AVAL

Transport Assessment

Land to the Rear of Larkswood

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1 Introduction

1.1 Background

Aval Consulting Group Limited has been commissioned by Larkswood Developments LLP ('the client') to provide the transport planning and transport engineering services for a residential scheme of 72no. C3 residential dwellings (flats) at an undeveloped site on land to the rear of Larkswood, Chingford, London (hereafter referred to as the 'proposed development'). The site is situated within the London Borough of Waltham Forest (LBWF).

The proposed development is for 72no. flats in two blocks/buildings - Block A and Block B. The application only concerns the landscape contractors yard off New Road. The access to the development will be from New Road. The development will be car-free apart from three disabled bays on site. Refuse vehicles and delivery vehicles can access the site and turn in the courtyard provided.

This Transport Assessment (TA) will be used to support the Planning Application for this scheme and should be read alongside the Outline Residential Travel Plan.

The purpose of this TA is to appraise the effects of the development upon public and private forms of transport, local footways/footpaths and cycleways and identify a means by which any detrimental effects can be mitigated. It also provides the design detail for the proposed development, showing vehicle swept path analysis around the internal road network, the detail and changing surface materials of the internal access road to encourage a pedestrian and cycle friendly environment with active public realm.

For this planning application, Aval were part of the team that consulted with the planners and highway officers at the LBWF to discuss and agree the elements of the scheme.

This development scheme lies adjacent to land owned by the Council (LBWF), which includes Larkswood Leisure Centre, a health centre, fitness centre, food store, nursery and restaurant. This land is also subject to redevelopment.

This TA has been carried out in accordance with good practice guidelines and has been prepared in accordance with TfL Guidance on Transport Assessment, National Planning Policy Framework (NPPF) (2021), Adopted London Plan (March 2021) and current LBWF Planning Guidance documents.

Local Authorities are tasked with determining local planning applications against a wide range of social, economic and environmental criteria. As the proposed development has the potential to impact the local highway network, this report provides an assessment of potential highway impacts to accompany the planning application.

1.2 Site Location

The site is currently an unused site, which was formerly a landscape contractors' yard. The site is situated to the rear of Larkswood woodland area. The easiest way to access the site is from New Road to the north.

The site lies immediately north and west of Larkswood woodland area, as a result the woodland forms the boundary to the south and east of the development. New Road forms the northern boundary and to the west lies the Council owned land, which consists of Larkswood Leisure Centre, a health centre, fitness centre, food store, nursery and restaurant.

More details about the site location and accessibility are provided in Chapter 3 in this report.

1.3 Report Structure

The remainder of this TA is presented in the following order:

- Chapter 2: Relevant national, regional and local applicable policies;
- Chapter 3: Existing Baseline Conditions;
- Chapter 4: Development Proposal;
- Chapter 5: Forecast Trip Generation and Transport Impacts;
- Chapter 6: Delivery and Servicing Plan;
- Chapter 7: Sustainable Access Strategy; and
- Chapter 8: Conclusions.

2 Legislation and Policy

This Chapter summarises the relevant national, regional and local legislative and policy background, statutory and non-statutory guidelines relevant to the proposed development.

Section 38(6) of the Planning and Compulsory Purchase Act 2004 states that planning applications should be determined in accordance with the Development plan, unless material considerations indicate otherwise. In this instance, the current adopted Development Plan for the site comprises the Publication London Plan (Dec 2020) and Waltham Forest Draft Local Plan. These are discussed below.

2.1 National Policy

2.1.1 National Planning Policy Framework (2021)

The principal national planning policy guidance with respect to the proposed development is the National Planning Policy Framework (NPPF). The most recent update of the NPPF was published on 20 July 2021 by the Department for Communities and Local Government (DCLG). This guidance sets out the Government's planning policies for England and how they are expected to be applied. Three dimensions to sustainable development have been identified in the NPPF: economic, social, and environmental.

The proposed development complies with guidance and requirements set out in this Revised NPPF (Department for Communities and Local Government, 2021), which has replaced the original NPPF document of 27 March 2012.

The NPPF outlines the Government's planning policies for England and how they are expected to be applied. This has a "presumption in favour of sustainable development" and includes the following principles of relevance to this site:

- To drive and support economic development;
- To seek to secure high quality design; and
- Manage growth by making full use of public transport, walking and cycling and focusing development in locations which are or can be made sustainable.

The policy suggests that plans and decisions should ensure developments that generate significant movement are located where the need to travel will be minimised and the use of sustainable modes can be maximised. Development should be located and designed where practical to achieve the following:

- Give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;

- Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians; and
- Consider the needs of disabled people by all modes of transport.

The policy document also recommends that facilities such as shops should be within a short walking distance of most properties, which is the case with this development.

2.1.2 National Planning Practice Guidance (NPPG, 2014)

NPPG is a web-based resource which brings together planning guidance on various topics into one place. It was launched in March 2014 and coincided with the cancelling of the majority of Government Circulars which had previously given guidance on many aspects of planning.

The guidance note on 'Travel Plans, Transport Assessments and Statements' provides advice on when Transport Assessments and Transport Statements (TS) are required, and what they should contain. This has been referred to when preparing this report.

The above web-based NPPG replaces The Guidance on Transport Assessments (GTA) that was withdrawn in 2014. In it, the overarching principles in the preparation of Transport Assessments, Transport Statements and Travel Plans (TPs) are laid out.

It advises that a TS is a 'lighter touch' assessment, whereas a TA is a more thorough assessment. A TS can be used in the case of developments with anticipated limited transport impacts (and limited vehicle impacts) and where fewer than 80 units are proposed.

The guidance highlights that TAs, TSs and TPs are important because they can positively contribute to:

- Encouraging sustainable travel;
- Lessening the traffic generation and its detrimental impacts;
- Reducing carbons 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 developments to increase existing road capacity or provide new roads.

The guidance states that in general, assessments should be based on normal traffic flows and usage conditions (e.g. non-school holiday periods, typical weather conditions). Traffic projections should use local traffic forecasts such as TEMPRO, drawing where necessary on National Road Traffic Forecasts for traffic data.

2.1.3 Manual for Streets (2007)

Meanwhile, Manual for Streets (MfS) (HMSO, 2007) provides guidance and best practice for the development of streets and roads that fulfil a variety of functions in order to meet people's needs as places for living, working and moving around in. It aims to assist in the creation of streets that:

- Help to build and strengthen the communities they serve;
- Meet the needs of all users, by embodying the principles of inclusive design;
- Form part of a well-connected network;
- Are attractive and have their own distinctive identity;
- Are cost effective to construct and maintain;
- Are safe

2.2 Regional Policy

2.2.1 The Adopted London Plan (March 2021)

The London Plan sets out the integrated economic, environment, transport and social framework for the development of London over the next 20 – 25 years. The London Plan was adopted in January 2011, and has subsequently been revised a number of times, with a recent version prior to this being the ItP Draft London Plan (Dec 2019) and then the Publication London Plan (Dec 2020).

It is, however, the most up-to-date London Plan (March 2021) that has been referred to here. Commercial parking standards, cycle parking standards, public realm and accessibility policies relevant to this application have all been drawn from this version of the London Plan.

Specific transport policies are described in Chapter 6 of the London Plan with parking policies discussed in Sections 6.1 and 6.2. Without reproducing the detailed content of each policy, integrating transport and development is the central theme, with an aspiration to encourage development that reduces the need to travel, especially by car, and locating developments that generate high levels of trips at locations with either current or committed high levels of accessibility to public transport, cycling and pedestrian networks.

The London Plan identifies that development proposals should support sustainable travel through the inclusion of appropriate cycle parking and facilities, high-quality pedestrian environments and details car parking standards for various forms of land use.

2.2.2 The Mayor's Transport Strategy

The Mayor's Transport Strategy 2018 are a set of plans set out by the Mayor of London to transform the streets of London, to improve public transports and to create opportunities for new homes and jobs. The main method of achieving this goal is to encourage more people to walk, cycle and use public transport.

Policy 21 highlights the principles of Good Growth in relation to new homes and jobs:

"The Mayor, through TfL and the boroughs, and working with stakeholders, will ensure that new homes and jobs in London are delivered in line with the transport principles of Good Growth for current and future Londoners by using transport to:

a) Create high-density, mixed-use places, and
b) Unlock growth potential in underdeveloped parts of the city"

2.2.3 Vision Zero

As part of the Mayor's Transport Strategy 2018 Action Plans, the Vision Zero action plan is to "*eliminate all deaths and serious injuries on London's transport system. This plan focuses on the area where our greatest challenges lie - London's streets*". By 2041, all deaths and serious injuries will be eliminated from London's transport network.

The actions plan as part of the Vision Zero are as follows:

1) *Safe speeds: Encouraging speeds appropriate to the streets of a busy and populated city through the widespread introduction of new lower speed limits*
2) *Safe streets: Designing an environment that is forgiving of mistakes by transforming junctions, which see the majority of collisions, and ensuring safety is at the forefront of all design schemes*
3) *Safe vehicles: Reducing risk posed by the most dangerous vehicles by introducing a world-leading Bus Safety Standard across London's entire bus fleet and a new 'Direct Vision Standard' for Heavy Goods Vehicles*
4) *Safe behaviours: Reducing the likelihood of road users making mistakes or behaving in a way that is risky for themselves and other people through targeted enforcement, marketing campaigns, education programmes and safety training for cyclists, motorcycle and moped riders*
5) *Post-collision response: Developing systematic information sharing and learning, along with improving justice and care for the victims of traffic incidents*

2.3 Local Policy and Parking Standards

2.3.1 London Borough of Waltham Local Plan and Strategy

The LBWF Draft Local Plan is designed for the years 2020-2035. The Sustainable Transport and Infrastructure Policy includes all the relevant information and sub-policies regarding transport and parking.

Policy 67: Liveable Neighbourhoods for All states the main objectives for developments to be supported in terms of transport:

"Development will be supported where it contributes to the Council's objective to deliver Liveable Neighbourhoods for all residents in Waltham Forest by:

A. Contributing towards enhancing streets to meet Healthy Streets indicators across the public realm in the borough;

B. Increasing the number of trips made by walking, cycling and public transport, and improve local connections to these modes;

C. Reducing motor dominance and increase the active use of streets and public spaces;

D. Provide legible, prominent and coherent wayfinding for walking and cycling to strategic and local active travel networks, public transport hubs, amenities, schools and green spaces.

E. Being permeable for active modes of travel, and prioritise road space for cycling, walking and public transport;

F. Creating safe neighbourhood environments, including reducing road danger, improving personal security and meeting the Mayor of London's Transport Strategy objective for Vision Zero;

G. Improving air quality to create more attractive neighbourhoods for residents and visitors;

H. Improving quality and resilience of the public realm, ensuring public space is accessible for people from all walks of life;

I. Ensuring neighbourhoods have good connections to public transport".

2.3.2 Parking Strategy

Policy 72: Managing Vehicle Travel Traffic is the main policy regarding parking standards and management.

Below are the Car Parking Standards stated within Policy 72:

"Development will be supported where:

A. It is car free in South Area, Central Area, and locations that are, or planned to be, well-connected to public transport, active travel networks, and amenities within the North Area of the borough;

B. Car parking ratios outside the car-free area are within maximum parking ratios to be proposed in future Local Plan consultation. This will be based upon levels of current or future public transport connectivity;

C. Disabled parking is provided for all development, including car-free proposals, in line with standards set out within the Draft London Plan.

Operational parking for business and industry uses will be permitted when need is clearly demonstrated within the Transport Assessment, and measures have been applied to minimise number of vehicles, frequency and impact of trips. All operational vehicles should use Electric vehicles.

Development will be resisted where anticipated car parking and vehicle use will impact the delivery of liveable neighbourhoods or increase congestion and parking stress."

2.3.3 Waltham Forest Core Strategy

The Core Strategy was adopted in 2012.

2.3.4 Waltham Forest Development Management Policies

The Development Management Document was adopted in 2013. Its policies reflect the core strategy strategic polices with added detail in respect of housing tenure and mix.

2.3.5 Waltham Forest Site Allocations and Designations

The Waltham Forest Site Allocations and Designations (2013) document outlines relevant local policies.

2.3.6 Summary

Overall, it is considered that the transport priorities for development are to reduce the dependency on car-borne trips, maximise public transport accessibility, encourage walking and cycling, and to ensure the safety of all road users.

3 Existing Conditions

3.1 Existing Site Location

The site is currently an unused site, which was formerly a landscape contractors' yard. The site is situated to the rear of Larkswood woodland area. The easiest way to access the site is from New Road to the north.

The site lies immediately north and west of Larkswood woodland area, as a result the woodland forms the boundary to the south and east of the development. New Road forms the northern boundary and to the west lies the Council owned land, 'Chingford Leisure Park', which is only a few minutes' walk away. The leisure park provides a leisure centre, pool, gym, health centre, child's nursery/pre-school, food store and restaurant.

The closest shop is Tesco Express next door at Chingford Leisure Park. It is only a few minutes' walk away.

The closest school is Larkswood Primary Academy on New Road, which is just a 6 minutes' walk.

The approximate National Grid Reference for the site is E238230, N192729.

The local area is mixed-use in nature.

Appendix A presents a site location map.

3.2 Existing Conditions

3.3.1 Pedestrian Accessibility

There is no formal pedestrian access to the site at present.

New Road, which forms the main entrance to the site, has dedicated footways of approximately 2.5m in width on both sides. There are pedestrian crossings along New Road (not adjacent to the site) and with the 30mph speed limit, pedestrians should be able to cross the road without any issues during quieter times.

An extensive network of street lighting exists on New Road providing a safer environment during the darker hours. Furthermore, the crossing points all have dropped kerbs and tactile paving present, making the local pedestrian routes easily accessible by partially sighted pedestrians.

As the closest shop (Tesco Express) is situated next door at Chingford Leisure Park and there are many other amenities such as fitness centre, health centre and child's nursery at the Leisure Park next door, residents are not expected to need to walk far to these amenities. The key amenities are only a few minutes' walk away.

The closest school is Larkswood Primary Academy on New Road, which is just a 6 minutes' walk.

There are many existing footpaths in Larkswood close to the southern and eastern boundaries of the site. These footpaths appear to link neighbouring areas together. A plan of these existing footpaths is presented in Figure 3.1 below. An accessibility plan showing the existing walk routes is also provided in Appendix B.

Figure 3.1 Existing Footpaths in Larkswood

3.3.2 Cycle Network

New Road does not have a dedicated cycle lane. However, cyclists can use the road safely as the speed limit of New Road is 30mph and the road is wide in both directions.

Cycling to the nearby overground station at Highams Park and Meridian Water railway station is easy and convenient from the site. An accessibility plan is provided in Appendix B.

Approximately 2.2km west of the site location is the closest National Cycle Network Route (Route 1 which stretches from Dover to the Shetland Islands). The length of Route 1 is 2768.9 km (1720.5 miles) long and is one of the longest cycle network routes. The Route 1 can be reached by travelling on New Road and then onto Hall Lane and be reached by a 10-minute cycle ride.

3.3.3 Public Transport Facilities

The Public Transport Accessibility Level (PTAL) for the site is 2, which means the site has a poor level of public transport accessibility. The PTAL report is provided in Appendix C.

Despite the poor public transport rating, the site is located within a few minutes' walk of a couple of bus stops which serve several local bus routes.

The closest bus stops are located on New Road close to the junction with Mapleton Road to the east of the site access and on New Road close to the junction of Grove Road to the west of the site. These bus stops are located within 150 yards and a 2-minute walk of the site. The bus stop near Mapleton Road serves westbound buses, whereas the bus stop near Grove Road serves eastbound buses. Both bus stops provide local bus routes 357, 444, 657 and W16. These routes are operated by Transport for London (TfL). Buses arrive between every 10 to 20 minutes and travel towards Edmonton or Walthamstow when travelling west and towards Chingford Hatch, Chingford Rail Station or Highams Park Overground Station when travelling east from the site.

Highams Park Overground Station is located approximately 1 mile south of the site, which corresponds to approximately 4 minutes' driving time, 6 minutes' cycling time or 20 minutes' walking time. The station is also on a bus route. Northbound trains can only travel as far as Chingford Rail Station, while southbound travellers can travel to Walthamstow Central Rail Station to connect with the Victoria Line on the London Underground, or continue onwards to London Liverpool Street Rail Station.

Other nearby stations include Meridian Water Railway Station, which is situated 2.5 miles to the west of the site. The station is accessible within a 15-minute cycle ride of the site access on New Road or a 14 minutes' drive. Buses also serve this station. The railway station is served by Great Anglia trains and these travel to destinations such as Stratford, Bishops Stortford and Hereford East.

Woodford Underground Station is on the Central Line and this station is located approximately 2.5 miles to the south-east of the site. It can be reached within a 13 minutes' cycle ride or an 8 minute drive. This station can be reached within an 8-minute drive, 13 minutes' cycle ride or by bus.

In summary, despite the PTAL rating, the site is considered to benefit from a well-connected multi-modal transport network with two bus stops a couple of minutes' walk away on New Road, an overground station within a short walk or cycle ride and

an underground station and railway station within a short cycle ride, bus journey or car journey away.

3.3.4 Road Network

The nearest major road (A406) is only a 6-minute drive from the site. The A406 North Circular Road directly leads onto the M1 when travelling westbound and towards the M11 when travelling eastbound.

