THE ALDERS

TRANSPORT ASSESSMENT

November 2020

WYG

Wandsworth Borough Council

The Alders

Transport Assessment

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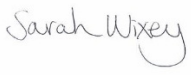
F2	05.11.2020	JM	EE	SW	
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Limitations

Contents

Tables

Figures

Appendices

1 Introduction

General

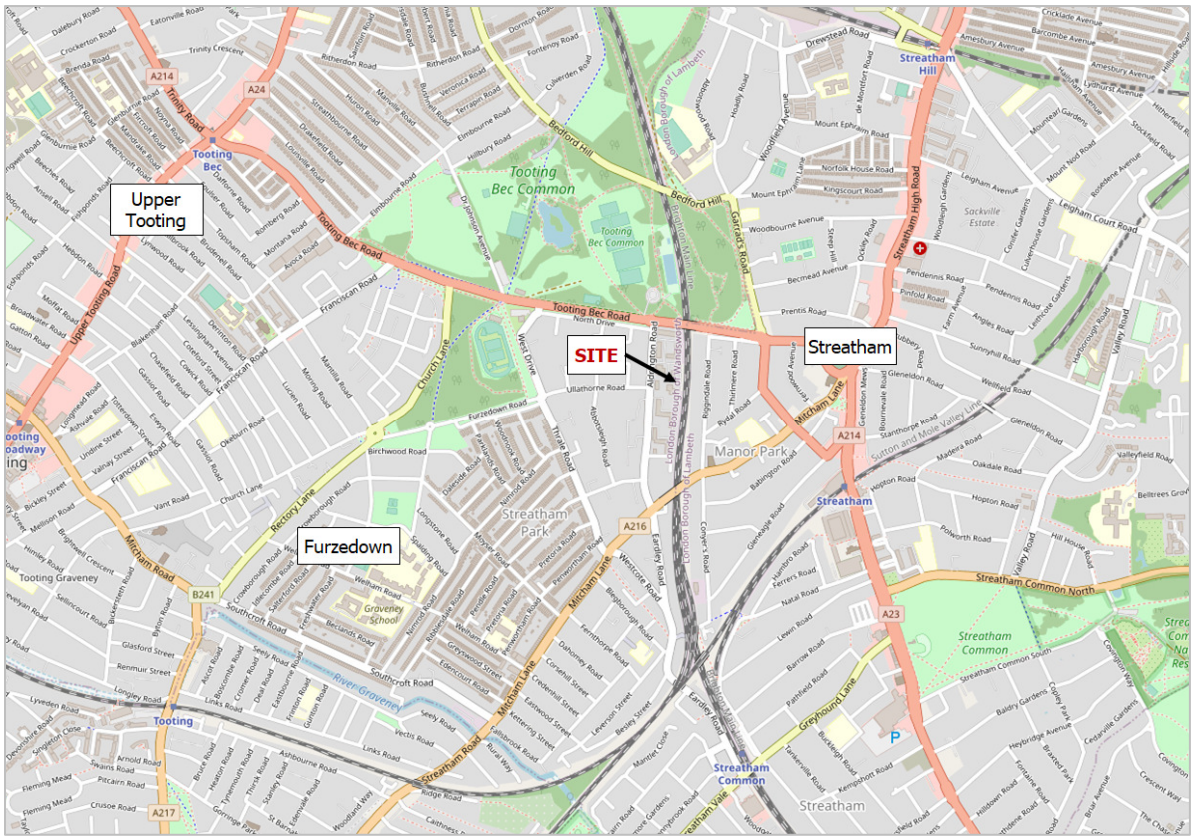
1.1 WYG has been commissioned by the Housing Development division of Wandsworth Borough Council (WBC) to prepare a Transport Assessment (TA) in support of a council-led planning application for 34 dwellings in a residential intensification scheme at The Alders estate. WBC is additionally the Local Planning Authority (LPA) responsible for determining local planning applications as well as being the Local Highways Authority (LHA). Transport for London (TfL) is responsible for the Transport for London Road Network and Strategic Road Network (TLRN/SRN) routes locally.

1.2 This TA report should be read in conjunction with the Residential Travel Plan (RTP), Delivery and Servicing Management Plan (DSMP), Site Waste Management Plan (SWMP), Car Park Management Plan (CPMP) and Construction Management Plan (CMP) reports submitted concurrently to support the planning application.

Site Context

1.3 The site is situated within The Alders Estate in Streatham Park, a predominantly residential area within the ward of Furzedown, south east Wandsworth. **Figure 1.1** presents a high level location plan showing the site in the context of the surrounding area. Transport impact of the proposals has been considered as part of this report.

Figure 1.1 High Level Location Plan



Source: © OpenStreetMap contributors with WYG Annotations, October 2020

1.4 The site comprises a row of existing garage units along the eastern edge of the estate, bounded by a railway line to the immediate east of the site. To the west and south lie the remaining residential units

of the estate, which are accessed from Aldrington Road, whilst other residential estates and green space lie outside the estate boundary to the north and south. **Figure 1.2** indicates its location in the local context, outlined in red.

Figure 1.2 Local Level Site Location Plan

Source: © OpenStreetMap contributors with WYG Annotations, October 2020

Planning Background

1.5 The Alders estate comprises 88 residential dwellings in four apartment blocks with ancillary facilities such as ground-level car parking, garages, waste storage and cycle parking. As part of the Council's drive to deliver 1,000 new homes within the borough in the next 5-7 years the land occupied by the garages has been identified by WBC as developable land for residential use. A feasibility study was undertaken in 2019 followed by option development with participation from existing residents through public exhibitions and consultations. The process gave rise to the proposed residential scheme assessed herein.

Report Structure

1.6 Following this introductory section, the remainder of this TA is structured as follows:

- **Chapter 2: Policy Review** - provides a review of relevant current and emerging national, regional and local policy
- **Chapter 3: Site Context & Key Challenges** - provides an outline of the existing public transport, road network, walking and cycling conditions near the site
- **Chapter 4: Proposed Development** - sets out details of the proposals including site access, cycle parking and servicing arrangements
- **Chapter 5: Network Impact** - presents the outcome of the trip generation assessment, which provides the existing estate and proposed residential inbound/outbound person trips for a weekday morning and evening peak period by mode;
- **Chapter 6: Summary and Conclusions** - highlights the key points raised within this report.

1.7 All technical appendices are included at the end of this TA for information.

2 Policy Review

General

2.1 Transport policy provides a set of parameters and requirements for a development to adhere to. It forms an integrated platform of planning guidelines and requirements at national, regional (London-wide) and local (borough-specific) levels and together with guidance is used to regulate developments and promote best practice for walking, cycling, parking, servicing, access and internal circulation.

2.2 The current agenda regarding transport and development is moving away from one of providing significant new infrastructure, through 'predict and provide' schemes. Instead, policies have been adopted in national guidelines that seek to encourage more sustainable travel modes and a planning system which places more emphasis on the link between transport and land use planning policies. The most recent transport policies relevant to the Alders development are summarised below.

National Policy

- National Planning Policy Framework (NPPF) (February 2019)[1], and
- National Planning Practice Guidance (NPPG) (March 2014)[2]

Regional Policy

- The London Plan (March 2016)[3],
- Draft London Plan (Intend to Publish, December 2019)[4], and
- The Mayor's Transport Strategy (2018)[5],

Local Policy

- Wandsworth Borough Council Local Plan (2018)[6], and
- Wandsworth Development Management Policies Document (2016)[7]

National Policy

National Planning Policy Framework (NPPF) (February 2019)

2.3 This document sets out the Government's planning policies for England and how these should be applied, providing a framework within which locally prepared plans for housing and other development can be produced. It was formally adopted on the 24th July 2018 and updated in February 2019.

2.4 Paragraph 102 identifies the transport issues that should be considered from the earliest stages of plan making and development proposals, so that:

a) the potential impacts of development on transport networks can be addressed,

[1] National Planning Policy Framework (2019) https://www.gov.uk/government/publications/national-planning-policy-framework--2
[2] National Planning Policy Guidance (2014) https://www.gov.uk/government/collections/planning-practice-guidance
[3] The London Plan (2016) https://www.london.gov.uk/sites/default/files/the_london_plan_2016_jan_2017_fix.pdf
[4] Draft London Plan (Intend to Publish) (2019) https://www.london.gov.uk/what-we-do/planning/london-plan/new-london-plan/intend-publish-london-plan-2019
[5] The Mayor's Transport Strategy (2018) https://www.london.gov.uk/what-we-do/transport/our-vision-transport/mayors-transport-strategy-2018
[6] https://www.wandsworth.gov.uk/localplan
[7] https://www.wandsworth.gov.uk/media/2274/local_plan_-_development_management_policies_document_dmpd_adopted_march_2016.pdf

b) opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated,
c) opportunities to promote walking, cycling and public transport use are identified and pursued,
d) the environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains, and,
e) patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places.

2.5 Paragraph 103 states that:

"The planning system should actively manage patterns of growth in support of these objectives. Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making".

2.6 Paragraph 106 states that:

"Maximum parking standards for residential and non-residential development should only be set where there is a clear and compelling justification that they are necessary for managing the local road network, or for optimising the density of development in city and town centres and other locations that are well served by public transport (in accordance with chapter 11 of this Framework). In town centres, local authorities should seek to improve the quality of parking so that it is convenient, safe and secure, alongside measures to promote accessibility for pedestrians and cyclists."

2.7 Paragraph 108 states 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, and,
c) 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."

2.8 Paragraph 109 states 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."

2.9 Paragraph 110 states that applications for developments 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.

2.10 Moreover, Paragraph 111 states that *"all developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed."*

National Planning Practice Guidance (NPPG) (March 2014)

2.11 The Government's NPPG was launched on 6th March 2014 by the Department for Communities and Local Government (DCLG) as a web-based resource. Within the NPPG, the 'Travel Plans, Transport Assessments and Statements in Decisions-Taking' guidance provides advice on when transport assessments and transport statements are required, what they are and what they should contain.

2.12 Paragraph 6 sets the importance of the Travel Plans (TPs), Transport Assessments (TAs) and Transport Statements (TSs) saying that they can positively contribute 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.'*

Regional Policy

The London Plan (March 2016)

2.13 The London Plan is the overall strategic plan for London and sets out fully integrated economic, environmental, transport and social frameworks for the development of the capital until 2031. It also sets out maximum car parking standards and minimum cycle parking standards for developments across London. References to Government guidance and national legislation enacted since July 2011 as well as Mayoral priorities as set out in his 2020 Vision: The Greatest City on Earth – Ambitions for London support a vision for sustainable modes of transport. The London Plan notes that London should be (objective 6):

> *"A city where it is easy, safe and convenient for everyone to access jobs, opportunities and facilities with an efficient and effective transport system which actively encourages more walking and cycling, makes better use of the Thames, and supports delivery of all the objectives of this Plan."*

2.14 Policy 6.3 of the London Plan concerns the effect of development on transport capacity and states the following:

A. *"Development proposals should ensure that impacts on transport capacity and the transport network, at both a corridor and local level, are fully assessed. Development should not adversely affect safety on the transport network.*
B. *Where existing transport capacity is insufficient to allow for the travel generated by proposed developments, and no firm plans exist for an increase in capacity to cater for this, boroughs should ensure that development proposals are phased until it is known these requirements can be met, otherwise they may be refused. The cumulative impacts of development on transport requirements must be taken into account.*
C. *Transport assessments will be required in accordance with TfL's Transport Assessment Best Practice Guidance for major planning applications. Workplace and/or residential travel plans should be provided for planning applications exceeding the thresholds in, and produced in accordance with, the relevant TfL guidance. Construction logistics plans and delivery and servicing plans should be secured in line with the London Freight Plan and should be co-ordinated with travel plans.*

D. Boroughs should take the lead in exploiting opportunities for development in areas where appropriate transport accessibility and capacity exist or is being introduced. Boroughs should facilitate opportunities to integrate major transport proposals with The FALP contains revised car and cycle parking standards for all developments across Greater London, including those of a residential nature."

2.15 The current adopted London Plan cycle parking standards are set out in **Table 2.1**:

Table 2.1 London Plan Minimum Cycle Parking Standards (2016)

Land Use	London Plan Minimum Cycle Parking Standards	
	Long Stay	Short Stay
C3 Residential	1 space per studio / 1-bedroom unit 2 spaces per all other dwellings	1 space per 40 units

The London Plan – Intend to Publish (December 2019)

2.16 The new draft London Plan was subject to an Examination in Public from January to May 2019 and the Mayor issued his 'Intend to Publish' New London Plan in December 2019. The draft Plan focuses on the concept of 'Good Growth', growth that is socially and economically inclusive and environmentally sustainable. Whilst the Secretary of State has refused to allow the publication of the Plan at this time, due to the advanced nature of the draft new London Plan, any relevant draft policies (not subject to a direction by the Secretary of State) carry significant weight and can be considered to be material considerations in the determination of this proposal. We have therefore considered the draft transport policies in this Transport Assessment.

2.17 Chapter Ten of the Intend to Publish London Plan, 'Transport', sets out nine polices with regards to transportation that are intended to support London's Good Growth. Policy T5 – 'Cycling' states:

a Development Plans and development proposals should help remove barriers to cycling and create a healthy environment in which people choose to cycle. This will be achieved through:

1 Supporting the delivery of a London-wide network of cycle routes, with new routes and improved infrastructure.

2 Securing the provision of appropriate levels of cycle parking which should be fit for purpose, secure and well-located. Developments should provide cycle parking in accordance with the minimum standards set out in Table 10.2 and Figure 10.2 and should be designed and laid out in accordance with the guidance contained in the London Cycling Design Standards.

b Where it is not possible to provide suitable short-stay cycle parking off the public highway, the borough should work with stakeholders to identify an appropriate on-street location for the required provision. This may mean the reallocation of space from other uses such as on-street car parking. Alternatively, in town centres, adding the required provision to general town centre cycle parking is also acceptable. In such cases, a commuted sum should be paid to the local authority to secure provision.

c Where it is not possible to provide adequate cycle parking within residential developments, boroughs must work with developers to propose alternative solutions which meet the objectives of the standards. These may include options such as providing spaces in secure, conveniently-located, on-street parking facilities such as bicycle hangers.

d Where flexible retail uses are proposed, and exact uses are not determined at the point of application, the highest potential applicable cycle parking standard should be applied.

e Where the final land use of a development is not determined at the point of application, the highest potential applicable cycle parking standard should be applied.

f A minimum of two short-stay and two long-stay cycle parking spaces must be provided for all land uses in all locations with the exception of Class C3-C4 uses and Class A uses where the size threshold specified in Table 10.2 has not been met.

2.18 Policy T5 also includes cycle parking standards for London. The minimum residential cycle parking standards relevant to the proposed development are provided in **Table 2.2**.

