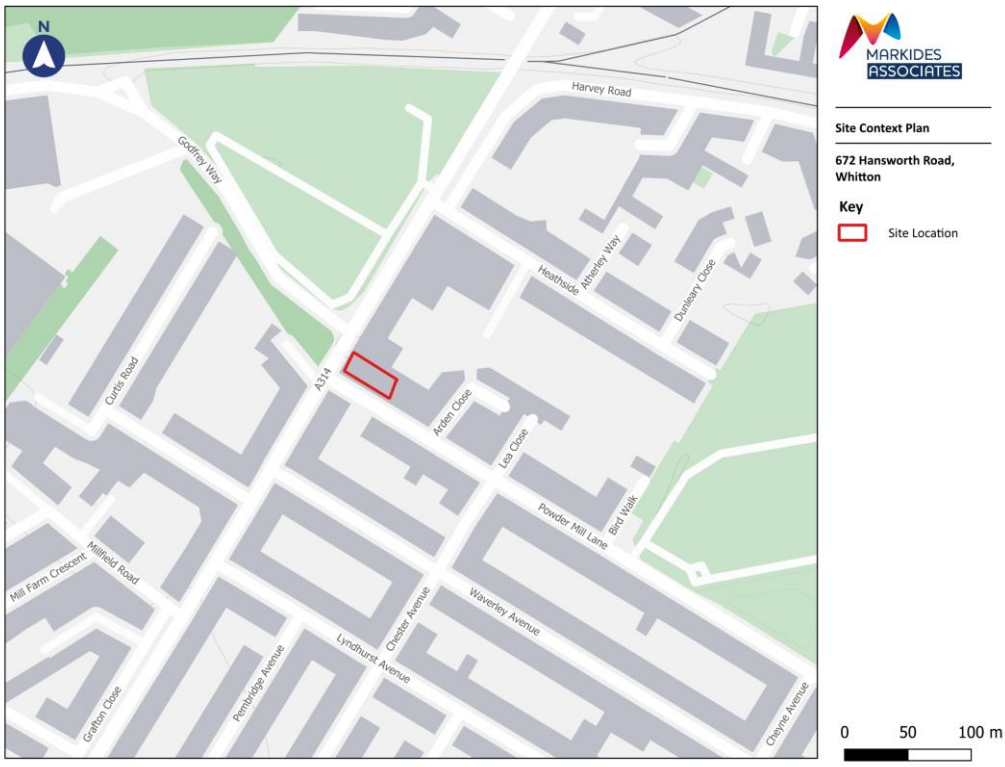
1. Introduction

1.1.1 Markides Associates have been instructed to prepare this Transport Statement on behalf of Linden Hill Capital in support of an application for the development of an additional 1-bed, 2-person unit by splitting 2 existing units at 244 Powder Mill Lane, Twickenham TW2 6EJ which is part a wider development that includes 2 commercial units and 15 flats ("the site").

1.1.2 The site falls within the authority area of the London Borough of Richmond-Upon-Thames (LBRT) and is located some 2km west of Whitton railway station. A site context plan is included as **Figure 1.1**; an extract of which is shown below. The full-scale plan is included at the back of this report.

1.1.3 The site previously benefited from a planning consent (ref 21/0156/FUL) granted in May 2022 for a new retail unit and community centre at ground floor and 15 residential units above, along with parking and associated hard and soft landscaping. This consent has been fully implemented.

Figure 1.1 Site Context Plan



1.1.4 The purpose of this TS is to outline the accessibility of the site by all modes and to evaluate the potential transport impacts of the development proposals on the existing transport network. The report will demonstrate that the addition of one extra unit will not give rise to any specific issues across the transport networks.

1.2 Report Structure

1.2.1 The remainder of this report is structured as follows:

- **Section 2 – Policy Guidance** examines the relevant national, regional, and local planning policy with regards to the site.
- **Section 3 – Baseline Conditions** details the site and its location, and the surrounding areas in highways and transport terms, including analysis of the site's accessibility by walking, cycling and public transport.
- **Section 4 – Proposed Development** outlines the application proposals, site access, car and cycle parking provision and servicing arrangements.
- **Section 5 – Trip Generation and Impact** examines the likely vehicle trip generation, and the impact in transport and highways terms.
- **Section 6 – Summary and Conclusions** provides an overview of the key points of this report and concludes.

2. Policy Considerations

2.1 Overview

2.1.1 This section outlines the relevant national and local planning policy in relation to the development site.

2.2 National Planning Policy Framework (NPPF) (2023)

2.2.1 The NPPF was revised in December 2023. This document sets out Government planning policy, provides a framework within which local planning policies should be produced, and is a material consideration in planning decisions.

2.2.2 With regards to transport, the NPPF Paragraph 114 states that:

> In assessing sites that may be allocated for development in plans, or specific applications for development it should be ensured that:
> a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
> b) safe and suitable access to the site can be achieved for all users;
> c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code, and
> d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.2.3 Paragraph 115 continues: *"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."*

2.2.4 Paragraph 116 continues that applications for development should:

- Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second- as 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;
- Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- 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;
- Allow for the efficient delivery of goods, and access by service and emergency vehicles; and

- Be designed to enable charging of plug-in and ultra-low emission vehicles in safe, accessible, and convenient locations.

2.2.5 Paragraph 117 states that: *"All developments that will generate significant amounts of movement should be required to provide a travel plan and should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed."*

2.3 Planning Practice Guidance (PPG) (2014)

2.3.1 The PPG was published in March 2014 and acts as a supporting document for the NPPF. With respect to transport considerations, a section entitled *'Travel Plans, Transport Assessments and Statements in Decision-Taking'* is provided which outlines key guidance to produce these documents.

2.3.2 The PPG outlines the purpose of a Transport Assessment or Statement, stating the following:

> *"Transport Assessments and Statements are ways of assessing the potential transport impacts of developments (and they may propose mitigation measures to promote sustainable development. Where that mitigation relates to matters that can be addressed by management measures, the mitigation may inform the preparation of Travel Plans).*
>
> *Transport Assessments are thorough assessments of the transport implications of development, and Transport Statements are a 'lighter-touch' evaluation to be used where this would be more proportionate to the potential impact of the development (i.e. in the case of developments with anticipated limited transport impacts)."*

2.3.3 The PPG goes onto state that Transport Assessments and Statements make positive contributions to:

- Encouraging sustainable travel;
- Lessening traffic generation and its detrimental impacts;
- Reducing carbon emissions and climate impacts;
- Creating accessible, connected, inclusive communities;
- Improving health outcomes and quality of life;
- Improving road safety; and
- Reducing the need for new development to increase existing road capacity or provide new roads.