Several other main roads include the A112, which connects the site to the A406 and the M25 in the north. Woodford New Road/Epping New Road runs in a north-south direction and connects the site to Woodford, Walthamstow and the A12 in the south and Epping Forest and Eppin in the north.

New Road itself has a speed limit of 30mph past the site and the road is wide, which is conducive with cycling.

3.3.5 Local Parking Facilities

The on-street parking in the local area along New Road is unrestricted. The main highway A1009 New Road past the site entrance is a main road and does not have any on-street parking in place, however, the adjacent residential part of New Road, running alongside to the north of the A1009 has on-street parking capacity.

It is not ideal walking between the site and these parking spaces though, as the main road (A1009 New Road) would need to be crossed and there are no formal crossing facilities outside the site on New Road.

A parking survey was undertaken on the local roads within 200m of the site on 28th June and 29th June 2022 to assess the parking stress and availability of spaces in the local area. This was undertaken during a parking beat in the evening and overnight when most residents' vehicles are expected to be parked. See Section 3.3.6 for the parking survey results.

The nearest off-road parking facility is only a few minutes' walk away on the neighbouring site 'Chingford Leisure Park', which consists of a food store, restaurant, children's nursery, leisure centre and the Nuffield Health Fitness and Wellbeing Club. Whilst it does appear that parking at the leisure park next door is unrestricted and free. The barriers do close at night though so any resident leaving their car in the car park would not be able to access it until the following morning.

The car park also says 'private property', so the owners may be able to fine those vehicles they feel are resident vehicles if they park overnight. This would need investigating further with the car park owners.

A parking survey was also undertaken at this neighbouring leisure park at various times during the daytime and evening on 28th, 29th and 30th June 2022 to assess the parking stress and availability of spaces in the car park. See Section 3.3.6 for the parking survey results.

3.3.6 Parking Surveys in Local Area

An on-street parking survey has been undertaken on the local residential roads within 200m of the site during the evenings of Tuesday 28th and Wednesday 29th June 2022. A map of the parking surveyed area is shown in Figure 3.2 below. A parking beat was also undertaken in the neighbouring Leisure Park car park on 28th June (8.30pm), 29th June (12.30pm, 4.15pm, 7pm) and 30th June (12pm and 4pm). The car park capacity, number of empty and number of taken spaces by location in the car park were recorded.

Figure 3.2 On-Street Parking Survey Area

The parking beats/counts were undertaken in the evening/night when most residents would be at home and parking would be at its highest. The beats were undertaken at 9.30pm and 10pm on Tuesday and then 8pm and 8.30pm on Wednesday.

On average, across the four parking beats, there were 6 available spaces on Mapleton Road, 13 free spaces on New Road (across both part 1 and part 2 sections) and 9 available on Grove Road. There were no available spaces on Woodview Avenue (which is a cul-de-sac). These available spaces were within the unrestricted spaces i.e. not across driveways.

It was noted that most cars parked across driveways (residents used their own driveways to park across) and there was only single sided parking on New Road. There was no available parking within the Woodview Avenue cul-de-sac, as that was full with residents parking across driveways and in any spare kerbed space.

Figure 3.3 shows the results of the four parking beats. The raw data is provided in Appendix D.

Figure 3.3 On-Street Parking Stress % By Road and Time

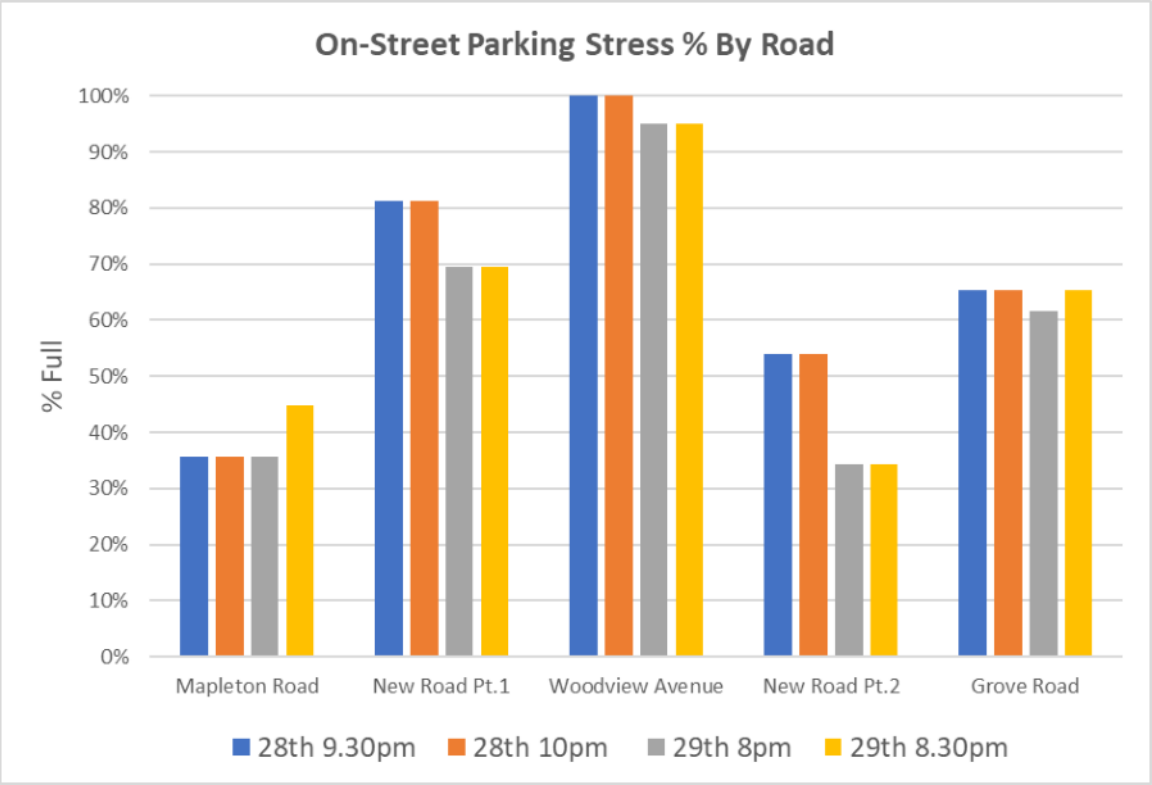


Figure 3.3 shows there is availability for on-street parking in the local area and that the roads are not full of existing residential vehicles. The exception to this is Woodview Avenue, which is 100% full. However, this does not mean the new residents at this development will be encouraged to park on these streets.

Regarding the parking survey at the Leisure Park, the results also revealed this car park was not close to being at full capacity. The parking survey was undertaken on 28th June (8.30pm), 29th June (12.30pm, 4.15pm, 7pm) and 30th June (12pm and 4pm). There is a capacity of 335 spaces (312 standard, 18 disabled, 5 family bays). Across the six parking beats, the lowest count in the car park showed that 236 spaces were still available (empty) and the highest count in the car park revealed there were 164 spaces still available/empty. Of the six parking beats, the 7pm beat was the busiest time, as the car park was 51% full (171 spaces occupied, 164 empty).

Figure 3.4 shows the parking demand in the car park over the six beats by location in the car park. The car park was split into three areas for the survey - Harvester restaurant section, Chingford Leisure Centre section and the main/middle section. The parking survey results are provided in Appendix D.

Figure 3.4 Leisure Park Parking Count by Time of Day and Location

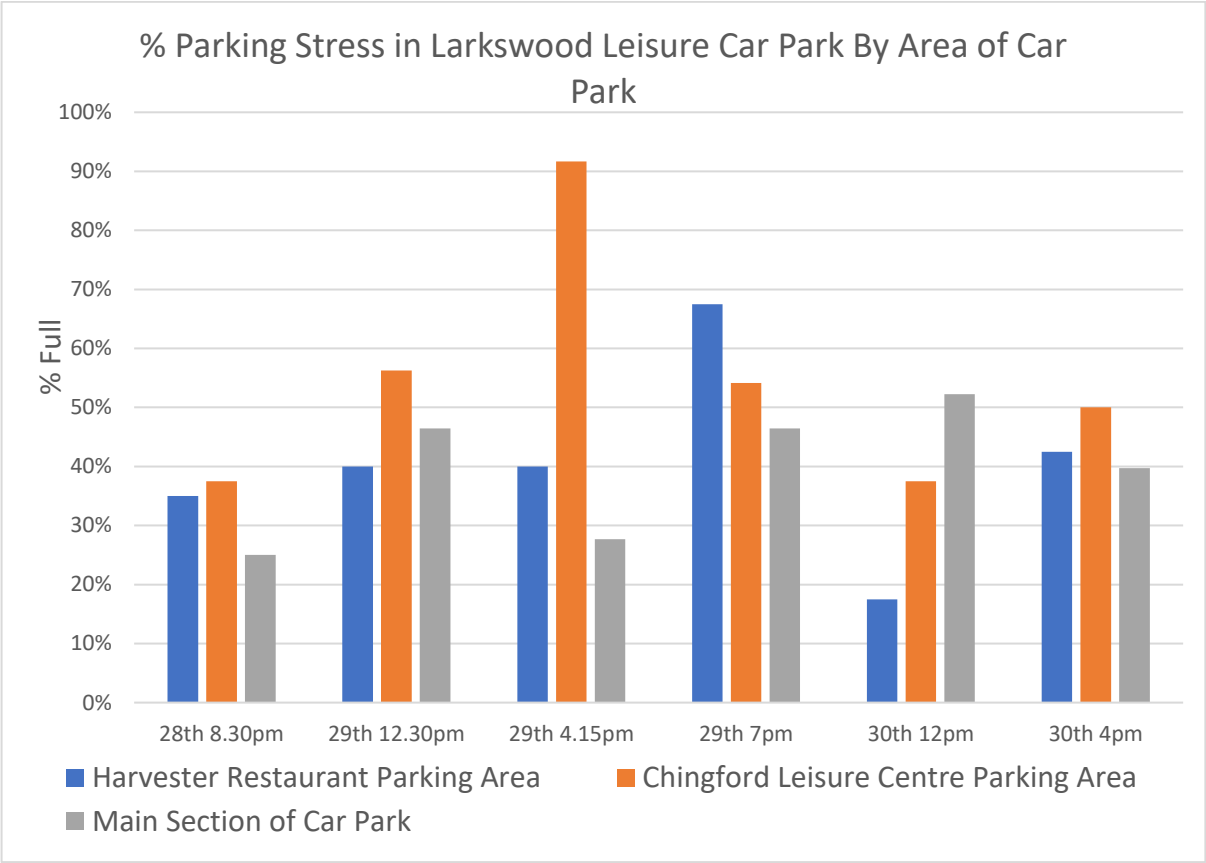
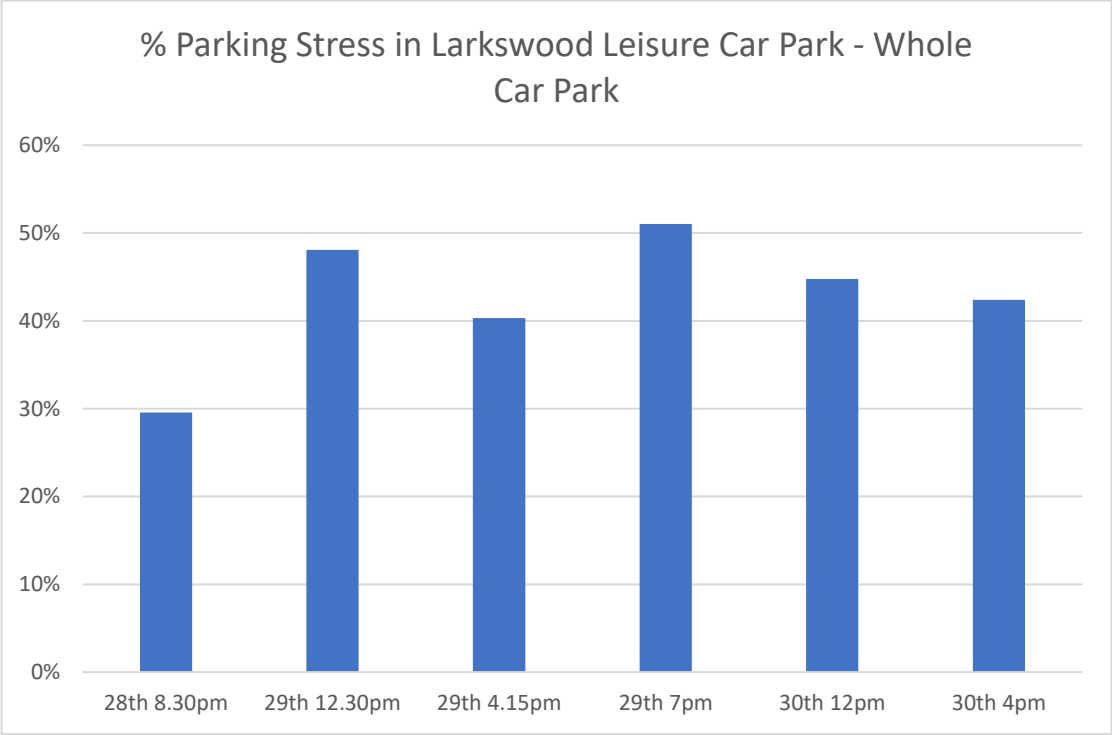


Figure 3.5 Leisure Park Parking Count by Time of Day – Whole Car Park



As the car park is not even close to being at capacity (see Figure 3.5), it is considered that there would not be an issue if the odd resident or visitor to the development chose to park in this car park for a couple of hours. This type of parking behaviour cannot be controlled or stopped, as there are no parking enforcements in the car park at present. This would not be encouraged, however, as the new residents at the New Road development would be informed not to own or use a car, as the development is car-free.

There is also potential for one of the car parking spaces in the car park to be occupied by a car club vehicle for the benefit of the local community and new residents at this development, to prevent / reduce the risk of them parking in neighbouring areas. This would not affect customer parking and the car club space could be accommodated in a quieter area of the car park. It would be the decision of the freeholder and tenants of the car park to decide whether this is an option and where they would like the space to go. This opportunity is discussed further in Section 4.4 and the car club proposal is provided in Appendix F.

3.3.7 Car Clubs

The local car clubs are Enterprise, Ubeeqo and Zipcar, although the nearest space is located at Highams Park overground station, which is an 8 minutes' cycle ride or 15 minutes' walk away.

It is unlikely therefore, that any local residents and new residents at this proposed development would use a car club vehicle at present. It would therefore be an advantage to have a car club vehicle set up locally to reduce the need for residents to own a car and also reduce their number of trips in a private car.

3.3.8 Accident Data Analysis

Accident records for the last three years (2017-2019) were obtained from CrashMap (see Figure 3.6).

There have been seven slight accidents on New Road. However there have been no serious or fatal accidents on New Road or anywhere else within the vicinity of the site. The slight accidents occurred at junctions, which is typical of an urban road network and therefore this suggests there are no engineering issues.

Figure 3.6 Map of Recorded Accidents from 2017-2019 (obtained from CrashMap)

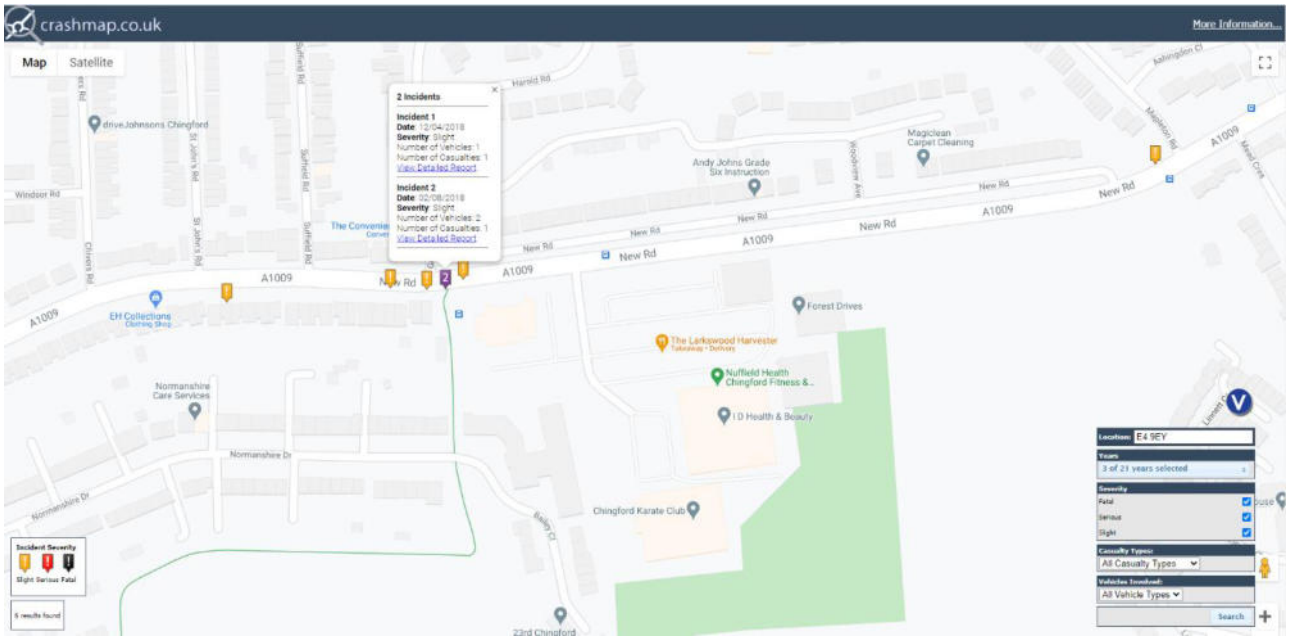


Figure 3.6 confirms that there were 7 slight accidents, but no serious or fatal accidents during the last three available calendar years in the vicinity of the development and none outside the development itself.