Table 2.2 Draft London Plan Minimum Cycle Parking Standards (December 2019)

Land Use		Long Stay	Short Stay
C3	Dwellings (all)	1 space / studio-1 person&1 bed dwelling 1.5 spaces / 2 person-1 bed dwelling 2 spaces / all other dwellings	5 to 40 dwellings: 2 spaces thereafter: 1 space / 40 units

2.19 Maximum car parking standards are set out in Policy T6 – 'Car parking' and Policy T6.1 specifically relates to residential parking. The maximum standards for residential parking are set out in Table 10.3 within the Intend to Publish London Plan (2019). Inner London areas with a PTAL of 2 are permitted up to 0.5 spaces per dwelling and the standards increase to 1 space per dwelling for outer London properties in areas of a low PTAL. Furthermore, Section I of Policy T6 states:

"Where sites are redeveloped, existing parking provision should reflect the current approach and not be re-provided at previous levels where this exceeds the standards set out in this policy. Some flexibility may be applied where retail sites are redeveloped outside of town centres in areas which are not well served by public transport, particularly in outer London."

2.20 Draft Policy T6.1, specifically paragraphs G and H, present the disabled parking standards required. It is stated that within the Parking and Design management Plan, it should be demonstrated how an additional seven per cent of dwellings could be provided with on designated disabled persons parking space per dwelling in future upon request as soon as existing provision is insufficient. Disabled persons parking should be provided for new residential developments to ensure at least one designated disabled persons parking bay per dwelling for three per cent of dwellings is available from the outset, and to demonstrate how the remaining bays to a total of one per dwelling for ten per cent of dwellings can be provided when required as designated disabled persons parking in the future. Furthermore, electric vehicle charging points are required in new residential developments, at least 20% of spaces should have active charging facilities, with passive provision at the remaining 80%.

The Mayor's Transport Strategy (2018)

2.21 The document outlines what the Mayor sees as London's main challenges over the next 25 years, these include car dependency, population growth, demand for new homes, historically car-centric design of parts of the city and limited space for road building. The Mayor's vision for London involves reducing the need to use cars and making more Londoners walk and cycle. Sustainable growth is also set out as part of the vision, growing London's economy but also improving the lives of people who live in London.

2.22 The Mayor's aim for 2041 is for 80 per cent of Londoners' trips to be on foot, by cycle or by using public transport. Currently, approximately 64 per cent of journeys are made by these modes of transport. The document outlines the Mayor's strategy on transport in London from now to 2041, which includes the following themes:

- Healthy Streets and Healthy People,
- A Good Public Transport Experience, and
- New Homes and Jobs.

Healthy Streets and Healthy People

- All Londoners to do at least the 20 minutes of active travel they need to stay healthy each day,

- No one to be killed in or by a London bus by 2030, and for deaths and serious injuries from all road collisions to be eliminated from the streets by 2041,
- All taxis and private hire vehicles to be zero emission capable by 2033, for all buses to be zero emission by 2037, for all new road vehicles driven in London to be zero emission by 2040, and for London's entire transport system to be zero emission by 2050, and
- Reduce freight traffic in the central London morning peak by 10 per cent on current levels by 2026, and to reduce total London traffic by 10-15 per cent by 2041.

A Good Public Transport Experience

- Open Crossrail 2 by 2033,
- Create a London suburban metro by the late 2020s with local train services devolved to the Mayor, and,
- Improve the overall accessibility of the transport system including halving the average additional time taken to make a public transport journey on the step-free network compared to the full network.

New Homes and Jobs

- Incorporate the transport principles of 'good growth' in regeneration and new developments.

2.23 The document further addresses the health benefits that could be gained by changing the way Londoners travel. It highlights the effect of active travel on the risk of diabetes and other diseases, noting that if all Londoners walked or cycled for 20 minutes a day, this would deliver at least an additional 60,000 years of healthy life in prevented illness and early death each year.

2.24 Policy 9 of the strategy sets out part of how the Healthy Streets approach will be used:

"The Mayor, through TfL and the boroughs, will use the Healthy Streets Approach to direct complementary public transport and street improvements to provide an attractive whole journey experience that will facilitate mode shift away from the car."

2.25 As part of the shift away from the car, the Mayor states investment will be made into active travel, 'Policy 1 – Active Travel' states:

"The Mayor, through TfL and the boroughs, and working with other transport providers, will seek to make London a city where people choose to walk and cycle more often by improving street environments, making it easier for everyone to get around on foot and by bike, and promoting the benefits of active travel. The Mayor's aim is that, by 2041, all Londoners do at least the 20 minutes of active travel they need to stay healthy each day".

2.26 Road safety policy is set out in the Mayor's Transport Strategy as well, 'Policy 2 – Vision Zero' states the following:

"The Mayor, through TfL, the boroughs, police and enforcement authorities, will adopt Vision Zero for road danger in London. The Mayor's aim is for no one to be killed in or by a London bus by 2030, and for all deaths and serious injuries from road collisions to be eliminated from London's streets by 2041."

2.27 Air quality is mentioned on multiple occasions and is one of the Mayor's main focusses, 'Policy 6 – A zero carbon city' states the following:

"The Mayor, through TfL and the boroughs, and working with other transport providers, will seek to make London's transport network zero carbon by 2050, which will also deliver further improvements in air quality, by transforming London's streets and transport infrastructure so as to enable zero emission operation, and by supporting and accelerating the uptake of ultra-low and zero emission technologies".

Local Policy

Wandsworth Local Plan (March 2016)

2.28 The Local Plan sets out the Council's spatial vision, strategy and policies to deliver the strategy, including where appropriate the proposals of partner agencies so far as they have a spatial dimension, for the different places that make up the borough. The Local Year Plan is a 15-year plan looking ahead to 2030, the key Transport Policies included in the Local Plan are set out below:

Core Policies for Places: Policy PL 3

A). Improvements to public transport will be supported including enhanced capacity on rail and underground lines, improved bus and rail services and access to stations, and enhanced river bus services.
B). Clapham Junction will be upgraded and improved as a major transport interchange through investment by the Council, TfL, train operators and developers (see PL13).
C). The Council will promote major transport infrastructure schemes including Crossrail 2, the Northern Line Extension to Battersea and improved rail links between South London and Heathrow, to be delivered by other parties including central government, TfL, public transport companies and private developers.
D). Land will be safeguarded for future transport functions where necessary. Specific sites are identified in the Site Specific Allocations Document.
E). Quality cycling conditions will be delivered on the local cycle route networks, via individual schemes funded through the LIP and other available sources.
F). Improved conditions for walking will be delivered through LIP funding and other available sources.
G). Sustainable development, as referred to in Policy IS1, will be supported through the management of freight, servicing and parking, and the use of Transport Assessments, travel plans and the use of the river (see also Policy PL9).

Promoting sustainable development

2.29 The Council will encourage walking, cycling and public transport in preference to the private car by seeking enhancements to the provision of infrastructure for these modes and by promoting travel awareness campaigns, its school travel strategy, the development of travel plans and introduction of car clubs or other means of sustainable car use. New opportunities will arise with new development to address these issues. Robust Transport Assessments will be required to set out the transport impacts of a development and how these will be mitigated. Mixed use development will decrease the need for some journeys, while making development accessible to those walking, cycling or choosing public transport will also play an important role. Increased levels of walking and cycling can have beneficial health impacts, such as encouraging physical activity and improving air quality, as well as wider sustainability benefits.

2.30 The Council will promote the use of local facilities and services and will also seek to ensure that development is located where the need to travel is reduced and where there is a high level of accessibility by public transport, walking and cycling. For major developments travel plans will be required through planning conditions or S106 agreements. Travel plans will be linked to new developments in advance of their opening, so that more sustainable travel habits become "locked in" from the outset. There is a network of cycle routes in the borough including Cycleways and new development provides the opportunity to improve and provide connections to the network and new infrastructure including the Mayor of London's cycle hire scheme.

2.31 The availability of car and cycle parking in new developments has a vital role to play in influencing the choice of travel mode. The Development Management Policies Document (DMPD) seeks to ensure that an appropriate balance is struck between providing adequate parking for a development while setting a realistic limit on parking that encourages travel to and from the development by more sustainable modes of transport. Maximum car parking standards are set so as to restrain the growth of private car

use. There has been an increasing trend for developments to offer less on-site car parking than the maximum, and in some cases, no parking at all, and particularly in town centres and other accessible locations this is normally appropriate and desirable. The amount of parking required for commercial developments will be related to public transport accessibility and an assessment of available capacity of the location, with more restrictive standards for the most accessible locations such as the town centres.

2.32 However, concerns have been expressed that some large housing schemes and the cumulative impact of small schemes with limited car parking will lead to overspill parking on residential roads, particularly in less accessible locations. Some developments can be excluded from controlled parking zones and parking policy is evolving to address issues such as evening and weekend parking pressure. A balance will need to be maintained, so that adequate off-street parking is provided, particularly in less accessible areas, and that the needs of specific groups, such as people with disabilities and residents in affordable housing are adequately provided for. The need for appropriate levels of parking for powered two wheelers (PTWs) will also be considered through TAs.

2.33 The Council recognises that a lack of secure parking and storage is a major deterrent to wider cycle use. The amount of cycle parking provided in Wandsworth has increased significantly over recent years, but this effort needs to be sustained. The provision of cycle parking facilities is seen as an integral part of any cycling policy as without it the attraction of other cycling improvements will be diminished. Major new developments are expected to show, in TAs and TPs, how they will encourage cycling through the provision of permeable cycle access routes, and secure parking, showers, changing and storage facilities. Detailed criteria for TAs, the amount of car and cycle parking, and the role of TPs and car clubs, are included in DMPD Policies DMT1 and DMT2.

Development Management Policies Document (DMPD, March 2016)

2.34 The DMPD is a supporting document for the Core Strategy which sets out the Council's vision and guiding principles for planning in Wandsworth. The DMPD sets out the Council's detailed policies for managing development in the borough. These form the 'Development Plan' for the borough, used to assess and determine planning applications. The role of the DMPD is also to help deliver the Core Strategy, the Council's Corporate Business Plan and other Council policies and strategies.

2.35 Policy DMT1 focuses on transport impacts of development requiring that opportunities for sustainable transport modes have been taken up, that safe and suitable access to the site can be achieved and that improvements have been applied to limit significant impact of the development. The policy requires developments to demonstrate by way of a TA the effect that the development is likely to have on traffic and transport. A TP is also required where transport impacts are expected to be significant or to affect sensitive locations.

> *Car parking for development should aim to strike an appropriate balance between meeting the essential parking needs of the site while neither acting as a discouragement to using public transport nor adding to demand for on-street parking.*

2.36 The policy further states that car club parking can help reduce the overall demand for car parking space, by giving residents, visitors and employees access to a car without the need for individual car ownership. The provision of car club parking is particularly useful in larger residential or mixed-use developments, but may also be an attractive option for smaller developments, where a smaller provision of off-street car parking including a car club may cater for the demand for travel by car more effectively than a larger provision of off-street car parking. Where car club parking is provided it should normally be within the curtilage of a development site but accessible to the wider community, to assist viability of the car club.

2.37 The Council has had a long-standing policy whereby future occupants of any development that is granted planning permission for 15 residential units or more (within a CPZ or future CPZ) are automatically restricted from applying for on-street parking permits. The cumulative impact of

additional residential developments is causing pressure on on-street parking to escalate, and the Council now consider that 10 units or more should automatically be restricted from CPZs in order to address this issue.

2.38 In these cases, a formal commitment will be written into the legal agreement to ensure that any lease or tenancy document notifies the potential occupant of the restriction from the CPZ. In addition, the Council will make use of an Informative on the decision notice to highlight the restriction and any other means that may be deemed necessary to provide the required notification policies for managing development in the borough. The policies it contains, together with those in the Core Strategy, SSAD (Site Specific Allocations Document) and the London Plan, form the 'Development Plan' for the borough and will be used to assess and determine planning applications.

2.39 Policy DMT2 puts forward restrictions and standards for parking and servicing at developments. Off-street car parking must be provided subject to maximum levels set out within the London Plan. It must also be demonstrated that parking on site the is the minimum necessary. Adequate servicing arrangements should be made for commercial vehicles and general servicing. The provision of off-street servicing facilities is encouraged. The policy makes reference to the London Plan for standards in providing disabled parking spaces and electric vehicle charging points.

2.40 The policy confirms that car-free and low car development may be permitted where site PTAL is high, where there is adequate public transport capacity in the vicinity to accommodate trips generated by the development and a minimum number of disabled parking spaces is provided in accordance with the London Plan. In addition, TA must be provided to demonstrate through the combination of Car Club parking, TP and any other relevant measures that further car parking is not required. In line with the policy, developments of 10 or more residential units will be excluded from any existing or future CPZ designated around the development. where possible, the Council will use informatives and legal agreements to ensure that future occupants are aware they are not entitled to apply for on-street parking permits.

Summary

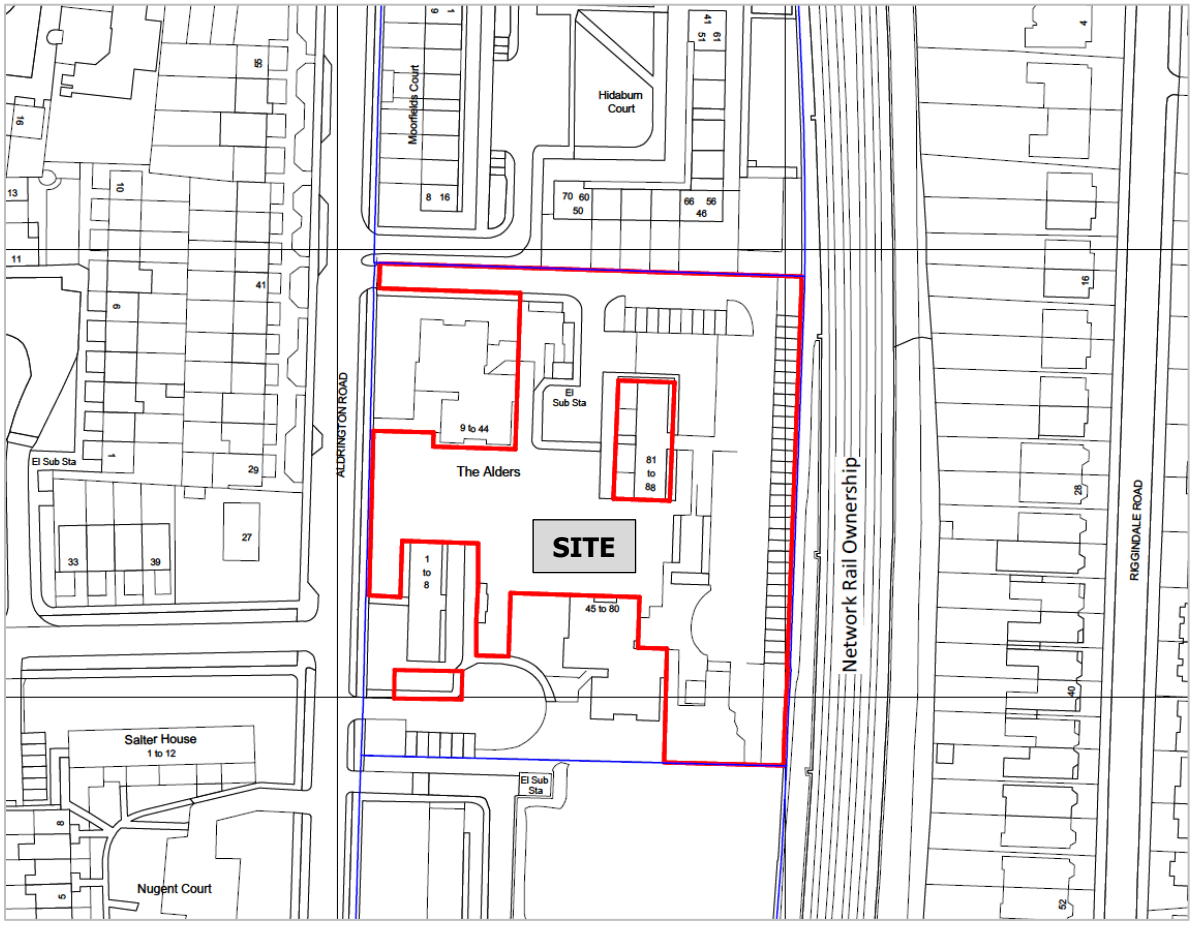
2.41 The development is well located within Wandsworth to maximise opportunities for future residents to undertake trips using sustainable modes of transport. The development will be advertised as 'car free' and will provide a suitable amount of cycle parking in accordance with the policies set out in this section of the TA. It can therefore be concluded that this development is in line with the NPPF and other national, regional and local policies set out within this report.