2.4 The London Plan

2.4.1 The London Plan 2021 was published on 2nd March 2021 and sets out the strategic framework for new development within Greater London.

2.4.2 Chapter 10 of this document deals with transport with Policy T1 setting the overarching approach to transport strategy for the city. Policy T1 states that development Plans and

development proposals should support the delivery of the mayor's strategic target of 80 per cent of all trips in London to be made by foot, cycle, or public transport by 2041, and the proposed transport schemes set out in Table 10.1.

2.4.3 Policy T1 continues, "All development should make the most effective use of land, reflecting its connectivity and accessibility by existing and future public transport, walking and cycling routes, and ensure that any impacts on London's transport networks and supporting infrastructure are mitigated."

2.4.4 The London Plan additionally includes a new concept; 'Healthy Streets'. These are defined by 10 indicators as follows:

- Pedestrians from all walks of life;
- Easy to cross;
- Shade and shelter;
- Places to stop and rest;
- Not too noisy;
- People choose to walk, cycle, and use public transport;
- People feel safe;
- Things to see and do;
- People feel relaxed; and
- Clean air.

2.4.5 Policy T2 states that development proposals should demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators in line with Transport for London guidance; reduce the dominance of vehicles on London's streets whether stationary or moving; and be permeable by foot and cycle and connect to local walking and cycling networks as well as public transport.

Vehicle and Cycle Parking Standards

2.4.6 The London Plan 2021 provides maximum car parking standards for development set out in Table 6.2 and sets minimum parking standards for residential developments. These standards are altered slightly within the New London Plan, outlined in Policy T6.1 of this document. Cycle parking standards also differ slightly.

2.4.7 The relevant car and cycle parking standards have been extracted and are summarised in the table below by land use.

Table 2.1 Residential Vehicle and Cycle Parking Standards

New London Plan Standard			
Residential			
Land Use	Max Car	Min. cycle sp. per unit	
		Long-Stay	Short-Stay
C3	Up to 1.5 space per dwelling (Outer London PTAL 0 – 1)	1 space per studio and 1 bedroom unit. 1.5 spaces per 2-person 1 bedroom dwelling 2 spaces per all other dwellings.	5 to 40 dwellings: 2 spaces Thereafter: 1 space per 40 dwellings

2.5 Local Planning Policy

LBRT's Adopted Local Plan (2018)

2.5.1 This document sets out the policies and guidance for development in the borough up to 2033 and identifies where the main developments will take place, and how places within the borough will change, or be protected from change, up to that point.

2.5.2 Policy LP 44 considers sustainable travel choices and states that the Council will:

- Encourage high trip generating development to be located in areas of good public transport or where the existing services can be improved;
- Ensure that new development is permeable to walking and cycling and supports opportunities for new or improved links or enhancements to the existing network;
- Ensure that major developments maximise opportunities for access to public transport and protect existing public transport interchanges;
- Ensure that new development does not have a severe impact on the operation, safety, or accessibility to the local or strategic highway networks;
- Encourage the use of river transport where feasible; and
- Safeguard land required for proposed transport schemes, and safeguard facilities including petrol filling stations and associated services, and taxis and private hire vehicles.

2.5.3 Policy LP 45 considers parking standards and servicing and states that: *"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."*

2.5.4 It continues that the Council will require: *"New development to provide for car, cycle, 2 wheel and, where applicable, lorry parking and electric vehicle charging points, in accordance with the standards set out in Appendix 3. Opportunities to minimise car parking through its shared use will be encouraged."*

LBRT's Refuse and Recycling Storage SPD (2015)

2.5.5 This document outlines the principles and guidance for the design of refuse and recycling storage for new development, including the dimensions for service vehicles and their access needs.

2.5.6 The SPD defers to the British Standards (BS 5906: 2005) which recommends a maximum distance of 15 metres that vehicles can access individual dustbin/sack collection points, which is reduced to 10 metres for communal wheeled bin collection points

2.5.7 Regarding occupants, as listed in Section 3.1 of this document, they "*should not have to walk more than 30 metres (excluding any vertical distance in lifts) from their front doors to the nearest refuse and recycling containers to deposit waste."*

2.5.8 The document defines a standard refuse vehicle as having the following dimensions:

- Vehicle type: Three Axle 21.2 - 26.00 tonnes GVW
- Width: 2.5m
- Height (incl. high level exhaust): 3.8m (min height required 4.5m)
- Kerb Turning Circle: 18.7m diameter
- Swept Circle: 20.0m diameter
- Axle weights: 9.5 tonne each

2.5.9 In terms of clearance, communal waste storage areas should allow:

- 2.2m minimum working height where compound is covered;
- 2m minimum width, where practicable, and at least 150mm clearance either side of bins to allow for removal and return of containers whilst servicing.

3. Baseline Conditions

3.1 Introduction

3.1.1 This section of the report sets out the detail of the site as existing, its current use, accessibility by all modes and the condition of the existing transport network.

3.2 The Site

3.2.1 As previously mentioned, the site is currently occupied by two buildings, consisting of a retail unit leased by Tesco Express and a community centre at ground floor, with 15 residential units above, along with parking and associated hard and soft landscaping. It is located some 2km west of Whitton station, adjacent to the junction of the A314 Hanworth Road and Powder Mill Lane.

3.2.2 The site is bound to the north by retail units fronting the A314; to the east by the Free Grace Baptist Church; to the south by Powder Mill Lane and associated retail and residential units; and to the West by the A314 Hanworth Road.

3.3 Existing Access

3.3.1 The current development has a single car park access onto Powder Mill Lane by way of a dropped kerb and several pedestrian access points. The car park has an open frontage to the road. There is a public pedestrian access located both on Powder Mill Lane and on the A314.

3.3.2 Pedestrian access to the consented residential units will be taken from two access points on Powder Mill Lane. A third pedestrian access will be located at the south-eastern end of the site to provide access to the proposed community centre.