3.3.9 Local Car Ownership and Travel to Work Data – Census 2011

According to Census 2011, an average of 88% of all households in Waltham Forest own a car. Within the geographical vicinity of the site, approximately 49% of residents travel to work by car. Compared to the other methods of transportation used by residents, the car is the preferred method of travel to work, although it is encouraging that less than half of residents travelling to work, travel by car in the local area. This supports the PTAL rating of 2.

4 Proposed Development

4.1 Overview

This Chapter includes information on the proposed development, vehicle and pedestrian access arrangements, cycling parking numbers, pedestrian access arrangements to the adjacent woodland at Larkswood and the development's internal road layout.

4.2 Proposed Development

The proposed development consists of demolition of existing buildings for residential development (Use Class C3) comprising of two buildings (Blocks A and B). Block A will have five storeys and Block B will have seven storeys. Each block will have associated pedestrian access, cycle parking, refuse stores and the site will have landscape and amenity areas.

The scheme proposes:

- Flat Block A consists of 5no. 1-bedroom flats, 7no. 2-bedroom flats and 11no. 3-bedroom flats, making a total 23 flats.
- Flat Block B consists of 18no. 1-bedroom flats and 31no. 2-bedroom dwellings, making a total 49 flats.

The site layout plan is provided in Appendix E.

4.3 Parking Provision

4.3.1 Car Parking

Parking is a key consideration in this planning application. Based on the current proposals it is necessary to demonstrate that the development is not expected to result in any off-site parking stress on the local highway network and in neighbouring areas.

The proposal accords to the parking policies of the Adopted London Plan (2021), and the aims of the LBWF in that they would like to see minimal car parking per dwelling and support car-free developments.

According to Policy 'Car Parking' in the Adopted London Plan (2021), car parking should be restricted in line with levels of existing and future public transport accessibility and connectivity. In addition, car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking ('car-lite').

For this residential development, car parking has been provided in accordance with the Adopted London Plan (2021). Although the development is located in a PTAL 2

area (poor accessibility), the amenities within a short walking distance of the site are very good.

Maximum standards for car parking take account of PTAL as well as London Plan spatial designations and use classes. Policy 6.1 of the Adopted London Plan (2021) states that maximum residential car parking for this development (in an outer London area with a PTAL 2) is up to 1.5 parking spaces per dwelling. However, it should also be noted that Policy 6.1 also states that where small units are provided i.e. 1-bedroom flats, that less than 1.5 spaces per unit should be provided. Car-free sites are also supported. Furthermore, the LBWF encourage low car / car-free developments. Given this development only proposes small mostly 1- and 2-bedroom flats, car-lite and car free provision is supported.

4.3.2 Car Free Justification

In addition to the above parking standard policy requirements / recommendations from TfL and the LBWF for a car lite or car free development, and as described in Section 3 of this report, as the closest shop 'Tesco Express' and other key amenities at Chingford Leisure Park, are only a few minutes' walk away, this supports a low car use / low parking development.

Residents at this development are expected to walk and/or cycle to the key local amenities which are within a few minutes' walk away next door and are expected to have a higher mode share of walking and cycling compared to other residents in the area / borough. The neighbouring leisure park provides a leisure centre, pool, gym, health centre, child's nursery/pre-school and restaurant. The closest school is Larkswood Primary Academy on New Road, which is just a 6 minutes' walk.

This all helps to explain why the site is likely to have a higher proportion of walk and cycle trips than average for the area. All key amenities are in a short walking distance.

A Car Club vehicle is proposed close to the development. This will be situated in either in the neighbouring Larkswood Leisure Park car park or on-street opposite the site. This will be funded by the developer for this scheme. Further details are provided in Section 4.4 of this report. This will help to reduce the need for new residents at this development to have a car. The car club vehicle will provide them with a means to use a car when they need to.

The car free nature of the residential scheme is in accordance with emerging Council Policy and is endorsed by the GLA. The new residents' lease agreements will make clear that the scheme is car free.

A Residential Travel Plan has been prepared for this development and this also contains measures/initiatives aimed at encouraging residents to change their travel habits. This will all be in place before the residential units are bought, so new residents will be made fully aware of it.

It does appear that parking in the neighbouring Larkswood Leisure Park car park is unrestricted and free. The barriers do close at night though so anyone leaving their car in the car park would not be able to access it until the following morning.

Parking stress / parking displacement from this development to the neighbouring roads is unlikely (even though on-street parking is unrestricted) as there are no crossing facilities between the site and the opposite side of New Road, meaning it would be difficult for residents to access the development easily (with shopping and luggage), if they park in the residential area opposite.

The on-street parking surveys (see Section 3.3.6) showed that there is availability for on-street parking in the local area and that the roads are not full of existing residential vehicles. The exception to this is Woodview Avenue, which is 100% full. However, this does not mean the new residents at this development will be encouraged to park on these streets.

4.4 Car Club Proposal - Enterprise

A car club space is proposed to be installed in either the Larkswood Leisure Park car park or in one of the on-street parking spaces along New Road close to the junction with Woodview Avenue. Parking is not directly outside anyone's property in this location and so this is the best on-street location close to the site. This car club car and space will be provided by Enterprise Car Club, who are keen to expand in the local area. A document setting out their proposal is provided in Appendix F.

There are no other car club spaces in the immediate local area.

It is proposed that new residents of this development will be provided with a 2-year free membership to this car club on a rolling contract, paid for by the developer. Up to two cars can be allocated to this development (off-site) although one car is preferred to start with and based on demand, an additional vehicle can be added at no additional cost.

New residents will get the same membership as other existing members and if they leave the property at the development within the 2 years free membership period, the new residents taking over would also get free membership for 2 years. It applies to multiple residents at the same address.

Enterprise will provide all the marketing material, booklets, posters etc and residents would also receive a £50 petrol/fuel credit each. Residents would also receive other incentives like discounts off Enterprise rental cars, access to other Enterprise vehicles etc.

After the 2 years free membership for the new residents of this development, it is expected that this car club car(s)/space(s) will be self-funding. Residents would then pay to become a member.

The public (those outside the development) could also use the vehicles by paying to become members of the car club. This would be beneficial to local residents.

According to 'New developments and shared transport: cutting car dependency' report by Como UK (February 2022), CoMoUK research indicates that each car club vehicle can on average replace 18 private cars at a development. Its installation for this development will therefore support the car-free proposal.

According to the report by Como UK (Feb 2022), there is a critical correlation between parking provision for private cars in new developments and the opportunities for sustainable transport generally and shared transport particularly. Where ratios of private car parking to dwellings are low, residents are much more likely to adopt other mobility options. It will also create a more pleasant environment for walking and cycling.

Car club operators actively scope suitable sites based on the baseline provision of private car parking.

A rule of thumb stated in interviews was that 1 car per dwelling or less is required for car sharing to be feasible. When quantifying the amount of shared transport to provide, critical mass must be considered.

4.5 Electric Vehicle Charging Spaces

The Adopted London Plan (2021) emphasises that all residential car parking spaces must provide infrastructure for electric or Ultra-Low Emission vehicles. At least 20% of spaces should have active charging facilities already in place, with passive provision for all remaining spaces i.e. 80% of spaces.

Based on the proposed provision of 3no. disabled spaces for this development, all 3no. parking bays on-site will have active electric vehicle charging facilities.

4.6 Disabled Parking Spaces

According to the Adopted London Plan (2021), policy 6.1:

Residential development proposals delivering ten or more units must, as a minimum:

> *1) ensure that for three per cent of dwellings, at least one designated disabled persons parking bay per dwelling is available from the outset;*
>
> *2) demonstrate as part of the Parking Design and Management Plan, how an additional seven per cent of dwellings could be provided with one designated disabled persons parking space per dwelling in future upon request as soon as existing provision is insufficient. This should be secured at the planning stage.*

This scheme provides the minimum number of disabled bays that is required, as the minimum number to provide is 3% of dwellings, which for 72no. dwellings is just over 2no. spaces (rounded to 3no. parking spaces). Three disabled bays are therefore the minimum for the development and this scheme is providing 3no. disabled parking bays.

4.7 Parking Management Plan

A car parking management plan will manage the demand and use of the disabled parking spaces on site. A Parking Management Plan is recommended for new residential developments, in the Adopted London Plan (2021) within Policy 6.1.

It is proposed that the disabled bays on-site will be allocated to a unit on a lease/rent basis and the spaces will be secured. According to the Adopted London Plan (2021), parking spaces should be leased rather than sold to ensure the land they take up is used as efficiently as possible over the life of a development. This includes ensuring that disabled persons parking bays can be used by those who need them at any given time. Leasing also allows for spaces with active charging points to serve electric or other Ultra-Low Emission vehicles.

Leases should be short enough to allow for sufficient flexibility in parking allocation to reflect changing circumstances.

To begin with, the disabled bays will each be allocated to a specific WCA unit, if required.

The parking spaces will be secured with a lockable bar to prevent visitors and other residents parking in the spaces.

A notice will be installed in the car park on-site notifying those spaces are allocated for residents only, on a lease basis and that a car park management plan is in place.

4.8 Cycle Parking Provision

Cycle parking is being provided at the development in line with Policy T5 of the Adopted London Plan (2021). This states that cycle parking should be provided at least in accordance with the minimum standards set out below, ensuring that a minimum of two short-stay and two long-stay cycle parking spaces are provided where the application of the minimum standards would result in a lower provision.

Based on the minimum standards of 1 space per studio/1-person 1-bedroom dwelling, 1.5 spaces per 2-person 1-bedroom dwelling and 2 spaces per all other dwellings, this development requires a minimum total of 133no. cycle spaces for residents. This is based on having 23no. 1-bedroom flats and 49no. 2 and 3-bedroom flats. An additional 5no. (minimum) short-stay cycle spaces are required for visitors. It is proposed that 6no. visitor cycle spaces (in 3no. Sheffield cycle stands) will be situated within the public open space in the north-western corner of the development, close to New Road pedestrian entrance.

It is proposed that Block A cycle store will comprise 56 standard cycle spaces and 4 non-standard cycle spaces. The cycle store for Block B will accommodate 90 standard cycle spaces and 4 non-standard cycle spaces. This provides a total of 154 residential cycle spaces, which exceeds the minimum required and is welcomed by the local authority.

The cycle store for Block A can be accessed from the communal entrance hall inside. This can be accessed from the communal entrance at the front (New Road) and from the residential courtyard/parking area at the rear of the site.

The cycle store for Block B can also be accessed from the communal residential reception inside the building and also from an external door leading to the residential courtyard/parking area.

Cycle parking will be designed and laid out in accordance with the guidance contained in the London Cycling Design Standards 144.

4.9 Site Access Arrangement

4.9.1 Main Vehicular Access

The proposed development utilises New Road to enter the site. The main access into the development from New Road caters for cars, refuse vehicles, fire tender vehicles, delivery vehicles, servicing vehicles, pedestrians and cyclists. The proposed access road is approximately 6m wide with a 2m footway on the left (western) side, adjacent to the building. The road is two-way.

Visibility is not considered to be an issue at the entrance of the proposed development site as New Road is relatively straight.

The development accords with the NPPF 2021, as not having an unacceptable impact on highway safety or severe residual cumulative impacts on the road network.

4.9.2 Pedestrian Accesses

There are a few pedestrian accesses to the site from New Road. One pedestrian access is situated in the north-west corner of the site and this leads to the communal entrance to Block B. The entrance in the middle of the site leads to the communal entrance to Block A and the entrance adjacent to the access road leads to the residents' courtyard, the play area and bin stores. There are also minor pedestrian access points around the development to access individual doorways to the Blocks and ground floor flats.

The proposed pedestrian friendly area in the south of the site, combined with play space, including fitness equipment will benefit the new residents. Refer to the Landscape Strategy for this Development Proposal for more information.

Refer to the accessibility plan in Appendix B, showing the extensive walk routes and linkages around the site.

4.10 Waste Storage Provision / Waste Strategy

Waltham Forest's Waste and Recycling Guidance for Developers (June 2019) sets out the waste strategy for new developments. The Section '3.3.2 Access' of that

document states that:

"It should be ensured that there are no steep inclines, door lips or flights of stairs between the location of the external bin store and the collection point. Residents should not have to carry waste more than 30 metres from their home. . If it is not possible to put bin store within 30 meters, contact the Council for an agreed solution. Recycling and refuse facilities should be next to each other, with equal ease of accessibility to each. Waste collection crews and caretakers should not have to:

- carry refuse or recycling sacks more than 10 metres,
- move wheelie bins or carry bins more than 25 metres, or
- move a Bulk bin or other large wheeled bin more than 15 metres."

Walham Forest's Development Management Policies Local Plan (adopted version on 24th October 2013) also sets out the waste strategy for new developments. Policy DM32 'Managing Impact of Development on Occupiers and Neighbours' sets out the local policy for waste and recycling, as follows:

"In managing the impact of new development on neighbouring amenity, the Council will refer to planning standards as set out in the Urban Design Supplementary Planning Document (SPD). New development including extensions, modifications to existing homes and where applicable, changes of use should:

Ensure the provision of facilities for the storage, collection and disposal of refuse. In assessing such provision, the Council will have regard to the following matters:

- the level and type of provision - For residential development, space for the storage of individual recycling and refuse containers or communal recycling facilities and refuse bins (where justified) will be required;
- the location of the provision - safe and convenient access for occupants/users and satisfactory access for refuse collection vehicles and operatives must be provided and maintained;
- the impact of the provision on visual amenity and measures in place to screen or minimise the prominence of the facilities."

The Council has also published a Supplementary Planning Document (SPD) on Urban Design which seeks to raise design standards in the Borough.

Although re-use and recycling rates construction, excavation and demolition waste in London are high, the London Plan sets a target of 95% to be recycled by 2020. London Plan policy 5.18 states that boroughs should require developers to produce site waste management plans to arrange for the efficient handling of construction, excavation and demolition waste."

The London Borough of Waltham Forest is a member of the North London Waste Authority (NLWA), and as such is committed to contributing to the regional target of a 50% recycling rate across north London by 2020.

The 'North London Waste Prevention Plan 2018-20' (the Plan) is a two-year programme aiming to reduce the amount of waste that needs to be managed in north London.

The Plan was driven by European, national, regional and local statutory drivers as well as NLWA's, and the seven boroughs', strategic priorities. It follows principles of the waste hierarchy (shown in Figure 1) as introduced by the Waste Framework Directive (2008/98/EC) and was also developed in the context of priorities and guidance set out in the 'EC Circular Economy Package', the 'Waste Prevention Programme for England 2013' and a number of industry reports and publications.

It is expected that new building (residential) developments for which communal bin-stores are planned should provide adequate external space (footprint) for the accommodation of refuse and recyclables to be stored in the containers as designated by the Waste Collection Authority (WCA). A total of 180 litres of waste storage space should be provided per dwelling of two bedrooms or less, with 240 litres provided per dwelling of more than two bedrooms.

4.10.1 Refuse and Recycling Storage and Collection Proposal

The communal refuse and recycling stores for the residential development will be built within both residential blocks on the ground floor. Each Block will have its own bin store for waste, food waste, bulky waste and recycling. The bin stores will be accessed from the internal access road.

The residents will be expected to carry their waste to the ground floor store prior to the refuse and recycling collection day.

The refuse bins for the ground floor flats (with front terraces) require a management company to collect and move bins to a secure refuse holding area prior to collection.

According to local guidance, the location of any waste storage area should not be more than 25 metres away from the collection vehicle and should be step free. The location of the refuse storage areas both conform to this.

The bin store for Block A will be 45.8sqm in size and will hold 2x1100litre bins and 2x660litre bins. It will also accommodate 1xfood waste bin and a 12.4 sqm bulky waste area/section. It can be accessed from the access road and also from the residents' courtyard area, where refuse vehicles will turn around.

The bin store for Block B will be 51.8sqm in size and will hold 4x1280litre bins and 2x660litre bins. It will also accommodate 2xfood waste bins and an 8.5 sqm bulky waste area/section. It can be accessed from the residents' courtyard area, where refuse vehicles will turn around.

Refuse and recycling collections will occur once per week and could take place outside peak traffic hours.

It is expected that the waste storage provision for the flats are based on British Standard BS5906 'Waste Management in Buildings'. This guidance is considered a best practice.

4.11 Emergency Access

As the site is located off New Road, access for emergency services is easy. The nearest fire station is Chingford Fire Station, which is approximately a 5-minutes' drive away to the north of the site. Therefore, the average time taken to reach the site in case of emergency would be shorter compared to the average national response time of 8 minutes and 49 seconds.

The proposed internal access road through the development can accommodate a fire tender vehicle. The vehicle tracking of this vehicle and the turn on site is shown in Appendix H.

5 Forecast Trip Generation and Transport Impacts

5.1 Introduction

This chapter considers the trip generation of the development proposal by all modes of vehicular transport, public transport, pedestrians and cyclists, so that the impacts of the development on the available infrastructure for each mode can be considered.