3 Existing Conditions

Site Location

3.1 The site is situated within the Alders estate, a residential area in the Furzedown ward of south east Wandsworth. It comprises a row of existing garage units along the eastern edge of the estate, bounded by a railway line to the immediate east of the site. To the west and south lie the remaining residential units of the estate, which are accessed from Aldrington Road, whilst other residential estates and green space lie outside the estate boundary to the north and south. The red line boundary in **Figure 3.1** shows the site extent and includes the site access, green space and car parking as well as the garage units.

Figure 3.1 Detailed Site Location



Source: Ordnance Survey Mapping with WYG Annotations, October 2020

Public Transport

Public Transport Accessibility Level (PTAL)

3.2 Public Transport Accessibility Levels (PTALs) are a theoretical measure of the accessibility of given point to the public transport network, accounting for walk access time and service availability. The method is a way of measuring the density of the public transport network at a particular point. Walk times are calculated from the specified point of interest to all public transport access points: bus stops, rail stations and London Underground (LU) stations within pre-defined catchments.

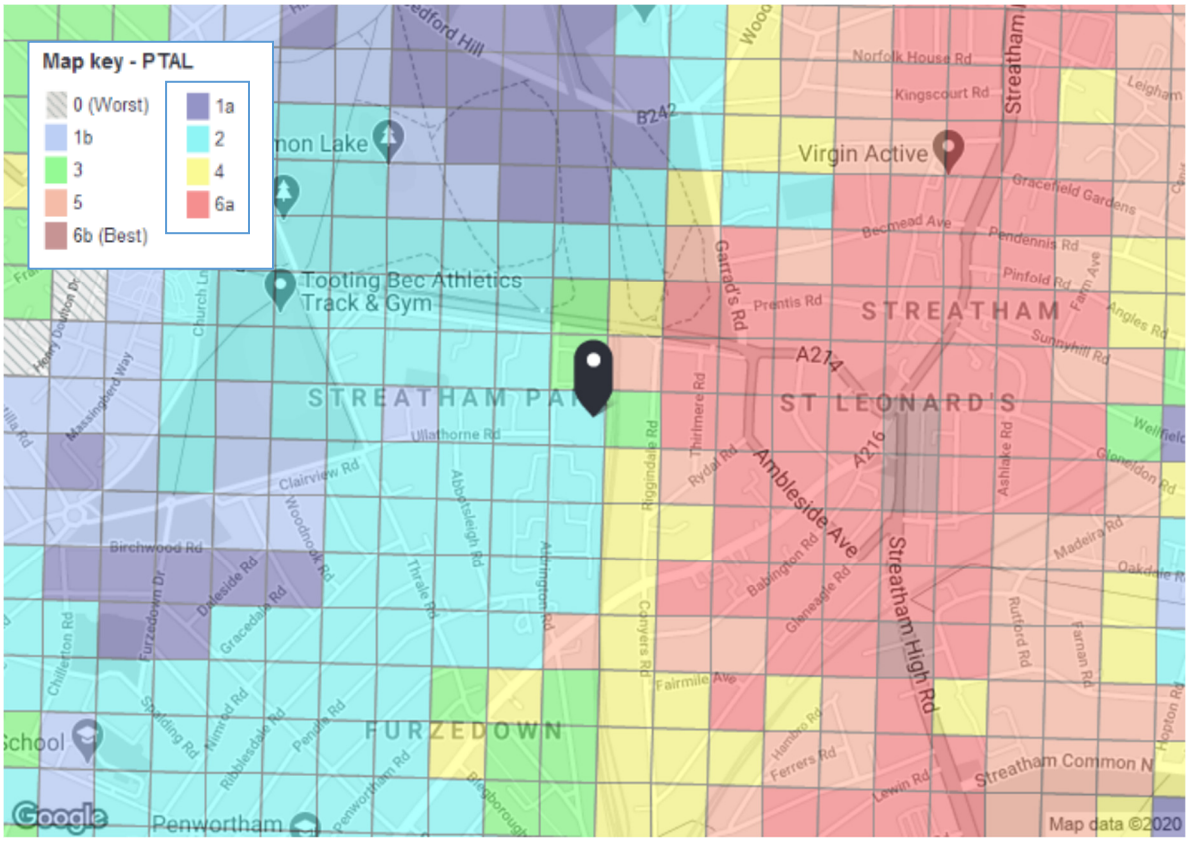
3.3 The PTAL incorporates a measure of service frequency by calculating an average waiting time based on the frequency of services at each public transport access point. A reliability factor is added, and the total access time is calculated. A measure known as an Equivalent Doorstep Frequency (EDF) is then derived for each point. These are summed for all routes within the catchment and the PTALs for the different modes (bus, rail etc) are then added to give a single value. The PTAL is categorised in six levels, 1 to 6 where 6 represents a high level of accessibility and 1 a low level of accessibility. Levels 1 and 6 have been further sub-divided into 2 sub-levels to provide greater clarity.

3.4 The measure, therefore, reflects:

- Walking time from the point of interest to the public transport access points.
- The reliability of the service modes available.
- The number of services available within the catchment; and
- The level of service at the public transport access points – i.e. average waiting time.

3.5 The PTAL rating for the site is '2', indicating a relatively 'poor' level of public transport accessibility. This PTAL value has been extracted from the online TfL PTAL calculator. The PTAL output report is included at **Appendix A** and the PTAL map is additionally provided in **Figure 3.2**. Although the site has a 'poor' PTAL rating, it is considered accessible by non-car modes, located within 400m of bus stops on the A214 Tooting Bec Road and Ullathorne Road, as well as Streatham Station, providing rail services from a walking distance of circa 1.3km away.

Figure 3.2 PTAL Map



Source: WebCAT, October 2020

Bus Services

3.6 The nearest bus stops are located approximately 320m to the north along the A214 Tooting Bec Road (Tooting Bec Lido stops T and N). The stops are served by bus routes 249 and 319, which offer direct connections to Clapham, Balham, Tooting Bec, Streatham, Crystal Palace, Anerley, Battersea and Chelsea. Each service typically calls at these stops every 5-10 minutes throughout the day. Bus stops

on Ullathorne Road (Pringle Gardens stops L and M), located circa 400m from the site, also provide access to Streatham, Tooting Broadway, St George's Hospital, Wandsworth Common, Clapham and Battersea via the G1 bus service. Four buses per hour typically serve the stops throughout the day.

London Underground

3.7 The nearest LU station to the site is Tooting Bec, located approximately 1.7km (20 minutes) walking distance from the site. It is served by Northern Line services running between Morden in the south and Edgware/High Barnet/Mill Hill East in the north, with access to all branches. Services call at Clapham, Elephant and Castle, London Bridge, Bank, Waterloo, Charing Cross, Leicester Square and various other key LU stations in central and northern London. Tooting Bec LU station is in London Fare Zone 3. Northern Line trains call at the station at a service frequency of 3-5 minutes per direction.

Rail Services

3.8 Streatham railway station is located within a 1.3km walking distance of the site and is served by Southern and Thameslink services between Caterham and London Bridge and Sutton and St Albans City respectively. Southern services operate two trains per hour per direction from Streatham station whilst Thameslink services call at the station at a frequency of four trains per hour per direction.

Walking and Cycling Facilities

Walking

3.9 In terms of what constitutes a reasonable walking distance it is necessary to consider what is realistic for a walking trip. The Institution of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot' (2000) states that "*walking accounts for over a quarter of all journeys and four fifths of journeys less than one mile*". The document also provides guidance on acceptable walking distances and suggests that a preferred maximum walking distance of 2km is applicable for commuting. Walking offers a realistic option for the journey to work for many and is generally considered a viable travel choice for short distances, also offering the greatest potential for replacing short car trips of less than 2km.

3.10 The site is situated in an area well suited for pedestrians. Aldrington Road is a wide, tree-lined avenue with good quality footways and dropped kerbs installed at crossing points. Whilst the crossing at the Aldrington Road/Ullathorne Road junction is uncontrolled, dropped kerbs and 20mph speed limits facilitate safe pedestrian access. Since Aldrington Road is subject to a 20mph speed limit for vehicular traffic and has street lighting present along its length, it provides a secure environment that enhances pedestrian safety.

3.11 There are numerous amenities within a 2km walking distance of the site. These are largely contained within a designated Local Centre, namely 'Mitcham Lane', located on the A216 Mitcham Lane to the south-west of the application site; and at Streatham (A23 Streatham High Road), which is a designated Major Centre, and offers important shopping, entertainment and community facilities. The two centres offer local food stores including a Tesco Extra, health facilities such as pharmacies and chemists, places of worship, leisure facilities including gyms, cinemas and an ice rink, banks and various retail units.

3.12 Streatham, Streatham Common and Streatham Hill railway stations are within a reasonable walking distance of the site, with Tooting Bec LU station also less than 2km away. The site also has good access to public open space with easy walks to the Tooting Bec Common and Streatham Common.

3.13 Puffin crossing facilities are provided at the A214 Tooting Bec Road/Aldrington Road junction, facilitating safe access to the bus stops located further west along the A214 Tooting Bec Road which itself offers wide, continuous footways on both sides of the carriageway. Puffin crossings are also present at the Aldrington Road/A216 Mitcham Lane junction with dropped kerbs and tactile paving provided to facilitate pedestrian access towards Streatham station for all users. The level of pedestrian

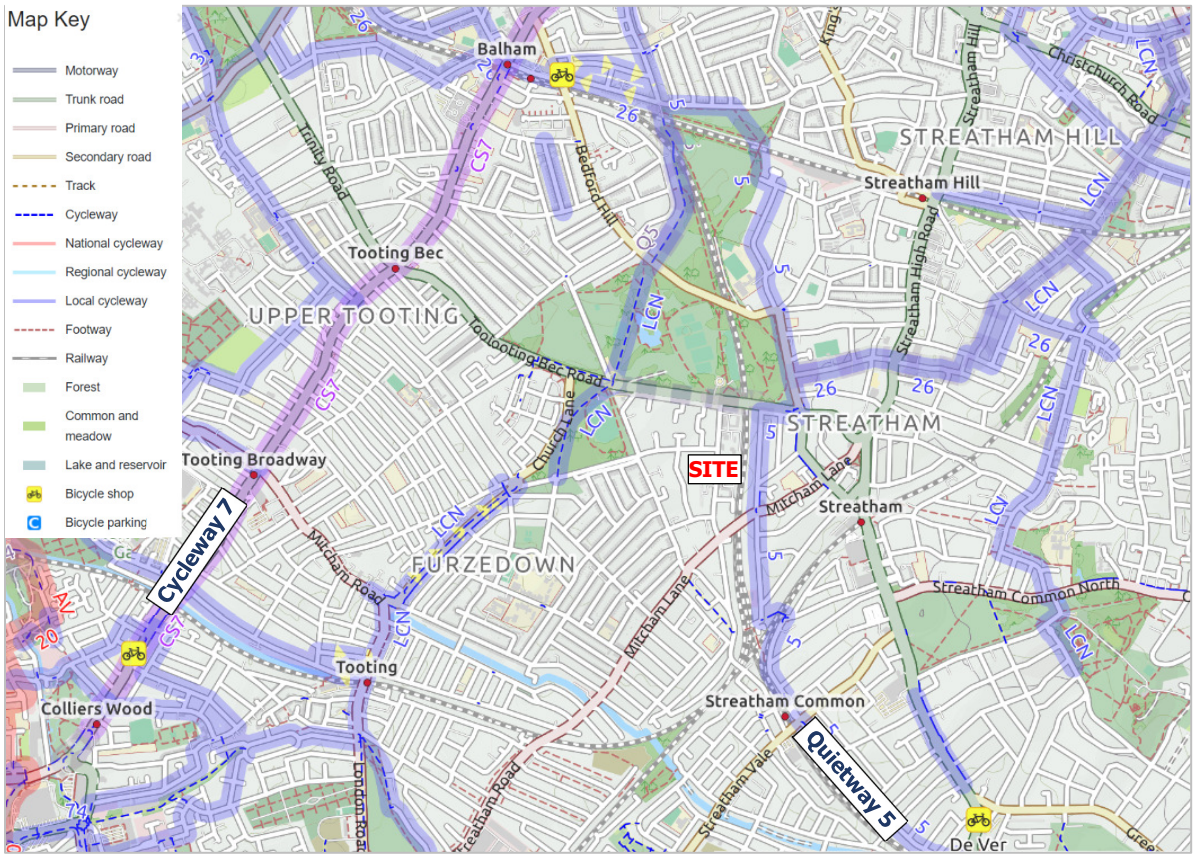
accessibility and proximity of the site to key amenities and transport interchanges will help to encourage a proportion of shorter trips from the area to be made on foot. The site is well-located to maximise opportunities for non-car use and therefore compliant in NPPF terms.

Cycling

3.14 Whilst there are no dedicated cycling facilities in the immediate vicinity of the site the streets are largely residential and subject to a 20mph speed limit, providing a safe environment for cyclists. The site is also close to strategic cycle routes Quietway 5 and Cycleway 7 and therefore well connected to the London Cycle Network, encouraging commuter trips by bicycle.