3.3.3 The main pedestrian entrance to the retail unit is from the A314 adjacent to the existing A314 retail parade.

3.4 Local Highway Network

3.4.1 Powder Mill Lane is a single-carriageway road, which is lit, and links the A314 to the B358 to the southeast of the site. It is subject to a vehicle weight limit of 7.5T except for loading and a 20mph speed limit. There is traffic calming in the form of speed humps, and footways on both sides of the road along its entire length.

3.4.2 In addition, there are waiting and stopping restrictions at the southern end of the road (in the vicinity of Heathfield Schools), which are in operation Monday-Friday between 08:00 and 17:00. Near to the site, parking is limited Monday-Saturday between 09:00 and 17:00, with parking permitted for up to 1 hour with no return within 1 hour.

3.4.3 At the junction of Powder Mill Lane and the A314 there are double yellow lines to prevent parking at the junction, which on the eastern side of the road extend past the site frontage.

3.4.4 The junction of Powder Mill Lane and the A314 is a three-arm mini-roundabout. There is an island on the western arm of the A314 to facilitate pedestrian movement.

3.4.5 The A314 is single-carriageway road that links Hounslow Central to the northeast of the site with the A316 to the south of the site. It is subject to a 20mph speed limit, is lit, and benefits from footways on each side of the road. There are also cycle lanes in each direction west of the junction with Powder Mill Lane. To the east of this junction, the A314 narrows as it passes the retail parade. East of the retail parade, there is a footway on the northern side of the road only, and overtaking restrictions apply.

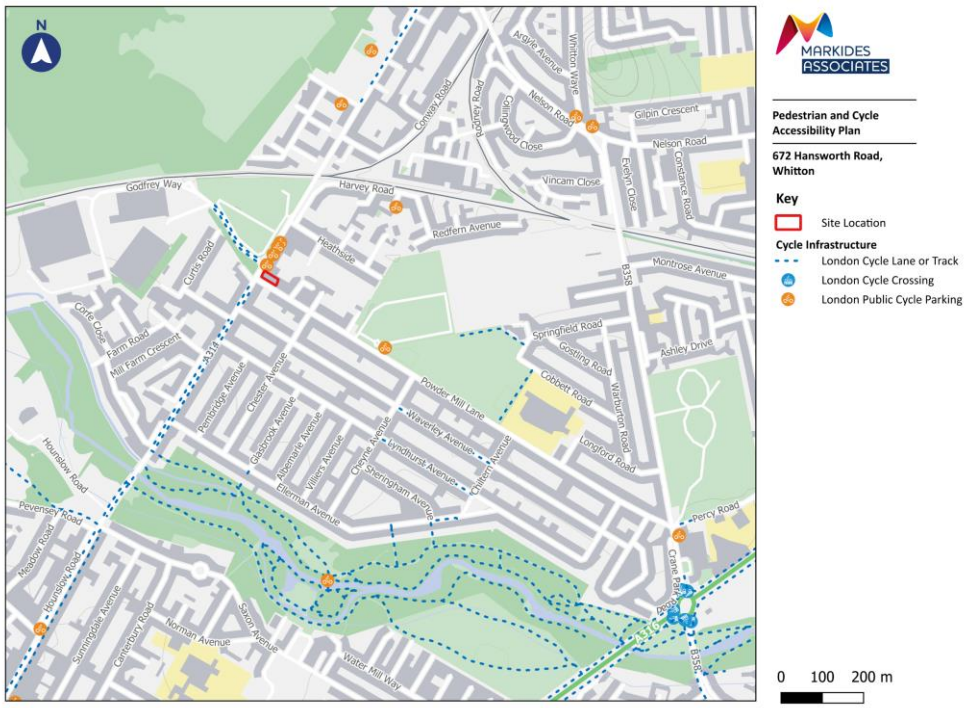
3.4.6 There are on-street parking in-set bays on each side of the road; however, there do not appear to be any parking restrictions other than at the bus stops. A newly constructed servicing layby is located on Powder Mill Lane adjacent to the car park access.

3.5 Pedestrian and Cycle Accessibility

3.5.1 A TfL cycle route passes along the A314 along the site frontage, providing a cycle link to Hounslow. A second route runs along the eastern end of Powder Mill Lane and via Percy Avenue to Whitton. There are also off-road cycle routes along the A316 and on the northern bank of the River Crane, providing east-west cycle links towards Twickenham.

3.5.2 A plan showing the location of key pedestrian crossings and the extent of the local cycle network is included as **Figure 3.1** at the end of this report and shown in an extract overleaf.

Figure 3.1 – Pedestrian and Cycle Accessibility Plan



3.5.3 It is evident that the site benefits from good cycle access via the existing network, including cycle routes to the local facilities and train station in Whitton.

3.6 Local Facilities

3.6.1 It is generally accepted that walking and cycling provide important alternatives to the private car and should be encouraged to form part of longer journeys via public transport. The Chartered Institution of Highways and Transportation (CIHT) has prepared several guidance documents that provide advice with respect to the provision of sustainable travel in conjunction with new developments. The suggested acceptable walking distances to common facilities is presented in **Table 3.1**.

Table 3.1 Acceptable Walking Distances

	Town Centres	Commuting/ Schools/ Sightseeing	Other Destinations
Desirable	200m	500m	400m
Acceptable	400m	1km	800m
Preferred Maximum	800m	2km	1.2km

3.6.2 The site is within a reasonable walk and cycle distance to several services and facilities as listed in **Table 3.2.**

Table 3.2 Local Facilities

Facility		Distance	Travel Time (mins)	
			Walk	Cycle
Medical Facility				
Doctor	Woodlawn & Oaklane Medical Centre	1.1km	13	3
	Little Park Surgery	1km	13	4
	Jubilee Surgery	1.2km	15	4
NHS Dentist	Whitton Corner	1.2km	15	4
	Dhiman Dentist	1.7km	22	5
Pharmacy	Herbert & Herbert Pharmacy	50m	1	1
	Whitton Corner Pharmacy	1.2km	15	4
Community and Leisure Facilities				
Post Office	Heathfield Post Office	140m	2	1
Community	Whitton Corner H&SCC/ Community Centre	1.2km	15	4
Library	Hanworth Library	1.5km	20	6
Gym/Sports	Whitton Sports and Fitness Centre	1.3km	16	4
	Hanworth Park public outdoor Gym	1.5km	19	6
Place of Worship	Free Grace Baptist Church	60m	1	1
	St. Augustines of Canterbury	1.3km	15	4
Retail				
Food Retail	Whitton High Street	2km	25	7
Education				
Infant	Little Stars Day Nursery	400m	5	1
	Heathfield Nursery and Infant School	900m-1.2km	11	4
Primary	Heathfield Junior	900m	11	4
	Bishop Perrin C. of E. Primary	1km	13	4
Secondary	Twickenham School	1.3km	16	4
	The Heathland School	1.3km	17	4

3.6.3 It is evident from the above that food retail outlets, a post office, and education and medical facilities are all located within a reasonable distance of the site. The proposals also seek to provide convenience store and community uses, further reducing the need to travel for existing and future residents.