It draws upon vehicle trip rate data derived from the TRICS database, version March 2022 v7.9.1.

5.2 Forecast Trip Generation

Vehicular transport, public transport, pedestrian and cyclist trips forecast for the development site have been derived using the TRICS online database (version 7.9.1, which was released in March 2022).

The land use 'C3 Residential – flats privately owned' was selected in the TRICS database and sites filtered based on their PTAL value, parking numbers, location and size. Developments with low car parking and car free sites were selected. Many of the sites selected had some parking on site, as many had disabled bays, like this proposed development. As a result, four sites were selected for their data. The site details and trip generation data is provided in Appendix G.

The vehicle trip rates and person trip rates per dwelling/unit are shown in Table 5.1 for the 72-unit development. The table presents the results for the peak hours of 8-9am and 5-6pm, which are the highest (worst case) peak hours for the AM and PM peaks. A summary of vehicle trips is also provided for the whole day. The hourly trip generation data can be found in Appendix G.

Table 5.1: Forecast Vehicle and Person Trip Generation for 72 Residential Units

Per unit and based on 72 units	AM Peak (0800-0900)			PM Peak (1700-1800)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Car Trip Rate	0.026	0.079	0.105	0.088	0.044	0.132
No. of cars	**2**	**6**	**8**	**6**	**3**	**9**
Total Vehicles Trip Rate	0.044	0.105	0.149	0.105	0.07	0.175
No. of Vehicles (in total incl. car, van, servicing vehicle)	**3**	**8**	**11**	**8**	**5**	**13**

Walk Trip Rate	0.07	0.202	0.272	0.132	0.079	0.211
No. of pedestrians	**5**	**15**	**20**	**10**	**6**	**16**
Cycle Trip Rate	0	0.035	0.035	0.035	0.009	0.044
No. of cyclists	**0**	**3**	**3**	**3**	**1**	**4**
Bus Trip Rate	0	0.053	0.053	0.044	0	0.044
No. of bus users	**0**	**4**	**4**	**3**	**0**	**3**
Rail (incl. overground) Trip Rate	0.018	0.035	0.053	0.035	0	0.035
No. of rail users	**1**	**3**	**4**	**3**	**0**	**3**
Daily Vehicles Total	**61 IN**			**59 OUT**		

The 72no.residential units are expected to generate a total of 3no. vehicle in trips and 8no. vehicle trips out in the AM peak and 8no. vehicle trips in and 5no. vehicle trips out in the PM peak.

Over the course of the day (7am-7pm), 61no. vehicles are expected to arrive, and 59no. vehicles are expected to leave.

Given the development only has a very small number of parking spaces on site i.e 3 disabled bays, these vehicles that are predicted to be generated by the development, as per the TRICS software analysis, are not expected to arrive and leave the actual development but are likely to park in neighbouring areas and arrive and leave from there. This would also include use of the proposed car club vehicle off-site.

Given the development is basically car-free, it is expected that the vehicle trip generation at this development would be lighter than appears in this analysis.

5.3 Person Trips

The development is expected to generate around 20 pedestrian movements (two-way) in the AM peak and 16 pedestrian movements (two-way) in the PM peak.

In terms of cycling, the scheme is expected to generate around 3 cyclist movements (two-way) in the AM peak and 4 cyclist movements (two-way) in the PM peak.

Fewer than 5 bus users and rail users are expected for each method of transport in the peak periods. This coincides with the fact the site is a PTAL 2.

The development will, however, promote sustainable methods of travel through the Residential Travel Plan. Residents will be encouraged to either walk, cycle or use public transport. The Residential Travel Plan for the development will highlight the measures and targets to support sustainable transport for the site.

In line with the NPPF 2019, paragraph 109, as the development will not result in an unacceptable impact on safety nor result in a severe impact on the road network, the proposed development should not be refused on highway grounds.

5.4 Proposed Transport Impacts

As stated in Section 5.2, the anticipated vehicle trip generation associated with the development site of 11no. two-way vehicular trips in the morning peak hour and 13no. two-way vehicle trips in the evening peak times is unlikely to cause any highway or safety problems. Some of these trips may be associated with a car club vehicle, some may be drop off/collection of residents, some may be deliveries and some of these may park in neighbouring areas, although this will be discouraged. As described in the previous section, these numbers are likely to be a worst case, as it is likely due to the car-free nature of the development, that very few vehicles will be associated with the development.

Overall, due to the negligible number of predicted vehicular trips during peak hours, no adverse impact on the existing road network is anticipated.

The car free nature of the residential scheme is in accordance with emerging Council Policy and is endorsed by the GLA. The resident's lease agreements will make clear that the scheme is car free. The proposed car club scheme with Enterprise Car Club is aimed at encouraging people to change their travel habits. This will all be in place before the residential units are bought to market, so new residents will be made fully aware.

6 Delivery and Servicing Plan

6.1 Delivery and Service Vehicle Access

Servicing will be undertaken within the confines of the site off the internal access road. It is envisaged that the largest vehicle that would access the site is the LBWF refuse collection vehicle. As a result, a refuse vehicle swept path for a 10.52m long x 2.53m wide refuse vehicle has been undertaken. This vehicle also has a 10.85m wall to wall turning radius. Given these dimensions, this is considered to represent a worst case. Fire tender vehicles, delivery vehicles and removal pantechnicon vehicles are expected to be smaller in size compared to this.

The swept path of the refuse vehicle (10.52m length x 2.53m wide) on the access road shows that this vehicle can manoeuvre along the internal access road and turn.

The vehicle can reach the bin collection points around the site adequately. The maximum bin carry distance is 25m and the vehicles can pull-up to the bin stores comfortably within that distance. See Appendix H for the swept paths of this refuse vehicle.

6.2 Delivery and Service Trip Generation

The TRICS database shows that a negligible number of light goods vehicles (LGVs) and servicing vehicles are expected to be generated by this residential development every day. The numbers expected on a daily basis based on the TRICS data (v.7.9.1) are shown in Table 6.1 below. The sites used to generate this forecast are the same as those used to calculate the trip generation in Chapter 5. The TRICS data is provided in Appendix G.

It is forecast that of this, up to two refuse vehicles (one being recycling) may arrive on site every week.

Table 6.1 Forecast Number of Vans and Servicing Vehicles

Time of Day	LGVs		Servicing Vehicles (vans and HGVs)	
	Arrival	Departure	Arrival	Departure
07:00-08:00	0	0	0	0
08:00-09:00	1	1	1	1
09:00-10:00	3	1	0	0
10:00-11:00	1	1	0	0
11:00-12:00	0	1	0	0
12:00-13:00	1	1	1	1
13:00-14:00	0	0	0	0
14:00-15:00	0	0	0	0
15:00-16:00	1	1	0	0
16:00-17:00	1	1	0	0
17:00-18:00	1	1	0	0
18:00-19:00	1	1	0	0
19:00-20:00	0	0	0	0
20:00-21:00	0	0	0	0
TOTAL (whole day)	**10**	**9**	**2**	**2**

This shows that the expected number of delivery and servicing vehicles forecast to access the site is not expected to cause highway safety issues within the development.

7 Sustainable Access Strategy

7.1 Travel Planning

A Travel Plan will be produced and should be read in conjunction with this document. The purpose of the Travel Plan is to encourage the residents to use more sustainable modes of travel other than the private car.

The recommendations of, and measures in the Travel Plan will be implemented by a Travel Plan Coordinator to be appointed by the developer.

Evidence suggests that a considerable number of car journeys are made for subjective reasons only. Alternatives to the car are therefore a realistic option for many journeys. The full list of travel plan measures are provided in the Travel Plan and some of the key measures that could be applied to this development are shown below:

- Measures to promote walking and cycling – through providing secure cycle parking on-site, as is proposed, and informing residents of local walk and cycle routes through the distribution of a travel leaflet in a travel pack. It is anticipated that the cycling trip generation from this site will increase higher than that shown in this report;
- Travel packs will be distributed to each unit and each will contain information on sustainable methods of travel;
- Marketing of public transport services – by providing residents with promotional material containing relevant bus and train timetable information, route maps, telephone numbers and website addresses to meet their travel needs. This will be provided in their travel pack;
- Advertising of the local car club Enterprise to the residents and the proposed car club scheme, which residents can join for two years for free; and
- Information on car parking at site – Informing residents before they purchase or rent a property on site of the parking policy on site and that it is a car-free site.

7.2 Planning Obligations/Transport Contributions

The site would be expected to make Section 106 transport contributions in accordance with LBWF's transport contribution policy. The level of contribution, if any, given there is not expected to be any detrimental highway impact will be agreed at a later date. Any monies raised would be used to fund wide transport strategy schemes.

8 Conclusions

In summary, despite the PTAL rating of 2 (poor), the site is considered to benefit from a well-connected multi-modal transport network with two bus stops a couple of minutes' walk away on New Road, an overground station within a short walk or cycle ride and an underground station and railway station within a short cycle ride, bus journey or car journey away.

As the closest shop (Tesco Express) is situated next door at Chingford Leisure Park and there are many other amenities such as fitness centre, health centre and child's nursery at the Leisure Park next door, residents are not expected to need to walk far to these amenities. The key amenities are only a few minutes' walk away.

The closest school is Larkswood Primary Academy on New Road, which is just a 6 minutes' walk.

There is no formal pedestrian access to the site at present and this scheme will provide pedestrian and cycle access, not only to the site from New Road, but also to the neighbouring woodland of Larkswood.

There are many existing footpaths in Larkswood close to the southern and eastern boundaries of the site. The opportunity for pedestrian routes from this site to link to these existing footpaths through the woods and to the neighbouring leisure centre site are excellent.

New Road itself has a speed limit of 30mph past the site and the road is wide, which is conducive with cycling.

In terms of road safety, the entrance to the development site appears to be safe from a highway safety perspective, as there have been no accidents over the past 3 years along New Road adjacent to the boundary of the site. Over the last 3 years, there have been 7no. slight accidents on New Road further to the west, but no serious or fatal accidents in the vicinity of the development.

The proposal accords to the parking policies of the Adopted London Plan (2021), and the aims of the LBWF in that they would like to see minimal car parking per dwelling and support car-free developments.

Furthermore, the LBWF encourage low car / car-free developments. Given this development only proposes small mostly 1- and 2-bedroom flats, car-lite and car free provision is supported.

The car free nature of the residential scheme is in accordance with emerging Council Policy and is endorsed by the GLA. The new residents' lease agreements will make clear that the scheme is car free.

Based on the proposed provision of 3no. disabled spaces for this development, all 3no. parking bays on-site will have active electric vehicle charging facilities.

This scheme provides the minimum number of disabled bays that is required.

A car parking management plan will manage the demand and use of parking spaces on site.

A Car Club vehicle is proposed close to the development. This will be situated in either the neighbouring Larkswood Leisure Park car park or on-street opposite the site. This will be funded by the developer for this scheme. It will help to reduce the need for new residents at this development to have a car. The car club vehicle will provide them with a means to use a car when they need to.

An on-street parking survey was undertaken on the local residential roads within 200m of the site during the evenings of Tuesday 28th and Wednesday 29th June 2022. On average, across the four parking beats, there were 6 available spaces on Mapleton Road, 13 free spaces on New Road and 9 available on Grove Road. There were no available spaces on Woodview Avenue (which is a cul-de-sac).

Regarding the parking survey at the Leisure Park, the results also revealed this car park was not close to being at full capacity. Seven O'clock in the evening was one of the busiest times, and during this time the car park was 51% full (171 spaces occupied, 164 empty).

Based on the current proposals, the development is not expected to result in any parking stress on the internal road network or cause highway safety issues.

It is proposed that Block A cycle store will comprise 56 standard cycle spaces and 4 non-standard cycle spaces. The cycle store for Block B will accommodate 90 standard cycle spaces and 4 non-standard cycle spaces. This provides a total of 154 residential cycle spaces, which exceeds the minimum required and is welcomed by the local authority.

The proposed development utilises New Road to enter the site. The main access into the development from New Road caters for cars, delivery vehicles, servicing vehicles, pedestrians and cyclists.

The 72no.residential units are expected to generate a total of 3no. vehicle in trips and 8no. vehicle trips out in the AM peak and 8no. vehicle trips in and 5no. vehicle trips out in the PM peak.

Over a whole day, a total of 2 servicing vehicles and 10 LGVs are expected to enter the development.

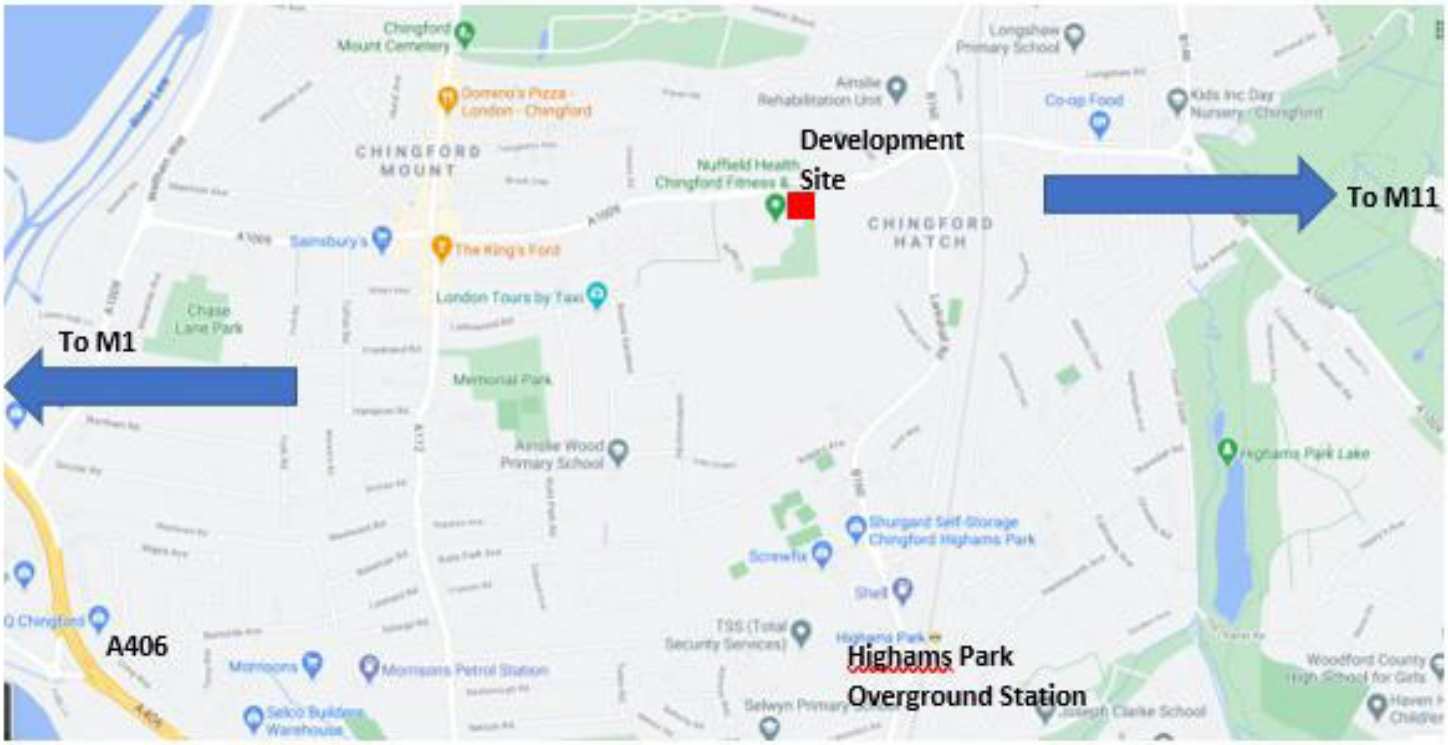
Overall, based on the number of vehicular trips generated by the development during peak hours, no adverse traffic impact or safety impact on the existing road network is anticipated.