3.15 Quietway 5 provides a cycle friendly route between Clapham Common to the north and Norbury Park in the south via Tooting Bec Common, with Aldrington Road providing a viable alternative access to Riggindale Road. Cycleway 7 runs along the A24 corridor linking Colliers Wood to the south west and the City of London via the Southwark Bridge to the north. **Figure 3.3** demonstrates the location of the site in relation to various cycle routes in the local area.

Figure 3.3 Cycle Network



Source: © OpenStreetMap contributors with WYG Annotations, October 2020

3.16 Local Transport Note 2/08 'Cycle Infrastructure Design' (DfT, 2008) states that *"many utility cycle journeys are under three miles… although, for commuter journeys, a trip distance of over five miles is not uncommon"*. It can therefore be concluded that three miles, which is equivalent to approximately 5km, represents a reasonable typical cycling distance. Cycle use is therefore considered a feasible means of transport over short to medium distances. Cycling is influenced by similar factors as walking in addition to route conditions, route topography, traffic levels and secure cycle parking at destination.

3.17 There are numerous Sheffield stands available at Mitcham Lane and Streatham High Road centres that provide safe and secure cycle parking, encouraging future residents to make local trips by bicycle. In addition, the areas of Clapham, Brixton, Crystal Palace, Thornton Heath, Mitcham and Earlsfield are

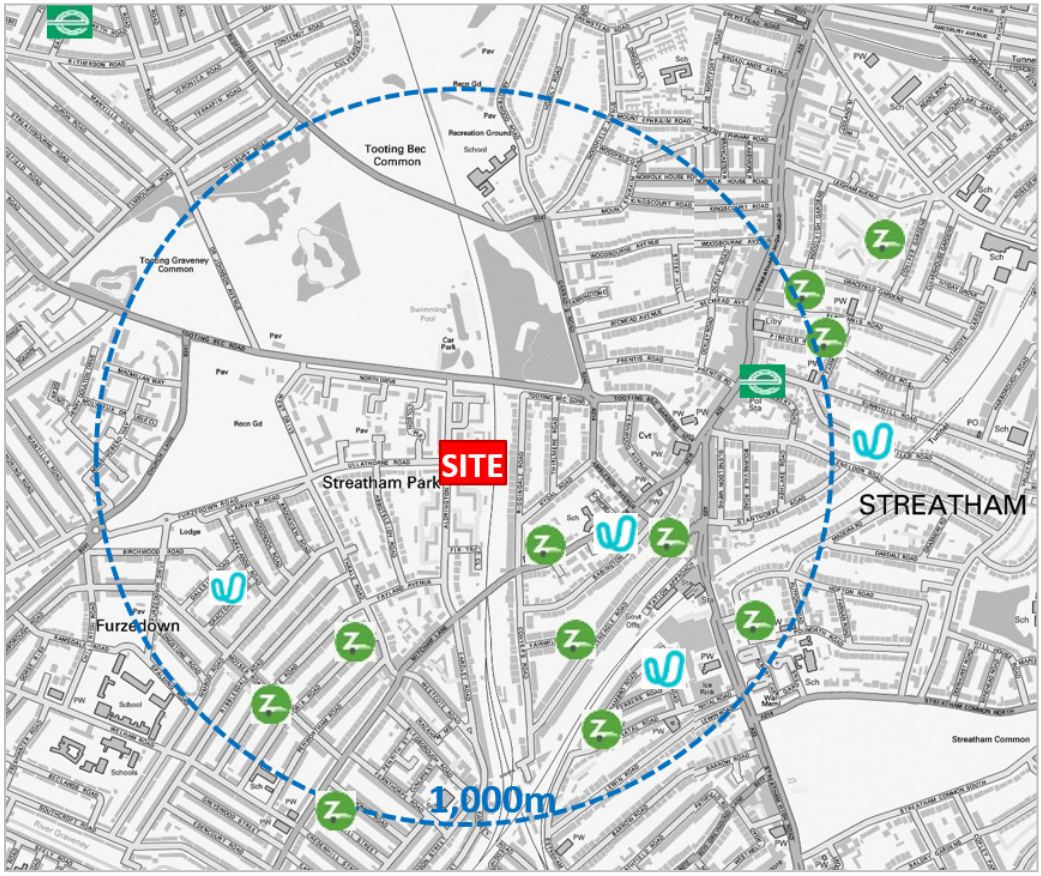
all located within a 5km cycle distance of the proposed development. There are good opportunities to travel from the site by bicycle and the site is therefore compliant in NPPF terms.

Car Clubs

3.18 Car clubs can significantly reduce the number of cars associated with new developments and the resultant impacts on local highway networks. Studies such as the *Car Plus Annual Survey* (TfL 2009-2010) suggests that every car club space takes 20 cars off the road, because members often sell (or don't replace) a car when they join. Furthermore, Car Club members tend to choose to drive a car less, often clocking up as little as 403 miles a year which is significantly less than private vehicle owners. This is because members both make better use of public transport and think much harder about their transport options according to what they need to achieve, and the cost associated with that decision.

3.19 Additionally, Car Club vehicles are typically up to 33% more efficient in terms of carbon dioxide emissions per kilometre travelled compared to the average car because operators choose new and fuel-efficient models. There are 11 car club bays within 1,000m of the site provided by Zipcar, Enterprise and Ubeeqo. Many of the nearest Car Club bays are located within close proximity to the Mitcham Lane and Streatham High Road local centres. The closest Car Club bay is located on Clairview Road, a residential street circa 600m to the west of the site. The locations of Car Club bays of the three main local providers (Enterprise, Zipcar and Ubeeqoo) within walking distance of the site are indicated on **Figure 3.4**.

Figure 3.4 Car Clubs



Source: © OpenStreetMap contributors with WYG Annotations, October 2020

Local Highway Network

Road Network

3.20 The Alders estate is situated to the east of Aldrington Road, a local distributor road that is subject to a 20mph speed limit and connects the A214 Tooting Bec Road to the north with the A216 Mitcham Lane to the south. Aldrington Road features a wide carriageway (7.3m) capable of accommodating on-street parking on both sides. There is no waiting or loading restrictions within the vicinity of the site. Whilst the majority of Aldrington Road caters for two-way traffic, there is a short one-way section between its junctions with Fayland Avenue and the A216 Mitcham Lane where vehicles are only permitted to travel south. The A214 Tooting Bec Road forms a signalised T-junction with Aldrington Road 120m north of the Aldrington Road/Site Access junction.

3.21 A214 Tooting Bec Road comprises an arterial subject to a 30mph speed limit that connects the A3, A24 and A23, with the A3 and A23 providing direct access onto the Strategic Road Network (SRN) towards the south and west. The A216 Mitcham Lane forms a 4-arm signalised junction with Aldrington Road circa 460m south of the Aldrington Road/Site Access junction. The A216 Mitcham Lane itself comprises a major distributor subject to a 30mph speed limit along the majority of its length, although there is a small section with a 20mph speed limit to the east of the railway line running parallel to Aldrington Road. The road connects the area of Mitcham to the south west via the A23.

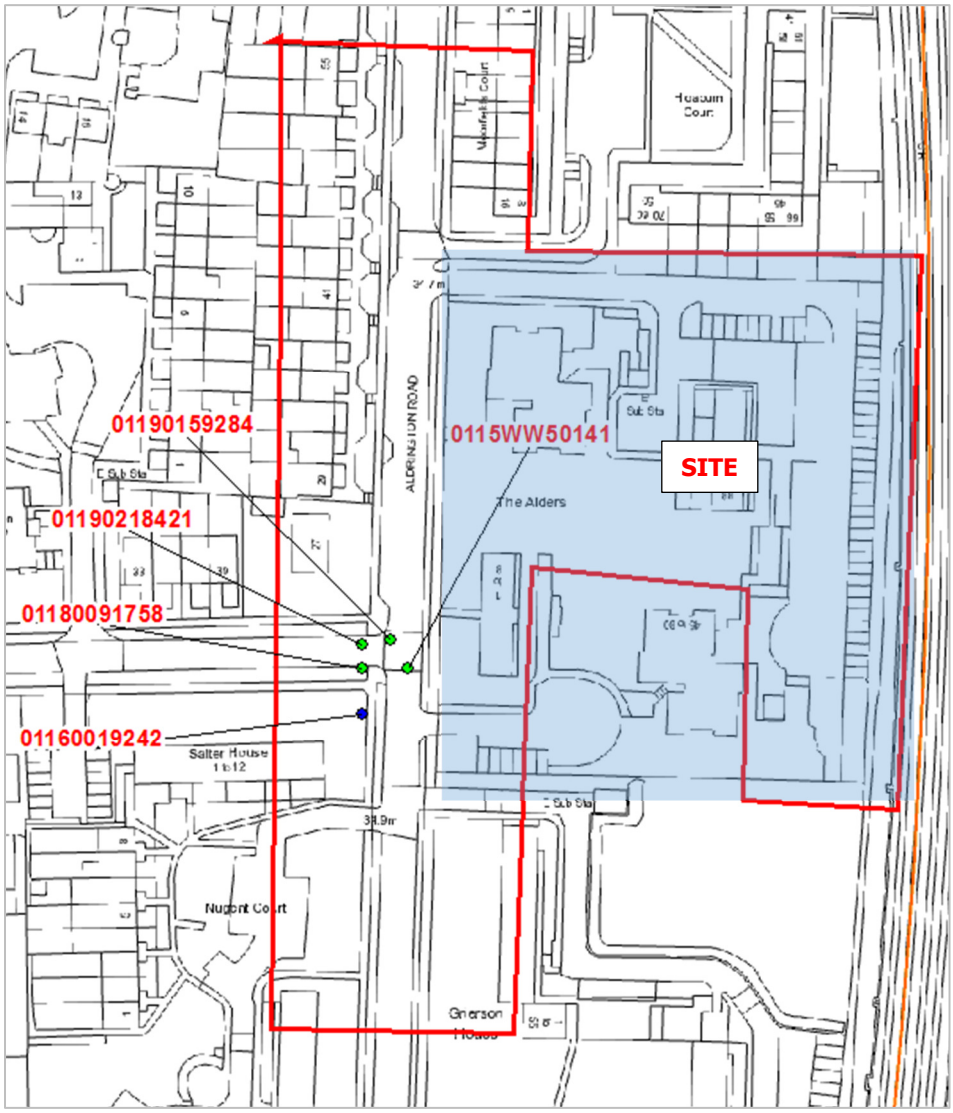
3.22 In addition, electric vehicle charging points are provided on Aldrington Road adjacent to the Alders estate, encouraging the use of electric vehicles where car use may be necessary and therefore supporting the Mayor's policies on air quality and reducing emissions from road vehicles.

Collision Analysis

3.23 Aldrington Road and the Alders estate collision data was analysed to assess road safety levels outside the proposed development as well as the nearby junctions. The analysis considered collisions for a period of 60 months until February 2020. The assessment area is shown in red in **Figure 3.5** with accidents shown in both green (slight) and blue (serious). A total of five collisions were recorded within the assessed area in the past five years, primarily at the Aldrington Road junction with Ullathorne Road. Four of the five collisions were rated 'slight' in severity. Three of those took place between two motor vehicles. The predominant cause was lack of attention or failing to give way.

3.24 The fourth 'slight' accident and the one 'serious' recorded accident both involved a car and a pedestrian, although the cause of the accident has been logged as 'unknown'. No collisions were recorded at either the primary or the secondary vehicular access into the Alders estate in the past five years. No 'fatal' collisions were also recorded within the overall collision study area.

Figure 3.5 Collisions



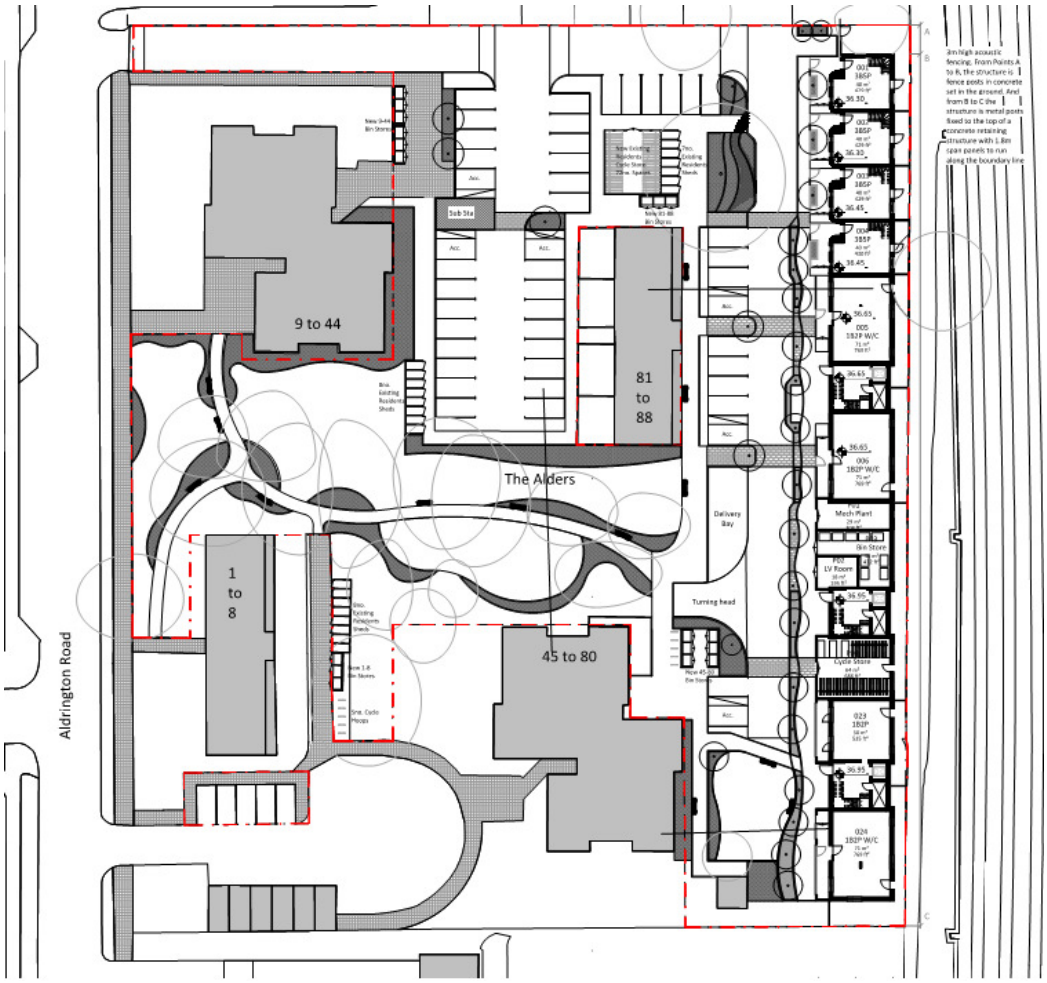
Source: Ordnance Survey Mapping with TfL Annotations, October 2020

4 Proposed Development

Details of Proposals

4.1 The proposals include the demolition of the existing garages along the eastern boundary of the estate and the provision of a mix of apartment blocks and town houses totalling 34 affordable units. Four 3-storey townhouses are proposed in the north-eastern section of the site offering 3-bedroom accommodation. Two apartment blocks, 4- and 6-storeys in height respectively and providing an accommodation mix of 1- and 2-bedroom units totalling 30 flats, are proposed along the remainder of the eastern estate boundary. In addition, the proposals also include the re-provision of car parking spaces, disabled parking, cycle parking, bin storage and a loading bay. **Figure 4.1** shows the development proposals at ground floor level, which is additionally included in **Appendix B**.