3.7 Public Transport Accessibility Level

3.7.1 The PTAL rating of a site is the most widely recognised way to measure connectivity to the public transport network in London. PTAL combines information regarding the proximity of public transport access points to a site, including rail / tube stations and bus stops, with the frequency of the available services at those access points.

3.7.2 Access points are taken into consideration within the PTAL calculation if they are within certain walk distance thresholds of the site; bus stops will be considered if within a maximum of 640m from the site and rail / tube stations will be considered if within a maximum of 960m from the site. Access points outside of these walk distance thresholds are excluded from the analysis, which is an acknowledged weakness of the methodology. The highest level of accessibility is given a PTAL rating of 6b, whereas the lowest level of accessibility is given a PTAL of 0.

3.7.3 A PTAL assessment using the TfL land use planning PTAL assessment tool WebCAT has been undertaken and identifies the site as having a PTAL score of 1b which is considered a relatively low level of public transport coverage. The full report is shown in **Appendix B.**

3.8 Bus Accessibility

3.8.1 The nearest bus stops are located a 1-2-minute walk from the site on the A314. These stops are served by the 110 and 111 bus services.

3.8.2 These services, their routes and frequencies are summarised in **Table 3.3.**

Table 3.3 Local Bus Services

No.	Route	Peak Hour Frequency			Weekday Services	
		Weekday	Saturday	Sunday	First	Last
110	Hounslow, Bus Station - Whitton - St Margarets - Richmond - Kew Gardens - Chiswick High Road - Hammersmith	20 mins	20 mins	20 mins	24-hour service	
111	Heathrow Central - Harlington Corner - Cranford - Heston - Hounslow - Hanworth - Hampton - Kingston	9 mins	10 mins	12 mins	24-hour service	

3.8.3 The 110 bus service connects to Whitton Station (Stop A) and allows passengers to travel to and from the site to this destination. This involves a 3-minute walk along Powder Mill Lane to Chester Avenue (Stop D). The overall route is approximately 11 minutes.

3.9 Rail Accessibility

3.9.1 Whitton Station is located some 2km to the east of the site, or a 23-25-minute walk. The walking route is flat and well-lit, with pedestrian crossing facilities at all key locations on the route and on pedestrian desire lines. The same route equates to a 6-minute cycle ride.

3.9.2 Whitton Station is served by South Western Railway and benefits from step-free access and cycle storage areas. It operates trains to direct service destinations at London Waterloo, Barnes Bridge and Windsor & Eton Riverside. These services are summarised in **Table 3.4.**

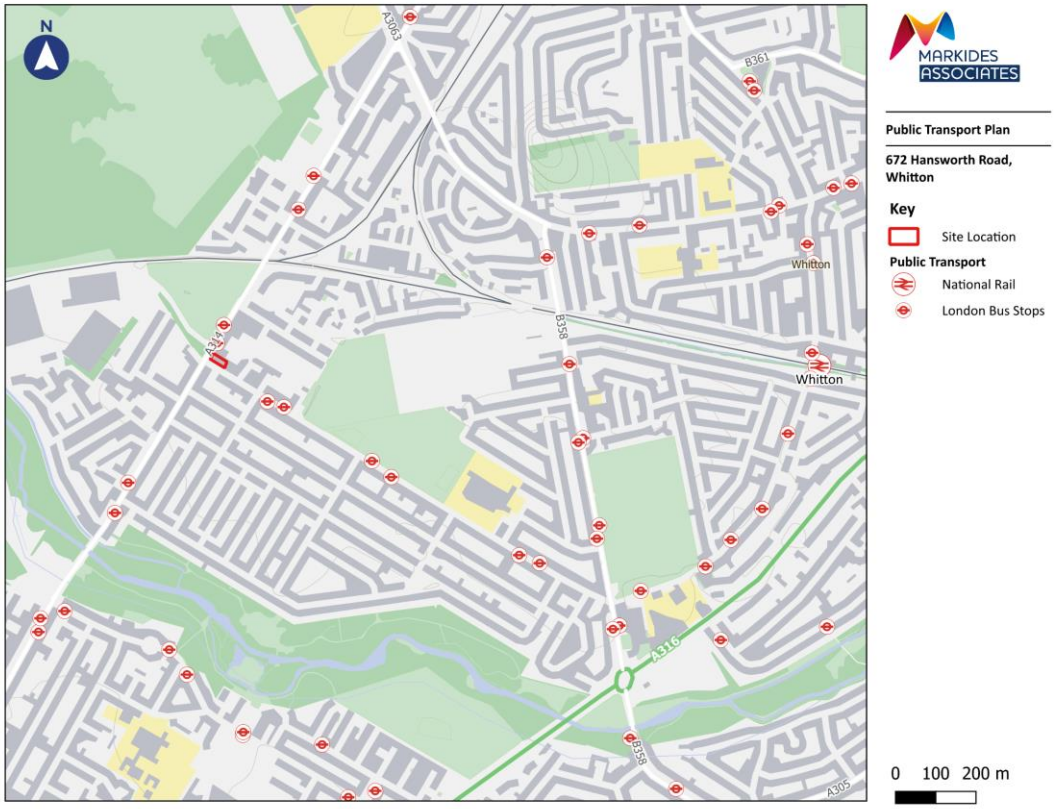
Table 3.4 Local Rail Services

Destination	Peak Hour Frequency			Approximate Journey Time
	Weekday	Saturday	Sunday	
London Waterloo	4-6 per hour	5 per hour	2-4 per hour	30 mins (fast service) 50 mins (stopping service)
Barnes Bridge	1 per hour[1]	1 per hour[1]	1 per hour[1]	25 mins
Windsor & Eton Riverside	2 per hour	2 per hour	2 per hour	27 mins

3.9.3 The location of the key public transport options is shown below in **Figure 3.2.**

[1] Additional services available with interchange at Barnes.