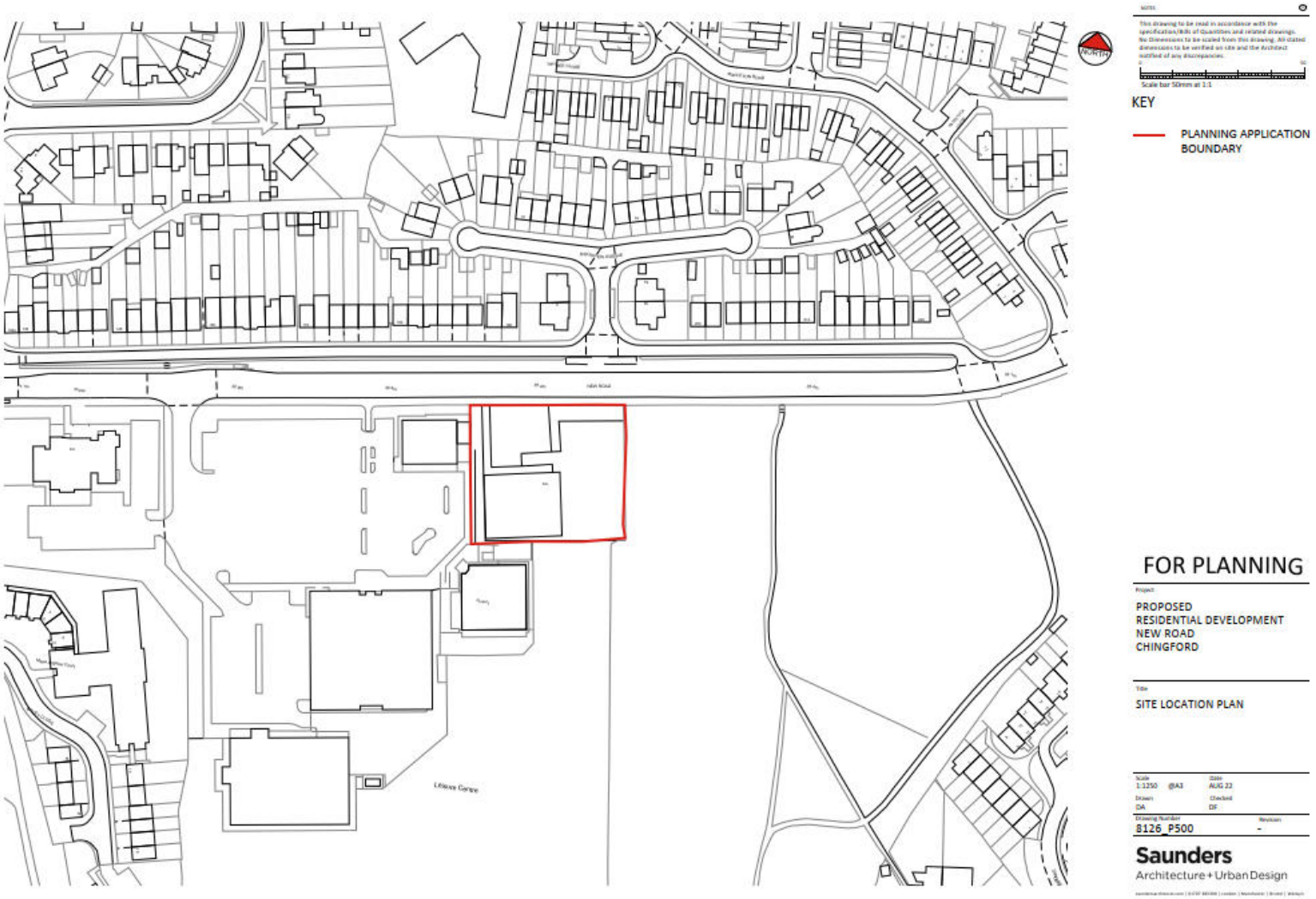
The development will, however, promote sustainable methods of travel through the Residential Travel Plan. Residents will be encouraged to either walk, cycle or use public transport to promote sustainable methods of transportation. The Residential

Travel Plan for the development will highlight the measures and targets to support sustainable transport for the site.

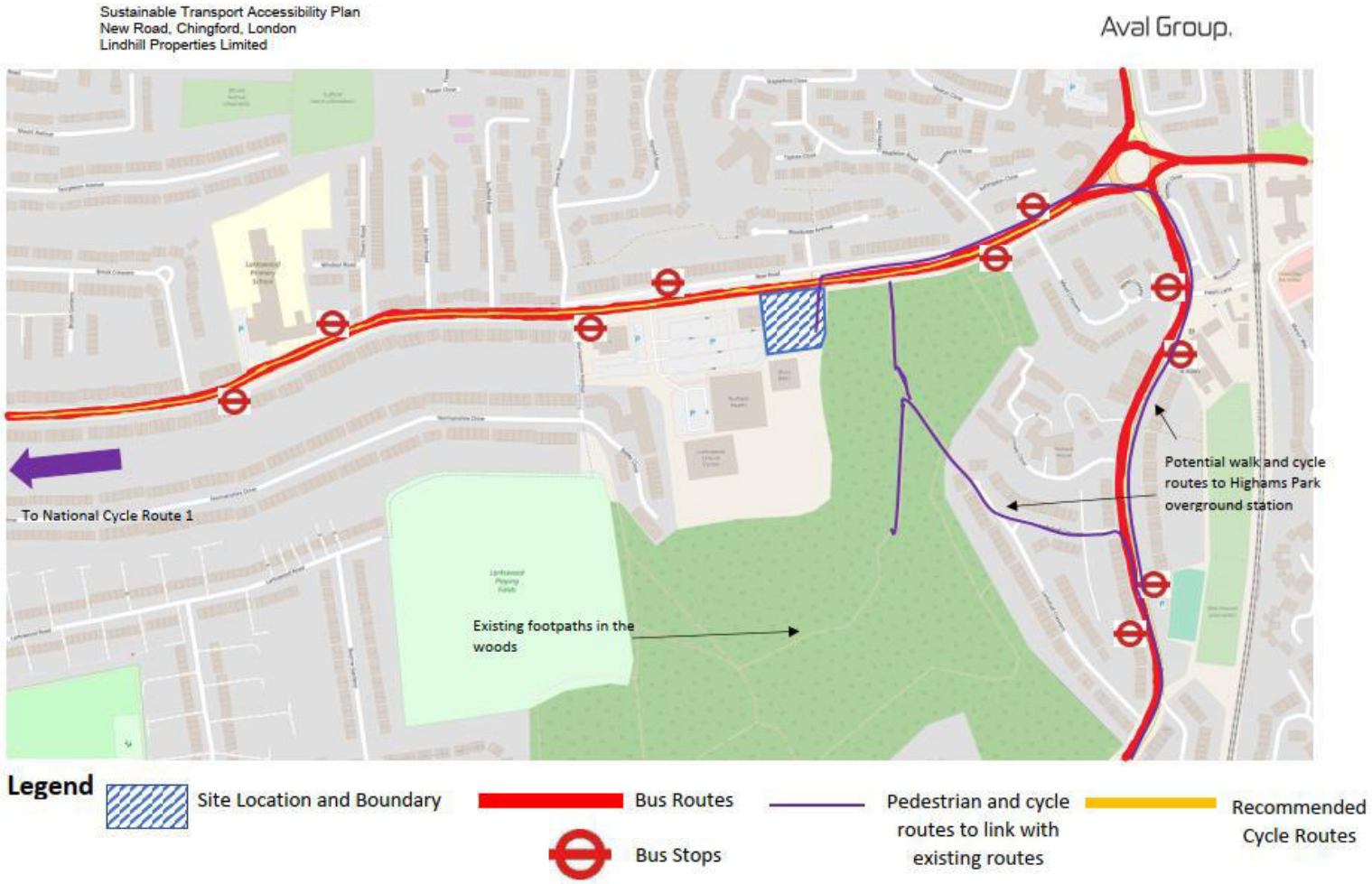
In conclusion, there should be no reasons on transport, highways, parking or servicing grounds why this proposal should not be acceptable to the LBWF.

Appendix A: Site Location Plan

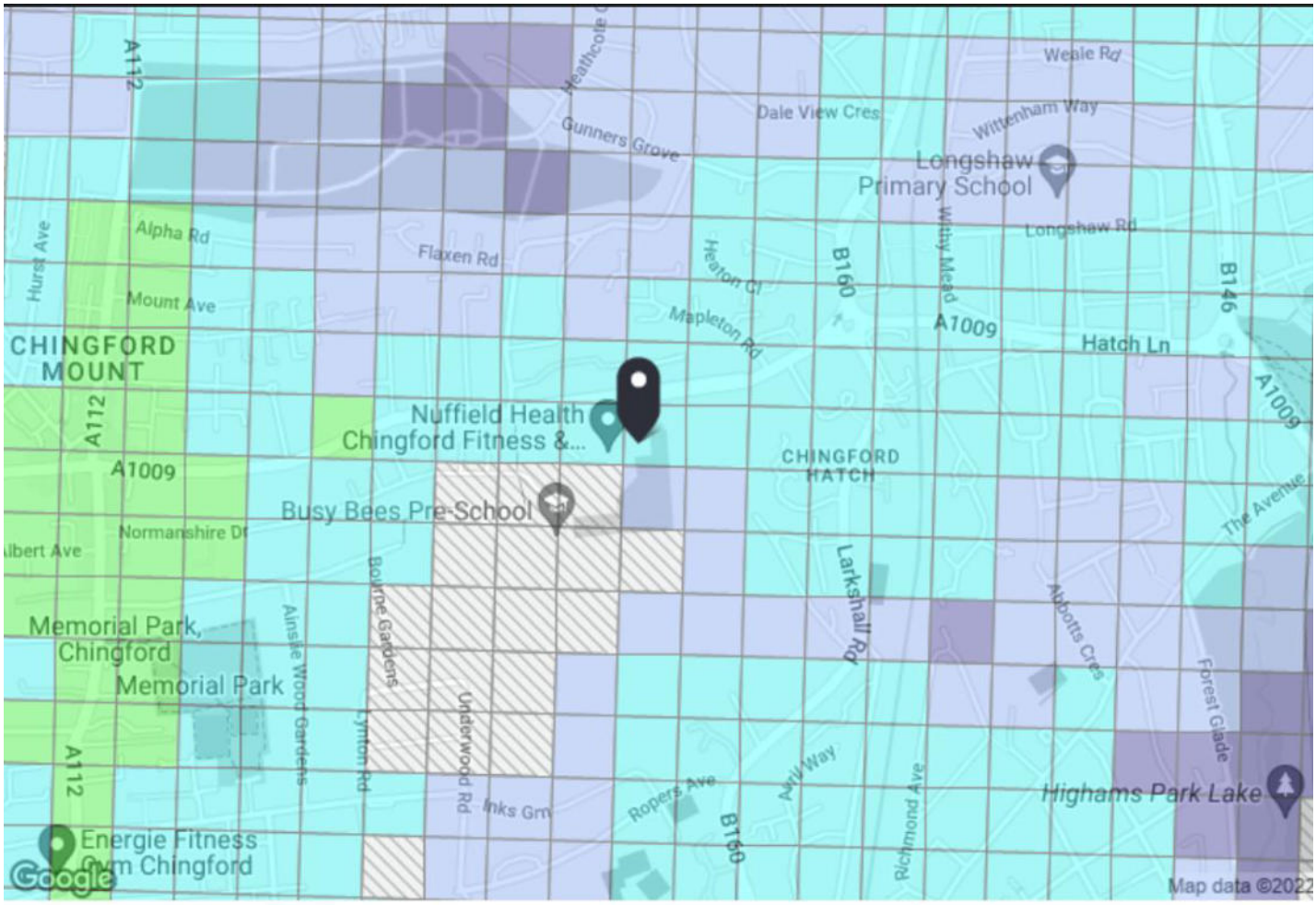



KEY
PLANNING APPLICATION BOUNDARY
FOR PLANNING
PROPOSED
RESIDENTIAL DEVELOPMENT
NEW ROAD
CHINGFORD
SITE LOCATION PLAN
8126_P500
Saunders
Architecture + Urban Design

Appendix B: Site Accessibility and Local Walk Routes



Appendix C: PTAL Report



PTAL output for Base Year
2
Easting: **538223**, Northing: **192825**

Appendix D: Parking Survey Data


Mapleton Road
Woodview Avenue
Grove Road
New Road Pt 2
New Road Pt.1
Site
Parking beats in car park
Harold Rd
New Rd
A1009
Premier Stores
Aurora Terrazzo
Extra Kold Refrigeration
Larkswood leisure park
Nuffield Physio
Andy Johns Grade Six Instruction
Magiclean Carpet Cleaning
Normanshire Dr

21:30 Tuesday 28/06/2022

	Unrestricted Kerb Space											
Street	**Total Length of Available Kerb Space (m)**	**Length of Junctions**	**Length of Bus stops/other**	Length (m)	Calculated Spaces	Cars Parked (m)	Actual cars	**Stress**	**Available**	**Note**	**Car spaces available**	
Mapleton Road	47	-	0			16.8	4	**36%**	**64%**	**Cars parked along drives**		6
New Road Pt.1	81	-	0			65.8	12	**81%**	**19%**	**Single Side Parking, Cars parked along drives**		3
Woodview Avenue	117.4	-	0			123	22	**105%**	**-5%**	**Curbed Parking, Cars Parked blocking drives**		-1
New Road Pt.2	79.9	-	0			43.2	9	**54%**	**46%**	**Single side parking 1 disabled, 1 skip, Cars parked along drives**		7
Grove Road	123.9		0			80.9	17	**65%**	**35%**			9
		Total per Beat				329.7	64				24	

22:00 Tuesday 28/06/2022

	Unrestricted Kerb Space											
Street	**Total Length of Available Kerb Space (m)**	**Length of Junctions**	**Length of Bus stops/other**	Length (m)	Calculated Spaces	Cars Parked (m)	Actual cars	**Stress**	**Available**	**Note**	**Car spaces available**	
Mapleton Road	47	-	0			16.8	4	**36%**	**64%**	**Cars parked along drives**		6
New road Pt.1	81	-	0			65.8	12	**81%**	**19%**	**Single Side Parking, Cars parked along drives**		3
Woodview Avenue	117.4	-	0			123	22	**105%**	**-5%**	**Curbed Parking, Cars Parked blocking drives**		-1
New Road Pt.2	79.9		6.4			43.2	9	**54%**	**46%**	**Single side parking 1 disabled, 1 skip, Cars parked along drives**		7
Grove road	123.9		0			80.9	17	**65%**	**35%**			9
		Total per Beat				329.7	64					

20:00 Wednesday 29/06/2022

	Unrestricted Kerb Space											
Street	**Total Length of Available Kerb Space (m)**	**Length of Junctions**	**Length of Bus stops/other**	Length (m)	Calculated Spaces	Cars Parked (m)	Actual cars	**Stress**	**Available**	**Note**	**Car spaces available**	
Mapleton Road	47		0			16.8	4	**36%**	**64%**	**Cars parked along drives**		6
New road Pt.1	81		0			56.3	10	**70%**	**30%**	**Single Side Parking, Cars parked along drives**		5
Woodview Avenue	117.4		0			111.6	20	**95%**	**5%**	**Curbed Parking, Cars Parked blocking drives**		1
New Road Pt.2	79.9		19.1			27.5	6	**34%**	**66%**	**Single Side Parking, Traffic Cones (see pictures) 19.1m, Cars parked along drives**		10
Grove road	123.9		0			76.3	16	**62%**	**38%**			10
		Total per Beat				288.5	56					

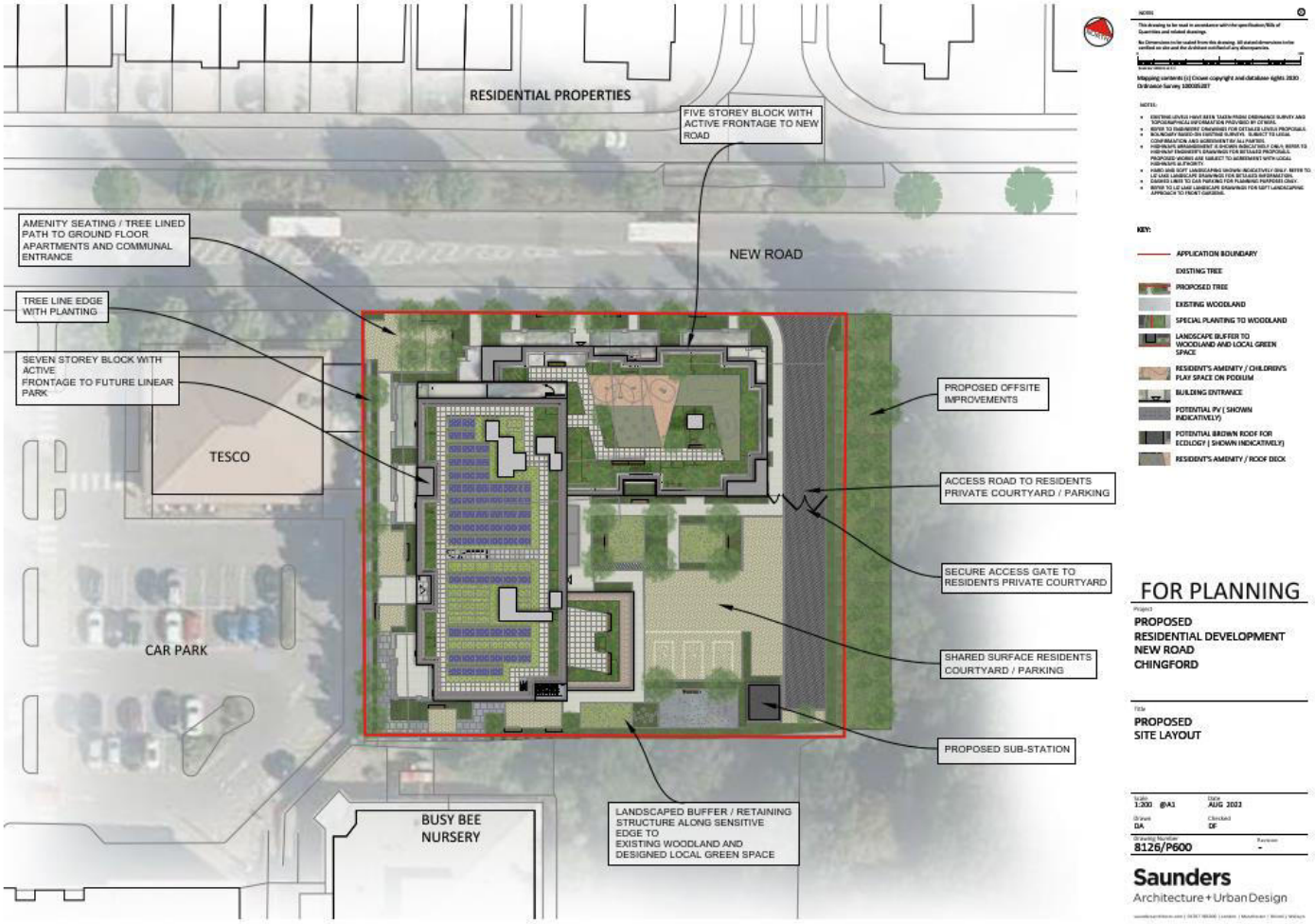
20:30 Wednesday 29/06/2022

	Unrestricted Kerb Space										
Street	**Total Length of Available Kerb Space (m)**	**Length of Junctions**	**Length of Bus stops/other**	Length (m)	Calculated Spaces	Cars Parked (m)	Actual cars	**Stress**	**Available**	**Note**	
Mapleton Road	47		0			21.1	5	**45%**	**55%**	**Cars parked along drives**	5
New road Pt.1	81		0			56.3	10	**70%**	**30%**	**Single Side Parking, Cars parked along drives**	5
Woodview Avenue	117.4		0			111.6	20	**95%**	**5%**	**Curbed Parking, Cars Parked blocking drives**	1
New Road Pt.2	79.9		19.1			27.5	6	**34%**	**66%**	**Single Side Parking, Traffic Cones (see pictures) 19.1m, Cars parked along drives**	10
Grove road	123.9		0			81	17	**65%**	**35%**		9
		Total per Beat				297.5	58				30