Figure 4.1 Proposed Ground Floor Layout



Source: Collado Collins Architects, October 2020

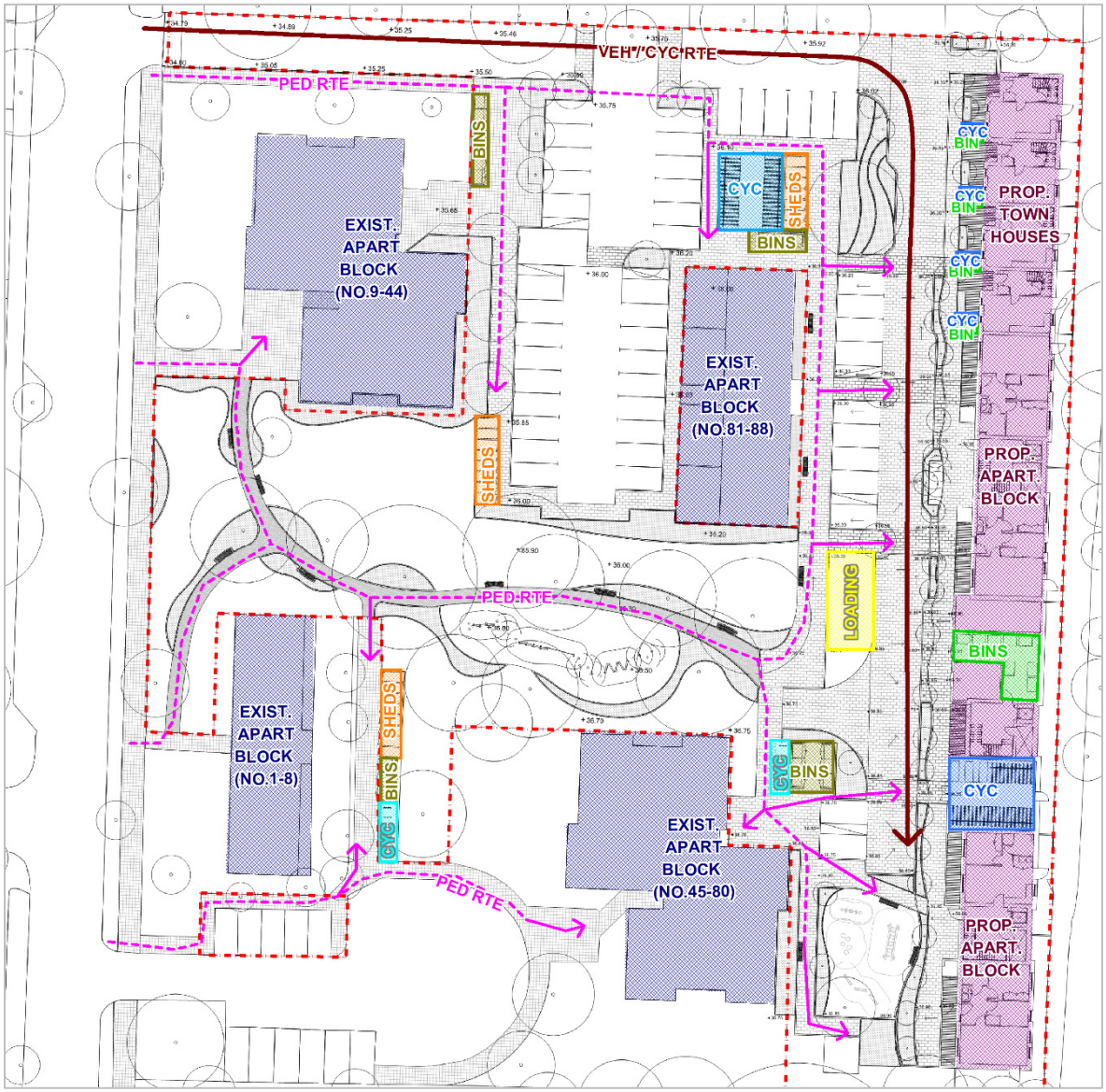
4.2 As part of the development, improvements are also proposed to the wider Alders estate. These include landscaping, provision of play areas for children, re-provision and enhancement of bin storage and cycle parking and storage facilities. Although the development itself is proposed to be car-free, the scheme includes the provision of disabled parking for the proposed element of the site as well as the re-provision wherever possible of existing spaces, for the use by the current residents of the estate. The schedule of accommodation for the proposals is set out in **Table 4.1**.

Table 4.1 Schedule of Accommodation

Level	Flats		Houses
	1 bed/2 person	2 bed/4 person	3 bed/5 person
Ground Floor	4	-	4
First Floor	2	4	
Second Floor	2	4	
Third Floor	2	4	-
Fourth Floor	2	2	
Fifth Floor	2	2	
Total	**14**	**16**	**4**

4.3 **Figure 4.2** presents the proposed on-site arrangements for access, parking, deliveries, waste and storage. The remainder of this chapter provides further details on each of these arrangements. The application boundary is indicated by a red dashed line on **Figure 4.2.**

Figure 4.2 Proposed On-site Arrangements



Source: Ordnance Survey Mapping with WYG Annotations, October 2020

Site Access

Pedestrian Access

4.4 All of the proposed properties line the eastern boundary of the estate with the front entrances of the four townhouses and two apartment blocks facing west, into the Alders estate and towards Aldrington Road. Existing pedestrian access routes from Aldrington Road into the wider estate along its northern and southern boundaries are proposed to be retained in their current form and extended further east towards the proposed units to allow pedestrian access to them. An additional pedestrian access is proposed through the central section of the estate along a landscaped car-free route, allowing access to the proposed townhouses and the two proposed apartment blocks as well as improving estate-wide permeability in all directions and to all existing dwellings. Proposed pedestrian routes are labelled 'ped rte' on **Figure 4.2**.

Cycle Access

4.5 Site access for cyclists is proposed to remain consistent with current arrangements with cyclists either using the southern or the northern existing route into the estate and travelling along the extended road link outside the proposed residential units along the estate's eastern boundary. Internal pathways, including the landscaped walkway through the centre of the estate are proposed to be for pedestrian use only. The proposed vehicle and cycle route is labelled 'veh/cyc rte' **Figure 4.2**.

Vehicular Access

4.6 The proposed vehicular access is in line with current arrangements for vehicles. The primary vehicular access for the estate is located at the northern extent of the estate, following its northern boundary. This arrangement is to be retained with the road extended eastwards towards the proposed residential blocks, continuing south parallel to the proposed buildings and terminating at the estate's southern boundary. The secondary vehicular route into the estate is provided from Aldrington Road into the south-eastern edge of the estate. No extensions of the route are proposed, and the access will remain largely unchanged, for parking and servicing use only as it is currently used. As the development is car-free, vehicle access will only be required for deliveries, servicing, emergency vehicles, disabled bays and car parking for existing residents.

On-site Facilities

Cycle Parking

4.7 The proposals are for 67 long stay cycle parking spaces to be located at ground floor of the 6-storey section of the apartment block and will be shared with the 4-storey apartment block. Residents of the townhouses will store bicycles on-plot within dedicated cycle stores. The provision for the proposed development exceeds minimum cycle parking requirements set out in the draft London Plan and includes adaptable bicycle parking spaces to accommodate the needs of disabled cyclists and parking for oversized bicycles.

4.8 In addition, it has been recognised that the current cycle parking provision within the estate does not meet the needs of its existing residents. To address this, it is proposed that 72 long stay cycle parking spaces are additionally provided for existing residents in a new storage area to the north of the block housing existing apartments no.81-88. Although this provision is below the present-day cycle parking standards for new developments, it is an increased provision of cycle parking facilities from current levels for the existing residents. As well as being secure, well-lit and sheltered from the elements, the proposed provision includes spaces for adaptable and oversized bicycles, promoting bicycle ownership and use by all residents regardless of their levels of ability.

4.9 There are 22 new short stay cycle spaces proposed distributed across the wider estate for ease of access by its residents, in the form of 11 Sheffield stands. Five stands (10 spaces) are proposed outside of existing Block 1-8 with a further six stands (12 spaces) proposed south of the loading bay. The provision includes a re-provision of 20 existing cycle parking spaces which are currently housed in a single cycle parking shed as well as a provision of two short term spaces as part of the proposed development. Short- and long-term cycle parking provision is labelled 'cyc' on **Figure 4.2**.

Car Parking

4.10 The proposals for the development do not include the provision of any additional parking spaces other than disabled spaces. It is however intended to re-provide as much as possible any spaces which are currently present within the estate boundary for existing residents to use. There is scope to install electric vehicle charging facilities within the estate's car park. The demand and provision will be assessed as part of the Residential Travel Plan for the estate.

4.11 There are currently 50 parking spaces within the application boundary, one of which is a disabled parking space. The proposals include the provision of 51 spaces within the application boundary, six of which are proposed to be for disabled users. Vertical signage and road markings will advise of parking restrictions associated with the proposed parking spaces, both in relation to the disabled parking bays and standard-sized bays. Residents of the proposed scheme will be advised that they will not be eligible for a resident parking permit following occupation of the proposed units. Further details of the parking provision have been provided within the Alders Car Park Management Plan.

Deliveries

4.12 A delivery bay is proposed outside of the proposed apartment blocks (labelled as 'loading' on **Figure 4.2**). This is intended for use by delivery vehicles to the development as well as the wider estate. Servicing vehicles will also be able to use the bay for waste collection from the proposed units. A turning head is proposed immediately adjacent to the loading bay in order to facilitate the manoeuvring of goods vehicles, so that they can both access and egress the site in forward gear. Vertical signage and road markings within the bay will advise of parking restrictions to prevent its misuse and resident parking.

Servicing and Waste

4.13 The proposals for the development consider the estate-wide waste provision as well as the requirements for the proposed dwellings. The proposals for the 34-unit scheme include the provision of 8 bins (1,100L) within a bin storage area located at ground floor level of the apartment blocks (labelled as 'bin' on **Figure 4.2**). The bins are intended predominantly for the use by the residents of the apartment blocks rather than the townhouses. The townhouses of the development are proposed to have their own bin storage within each building's front garden area.

4.14 In addition, an improved waste storage provision is proposed for the residents of the existing estate, with additional 18 bins (1,100L) provided in four locations across the estate, in proximity to each of the four existing apartment blocks. It is proposed that waste collection vehicles will access the site via the primary route off Aldrington Road to the north of the estate and proceed to the south-eastern corner of the estate in order to collect waste. The refuse collection vehicle will subsequently reverse using the turning facility provided outside of the proposed apartment blocks and depart the estate onto Aldrington Road in forward gear.

4.15 Wandsworth Local Plan Supplementary Planning Guidance document '*Refuse and Recyclables in Developments*' has been used to assess the refuse vehicle access and verify whether the proposals are in line with WBC requirements. The guidance advises that refuse vehicles should be able to stop within 25m of all dustbin/sack collection points and within 10m of bulk bin collection points and reverse no further than 50m. Swept Path analysis exercise was undertaken using a 9.2m refuse vehicle (in

line with the dimensions set out in the above guidance) to test the proposals. The outputs of the tracking assessment are shown in **Appendix D**.

4.16 It is anticipated that the servicing of the existing south-westernmost block (apartment nos. 1-8) will be undertaken separately via the southern route from Aldrington Road into the estate where the refuse vehicle will approach in forward gear and utilise the turning circle in order to also exit back out of the estate in forward gear. This is the currently used arrangement and refuse collection for this block is expected to continue in this manner following the construction of the proposed dwellings.

Storage

4.17 The area of the estate where the development is proposed to be located is currently occupied by garages. During public consultation and scheme development these have been identified as a necessary storage space for The Alders estate residents, more so than space for vehicle storage. To address this need for storage space following their removal as part of the scheme, the proposals have subsequently incorporated storage sheds intended for use by the existing residents. A total of 23 storage sheds are proposed to be located in three clusters in close proximity to three of the four existing residential blocks, to facilitate access and use by their residents. The proposed location of the sheds is labelled as 'shed' **Figure 4.2**. It is anticipated that this provision will be allocated to existing residents rather than occupiers of the proposed scheme.

5 Network Impact

Multi-Modal Trip Generation Assessment

5.1 A multi-modal trip generation assessment has been undertaken to calculate the potential level of trips generated by the proposed development, and to provide a comparison with the existing level of activity at the same location. The trip generation for the existing and proposed land uses has been calculated using the industry-standard TRICS (v7.7.3) trip rate database. Census 2011 data has also been used to quantify the modal share of the development in line with local characteristics. The outputs of the TRICS assessment are included in **Appendix C**.

Existing Trip Generation

5.2 The wider Alders estate currently comprises 88 affordable residential units in four apartment blocks. The TRICS database was interrogated to identify the likely trip levels for the existing housing, using the following search criteria:

- 03 Residential – D Affordable Local Authority Flats
- 2012 surveys onwards,
- Weekdays only,
- PTAL 1-5,
- Inner or Outer London.

5.3 Three sites were identified, which met the above criteria and were subsequently used to inform the person trip rates utilised as part of this assessment. These are shown in **Table 5.1**.

Table 5.1 Total Person Trip Rates

Time	Total Person Trip Rates (per dwelling)		
	Arrivals	Departures	Totals
AM Peak (08:00-09:00)	0.118	1.047	1.165
PM Peak (17:00-18:00)	0.393	0.225	0.618
Daily (07:00-19:00)	3.163	3.703	6.866

5.4 **Table 5.2** summarises the trips estimated for the existing estate based on the trip rates identified and summarised in **Table 5.1**.