Figure 3.2 Public Transport Plan



4. Development Proposals

4.1 Proposal

4.1.1 The proposed development will comprise of an additional 1-bed, 2-person unit by splitting 2 existing units, giving a total of 16 dwellings located at the site. An extract of the proposed site plan is shown below and included in **Appendix A.**

Figure 4.1 Proposed Site Plan

4.2 Pedestrian Access

4.2.1 Pedestrian access to the residential units will remain unchanged and will be taken from two access points on Powder Mill Lane.

4.3 Residential Parking Arrangements

4.3.1 The existing development has 5 residential parking spaces, 2 of which are disabled accessible; however, no parking will be allocated to the new units within the proposal as both units are 1b1p units. This is in line with New London Plan policy. These car parking spaces will be located on the ground floor of the development in between building A and building B.

4.3.2 Vehicle parking will be provided as approved and no additional parking is to be provided or allocated to the new unit.

4.3.3 Cycle parking provision is in line with London Plan standards and the consented scheme provides sufficient cycle parking for the additional residential unit.

4.4 Delivery and Servicing

4.4.1 The residential bin store will be located on the south-eastern corner of the site and will be served by the existing public waste collection route from the kerbside on Powder Mill Lane. The approved store has sufficient capacity to accommodate the addition of a single 1-bed unit.

5. Trip Generation and Impact

5.1 Overview

5.1.1 This section of the TS assesses how the additional residential unit will impact the current transport to and from the development and whether the existing parking spaces accommodate this increase.

5.1.2 future residents will travel to and from the development onto the local public transport and highway networks and summarises the impact of the proposed development.

5.1.3 As discussed in **Section 4**, the proposal comprises of an additional residential unit. There will be associated car and cycle parking which are in line with local policy guidance.

5.1.4 The number of trips expected to be generated by the proposed development are discussed below.

5.2 Car Ownership Data

5.2.1 To ensure that the proposed development does not impact significantly on the availability of on street parking, car ownership data has been extracted from the 2011 Census by tenure for 1-bed, 2-bed- and 3-bed flats, apartments, or maisonettes within the Middle Super Output Area (MSOA) of Richmond-Upon-Thames, which includes the site.

5.2.2 The results of this search are summarised in **Table 5.1**.

Table 5.1 Car Ownership in Richmond-Upon-Thames for 1-3-Bed Flats

Ownership	Number of Households	%
No cars or vans in household	7102	52%
1 car or van in household	5874	43%
2 cars or vans in household	693	5%
3 or more cars or vans in household	77	1%
Total: Car or van availability	13746	100%

5.2.3 The table above demonstrates that around the site, 52% of households do not own (or have access to) a car or van. 42% have access to 1 car or van and 6% have access to 2 or more cars or vans. These ownership levels would mean that an additional residential unit proposed could generate a total parking demand for 8 parking space of which 9 are provided within the retail car parking.

5.3 Total Person Trips

5.3.1 The person trip generation assessment has been carried out by undertaking a multimodal trip generation assessment for each proposed land use using Trip Rate Information Computer System (TRICS), a comprehensive database of traffic and multi-modal transport surveys

covering a wide range of development types. TRICS provides a trip rate per unit which is then used to quantify the number of trips generated by the development. Trip rates have been derived for the morning (AM) and evening (PM) network peak periods as well as the daily flows.

5.3.2 Sites have been extracted for the proposed dwellings using the following TRICS criteria:

- Land use: C3 Residential – Flats Privately Owned
- Weekday multi-modal trip surveys
- Regions: Sites within England
- Location: Edge of Town Centre, Suburban Area, Edge of Town
- PTAL 3 or lower
- Parking ratios of 0.5 or lower, to reflect the 'car-lite' nature of the proposals

5.3.3 The search generated 2 proxy sites. The trip rates derived from these sites are summarised in **Table 5.2**, along with the calculated trip generation for entire scheme including the additional residential unit. The full TRICS output is included as **Appendix C.**

Table 5.2 Trip Rates and Trip Generation – Existing Residential Units & Additional Residential Unit

Mode	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily Flows		
	In	Out	Total	In	Out	Total	In	Out	Total
Vehicle	0.09	0.26	0.34	0.28	0.13	0.41	2.00	1.76	3.76
All Person	0.38	0.21	0.60	0.30	0.28	0.58	3.37	3.97	7.34
Mode	**AM Peak (08:00 – 09:00)**			**PM Peak (17:00 – 18:00)**			**Daily Flows**		
	In	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Vehicle	1	4	5	4	2	6	32	28	60
All Person	6	3	10	5	4	9	54	64	117

5.3.4 The table above demonstrates that the proposed residential use expects to generate 5 trips during the AM peak and 6 during the PM peak. There are 60 trips expected during the day.

5.4 Net Difference

5.4.1 **Table 5.3**, shows the impact that the additional residential unit is expected to have regarding vehicle generation.

Table 5.3 Net Difference

Mode	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)			Daily Flows		
	In	Out	Total	In	Out	Total	In	Out	Total
Vehicle	0	0	0	0	0	0	2	2	4
All Person	0	0	1	0	0	1	3	4	7

5.4.2 It is evident that the estimated increase in trip generation resulting from the additional unit will be negligible.

5.5 Modal Split

5.5.1 The modal split of the person trips for the proposed dwellings has been calculated using the 2011 Census data for the 'Method of Travel to Work' in the Richmond Upon Thames 013B Lower Super Output Area (LSOA) Layer which includes the site. This dataset provides 2011 estimates that classify usual residents aged 16 to 74 in England and Wales by their method of travel to work.

5.5.2 The 2021 Census data has not been used as it was collected during the Coronavirus (COVID-19) pandemic, a period of unparalleled and rapid change when the national lockdown, associated guidance and furlough measures will have affected people's travel to work habits.