CAR PARK

Day: 28.6.22		Normal	Disabled	Family Spaces		Normal	Disabled	Family Spaces	Notes	Empty			
Beat 1	**Time**	**Number of empty spaces**			**Number of taken spaces**					Normal	Disabled	Family Spaces	
Harvester	20:30	40	3	0		14	3	0	1 Loading	26	0	0	
Chingford Leisure Centre	20:30	48	8	0		18	2	0	Coach Drop Off	30	6	0	
Main Car Park	20:30	224	7	5		56	2	4	Family Spaces near Nursery,	168	5	1	
	Total	**312**	**18**	**5**	**Total**	**88**	**7**	**4**		**224**	**11**	**1**	
	Grand Total	***335***			***Grand Total***	***99***							
						30%							
Day:29.6.22													
Beat 1	**Time**	**Number of empty spaces**			**Number of taken spaces**					Normal	Disabled	Family Spaces	
Harvester	12:30	40	3	0		16	2	0		24	1	0	
Chingford Leisure Centre	12:30	48	8	0		27	2	0		21	6	0	
Main Car Park	12:30	224	7	5		104	5	5		120	2	0	
					Total	**147**	**9**	**5**		**165**	**9**	**0**	
					Grand Total	***161***							
Beat 2	**Time**	**Number of empty spaces**			**Number of taken spaces**	48%				Normal	Disabled	Family Spaces	
Harvester	16:15	40	3	0		16	1	0		24	2	0	
Chingford Leisure Centre	16:15	48	8	0		44	1	0		4	7	0	
Main Car Park	16:15	224	7	5		62	7	4	Includes 1 Motorcycle	162	0	1	
					Total	**122**	**9**	**4**		**190**	**9**	**1**	
					Grand Total	***135***							
Beat 3	**Time**	**Number of empty spaces**			**Number of taken spaces**	40%				Normal	Disabled	Family Spaces	
Harvester	19:00	40	3	0		27	2	0		13	1	0	
Chingford Leisure Centre	19:00	48	8	0		26	4	0		22	4	0	
Main Car Park	19:00	224	7	5		104	3	5		120	4	0	
					Total	**157**	**9**	**5**		**155**	**9**	**0**	
					Grand Total	***171***							
						51%							
Day:30.6.22													
Beat 1	**Time**	**Number of empty spaces**			**Number of taken spaces**					Normal	Disabled	Family Spaces	
Harvester	12:00	40	3	0		7	0	0		33	3	0	
Chingford Leisure Centre	12:00	48	8	0		18	1	0		30	7	0	
Main Car Park	12:00	224	7	5		117	3	4		107	4	1	
					Total	**142**	**4**	**4**		**170**	**14**	**1**	
					Grand Total	***150***							
Beat 2	**Time**	**Number of empty spaces**			**Number of taken spaces**	45%				Normal	Disabled	Family Spaces	
Harvester	16:00	40	3	0		17	1	0		23	2	0	
Chingford Leisure Centre	16:00	48	8	0		24	1	0		24	7	0	
Main Car Park	16:00	224	7	5		89	6	4		135	1	1	
					Total	**130**	**8**	**4**		**182**	**10**	**1**	
					Grand Total	***142***							
						42%							

Appendix E: Proposed Site Layout Plan



NOTE:

- BASE DRAWING PROVIDED BY OTHERS
- SITE BOUNDARY TO BE CONFIRMED
- ARBORICULTURE CONSTRAINTS AND ROOT PROTECTION AREAS TO BE CONFIRMED
- ALL LEVELS SUBJECT TO SURVEY AND INSPECTION.
- ALL BACK TO BACKS TO BE ASSESSED AGAINST LOCAL AUTHORITY GUIDELINES.
- DISTANCE FROM EXISTING BOUNDARY TO BE ASSESSED AGAINST LOCAL AUTHORITY GUIDELINES.

LANDSCAPING SHOWN INDICATIVELY. REFER TO LANDSCAPE ARCHITECTS DETAILS.

PLANNING ISSUE

PROPOSED RESIDENTIAL DEVELOPMENT
NEW ROAD CHINGFORD

PROPOSED GROUND FLOOR PLAN

Drawing Number 8126_P700

Saunders
Architecture+Urban Design


RESIDENTIAL PROPERTIES
NEW ROAD
KEY:
MASTERPLAN BOUNDARY
APPLICATION BOUNDARY
FOR PLANNING
PROPOSED
RESIDENTIAL DEVELOPMENT
NEW ROAD
CHINGFORD
PROPOSED
SITE LAYOUT
(WITHIN MASTERPLAN)
1:500 @A1
AUG 2022
DA
DF
8126/P601
Saunders
Architecture+UrbanDesign

Appendix F: Car Club Proposal

Car Club proposal for
The Former
Landscapers Yard,
New Road,
Chingford.

June 2022

Aval Group.

New Road Car Club - Introduction

Enterprise Car Club is an hourly, self-service car rental company, available to members 24/7/365. Vehicles can be picked up in and around a city or region and booked in advance or at the last minute. Located in over 180 UK cities and communities our 100,000+ members have access to over 2,500 cars and vans.

Enterprise Holdings is the parent company of Enterprise Car Club. A car club is a natural extension of the local car-rental service that Enterprise Rent-A-Car has pioneered in the UK over the last 20 years.

Enterprise Car Club will be able to provide new communities with a wider variety of vehicles backed by the Enterprise Rent-A-Car neighbourhood network and award-winning customer service.

Enterprise Car Club already hosts over 150 vehicles at developments across the UK. These range from City Centre residential developments in London and major regional cities (e.g., Manchester, Leeds, Bristol, Edinburgh, Glasgow, and Newcastle), to mixed use developments, business parks and non-city centre locations on the fringes of cities or outside major conurbations.

The mobility decisions and behaviour of residents of new developments/communities (business or private) are influenced by their mobility needs in and around their new location, but also across the region and country. A good range of mobility solutions in one and not the other risks travel behaviours remaining focussed on vehicle ownership and far lower adoption of more sustainable and multi-modal options.

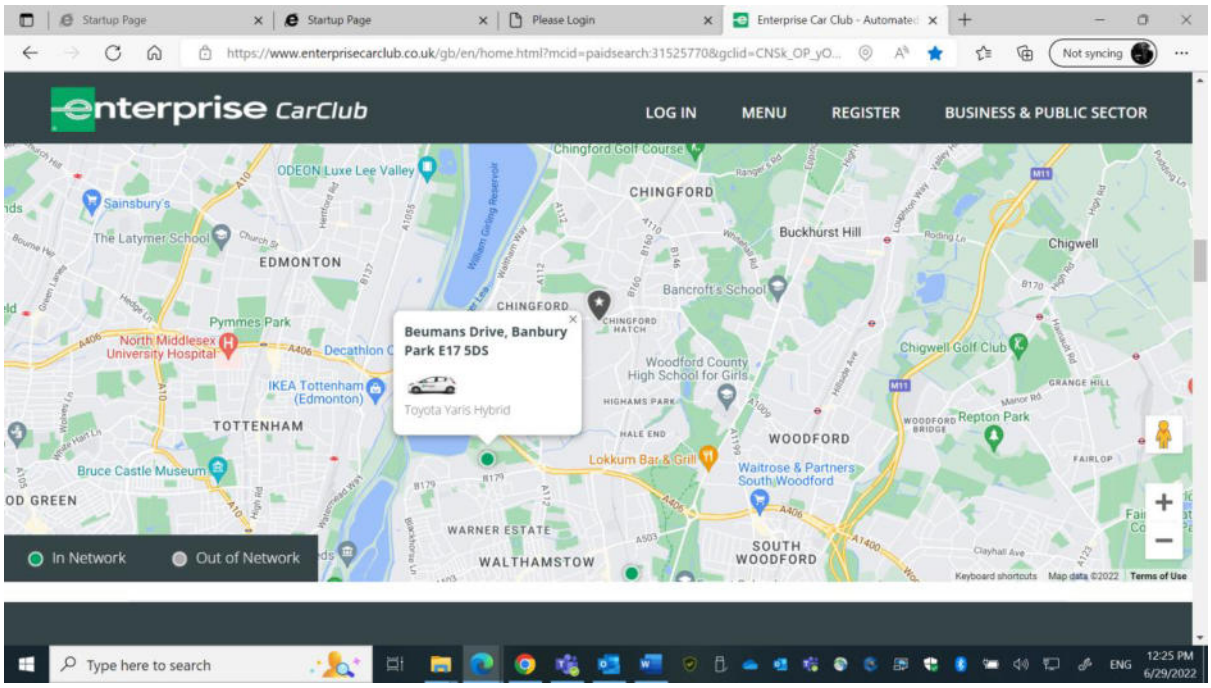
Enterprise has an already established and rapidly expanding national car club and car rental network providing shared mobility from Inverness to the Isle of Wight, Northern Ireland to East Anglia. Large urban centres are covered but towns and smaller communities are also now served by Enterprise Car Club and Enterprise Rent-A-Car. By the time this new development starts to be occupied mobility solutions from Enterprise will be available across the UK integrated physically and digitally alongside other sustainable modes such as public transport, active travel, and shared mobility options. Enterprise Car Club already has vehicles within 500 metres of 181 UK train station. These stations represent 34% of UK national rail journeys.

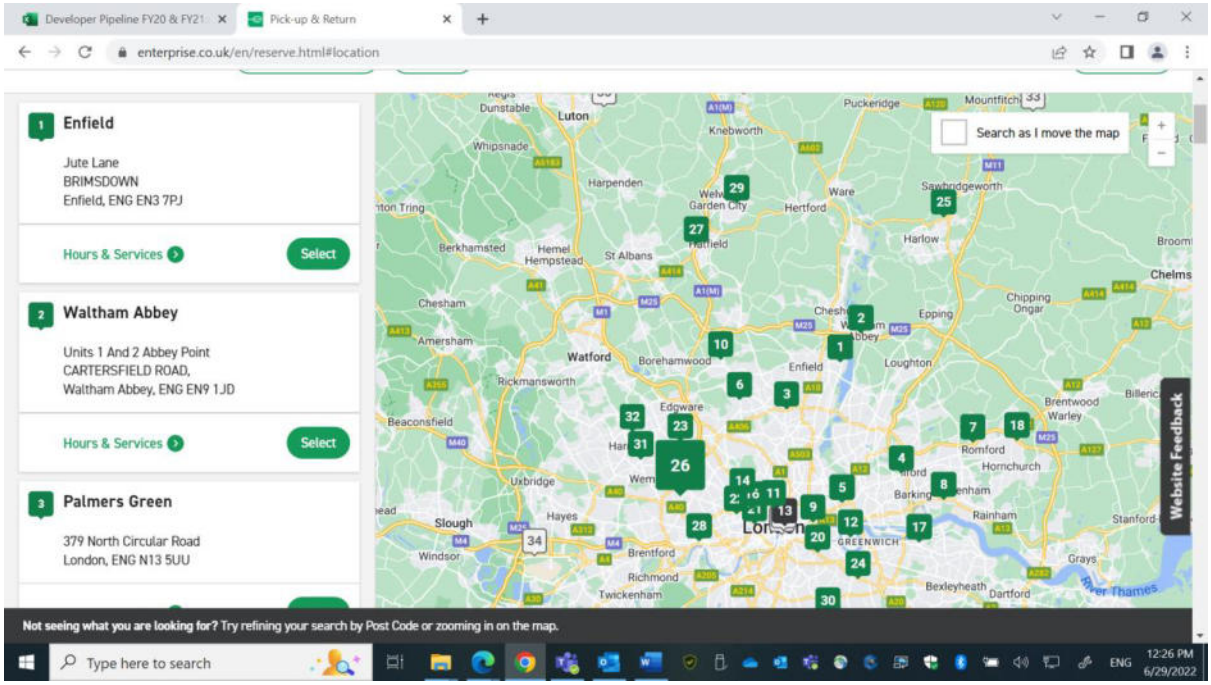
Enterprise Car Club in integrated with Enterprise Rent-A-Car as a brand, business, and proposition for residents of the development. This means that personal members of Enterprise Car Club will receive a discount with Enterprise Rent-A-Car and can access all its services in the immediate area around the development and across the UK. Together this integrated approach provides the most powerful alternative to car ownership for individuals and businesses.

Enterprise in the area around The Former Landscapers Yard, New Road, Chingford.

Currently Enterprise Car Club does not have a prescence in the local area (see first map). Discussions are ongoing to expand this in partnerships with council's, train operators and developers. This car club presence is supported by a strong branch presence (see second map) and Enterprise also has "month or more" and commercial vehicles options in the region via Enterprise Flex-E-Rent.

Combined these options make Enterprise the best possible mobility partner for the New Road community whether residents need a car for a few hours, days or months.





The National Car Club

New Road residents will also have access via their Car Club membership to over 2,500 vehicles across the UK. The map below shows the current Enterprise Car Club network which is expanding rapidly.

New Road residents who join Enterprise Car Club can use any of these vehicles and if bookings are cancelled more than 5 hours in advance there are no charges. Enterprise locates car club vehicles with public transport in mind enabling members to travel in combination with public transport and only driving for the smallest possible portion of the journey. One example of this is Enterprise Car Club's presence along the LNER network connecting York to Darlington, Durham, Newcastle, Berwick-upon-Tweed, and Edinburgh to the north and Wakefield, Doncaster, Newark, Peterborough, and London Kings Cross to the south.

Car Club Proposal for The Former Landscapers Yard, New Road, Chingford.

Given the scale of the development (72 units) we advise the following:

- Minimum car club – Up to 2 vehicles, on a 2 Year Rolling Contract. Beginning with 1. For additional vehicles see the highlighted bullet point below.
- Vehicles provided – petrol/hybrid – preference would be Hybrid - EV's can be supplied provided correct charging infrastructure with minimum 7kw charging in place.
- Total cost - £20,000 ex VAT.
- **Additional vehicles could be provided when commercially viable to do so at no additional cost. Enterprise and the client will develop a utilisation model which will trigger additional vehicles in response to demand. This model will consider utilisation levels above 30% and the distribution of demand across the week and working week. If you wish for a larger car club fleet on site when the above model does not deem it commercially viable, additional vehicles can be provided at £10,000 ex VAT.**
- Incentive for site only residents – 2 year's free membership of Enterprise Car Club and £50 drive time.
- The offer will be provided to multiple residents at the same address and throughout the contracted period.
- All residents joining would also be able to get a discount with Enterprise Rent-A-Car. The combination of car club and car rental is very attractive to people as an alternative to car ownership. This would be promoted via a leaflet customised to the offer (see below example), via digital/social media marketing and events
- Any Businesses located at the development site will be provided with free Enterprise Car Club membership for themselves and their employees
- Attendance at sales and promotional events
- Dedicated 24/7 Clubhouse Team and 24/7/365 online reservation system available, by phone or on our app.
- Creation of reports and statistics for the developer and council.
- Zero vehicle maintenance and cleaning responsibilities.
- Dedicated personal development account manager.
- Car Club personal members will receive discount on rentals with Enterprise-Rent-A-Car. Details of nearest branch are below which offers a free "We'll pick you up service".
- Car Club members holding both a corporate and personal membership can link their accounts, so they can have a single sign on to the car club booking system.

One Enterprise and Future Mobility

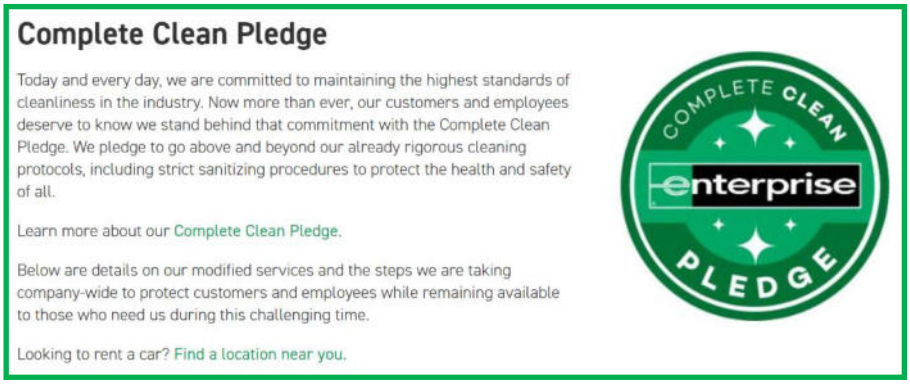
Car Club usage can be supported and supplemented day traditional car rental (typically for longer journeys) via a local branch and the free "We'll pick you up service" or a delivery service to the business park. One-way hires are available via the traditional Enterprise Rent-A-Car network.