Table 5.2 Existing Trip Rates and Trips

Hour	Trip Rates			Trips (88 flats)		
	In	Out	Total	In	Out	Total
07:00-08:00	0.08	0.41	0.49	7	36	43
08:00-09:00	0.12	1.05	1.17	10	92	102
09:00-10:00	0.19	0.21	0.40	16	18	34
10:00-11:00	0.17	0.21	0.38	15	19	34
11:00-12:00	0.18	0.20	0.38	16	18	34
12:00-13:00	0.19	0.28	0.47	17	24	41
13:00-14:00	0.19	0.16	0.35	16	14	30
14:00-15:00	0.17	0.28	0.45	15	25	40
15:00-16:00	0.47	0.26	0.73	41	23	64
16:00-17:00	0.63	0.23	0.86	56	21	77
17:00-18:00	0.39	0.23	0.62	35	20	55
18:00-19:00	0.39	0.18	0.57	35	16	51
Daily	**3.17**	**3.70**	**6.87**	**279**	**326**	**605**

5.5 The mode share of the residential site use has been established using the 2011 Census data for Method of Travel to Work for the typical daytime population (i.e. those people working in the area) for the Super Output Area (SOA) *E02000959: Wandsworth 037* where the site is located. **Table 5.3** sets out the multi-modal trips for the development based on this data.

Table 5.3 Census 2011 Mode Share

Mode	Mode Split
Tram / Metro / Underground	24%
Train	19%
Bus	19%
Taxi	0
Motorcycle	1%
Driving a car or van	22%
Passenger in a car or van	1%
Bicycle	7%
On foot	6%
Other	0%
Total	**100%**

5.6 The modal share for the SOA suggests a high proportion of public transport use (62%) although a relatively low level of cycling and walking sustainable modes. **Table 5.4** summarises the likely current trip profile for the site, by mode.

Table 5.4 Existing Weekday Multi Modal Trips

Time Period		Underground	Train	Bus	Taxi	Motorcycle	Car (driver)	Car (passenger)	Bicycle	On foot	Other	Total
AM Peak	Arrivals	2	2	2	0	0	2	0	1	1	0	**10**
	Departures	22	17	18	0	1	20	1	7	6	0	**92**
	Totals	**24**	**19**	**20**	**0**	**1**	**22**	**1**	**7**	**7**	**0**	**101**
PM Peak	Arrivals	8	7	7	0	0	8	0	2	2	0	**34**
	Departures	5	4	4	0	0	4	0	1	1	0	**19**
	Totals	**13**	**10**	**10**	**0**	**1**	**12**	**1**	**4**	**3**	**0**	**54**
Daily	Arrivals	66	53	54	0	4	61	3	20	18	1	**280**
	Departures	78	62	63	0	4	71	3	23	21	1	**326**
	Totals	**144**	**114**	**116**	**1**	**8**	**131**	**6**	**43**	**38**	**2**	**603**

Proposed Trip Generation

5.7 The development proposals relate to trips generated by 34 dwellings. For robustness, the same four TRICS trip rates were considered (as those set out in **Table 5.1**) to estimate the likely change in trip volumes following the implementation of the proposed scheme. No comparable affordable housing sites were identified to represent the four proposed townhouses. As a result, the four units were incorporated into the total number of apartment dwellings. **Table 5.5** shows the likely trip rates for the proposed scheme (consistent with those used to calculate existing trips).

Table 5.5 Proposed Residential Trips

Hour	Trip Rates			Trips (34 units)		
	In	Out	Total	In	Out	Total
07:00-08:00	0.08	0.41	0.49	3	14	17
08:00-09:00	0.12	1.05	1.17	4	36	40
09:00-10:00	0.19	0.21	0.40	6	7	13
10:00-11:00	0.17	0.21	0.38	6	7	13
11:00-12:00	0.18	0.20	0.38	6	7	13
12:00-13:00	0.19	0.28	0.47	7	9	16
13:00-14:00	0.19	0.16	0.35	6	5	11
14:00-15:00	0.17	0.28	0.45	6	10	16
15:00-16:00	0.47	0.26	0.73	16	9	25
16:00-17:00	0.63	0.23	0.86	22	8	30
17:00-18:00	0.39	0.23	0.62	13	8	21
18:00-19:00	0.39	0.18	0.57	13	6	19
Daily	**3.17**	**3.70**	**6.87**	**108**	**126**	**234**

5.8 Mode share proportions derived from the Census 2011 data and applied to the calculation of existing trips (set out in **Table 5.3**) were additionally applied to the calculation of the likely mode share for the proposed scheme. To reflect the car-free nature of the proposed 34 units, the Census-generated mode share has been adjusted to remove car driver and car passenger modes. The amended mode share is summarised in **Table 5.6**.

Table 5.6 Proposed Mode Split

	Residential Mode Split	
Mode	**Census 2011**	**Car-Free Adjustment**
Tram / Metro / Underground	24%	31%
Train	19%	25%
Bus	19%	25%
Taxi	0%	0%
Motorcycle	1%	2%
Driving a car or van	22%	0%
Passenger in a car or van	1%	0%
Bicycle	7%	9%
On foot	6%	8%
Other	0%	0%
Total	**100%**	**100%**

5.9 The results of the calculation of multi-modal trips for the proposed development are shown in **Table 5.7**. Due to the removal of the car mode share, trips generated by the proposed scheme are likely to be distributed across public transport modes as well as cycling and walking.

Table 5.7 Proposed Weekday Multi Modal Trips

Time Period		Underground	Train	Bus	Taxi	Motorcycle	Car (driver)	Car (passenger)	Bicycle	On foot	Other	Total
AM Peak	Arrivals	1	1	1	0	0	0	0	0	0	0	**3**
	Departures	11	9	9	0	1	0	0	3	3	0	**36**
	Totals	**12**	**10**	**10**	**0**	**1**	**0**	**0**	**4**	**3**	**0**	**40**
PM Peak	Arrivals	4	3	3	0	0	0	0	1	1	0	**12**
	Departures	2	2	2	0	0	0	0	1	1	0	**8**
	Totals	**6**	**5**	**5**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**20**
Daily	Arrivals	33	26	27	0	2	0	0	10	9	0	**107**
	Departures	39	31	31	0	2	0	0	12	10	1	**126**
	Totals	**72**	**57**	**58**	**0**	**4**	**0**	**0**	**21**	**19**	**1**	**232**

Total Estate Trips

5.10 **Table 5.8** shows the likely total trips associated with the overall estate as a consequence of the proposed development, combining current trips with the additional proposed quantum. Trip numbers are separated into likely modes used. The results indicate approximately a 40% increase in trip levels for the site, which reflects the corresponding increase in the number of dwellings at the Alders estate from 88 to 122 units.

Table 5.8 Total Number of Trips (Existing + Proposed)

Time Period		Underground	Train	Bus	Taxi	Motorcycle	Car (driver)	Car (passenger)	Bicycle	On foot	Other	Total
AM Peak	Arrivals	4	3	3	0	0	2	0	1	1	0	**14**
	Departures	33	26	27	0	2	20	1	10	9	0	**128**
	Totals	**37**	**29**	**30**	**0**	**2**	**22**	**1**	**11**	**10**	**1**	**143**
PM Peak	Arrivals	12	10	10	0	1	8	0	4	3	0	**48**
	Departures	7	6	6	0	0	4	0	2	2	0	**27**
	Totals	**19**	**15**	**16**	**0**	**1**	**12**	**1**	**6**	**5**	**0**	**75**
Daily	Arrivals	99	79	80	1	6	61	3	30	27	1	**387**
	Departures	116	93	94	1	7	71	3	35	31	2	**453**
	Totals	**216**	**172**	**174**	**1**	**12**	**131**	**6**	**64**	**58**	**3**	**837**

Loading and Servicing Trip Generation

5.11 Trip rates for LGV (Light Goods Vehicles) and HGV (Heavy Goods Vehicles) for the same three TRICS sites were examined to estimate the likely number of servicing and delivery trips at The Alders estate at present and following the construction of the proposed development. These were used to estimate the likely level of use of the proposed loading bay within the scheme. A review of the TRICS data from the three selected sites suggests that the estate currently experiences a total of 30 two-way delivery movements, made up of 13 LGV arrivals and 13 departures and 2 HGV arrivals and 2 departures per day.

5.12 The additional 34-units proposed within the estate are likely to increase the level of goods vehicle movements by 10 two-way trips for LGVs and by 1 two-way trip for HGVs. Overall, this results in a total volume of 21 delivery vehicle arrivals and 21 departures per day, made up of 19 LGVs and 2 HGVs. The summary of the delivery and servicing trip rates as extracted from the TRICS sites (included in **Appendix C**) is shown in **Table 5.9** with resulting trip volumes summarised in **Table 5.10**.

5.13 As indicated in **Table 5.10**, The trips are likely to be distributed across the day between 07:00 and 19:00 with no more than 3 arrivals per hour. As a residential development, the delivery activity is expected to include grocery deliveries, deliveries of purchases that the residents have made online, furniture deliveries as well as waste collection. As such it is unlikely that vehicles will occupy the loading bay for only a few minutes, no more than necessary to complete the delivery, and it is therefore unlikely that more than one delivery vehicle will be at the loading bay at any one time. As all deliveries and servicing movements are proposed to take place off-street it is not expected that the delivery activity will have any impact on the wider road network.

Table 5.9 Goods Vehicle Trip Rates

Time	LGV Trip Rates			HGV Trip Rates		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
07:00-08:00	0.012	0.006	0.018	0.000	0.000	0.000
08:00-09:00	0.018	0.015	0.033	0.000	0.000	0.000
09:00-10:00	0.012	0.021	0.033	0.003	0.003	0.006
10:00-11:00	0.021	0.021	0.042	0.006	0.003	0.009
11:00-12:00	0.027	0.021	0.048	0.000	0.003	0.003
12:00-13:00	0.015	0.015	0.030	0.003	0.003	0.006
13:00-14:00	0.006	0.009	0.015	0.003	0.003	0.006
14:00-15:00	0.003	0.006	0.009	0.000	0.000	0.000
15:00-16:00	0.018	0.009	0.027	0.003	0.003	0.006
16:00-17:00	0.006	0.015	0.021	0.000	0.000	0.000
17:00-18:00	0.006	0.012	0.018	0.000	0.000	0.000
18:00-19:00	0.012	0.003	0.015	0.000	0.000	0.000
Daily	**0.156**	**0.153**	**0.309**	**0.018**	**0.018**	**0.036**

Table 5.10 Goods Vehicle Trips

Time	Existing (88 units)			Proposed (122 units)		
	Arrivals	Departures	Totals	Arrivals	Departures	Totals
07:00-08:00	1.1	0.5	1.6	1.5	0.7	2.2
08:00-09:00	1.6	1.3	2.9	2.2	1.8	4.0
09:00-10:00	1.3	2.1	3.4	1.8	2.9	4.7
10:00-11:00	2.4	2.1	4.5	3.3	2.9	6.2
11:00-12:00	2.4	2.1	4.5	3.3	2.9	6.2
12:00-13:00	1.6	1.6	3.2	2.2	2.2	4.4
13:00-14:00	0.8	1.1	1.9	1.1	1.5	2.6
14:00-15:00	0.3	0.5	0.8	0.4	0.7	1.1
15:00-16:00	1.8	1.1	2.9	2.6	1.5	4.1
16:00-17:00	0.5	1.3	1.8	0.7	1.8	2.5
17:00-18:00	0.5	1.1	1.6	0.7	1.5	2.2
18:00-19:00	1.1	0.3	1.4	1.5	0.4	1.9
Daily	**15.4**	**15.1**	**30.5**	**21.3**	**20.8**	**42.1**

6 Summary and Conclusions

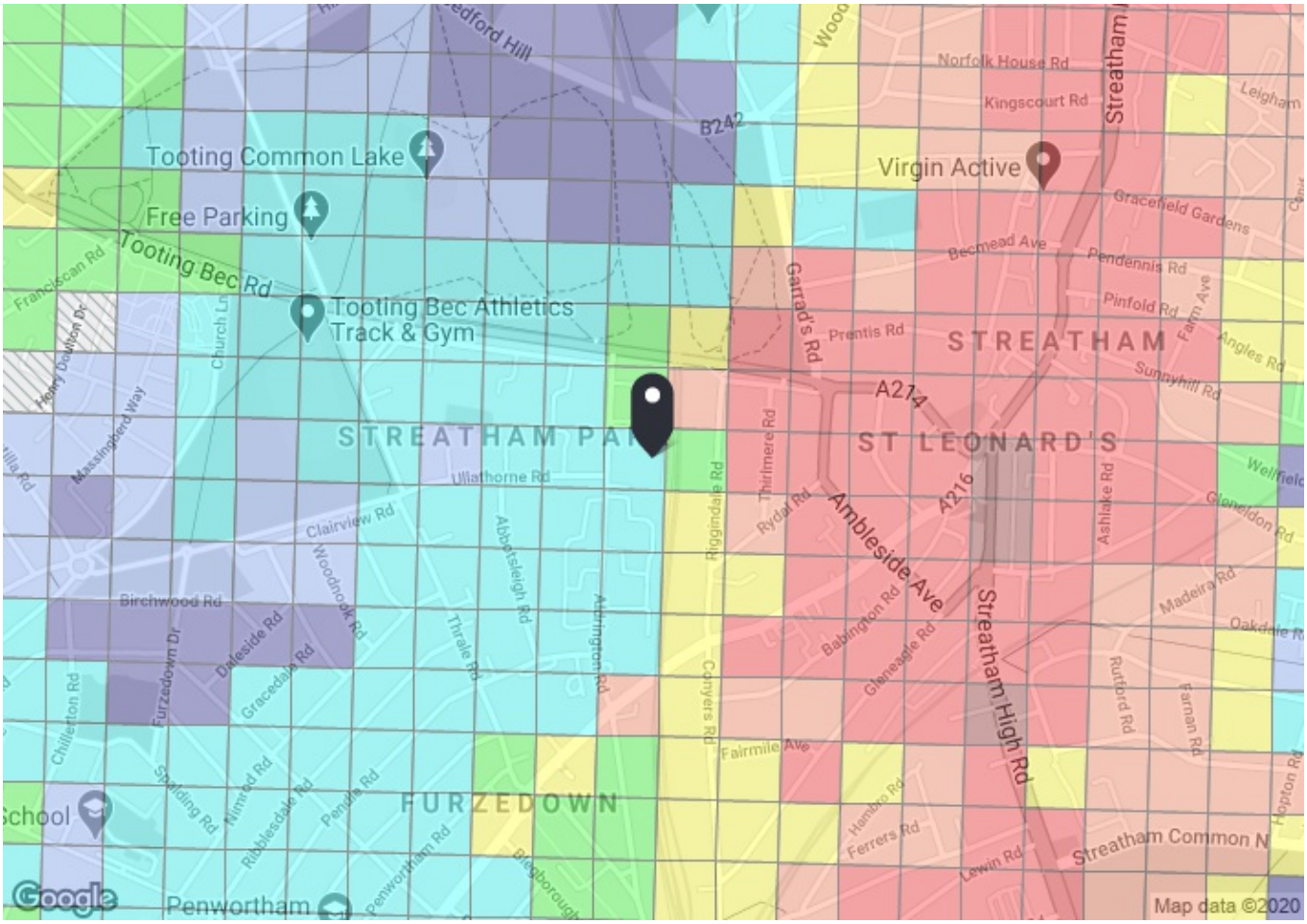
6.1 WYG has been commissioned by WBC to prepare a TA to support a planning application for the residential intensification development within The Alders estate. The proposals include the provision of 34 residential units, cycle and disabled car parking and waste storage facilities. The proposals additionally offer estate-wide improvements for waste collection, cycle parking, pedestrian permeability and landscaping and allow for a re-provision of parking spaces for existing residents.