5.5.3 The Census 2011 mode shares are summarised in **Table 5.4** below.

Table 5.4 Census Mode Share (LSOA: Richmond Upon Thames 013B)

Method of Travel to Work	E01003841: Richmond upon Thames 013B	% Mode Share
Underground	67	8%
Train	58	7%
Bus	178	22%
Taxi	4	0%
Motorcycle	6	1%
Car Driver	403	49%
Car Passenger	26	3%
Bicycle	28	3%
Walk	43	5%
Other method of travel	10	1%
Total	**823**	**100%**

5.5.4 As shown in the table above, the most popular method of travel to work is 'car driver' with 49% of the mode share, followed by bus with 22%. The census data indicates that in total, public transport modes account for 35% of the mode share and active travel modes account for 8%.

5.6 Delivery and Servicing Trips

5.6.1 Other goods vehicle (LGV) trip rates have been extracted from residential TRICS output as the assumed delivery and servicing trips associated with the site (in the absence of specific servicing or LGV trip rates). The trip rates and resultant servicing trip generation are outlined in **Table 5.5.**

Table 5.5 Delivery and Servicing Trips

Mode	AM Peak			PM Peak			Daily Flows		
	In	Out	Total	In	Out	Total	In	Out	Total
OGV	0.02	0.02	0.04	0.00	0.00	0.00	0.04	0.04	0.08
Trip Generation	0	0	1	0	0	0	1	1	1

Note: Variances are due to rounding

5.6.2 Regarding the delivery and servicing trips, the overall trip generation is expected to be minimal as there is only 1 trip expected in the AM peak period; this will remain unchanged as a result of the additional unit.

6. Summary

6.1.1 Markides Associates have been instructed to prepare this Transport Statement on behalf of Linden Hill Capital in support of an application for development located at 244 Powder Mill Lane, Twickenham, TW2 6EJ ('the site').

6.1.2 The proposal is for the reconfiguration of 2 current units to create an additional 1-bedroom unit.

6.1.3 This TS has demonstrated that the site is accessible in terms of its proximity to existing sustainable transport infrastructure, despite limited services. The assessment has also demonstrated that the impact of the development proposals upon the wider transport network can be accommodated without resulting in a severe impact and therefore deemed acceptable in accordance with the NPPF and Slough's Core Strategy.

6.1.4 The overall impact of the development upon the wider transport networks is considered to still be negligible with the slight increase in unit numbers. The development will align with Richmond-upon Thames' local policy guidance regarding car parking provision and cycle parking. The provision of electric charging points and ample cycle parking will encourage users to travel sustainably to and from the development.

6.1.5 The trip generation shows that whilst there is going to be an increase in the number of trips to the site, they will have little impact on the surrounding highway network due to the scale of the development and the accessibility of the site by alternative modes. No vehicle trips are expected to be generated in the AM and PM peak periods respectively (car driver and servicing trips) which represents a negligible increase of additional vehicle trips on the local road network.

6.1.6 In summary, this TS outlines how the proposed development will not result in any material impact to the public transport and road networks within the vicinity of the site. Accordingly, the development proposals are considered to be acceptable, and compliant with policy and consistent with the previously consented development.

FIGURES

APPENDICES

Appendix A – Site layout
Appendix B – PTAL
Appendix C – TRICS output

APPENDIX A – SITE LAYOUT

APPENDIX B – PTAL

WebCAT PTAL Report
==========
Site Details

Grid Cell: 46685

Easting: 512745
Northing: 173552

Report Date: 11/07/2024
Scenario: Base Year

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

Mode	Stop	Route	Distance (metres)		Frequency (vph)	Walk Time (mins)		SWT (mins)	TAT (mins)	EDF	Weight	AI
Bus	HANWORTH RD	DUKE OF YORK	111	163.57	7	2.04	6.29	8.33	3.6	1	3.6	
Bus	POWDER MILL L	CHESTER AV	110	154.98	3	1.94	12	13.94	2.15	0.5	1.08	

Total Grid Cell AI: 4.68
PTAL: 1b

APPENDIX C – TRICS OUTPUT

Markides Associates Ltd York Road London Licence No: 860401

Filtering Summary

Land Use	03/C	RESIDENTIAL/FLATS PRIVATELY OWNED
Selected Trip Rate Calculation Parameter Range	6-493 DWELLS	
Actual Trip Rate Calculation Parameter Range	6-493 DWELLS	
Date Range	Minimum: 01/01/10	Maximum: 03/07/18
Parking Spaces Range	Selected: 0 to 290	Actual: 0 to 290
Percentage of dwellings privately owned:	All Surveys Included	
Days of the week selected	Monday Wednesday	1 1
Main Location Types selected	Suburban Area (PPS6 Out of Centre)	2
Population <1 Mile ranges selected	1,001 to 5,000 20,001 to 25,000	1 1
Population <5 Mile ranges selected	25,001 to 50,000 100,001 to 125,000	1 1
Car Ownership <5 Mile ranges selected	0.6 to 1.0 1.1 to 1.5	1 1
PTAL Rating	No PTAL Present	2

Calculation Reference: AUDIT-860401-190124-0120

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

02	SOUTH EAST		
	OX	OXFORDSHIRE	1 days
09	NORTH		
	CB	CUMBRIA	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: 6 to 493 (units:)
Range Selected by User: 6 to 493 (units:)

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

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/10 to 03/07/18

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:

Suburban Area (PPS6 Out of 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	2

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

Secondary Filtering selection:

Use Class:

C3	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:

1,001 to 5,000	1 days
20,001 to 25,000	1 days

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

Population within 5 miles:

25,001 to 50,000	1 days
100,001 to 125,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	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:

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:

No PTAL Present	2 days

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

LIST OF SITES relevant to selection parameters

1	CB-03-C-03 LOUND STREET KENDAL	FLATS & BUNGALOWS		CUMBRIA
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings:		33	
	Survey date: MONDAY		09/06/14	Survey Type: MANUAL
2	OX-03-C-01 OXFORD ROAD OXFORD COWLEY	BLOCK OF FLATS		OXFORDSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Number of dwellings:		14	
	Survey date: WEDNESDAY		20/10/10	Survey Type: MANUAL