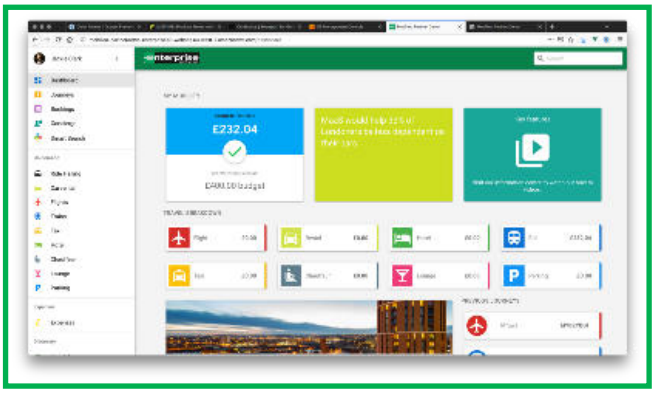
Enterprise has developed "Enterprise Travel Direct" ETD to assist businesses wishing employees to have access to both car club and daily rental mobility options alongside the use of employee's own cars for business mobility (grey fleet). ETD allows businesses to load the parameters of their travel policy/hierarchy into the system to manage and direct their employees to the travel option most suitable to their needs in terms of cost, carbon savings etc.

Enterprise is developing Mobility as a Service and Ridesharing services which can also assist business parks provide efficient mobility for residents.

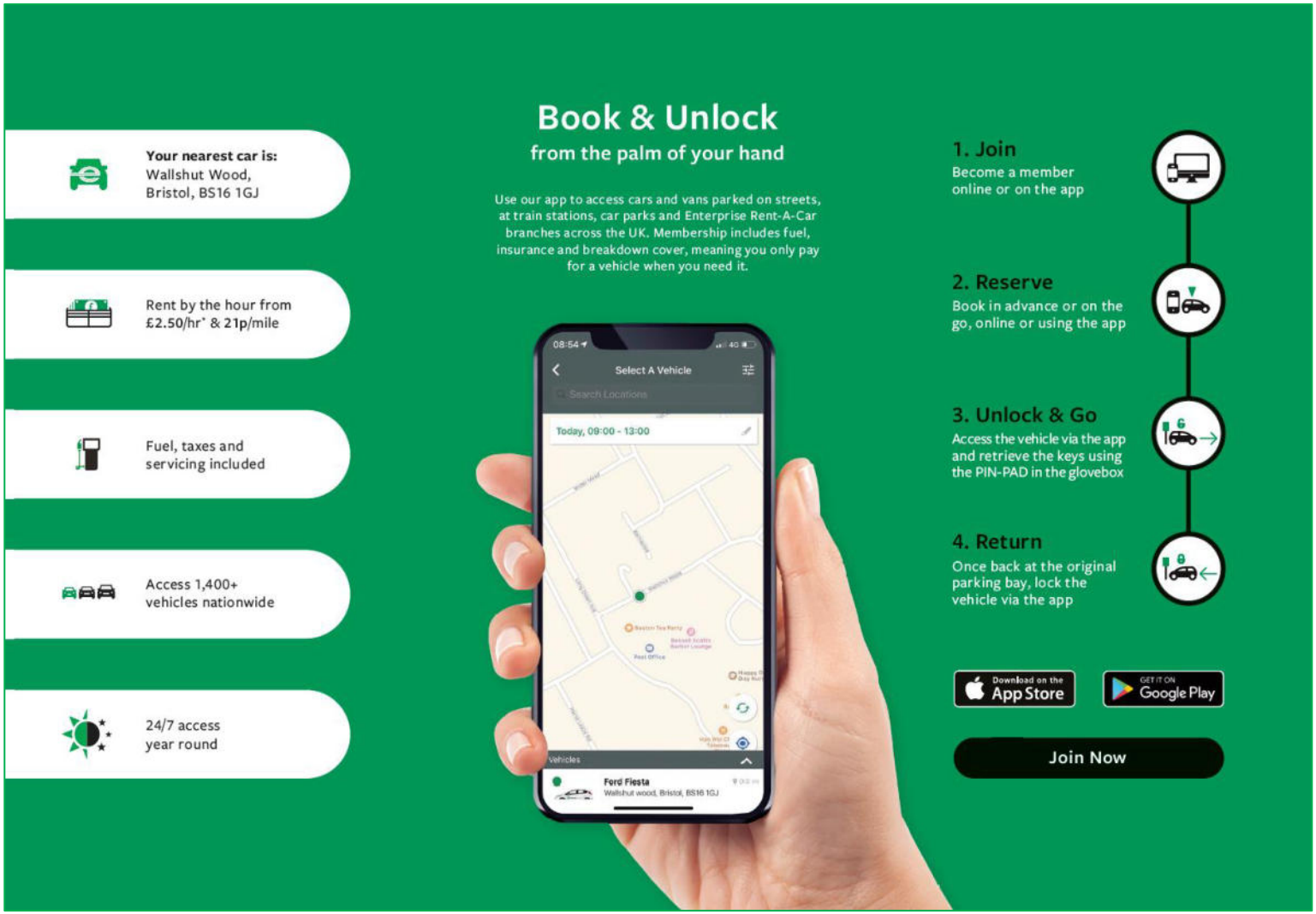
Globally, Enterprise is at the forefront of new mobility solutions and over $2 billion has been invested in a variety of businesses and technologies that will be critical in solving many of the current and future mobility challenges. Enterprise is seeking to bring innovative Mobility as a Service (MAs) platforms to cities and large sites that will provide users with transport on demand across all modes. Employees could receive "Mobility Credits" from employers and the platform could be white labelled to the location or business.

In response to the changing mobility required by employers in 2020-2021 due to the COVID19 situation Enterprise is working to evolve new solutions for employers to assist with employee mobility during the working day and for the employees commute to work. More information will be made available as requested. Enterprise also has implemented a clean car pledge because of the current COVID19 situation. See below for more details.





Example Marketing Leaflet


Your nearest car is:
Wallshut Wood,
Bristol, BS16 1GJ
Rent by the hour from
£2.50/hr* & 21p/mile
Fuel, taxes and
servicing included
Access 1,400+
vehicles nationwide
24/7 access
year round
Book & Unlock
from the palm of your hand
Use our app to access cars and vans parked on streets, at train stations, car parks and Enterprise Rent-A-Car branches across the UK. Membership includes fuel, insurance and breakdown cover, meaning you only pay for a vehicle when you need it.
08:54
Select A Vehicle
Search Locations
Today, 09:00 - 13:00
Vehicles
Ford Fiesta
Wallshut wood, Bristol, BS16 1GJ
1. Join
Become a member online or on the app
2. Reserve
Book in advance or on the go, online or using the app
3. Unlock & Go
Access the vehicle via the app and retrieve the keys using the PIN-PAD in the glovebox
4. Return
Once back at the original parking bay, lock the vehicle via the app
Download on the App Store
GET IT ON Google Play
Join Now

Appendix G: Trip Generation Data

Calculation Reference: AUDIT-808401-220623-0649

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
Category : C - FLATS PRIVATELY OWNED

MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

01	**GREATER LONDON**		
	SK	SOUTHWARK	1 days
	WF	WALTHAM FOREST	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
09	**NORTH**		
	CB	CUMBRIA	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: 22 to 33 (units:)
Range Selected by User: 20 to 400 (units:)

Parking Spaces Range: Selected: 2 to 20 Actual: 2 to 550

Parking Spaces per Dwelling Range: Selected: 0 to 0.6 Actual: 0.07 to 4.38

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: 01/01/14 to 15/10/21

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

Selected survey days:

Monday	1 days
Wednesday	1 days
Thursday	1 days
Friday	1 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	1
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	2
Built-Up Zone	1
No Sub Category	1

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

Secondary Filtering selection:

Use Class:

C3	4 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

20,001 to 25,000	2 days
25,001 to 50,000	1 days
100,001 or More	1 days

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

Population within 5 miles:

25,001 to 50,000	1 days
250,001 to 500,000	1 days
500,001 or More	2 days

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

Car ownership within 5 miles:

0.5 or Less	1 days
0.6 to 1.0	1 days
1.1 to 1.5	2 days

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

Travel Plan:

Yes	1 days
No	3 days

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

PTAL Rating:

No PTAL Present	2 days
3 Moderate	1 days
6b (High) Excellent	1 days

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

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions

LIST OF SITES relevant to selection parameters

1 **CB-03-C-03** **FLATS & BUNGALOWS** **CUMBRIA**
LOUND STREET
KENDAL

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 33
Survey date: MONDAY *09/06/14* *Survey Type: MANUAL*

2 **DS-03-C-03** **BLOCKS OF FLATS** **DERBYSHIRE**
CAESAR STREET
DERBY

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 30
Survey date: WEDNESDAY *25/09/19* *Survey Type: MANUAL*

3 **SK-03-C-02** **BLOCK OF FLATS** **SOUTHWARK**
LAMB WALK
BERMONDSEY

Edge of Town Centre
Built-Up Zone
Total No of Dwellings: 29
Survey date: THURSDAY *23/04/15* *Survey Type: MANUAL*

4 **WF-03-C-03** **FLATS & TERRACED HOUSES** **WALTHAM FOREST**
FOREST ROAD
WALTHAMSTOW

Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total No of Dwellings: 22
Survey date: FRIDAY *21/05/21* *Survey Type: MANUAL*

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

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

MULTI-MODAL TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 3.11

	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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.035	4	29	0.026	4	29	0.061
08:00 - 09:00	4	29	0.044	**4**	**29**	**0.105**	4	29	0.149
09:00 - 10:00	4	29	0.096	4	29	0.096	**4**	**29**	**0.192**
10:00 - 11:00	4	29	0.079	4	29	0.088	4	29	0.167
11:00 - 12:00	4	29	0.096	4	29	0.070	4	29	0.166
12:00 - 13:00	4	29	0.061	4	29	0.044	4	29	0.105
13:00 - 14:00	4	29	0.026	4	29	0.044	4	29	0.070
14:00 - 15:00	4	29	0.061	4	29	0.088	4	29	0.149
15:00 - 16:00	4	29	0.053	4	29	0.035	4	29	0.088
16:00 - 17:00	4	29	0.061	4	29	0.053	4	29	0.114
17:00 - 18:00	**4**	**29**	**0.105**	4	29	0.070	4	29	0.175
18:00 - 19:00	4	29	0.070	4	29	0.044	4	29	0.114
19:00 - 20:00	2	26	0.039	2	26	0.039	2	26	0.078
20:00 - 21:00	2	26	0.020	2	26	0.020	2	26	0.040
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.846			0.822			1.668

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:	22 - 33 (units:)
Survey date date range:	01/01/14 - 15/10/21
Number of weekdays (Monday-Friday):	4
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/C - FLATS PRIVATELY OWNED

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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	**4**	**29**	**0.009**	**4**	**29**	**0.009**	**4**	**29**	**0.018**
08:00 - 09:00	4	29	0.000	4	29	0.000	4	29	0.000
09:00 - 10:00	4	29	0.000	4	29	0.000	4	29	0.000
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.000	4	29	0.000	4	29	0.000
13:00 - 14:00	4	29	0.000	4	29	0.000	4	29	0.000
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.000	4	29	0.000	4	29	0.000
17:00 - 18:00	4	29	0.000	4	29	0.000	4	29	0.000
18:00 - 19:00	4	29	0.009	4	29	0.009	4	29	0.018
19:00 - 20:00	2	26	0.000	2	26	0.000	2	26	0.000
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
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/C - FLATS PRIVATELY OWNED
MULTI-MODAL OGVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.000	4	29	0.000	4	29	0.000
08:00 - 09:00	**4**	**29**	**0.009**	**4**	**29**	**0.009**	**4**	**29**	**0.018**
09:00 - 10:00	4	29	0.000	4	29	0.000	4	29	0.000
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.009	4	29	0.009	4	29	0.018
13:00 - 14:00	4	29	0.000	4	29	0.000	4	29	0.000
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.000	4	29	0.000	4	29	0.000
17:00 - 18:00	4	29	0.000	4	29	0.000	4	29	0.000
18:00 - 19:00	4	29	0.000	4	29	0.000	4	29	0.000
19:00 - 20:00	2	26	0.000	2	26	0.000	2	26	0.000
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
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/C - FLATS PRIVATELY OWNED
MULTI-MODAL PSVS
Calculation factor: 1 DWELLS
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.000	4	29	0.000	4	29	0.000
08:00 - 09:00	4	29	0.000	4	29	0.000	4	29	0.000
09:00 - 10:00	4	29	0.000	4	29	0.000	4	29	0.000
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.000	4	29	0.000	4	29	0.000
13:00 - 14:00	4	29	0.000	4	29	0.000	4	29	0.000
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.000	4	29	0.000	4	29	0.000
17:00 - 18:00	**4**	**29**	**0.009**	**4**	**29**	**0.009**	**4**	**29**	**0.018**
18:00 - 19:00	4	29	0.000	4	29	0.000	4	29	0.000
19:00 - 20:00	2	26	0.000	2	26	0.000	2	26	0.000
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
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/C - FLATS PRIVATELY OWNED

MULTI-MODAL CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.009	4	29	0.026	4	29	0.035
08:00 - 09:00	4	29	0.000	**4**	**29**	**0.035**	4	29	0.035
09:00 - 10:00	4	29	0.018	4	29	0.018	4	29	0.036
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.000	4	29	0.000	4	29	0.000
13:00 - 14:00	4	29	0.000	4	29	0.000	4	29	0.000
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.000	4	29	0.000	4	29	0.000
17:00 - 18:00	4	29	0.035	4	29	0.009	**4**	**29**	**0.044**
18:00 - 19:00	4	29	0.009	4	29	0.009	4	29	0.018
19:00 - 20:00	**2**	**26**	**0.039**	2	26	0.000	2	26	0.039
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.110			0.097			0.207

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

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

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

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.035	4	29	0.035	4	29	0.070
08:00 - 09:00	4	29	0.079	**4**	**29**	**0.167**	**4**	**29**	**0.246**
09:00 - 10:00	4	29	0.096	4	29	0.132	4	29	0.228
10:00 - 11:00	4	29	0.079	4	29	0.096	4	29	0.175
11:00 - 12:00	**4**	**29**	**0.140**	4	29	0.079	4	29	0.219
12:00 - 13:00	4	29	0.070	4	29	0.061	4	29	0.131
13:00 - 14:00	4	29	0.035	4	29	0.053	4	29	0.088
14:00 - 15:00	4	29	0.061	4	29	0.140	4	29	0.201
15:00 - 16:00	4	29	0.079	4	29	0.044	4	29	0.123
16:00 - 17:00	4	29	0.079	4	29	0.053	4	29	0.132
17:00 - 18:00	4	29	0.123	4	29	0.088	4	29	0.211
18:00 - 19:00	4	29	0.088	4	29	0.079	4	29	0.167
19:00 - 20:00	2	26	0.039	2	26	0.039	2	26	0.078
20:00 - 21:00	2	26	0.039	2	26	0.020	2	26	0.059
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.042			1.086			2.128

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

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

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

MULTI-MODAL 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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.026	4	29	0.105	4	29	0.131
08:00 - 09:00	4	29	0.070	**4**	**29**	**0.202**	4	29	0.272
09:00 - 10:00	4	29	0.096	4	29	0.105	4	29	0.201
10:00 - 11:00	4	29	0.061	4	29	0.061	4	29	0.122
11:00 - 12:00	4	29	0.053	4	29	0.035	4	29	0.088
12:00 - 13:00	4	29	0.053	4	29	0.018	4	29	0.071
13:00 - 14:00	4	29	0.061	4	29	0.044	4	29	0.105
14:00 - 15:00	4	29	0.026	4	29	0.035	4	29	0.061
15:00 - 16:00	4	29	0.044	4	29	0.053	4	29	0.097
16:00 - 17:00	4	29	0.096	4	29	0.035	4	29	0.131
17:00 - 18:00	4	29	0.132	4	29	0.079	4	29	0.211
18:00 - 19:00	4	29	0.167	4	29	0.149	**4**	**29**	**0.316**
19:00 - 20:00	**2**	**26**	**0.176**	2	26	0.059	2	26	0.235
20:00 - 21:00	2	26	0.078	2	26	0.078	2	26	0.156
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.139			1.058			2.197