6.2 A trip generation assessment has been undertaken to identify the likely impact of the proposed development on the local road network. This has been undertaken on the basis that the only vehicular activities generated by the site will be associated with loading and servicing, due to the development being car-free and not proposing any parking provision other than disabled spaces. As a consequence, it is expected that the impact of the proposed scheme on the road network will be limited.

6.3 Delivery and servicing for the site is proposed to be undertaken using a proposed loading bay within the site boundary. As a result, the impact of servicing and deliveries on the wider highway network is expected to be minimised. It is concluded that the development proposals satisfactorily address national, regional and local policy expectations on transport matters.

Appendix A
PTAL REPORT

TRANSPORT FOR LONDON



PTAL output for Base Year
2

The Alders, Aldrington Rd, London SW16 1TW, UK
Easting: 529477, Northing: 171640

Grid Cell: 38703

Report generated: 23/09/2020

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	MITCHAM LANE EARDLEY RD	57	628.8	7.5	7.86	6	13.86	2.16	0.5	1.08
Bus	MITCHAM LANE EARDLEY RD	201	628.8	4	7.86	9.5	17.36	1.73	0.5	0.86
Bus	MITCHAM LANE EARDLEY RD	333	628.8	6	7.86	7	14.86	2.02	0.5	1.01
Bus	TOOTING BEC LIDO	319	235.27	7.5	2.94	6	8.94	3.36	1	3.36
Bus	TOOTING BEC LIDO	249	235.27	5	2.94	8	10.94	2.74	0.5	1.37
Bus	ALDRINGTON ROAD	G1	110.73	4	1.38	9.5	10.88	2.76	0.5	1.38
									Total Grid Cell AI:	**9.06**

Appendix B
PROPOSED GROUND LAYOUT

3m high acoustic fencing. From Points A to B, the structure is fence posts in concrete set in the ground. And from B to C the structure is metal posts fixed to the top of a concrete retaining structure with 1.8m span panels to run along the boundary line

NOTES
- Do not scale from this drawing
- Check all dimensions on site
- Subject to site inspection
- This document is for information only and is subject to a preliminary risk analysis to be carried out by all relevant consultants

AREAS
- Refer to area schedule

Rev	Notes	Date	By	Auth
1	Issued for Planning Submission	05.11.2020	RCa	AP

NOTES
Any decisions to be made on the basis of this drawing, whether as to project viability, pre-letting, lease agreements and the like, should make allowance for:
- Design development
- Accurate surveys
- Accurate boundary/site ownership documentation
- Construction methods and building tolerances
- Local Authority/Statutory consents

0m 5m 10m 15m 20m 25m

VISUAL SCALE 1:250 @ A1

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Date: 09/10/2020
Drawn By: RCa
Checked by: AP
Scale @ A1: 1 : 250
Scale @ A3: 1 : 500
CAD File No:

Wandsworth Borough Council
The Alders, Streatham Vale
Ground Floor Plan

PLANNING
19017 P0-100

1 Revision

Appendix C
TRICS OUTPUTS

Calculation Reference: AUDIT-705116-201006-1049

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	BT	BRENT	1 days
	HA	HARROW	1 days
	HG	HARINGEY	1 days

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

Primary 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: No of Dwellings
Actual Range: 88 to 160 (units:)
Range Selected by User: 15 to 339 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/12 to 27/06/16

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

Selected survey days:

Thursday	2 days
Friday	1 days

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

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Neighbourhood Centre (PPS6 Local Centre)	1

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

Selected Location Sub Categories:

Residential Zone	3

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	3 days

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

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

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

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

Population within 5 miles:

500,001 or More	3 days

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

Car ownership within 5 miles:

0.6 to 1.0	3 days

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

Travel Plan:

Yes	2 days
No	1 days

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

PTAL Rating:

2 Poor	1 days
3 Moderate	1 days
4 Good	1 days

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

LIST OF SITES relevant to selection parameters

1	BT-03-D-01 FLOWERS CLOSE DOLLIS HILL	BLOCKS OF FLATS		BRENT
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		160	
	Survey date: THURSDAY		*26/06/14*	*Survey Type: MANUAL*
2	HA-03-D-01 THE MALL KINGSBURY KINGSBURY CIRCLE	BLOCKS OF FLATS		HARROW
	Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total No of Dwellings:		88	
	Survey date: THURSDAY		*17/07/14*	*Survey Type: MANUAL*
3	HG-03-D-03 COMMERCE ROAD WOOD GREEN WOODSIDE PARK	BLOCKS OF FLATS		HARINGEY
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings:		90	
	Survey date: FRIDAY		*26/09/14*	*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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL TOTAL 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	3	113	0.044	3	113	0.077	3	113	0.121
08:00 - 09:00	3	113	0.071	3	113	0.207	3	113	0.278
09:00 - 10:00	3	113	0.071	3	113	0.086	3	113	0.157
10:00 - 11:00	3	113	0.080	3	113	0.098	3	113	0.178
11:00 - 12:00	3	113	0.077	3	113	0.074	3	113	0.151
12:00 - 13:00	3	113	0.074	3	113	0.092	3	113	0.166
13:00 - 14:00	3	113	0.044	3	113	0.050	3	113	0.094
14:00 - 15:00	3	113	0.059	3	113	0.065	3	113	0.124
15:00 - 16:00	3	113	0.121	3	113	0.107	3	113	0.228
16:00 - 17:00	3	113	0.089	3	113	0.080	3	113	0.169
17:00 - 18:00	3	113	0.077	3	113	0.053	3	113	0.130
18:00 - 19:00	3	113	0.080	3	113	0.065	3	113	0.145
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.887			1.054			1.941

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:	88 - 160 (units:)
Survey date date range:	01/01/12 - 27/06/16
Number of weekdays (Monday-Friday):	3
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	0

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

TRIP RATE for Land Use 03 - RESIDENTIAL/D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL TAXIS
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	3	113	0.003	3	113	0.003	3	113	0.006
08:00 - 09:00	3	113	0.006	3	113	0.009	3	113	0.015
09:00 - 10:00	3	113	0.000	3	113	0.000	3	113	0.000
10:00 - 11:00	3	113	0.003	3	113	0.003	3	113	0.006
11:00 - 12:00	3	113	0.000	3	113	0.000	3	113	0.000
12:00 - 13:00	3	113	0.003	3	113	0.003	3	113	0.006
13:00 - 14:00	3	113	0.000	3	113	0.000	3	113	0.000
14:00 - 15:00	3	113	0.000	3	113	0.000	3	113	0.000
15:00 - 16:00	3	113	0.009	3	113	0.009	3	113	0.018
16:00 - 17:00	3	113	0.003	3	113	0.003	3	113	0.006
17:00 - 18:00	3	113	0.003	3	113	0.000	3	113	0.003
18:00 - 19:00	3	113	0.006	3	113	0.009	3	113	0.015
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.036			0.039			0.075

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
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	3	113	0.000	3	113	0.000	3	113	0.000
08:00 - 09:00	3	113	0.000	3	113	0.000	3	113	0.000
09:00 - 10:00	3	113	0.003	3	113	0.003	3	113	0.006
10:00 - 11:00	3	113	0.006	3	113	0.003	3	113	0.009
11:00 - 12:00	3	113	0.000	3	113	0.003	3	113	0.003
12:00 - 13:00	3	113	0.003	3	113	0.003	3	113	0.006
13:00 - 14:00	3	113	0.003	3	113	0.003	3	113	0.006
14:00 - 15:00	3	113	0.000	3	113	0.000	3	113	0.000
15:00 - 16:00	3	113	0.003	3	113	0.003	3	113	0.006
16:00 - 17:00	3	113	0.000	3	113	0.000	3	113	0.000
17:00 - 18:00	3	113	0.000	3	113	0.000	3	113	0.000
18:00 - 19:00	3	113	0.000	3	113	0.000	3	113	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.018			0.018			0.036

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
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	3	113	0.003	3	113	0.000	3	113	0.003
08:00 - 09:00	3	113	0.003	3	113	0.006	3	113	0.009
09:00 - 10:00	3	113	0.000	3	113	0.000	3	113	0.000
10:00 - 11:00	3	113	0.000	3	113	0.000	3	113	0.000
11:00 - 12:00	3	113	0.000	3	113	0.000	3	113	0.000
12:00 - 13:00	3	113	0.000	3	113	0.000	3	113	0.000
13:00 - 14:00	3	113	0.000	3	113	0.000	3	113	0.000
14:00 - 15:00	3	113	0.000	3	113	0.000	3	113	0.000
15:00 - 16:00	3	113	0.003	3	113	0.000	3	113	0.003
16:00 - 17:00	3	113	0.000	3	113	0.003	3	113	0.003
17:00 - 18:00	3	113	0.000	3	113	0.000	3	113	0.000
18:00 - 19:00	3	113	0.000	3	113	0.000	3	113	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.009			0.009			0.018

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
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	3	113	0.000	3	113	0.006	3	113	0.006
08:00 - 09:00	3	113	0.000	3	113	0.006	3	113	0.006
09:00 - 10:00	3	113	0.000	3	113	0.006	3	113	0.006
10:00 - 11:00	3	113	0.003	3	113	0.006	3	113	0.009
11:00 - 12:00	3	113	0.003	3	113	0.003	3	113	0.006
12:00 - 13:00	3	113	0.000	3	113	0.006	3	113	0.006
13:00 - 14:00	3	113	0.003	3	113	0.000	3	113	0.003
14:00 - 15:00	3	113	0.009	3	113	0.009	3	113	0.018
15:00 - 16:00	3	113	0.006	3	113	0.009	3	113	0.015
16:00 - 17:00	3	113	0.009	3	113	0.015	3	113	0.024
17:00 - 18:00	3	113	0.009	3	113	0.009	3	113	0.018
18:00 - 19:00	3	113	0.012	3	113	0.000	3	113	0.012
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.054			0.075			0.129

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
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	3	113	0.044	3	113	0.086	3	113	0.130
08:00 - 09:00	3	113	0.077	3	113	0.462	3	113	0.539
09:00 - 10:00	3	113	0.086	3	113	0.124	3	113	0.210
10:00 - 11:00	3	113	0.077	3	113	0.109	3	113	0.186
11:00 - 12:00	3	113	0.086	3	113	0.098	3	113	0.184
12:00 - 13:00	3	113	0.098	3	113	0.109	3	113	0.207
13:00 - 14:00	3	113	0.071	3	113	0.065	3	113	0.136
14:00 - 15:00	3	113	0.068	3	113	0.083	3	113	0.151
15:00 - 16:00	3	113	0.216	3	113	0.121	3	113	0.337
16:00 - 17:00	3	113	0.189	3	113	0.109	3	113	0.298
17:00 - 18:00	3	113	0.130	3	113	0.080	3	113	0.210
18:00 - 19:00	3	113	0.130	3	113	0.095	3	113	0.225
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.272			1.541			2.813

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
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	3	113	0.024	3	113	0.047	3	113	0.071
08:00 - 09:00	3	113	0.021	3	113	0.204	3	113	0.225
09:00 - 10:00	3	113	0.065	3	113	0.053	3	113	0.118
10:00 - 11:00	3	113	0.065	3	113	0.050	3	113	0.115
11:00 - 12:00	3	113	0.059	3	113	0.047	3	113	0.106
12:00 - 13:00	3	113	0.077	3	113	0.098	3	113	0.175
13:00 - 14:00	3	113	0.083	3	113	0.059	3	113	0.142
14:00 - 15:00	3	113	0.041	3	113	0.107	3	113	0.148
15:00 - 16:00	3	113	0.115	3	113	0.080	3	113	0.195
16:00 - 17:00	3	113	0.243	3	113	0.080	3	113	0.323
17:00 - 18:00	3	113	0.127	3	113	0.080	3	113	0.207
18:00 - 19:00	3	113	0.115	3	113	0.056	3	113	0.171
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.035			0.961			1.996

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
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	3	113	0.006	3	113	0.195	3	113	0.201
08:00 - 09:00	3	113	0.021	3	113	0.249	3	113	0.270
09:00 - 10:00	3	113	0.036	3	113	0.006	3	113	0.042
10:00 - 11:00	3	113	0.027	3	113	0.027	3	113	0.054
11:00 - 12:00	3	113	0.030	3	113	0.041	3	113	0.071
12:00 - 13:00	3	113	0.018	3	113	0.047	3	113	0.065
13:00 - 14:00	3	113	0.024	3	113	0.030	3	113	0.054
14:00 - 15:00	3	113	0.038	3	113	0.077	3	113	0.115
15:00 - 16:00	3	113	0.115	3	113	0.038	3	113	0.153
16:00 - 17:00	3	113	0.175	3	113	0.021	3	113	0.196
17:00 - 18:00	3	113	0.095	3	113	0.047	3	113	0.142
18:00 - 19:00	3	113	0.083	3	113	0.021	3	113	0.104
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.668			0.799			1.467

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL TOTAL RAIL 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	3	113	0.003	3	113	0.080	3	113	0.083
08:00 - 09:00	3	113	0.000	3	113	0.127	3	113	0.127
09:00 - 10:00	3	113	0.000	3	113	0.018	3	113	0.018
10:00 - 11:00	3	113	0.000	3	113	0.021	3	113	0.021
11:00 - 12:00	3	113	0.003	3	113	0.012	3	113	0.015
12:00 - 13:00	3	113	0.000	3	113	0.018	3	113	0.018
13:00 - 14:00	3	113	0.006	3	113	0.006	3	113	0.012
14:00 - 15:00	3	113	0.009	3	113	0.009	3	113	0.018
15:00 - 16:00	3	113	0.015	3	113	0.012	3	113	0.027
16:00 - 17:00	3	113	0.018	3	113	0.009	3	113	0.027
17:00 - 18:00	3	113	0.033	3	113	0.009	3	113	0.042
18:00 - 19:00	3	113	0.053	3	113	0.009	3	113	0.062
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.140			0.330			0.470