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL VEHICLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.043	2	24	0.085	2	24	0.128
08:00 - 09:00	2	24	0.085	2	24	0.255	2	24	0.340
09:00 - 10:00	2	24	0.085	2	24	0.128	2	24	0.213
10:00 - 11:00	2	24	0.170	2	24	0.106	2	24	0.276
11:00 - 12:00	2	24	0.170	2	24	0.128	2	24	0.298
12:00 - 13:00	2	24	0.085	2	24	0.106	2	24	0.191
13:00 - 14:00	2	24	0.085	2	24	0.106	2	24	0.191
14:00 - 15:00	2	24	0.149	2	24	0.191	2	24	0.340
15:00 - 16:00	2	24	0.043	2	24	0.021	2	24	0.064
16:00 - 17:00	2	24	0.085	2	24	0.043	2	24	0.128
17:00 - 18:00	2	24	0.277	2	24	0.128	2	24	0.405
18:00 - 19:00	2	24	0.149	2	24	0.106	2	24	0.255
19:00 - 20:00	1	14	0.429	1	14	0.214	1	14	0.643
20:00 - 21:00	1	14	0.143	1	14	0.071	1	14	0.214
21:00 - 22:00	1	14	0.000	1	14	0.071	1	14	0.071
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.998			1.759			3.757

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

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

Parameter summary

Trip rate parameter range selected:	6 - 493 (units:)
Survey date date range:	01/01/10 - 03/07/18
Number of weekdays (Monday-Friday):	25
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	24
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.000	2	24	0.000	2	24	0.000
08:00 - 09:00	2	24	0.021	2	24	0.021	2	24	0.042
09:00 - 10:00	2	24	0.000	2	24	0.000	2	24	0.000
10:00 - 11:00	2	24	0.000	2	24	0.000	2	24	0.000
11:00 - 12:00	2	24	0.000	2	24	0.000	2	24	0.000
12:00 - 13:00	2	24	0.021	2	24	0.021	2	24	0.042
13:00 - 14:00	2	24	0.000	2	24	0.000	2	24	0.000
14:00 - 15:00	2	24	0.000	2	24	0.000	2	24	0.000
15:00 - 16:00	2	24	0.000	2	24	0.000	2	24	0.000
16:00 - 17:00	2	24	0.000	2	24	0.000	2	24	0.000
17:00 - 18:00	2	24	0.000	2	24	0.000	2	24	0.000
18:00 - 19:00	2	24	0.000	2	24	0.000	2	24	0.000
19:00 - 20:00	1	14	0.000	1	14	0.000	1	14	0.000
20:00 - 21:00	1	14	0.000	1	14	0.000	1	14	0.000
21:00 - 22:00	1	14	0.000	1	14	0.000	1	14	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.042			0.042			0.084

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.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.000	2	24	0.000	2	24	0.000
08:00 - 09:00	2	24	0.000	2	24	0.000	2	24	0.000
09:00 - 10:00	2	24	0.000	2	24	0.000	2	24	0.000
10:00 - 11:00	2	24	0.000	2	24	0.000	2	24	0.000
11:00 - 12:00	2	24	0.000	2	24	0.000	2	24	0.000
12:00 - 13:00	2	24	0.000	2	24	0.000	2	24	0.000
13:00 - 14:00	2	24	0.000	2	24	0.000	2	24	0.000
14:00 - 15:00	2	24	0.000	2	24	0.000	2	24	0.000
15:00 - 16:00	2	24	0.000	2	24	0.000	2	24	0.000
16:00 - 17:00	2	24	0.000	2	24	0.000	2	24	0.000
17:00 - 18:00	2	24	0.021	2	24	0.021	2	24	0.042
18:00 - 19:00	2	24	0.000	2	24	0.000	2	24	0.000
19:00 - 20:00	1	14	0.000	1	14	0.000	1	14	0.000
20:00 - 21:00	1	14	0.000	1	14	0.000	1	14	0.000
21:00 - 22:00	1	14	0.000	1	14	0.000	1	14	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.021			0.021			0.042

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.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL CYCLISTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.021	2	24	0.021	2	24	0.042
08:00 - 09:00	2	24	0.000	2	24	0.000	2	24	0.000
09:00 - 10:00	2	24	0.043	2	24	0.043	2	24	0.086
10:00 - 11:00	2	24	0.000	2	24	0.000	2	24	0.000
11:00 - 12:00	2	24	0.000	2	24	0.000	2	24	0.000
12:00 - 13:00	2	24	0.000	2	24	0.000	2	24	0.000
13:00 - 14:00	2	24	0.000	2	24	0.000	2	24	0.000
14:00 - 15:00	2	24	0.000	2	24	0.000	2	24	0.000
15:00 - 16:00	2	24	0.000	2	24	0.000	2	24	0.000
16:00 - 17:00	2	24	0.000	2	24	0.000	2	24	0.000
17:00 - 18:00	2	24	0.000	2	24	0.000	2	24	0.000
18:00 - 19:00	2	24	0.000	2	24	0.000	2	24	0.000
19:00 - 20:00	1	14	0.000	1	14	0.000	1	14	0.000
20:00 - 21:00	1	14	0.000	1	14	0.000	1	14	0.000
21:00 - 22:00	1	14	0.000	1	14	0.000	1	14	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.064			0.064			0.128

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.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL VEHICLE OCCUPANTS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.149	2	24	0.021	2	24	0.170
08:00 - 09:00	2	24	0.298	2	24	0.149	2	24	0.447
09:00 - 10:00	2	24	0.106	2	24	0.149	2	24	0.255
10:00 - 11:00	2	24	0.149	2	24	0.128	2	24	0.277
11:00 - 12:00	2	24	0.234	2	24	0.213	2	24	0.447
12:00 - 13:00	2	24	0.128	2	24	0.149	2	24	0.277
13:00 - 14:00	2	24	0.064	2	24	0.128	2	24	0.192
14:00 - 15:00	2	24	0.149	2	24	0.340	2	24	0.489
15:00 - 16:00	2	24	0.064	2	24	0.021	2	24	0.085
16:00 - 17:00	2	24	0.064	2	24	0.149	2	24	0.213
17:00 - 18:00	2	24	0.277	2	24	0.255	2	24	0.532
18:00 - 19:00	2	24	0.213	2	24	0.191	2	24	0.404
19:00 - 20:00	1	14	0.214	1	14	0.571	1	14	0.785
20:00 - 21:00	1	14	0.071	1	14	0.214	1	14	0.285
21:00 - 22:00	1	14	0.000	1	14	0.000	1	14	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.180			2.678			4.858

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.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL PEDESTRIANS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.106	2	24	0.043	2	24	0.149
08:00 - 09:00	2	24	0.043	2	24	0.043	2	24	0.086
09:00 - 10:00	2	24	0.043	2	24	0.149	2	24	0.192
10:00 - 11:00	2	24	0.043	2	24	0.000	2	24	0.043
11:00 - 12:00	2	24	0.043	2	24	0.043	2	24	0.086
12:00 - 13:00	2	24	0.085	2	24	0.064	2	24	0.149
13:00 - 14:00	2	24	0.085	2	24	0.021	2	24	0.106
14:00 - 15:00	2	24	0.021	2	24	0.064	2	24	0.085
15:00 - 16:00	2	24	0.021	2	24	0.064	2	24	0.085
16:00 - 17:00	2	24	0.106	2	24	0.085	2	24	0.191
17:00 - 18:00	2	24	0.064	2	24	0.106	2	24	0.170
18:00 - 19:00	2	24	0.085	2	24	0.064	2	24	0.149
19:00 - 20:00	1	14	0.071	1	14	0.143	1	14	0.214
20:00 - 21:00	1	14	0.143	1	14	0.214	1	14	0.357
21:00 - 22:00	1	14	0.000	1	14	0.000	1	14	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.959			1.103			2.062

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.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL BUS/ TRAM PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.021	2	24	0.000	2	24	0.021
08:00 - 09:00	2	24	0.043	2	24	0.021	2	24	0.064
09:00 - 10:00	2	24	0.000	2	24	0.000	2	24	0.000
10:00 - 11:00	2	24	0.000	2	24	0.021	2	24	0.021
11:00 - 12:00	2	24	0.000	2	24	0.000	2	24	0.000
12:00 - 13:00	2	24	0.000	2	24	0.021	2	24	0.021
13:00 - 14:00	2	24	0.021	2	24	0.000	2	24	0.021
14:00 - 15:00	2	24	0.021	2	24	0.000	2	24	0.021
15:00 - 16:00	2	24	0.000	2	24	0.000	2	24	0.000
16:00 - 17:00	2	24	0.000	2	24	0.021	2	24	0.021
17:00 - 18:00	2	24	0.000	2	24	0.000	2	24	0.000
18:00 - 19:00	2	24	0.000	2	24	0.021	2	24	0.021
19:00 - 20:00	1	14	0.000	1	14	0.000	1	14	0.000
20:00 - 21:00	1	14	0.000	1	14	0.000	1	14	0.000
21:00 - 22:00	1	14	0.000	1	14	0.000	1	14	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.106			0.105			0.211

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.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL COACH PASSENGERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.000	2	24	0.000	2	24	0.000
08:00 - 09:00	2	24	0.000	2	24	0.000	2	24	0.000
09:00 - 10:00	2	24	0.000	2	24	0.000	2	24	0.000
10:00 - 11:00	2	24	0.000	2	24	0.000	2	24	0.000
11:00 - 12:00	2	24	0.000	2	24	0.000	2	24	0.000
12:00 - 13:00	2	24	0.000	2	24	0.000	2	24	0.000
13:00 - 14:00	2	24	0.000	2	24	0.000	2	24	0.000
14:00 - 15:00	2	24	0.000	2	24	0.000	2	24	0.000
15:00 - 16:00	2	24	0.000	2	24	0.000	2	24	0.000
16:00 - 17:00	2	24	0.000	2	24	0.000	2	24	0.000
17:00 - 18:00	2	24	0.064	2	24	0.021	2	24	0.085
18:00 - 19:00	2	24	0.000	2	24	0.000	2	24	0.000
19:00 - 20:00	1	14	0.000	1	14	0.000	1	14	0.000
20:00 - 21:00	1	14	0.000	1	14	0.000	1	14	0.000
21:00 - 22:00	1	14	0.000	1	14	0.000	1	14	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.064			0.021			0.085

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.

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL PUBLIC TRANSPORT USERS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.021	2	24	0.000	2	24	0.021
08:00 - 09:00	2	24	0.043	2	24	0.021	2	24	0.064
09:00 - 10:00	2	24	0.000	2	24	0.000	2	24	0.000
10:00 - 11:00	2	24	0.000	2	24	0.021	2	24	0.021
11:00 - 12:00	2	24	0.000	2	24	0.000	2	24	0.000
12:00 - 13:00	2	24	0.000	2	24	0.021	2	24	0.021
13:00 - 14:00	2	24	0.021	2	24	0.000	2	24	0.021
14:00 - 15:00	2	24	0.021	2	24	0.000	2	24	0.021
15:00 - 16:00	2	24	0.000	2	24	0.000	2	24	0.000
16:00 - 17:00	2	24	0.000	2	24	0.021	2	24	0.021
17:00 - 18:00	2	24	0.064	2	24	0.021	2	24	0.085
18:00 - 19:00	2	24	0.000	2	24	0.021	2	24	0.021
19:00 - 20:00	1	14	0.000	1	14	0.000	1	14	0.000
20:00 - 21:00	1	14	0.000	1	14	0.000	1	14	0.000
21:00 - 22:00	1	14	0.000	1	14	0.000	1	14	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.170			0.126			0.296

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.

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	2	24	0.298	2	24	0.085	2	24	0.383
08:00 - 09:00	2	24	0.383	2	24	0.213	2	24	0.596
09:00 - 10:00	2	24	0.191	2	24	0.340	2	24	0.531
10:00 - 11:00	2	24	0.191	2	24	0.149	2	24	0.340
11:00 - 12:00	2	24	0.277	2	24	0.255	2	24	0.532
12:00 - 13:00	2	24	0.213	2	24	0.234	2	24	0.447
13:00 - 14:00	2	24	0.170	2	24	0.149	2	24	0.319
14:00 - 15:00	2	24	0.191	2	24	0.404	2	24	0.595
15:00 - 16:00	2	24	0.085	2	24	0.085	2	24	0.170
16:00 - 17:00	2	24	0.170	2	24	0.255	2	24	0.425
17:00 - 18:00	2	24	0.404	2	24	0.383	2	24	0.787
18:00 - 19:00	2	24	0.298	2	24	0.277	2	24	0.575
19:00 - 20:00	1	14	0.286	1	14	0.714	1	14	1.000
20:00 - 21:00	1	14	0.214	1	14	0.429	1	14	0.643
21:00 - 22:00	1	14	0.000	1	14	0.000	1	14	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.371			3.972			7.343

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

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

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