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
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	3	113	0.009	3	113	0.275	3	113	0.284
08:00 - 09:00	3	113	0.021	3	113	0.376	3	113	0.397
09:00 - 10:00	3	113	0.036	3	113	0.024	3	113	0.060
10:00 - 11:00	3	113	0.027	3	113	0.047	3	113	0.074
11:00 - 12:00	3	113	0.033	3	113	0.053	3	113	0.086
12:00 - 13:00	3	113	0.018	3	113	0.065	3	113	0.083
13:00 - 14:00	3	113	0.030	3	113	0.036	3	113	0.066
14:00 - 15:00	3	113	0.047	3	113	0.086	3	113	0.133
15:00 - 16:00	3	113	0.130	3	113	0.050	3	113	0.180
16:00 - 17:00	3	113	0.192	3	113	0.030	3	113	0.222
17:00 - 18:00	3	113	0.127	3	113	0.056	3	113	0.183
18:00 - 19:00	3	113	0.136	3	113	0.030	3	113	0.166
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.806			1.128			1.934

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
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	3	113	0.077	3	113	0.414	3	113	0.491
08:00 - 09:00	3	113	0.118	3	113	1.047	3	113	1.165
09:00 - 10:00	3	113	0.186	3	113	0.207	3	113	0.393
10:00 - 11:00	3	113	0.172	3	113	0.213	3	113	0.385
11:00 - 12:00	3	113	0.180	3	113	0.201	3	113	0.381
12:00 - 13:00	3	113	0.192	3	113	0.278	3	113	0.470
13:00 - 14:00	3	113	0.186	3	113	0.160	3	113	0.346
14:00 - 15:00	3	113	0.166	3	113	0.284	3	113	0.450
15:00 - 16:00	3	113	0.467	3	113	0.260	3	113	0.727
16:00 - 17:00	3	113	0.633	3	113	0.234	3	113	0.867
17:00 - 18:00	3	113	0.393	3	113	0.225	3	113	0.618
18:00 - 19:00	3	113	0.393	3	113	0.180	3	113	0.573
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			3.163			3.703			6.866

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL CARS
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	3	113	0.027	3	113	0.068	3	113	0.095
08:00 - 09:00	3	113	0.044	3	113	0.175	3	113	0.219
09:00 - 10:00	3	113	0.053	3	113	0.059	3	113	0.112
10:00 - 11:00	3	113	0.047	3	113	0.062	3	113	0.109
11:00 - 12:00	3	113	0.050	3	113	0.050	3	113	0.100
12:00 - 13:00	3	113	0.053	3	113	0.071	3	113	0.124
13:00 - 14:00	3	113	0.036	3	113	0.038	3	113	0.074
14:00 - 15:00	3	113	0.056	3	113	0.059	3	113	0.115
15:00 - 16:00	3	113	0.089	3	113	0.086	3	113	0.175
16:00 - 17:00	3	113	0.080	3	113	0.059	3	113	0.139
17:00 - 18:00	3	113	0.068	3	113	0.041	3	113	0.109
18:00 - 19:00	3	113	0.059	3	113	0.053	3	113	0.112
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.662			0.821			1.483

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/D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL LGVS
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	3	113	0.012	3	113	0.006	3	113	0.018
08:00 - 09:00	3	113	0.018	3	113	0.015	3	113	0.033
09:00 - 10:00	3	113	0.012	3	113	0.021	3	113	0.033
10:00 - 11:00	3	113	0.021	3	113	0.021	3	113	0.042
11:00 - 12:00	3	113	0.027	3	113	0.021	3	113	0.048
12:00 - 13:00	3	113	0.015	3	113	0.015	3	113	0.030
13:00 - 14:00	3	113	0.006	3	113	0.009	3	113	0.015
14:00 - 15:00	3	113	0.003	3	113	0.006	3	113	0.009
15:00 - 16:00	3	113	0.018	3	113	0.009	3	113	0.027
16:00 - 17:00	3	113	0.006	3	113	0.015	3	113	0.021
17:00 - 18:00	3	113	0.006	3	113	0.012	3	113	0.018
18:00 - 19:00	3	113	0.012	3	113	0.003	3	113	0.015
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.156			0.153			0.309

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.*

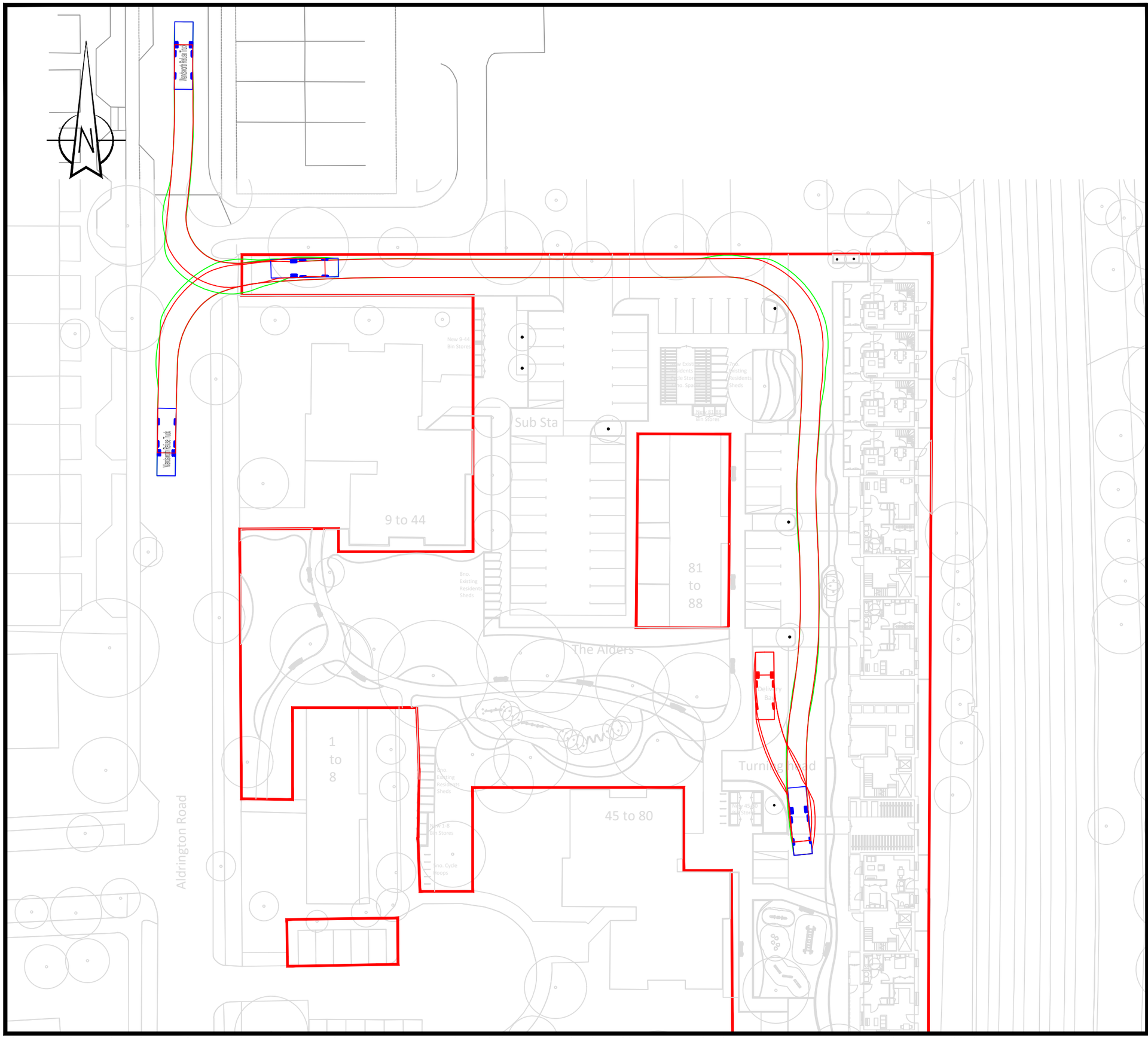
TRIP RATE for Land Use 03 - RESIDENTIAL/D - AFFORDABLE/LOCAL AUTHORITY FLATS
MULTI-MODAL MOTOR CYCLES
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	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	3	113	0.000	3	113	0.000	3	113	0.000
08:00 - 09:00	3	113	0.000	3	113	0.003	3	113	0.003
09:00 - 10:00	3	113	0.003	3	113	0.003	3	113	0.006
10:00 - 11:00	3	113	0.003	3	113	0.009	3	113	0.012
11:00 - 12:00	3	113	0.000	3	113	0.000	3	113	0.000
12:00 - 13:00	3	113	0.000	3	113	0.000	3	113	0.000
13:00 - 14:00	3	113	0.000	3	113	0.000	3	113	0.000
14:00 - 15:00	3	113	0.000	3	113	0.000	3	113	0.000
15:00 - 16:00	3	113	0.000	3	113	0.000	3	113	0.000
16:00 - 17:00	3	113	0.000	3	113	0.000	3	113	0.000
17:00 - 18:00	3	113	0.003	3	113	0.000	3	113	0.003
18:00 - 19:00	3	113	0.003	3	113	0.000	3	113	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.012			0.015			0.027

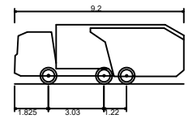
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are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

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

Appendix D
SWEPTH PATH ANALYSIS



NOTES:
1. DO NOT SCALE FROM THIS DRAWING.
2. THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY AND NOT FOR CONSTRUCTION.
3. THIS DRAWING IS TO BE READ AND PRINTED IN COLOUR.
4. ALL DIMENSIONS ARE SHOWN IN METERS, UNLESS SPECIFIED OTHERWISE.



Wandsworth Refuse Truck	
Overall Length	9.200m
Overall Width	2.500m
Overall Body Height	3.205m
Min Body Ground Clearance	0.410m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.000m

REV	DETAILS	DRAWN	CHECKED	DATE
A	Revised Site Layout	BM	EE	06.10.2020
-	First Issue	BM	EE	02.10.2020

CLIENT:
Wandsworth Estates

PROJECT:
The Alders

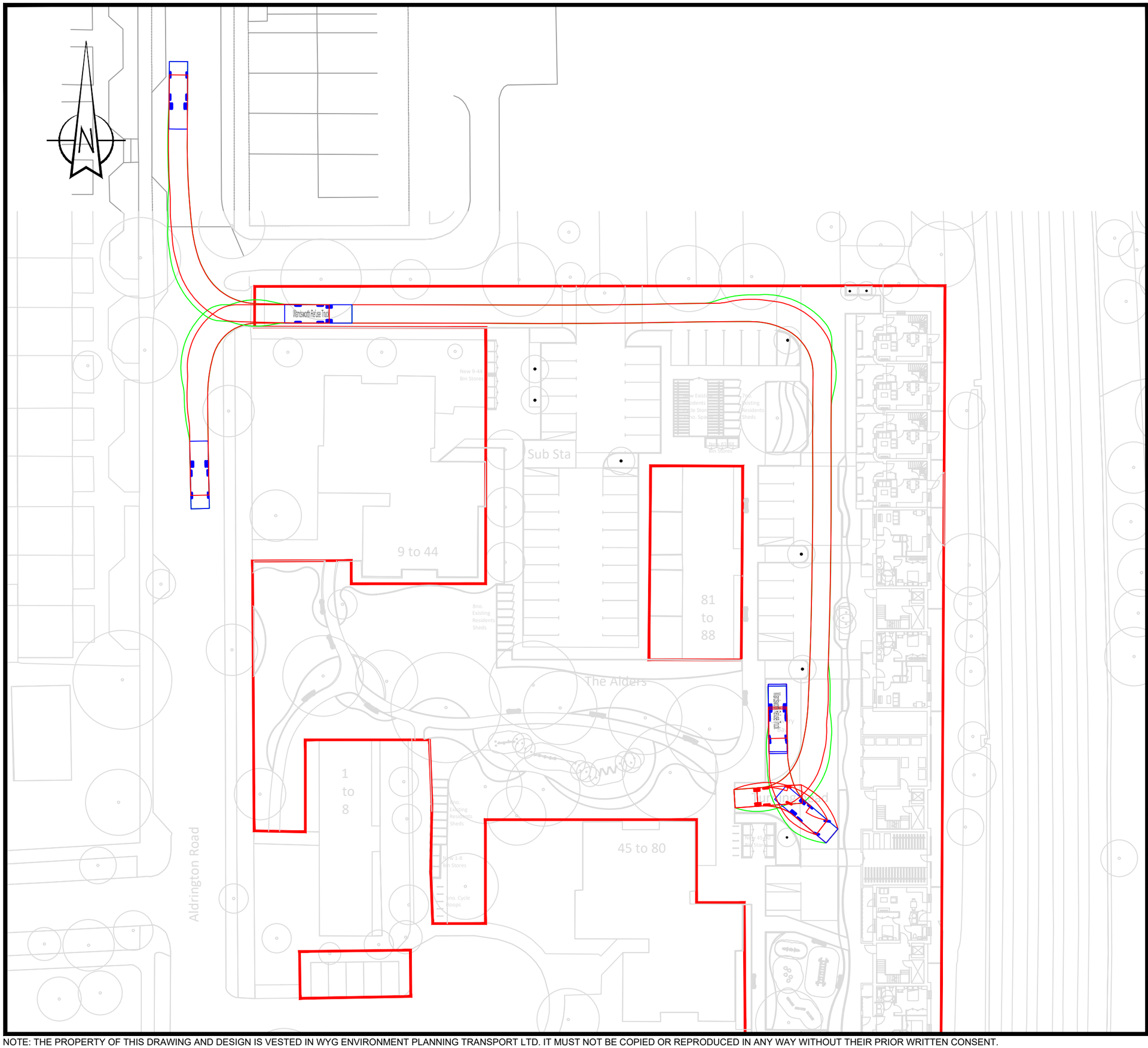
DRAWING TITLE:
Swept Path Analysis: Refuse - In

SCALES:	SHEET SIZE:
1:500	A3

DRAWN:	CHECKED:	DATE:
BM	EE	02.10.2020

WYG Transport
part of WYG group
90 Victoria Street
Bristol, BS1 6DP
t: 0117 925 4393 f: 0117 925 4239 e: transport.bristol@wyg.com

DRAWING NUMBER:	REVISION:
A100140-36-5-SPA04	A



NOTES:
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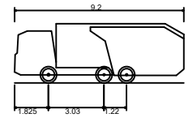
4. ALL DIMENSIONS ARE SHOWN IN METERS, UNLESS SPECIFIED OTHERWISE.



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Overall Width	2.500m
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Min Body Ground Clearance	0.410m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.000m

REV	DETAILS	DRAWN	CHECKED	DATE
A	Revised Site Layout	BM	EE	06.10.2020
-	First Issue	BM	EE	02.10.2020

CLIENT:
Wandsworth Estates

PROJECT:
The Alders

DRAWING TITLE:
Swept Path Analysis: Refuse - Out

SCALES:	SHEET SIZE:
1:500	A3

DRAWN:	CHECKED:	DATE:
BM	EE	02.10.2020

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DRAWING NUMBER:	REVISION:
A100140-36-5-SPA05	A