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

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

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

MULTI-MODAL BUS/TRAM PASSENGERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.000	**4**	**29**	**0.061**	4	29	0.061
08:00 - 09:00	4	29	0.000	4	29	0.061	4	29	0.061
09:00 - 10:00	4	29	0.009	4	29	0.026	4	29	0.035
10:00 - 11:00	4	29	0.000	4	29	0.018	4	29	0.018
11:00 - 12:00	4	29	0.009	4	29	0.009	4	29	0.018
12:00 - 13:00	4	29	0.009	4	29	0.018	4	29	0.027
13:00 - 14:00	4	29	0.009	4	29	0.000	4	29	0.009
14:00 - 15:00	4	29	0.009	4	29	0.000	4	29	0.009
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.026	4	29	0.000	4	29	0.026
17:00 - 18:00	**4**	**29**	**0.079**	4	29	0.009	4	29	0.088
18:00 - 19:00	4	29	0.044	4	29	0.009	4	29	0.053
19:00 - 20:00	2	26	0.059	2	26	0.039	**2**	**26**	**0.098**
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.253			0.250			0.503

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

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

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

MULTI-MODAL TOTAL 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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.009	4	29	0.018	4	29	0.027
08:00 - 09:00	4	29	0.018	4	29	0.035	4	29	0.053
09:00 - 10:00	4	29	0.000	**4**	**29**	**0.053**	4	29	0.053
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.000	4	29	0.000	4	29	0.000
13:00 - 14:00	4	29	0.009	4	29	0.009	4	29	0.018
14:00 - 15:00	4	29	0.018	4	29	0.018	4	29	0.036
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.009	4	29	0.000	4	29	0.009
17:00 - 18:00	4	29	0.035	4	29	0.000	4	29	0.035
18:00 - 19:00	4	29	0.018	4	29	0.000	4	29	0.018
19:00 - 20:00	**2**	**26**	**0.078**	2	26	0.000	**2**	**26**	**0.078**
20:00 - 21:00	2	26	0.020	2	26	0.020	2	26	0.040
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.214			0.153			0.367

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

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.000	4	29	0.000	4	29	0.000
08:00 - 09:00	4	29	0.000	4	29	0.000	4	29	0.000
09:00 - 10:00	4	29	0.000	4	29	0.000	4	29	0.000
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.000	4	29	0.000	4	29	0.000
13:00 - 14:00	4	29	0.000	4	29	0.000	4	29	0.000
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.000	4	29	0.000	4	29	0.000
17:00 - 18:00	**4**	**29**	**0.026**	**4**	**29**	**0.009**	**4**	**29**	**0.035**
18:00 - 19:00	4	29	0.000	4	29	0.000	4	29	0.000
19:00 - 20:00	2	26	0.000	2	26	0.000	2	26	0.000
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.026			0.009			0.035

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

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

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

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.009	4	29	0.079	4	29	0.088
08:00 - 09:00	4	29	0.018	**4**	**29**	**0.096**	4	29	0.114
09:00 - 10:00	4	29	0.009	4	29	0.079	4	29	0.088
10:00 - 11:00	4	29	0.000	4	29	0.018	4	29	0.018
11:00 - 12:00	4	29	0.009	4	29	0.009	4	29	0.018
12:00 - 13:00	4	29	0.009	4	29	0.018	4	29	0.027
13:00 - 14:00	4	29	0.018	4	29	0.009	4	29	0.027
14:00 - 15:00	4	29	0.026	4	29	0.018	4	29	0.044
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.035	4	29	0.000	4	29	0.035
17:00 - 18:00	**4**	**29**	**0.140**	4	29	0.018	4	29	0.158
18:00 - 19:00	4	29	0.061	4	29	0.009	4	29	0.070
19:00 - 20:00	2	26	0.137	2	26	0.039	**2**	**26**	**0.176**
20:00 - 21:00	2	26	0.020	2	26	0.020	2	26	0.040
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.491			0.412			0.903

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

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

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

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 3.11

	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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.079	4	29	0.246	4	29	0.325
08:00 - 09:00	4	29	0.167	**4**	**29**	**0.500**	**4**	**29**	**0.667**
09:00 - 10:00	4	29	0.219	4	29	0.333	4	29	0.552
10:00 - 11:00	4	29	0.140	4	29	0.175	4	29	0.315
11:00 - 12:00	4	29	0.202	4	29	0.123	4	29	0.325
12:00 - 13:00	4	29	0.132	4	29	0.096	4	29	0.228
13:00 - 14:00	4	29	0.114	4	29	0.105	4	29	0.219
14:00 - 15:00	4	29	0.114	4	29	0.193	4	29	0.307
15:00 - 16:00	4	29	0.123	4	29	0.096	4	29	0.219
16:00 - 17:00	4	29	0.211	4	29	0.088	4	29	0.299
17:00 - 18:00	**4**	**29**	**0.430**	4	29	0.193	4	29	0.623
18:00 - 19:00	4	29	0.325	4	29	0.246	4	29	0.571
19:00 - 20:00	2	26	0.392	2	26	0.137	2	26	0.529
20:00 - 21:00	2	26	0.137	2	26	0.118	2	26	0.255
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.785			2.649			5.434

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

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

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

MULTI-MODAL 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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.026	4	29	0.018	4	29	0.044
08:00 - 09:00	4	29	0.026	4	29	0.079	4	29	0.105
09:00 - 10:00	4	29	0.061	4	29	0.079	4	29	0.140
10:00 - 11:00	4	29	0.070	4	29	0.070	4	29	0.140
11:00 - 12:00	**4**	**29**	**0.096**	4	29	0.061	**4**	**29**	**0.157**
12:00 - 13:00	4	29	0.044	4	29	0.018	4	29	0.062
13:00 - 14:00	4	29	0.026	4	29	0.044	4	29	0.070
14:00 - 15:00	4	29	0.061	**4**	**29**	**0.088**	4	29	0.149
15:00 - 16:00	4	29	0.044	4	29	0.026	4	29	0.070
16:00 - 17:00	4	29	0.053	4	29	0.044	4	29	0.097
17:00 - 18:00	4	29	0.088	4	29	0.044	4	29	0.132
18:00 - 19:00	4	29	0.053	4	29	0.026	4	29	0.079
19:00 - 20:00	2	26	0.039	2	26	0.039	2	26	0.078
20:00 - 21:00	2	26	0.020	2	26	0.020	2	26	0.040
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.707			0.656			1.363

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL 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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.000	4	29	0.000	4	29	0.000
08:00 - 09:00	4	29	0.009	**4**	**29**	**0.018**	4	29	0.027
09:00 - 10:00	**4**	**29**	**0.035**	4	29	0.018	**4**	**29**	**0.053**
10:00 - 11:00	4	29	0.009	4	29	0.018	4	29	0.027
11:00 - 12:00	4	29	0.000	4	29	0.009	4	29	0.009
12:00 - 13:00	4	29	0.009	4	29	0.018	4	29	0.027
13:00 - 14:00	4	29	0.000	4	29	0.000	4	29	0.000
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.009	4	29	0.009	4	29	0.018
16:00 - 17:00	4	29	0.009	4	29	0.009	4	29	0.018
17:00 - 18:00	4	29	0.009	4	29	0.009	4	29	0.018
18:00 - 19:00	4	29	0.009	4	29	0.009	4	29	0.018
19:00 - 20:00	2	26	0.000	2	26	0.000	2	26	0.000
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.098			0.117			0.215

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

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

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

MULTI-MODAL 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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.000	4	29	0.000	4	29	0.000
08:00 - 09:00	4	29	0.000	4	29	0.000	4	29	0.000
09:00 - 10:00	4	29	0.000	4	29	0.000	4	29	0.000
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.000	4	29	0.000	4	29	0.000
13:00 - 14:00	4	29	0.000	4	29	0.000	4	29	0.000
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.000	4	29	0.000	4	29	0.000
17:00 - 18:00	4	29	0.000	**4**	**29**	**0.009**	**4**	**29**	**0.009**
18:00 - 19:00	4	29	0.000	4	29	0.000	4	29	0.000
19:00 - 20:00	2	26	0.000	2	26	0.000	2	26	0.000
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.000			0.009			0.009

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

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

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

MULTI-MODAL Underground 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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.000	4	29	0.009	4	29	0.009
08:00 - 09:00	4	29	0.018	4	29	0.018	4	29	0.036
09:00 - 10:00	4	29	0.000	**4**	**29**	**0.035**	4	29	0.035
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.000	4	29	0.000	4	29	0.000
13:00 - 14:00	4	29	0.009	4	29	0.000	4	29	0.009
14:00 - 15:00	4	29	0.018	4	29	0.018	4	29	0.036
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.009	4	29	0.000	4	29	0.009
17:00 - 18:00	4	29	0.000	4	29	0.000	4	29	0.000
18:00 - 19:00	4	29	0.018	4	29	0.000	4	29	0.018
19:00 - 20:00	**2**	**26**	**0.059**	2	26	0.000	**2**	**26**	**0.059**
20:00 - 21:00	2	26	0.020	2	26	0.020	2	26	0.040
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.151			0.100			0.251

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

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

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

MULTI-MODAL DLR 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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.000	4	29	0.000	4	29	0.000
08:00 - 09:00	4	29	0.000	4	29	0.009	4	29	0.009
09:00 - 10:00	4	29	0.000	**4**	**29**	**0.018**	4	29	0.018
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.000	4	29	0.000	4	29	0.000
13:00 - 14:00	4	29	0.000	4	29	0.009	4	29	0.009
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.000	4	29	0.000	4	29	0.000
17:00 - 18:00	**4**	**29**	**0.035**	4	29	0.000	**4**	**29**	**0.035**
18:00 - 19:00	4	29	0.000	4	29	0.000	4	29	0.000
19:00 - 20:00	2	26	0.000	2	26	0.000	2	26	0.000
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.035			0.036			0.071

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

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

TRIP RATE for Land Use 03 - RESIDENTIAL/C - FLATS PRIVATELY OWNED
MULTI-MODAL National 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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.009	**4**	**29**	**0.009**	4	29	0.018
08:00 - 09:00	4	29	0.000	4	29	0.009	4	29	0.009
09:00 - 10:00	4	29	0.000	4	29	0.000	4	29	0.000
10:00 - 11:00	4	29	0.000	4	29	0.000	4	29	0.000
11:00 - 12:00	4	29	0.000	4	29	0.000	4	29	0.000
12:00 - 13:00	4	29	0.000	4	29	0.000	4	29	0.000
13:00 - 14:00	4	29	0.000	4	29	0.000	4	29	0.000
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.000	4	29	0.000	4	29	0.000
17:00 - 18:00	4	29	0.000	4	29	0.000	4	29	0.000
18:00 - 19:00	4	29	0.000	4	29	0.000	4	29	0.000
19:00 - 20:00	**2**	**26**	**0.020**	2	26	0.000	**2**	**26**	**0.020**
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.029			0.018			0.047

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

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

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

MULTI-MODAL Bus Passengers

Calculation factor: 1 DWELLS

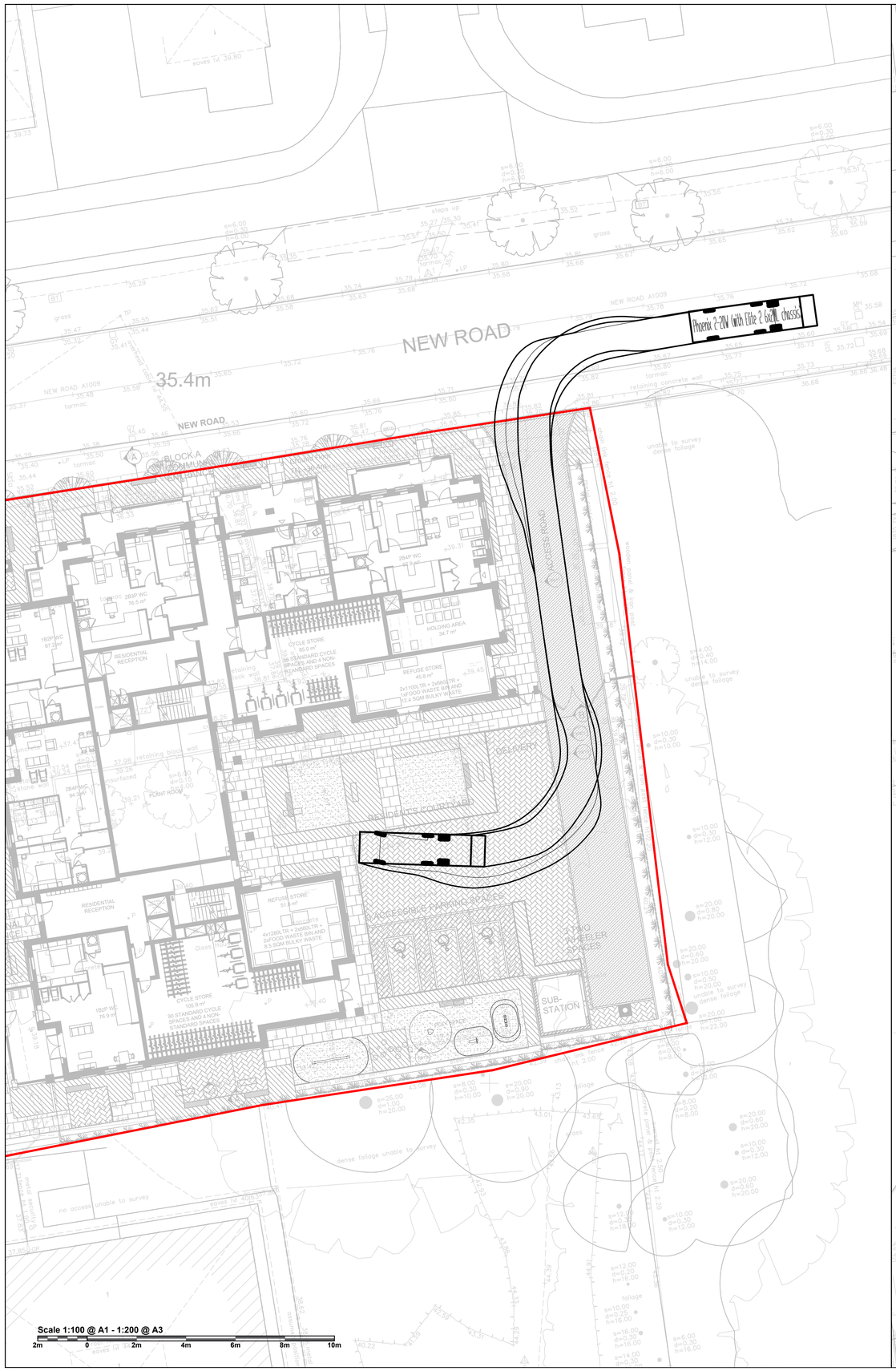
BOLD print indicates peak (busiest) period

	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	1	22	0.000	1	22	0.000	1	22	0.000
07:00 - 08:00	4	29	0.000	4	29	0.026	4	29	0.026
08:00 - 09:00	4	29	0.000	**4**	**29**	**0.053**	4	29	0.053
09:00 - 10:00	4	29	0.009	4	29	0.009	4	29	0.018
10:00 - 11:00	4	29	0.000	4	29	0.009	4	29	0.009
11:00 - 12:00	4	29	0.009	4	29	0.000	4	29	0.009
12:00 - 13:00	4	29	0.009	4	29	0.009	4	29	0.018
13:00 - 14:00	4	29	0.000	4	29	0.000	4	29	0.000
14:00 - 15:00	4	29	0.000	4	29	0.000	4	29	0.000
15:00 - 16:00	4	29	0.000	4	29	0.000	4	29	0.000
16:00 - 17:00	4	29	0.000	4	29	0.000	4	29	0.000
17:00 - 18:00	4	29	0.044	4	29	0.000	4	29	0.044
18:00 - 19:00	4	29	0.026	4	29	0.009	4	29	0.035
19:00 - 20:00	**2**	**26**	**0.059**	2	26	0.039	**2**	**26**	**0.098**
20:00 - 21:00	2	26	0.000	2	26	0.000	2	26	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.156			0.154			0.310

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 H: Vehicle Swept Paths



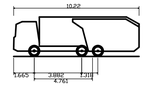
Scale 1:100 @ A1 - 1:200 @ A3

2m 0 2m 4m 6m 8m 10m

NOTES

1) ALL DIMENSIONS ARE IN METERS UNLESS STATED OTHERWISE
2) ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS AND LOCAL AUTHORITY GUIDANCE
3) UNDERGROUND SERVICES ARE PRESENT IN THE AREA. CONTRACTOR IS TO CONFIRM THE PRECISE LINE AND DEPTH OF ANY SERVICES PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION WORKS
4) IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT AND MAKE ALL THE NECESSARY ARRANGEMENTS WITH THE STATUTORY UNDERTAKERS FOR THE IDENTIFICATION OF EXISTING SERVICES AND AREAS OF DANGER WHEN EXCAVATING
5) THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIALIST DETAILS AND SPECIFICATIONS. CONSTRUCTION DETAILS FOR THE USED MATERIALS CAN BE FOUND ON THE RELEVANT DRAWINGS.

KEY



Phoenix 2-20W (with Elite 2 6x2ML chassis)

Overall Length	10.220m
Overall Width	2.520m
Overall Body Height	3.211m
Min Body Ground Clearance	0.615m
Track Width	2.520m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.450m

REVISIONS

REV	DESCRIPTION	DATE	BY
–	FIRST ISSUE	17/08/22	WR

Aval Consulting Group.
Transportation Planning : Environmental Consultants
www.aval-group.co.uk, Email: contact@aval-group.co.uk
Company Number: 11922039

Client Name:

LARKSWOOD DEVELOPMENTS LLP

Project Title:

NEW ROAD, CHINGFORD

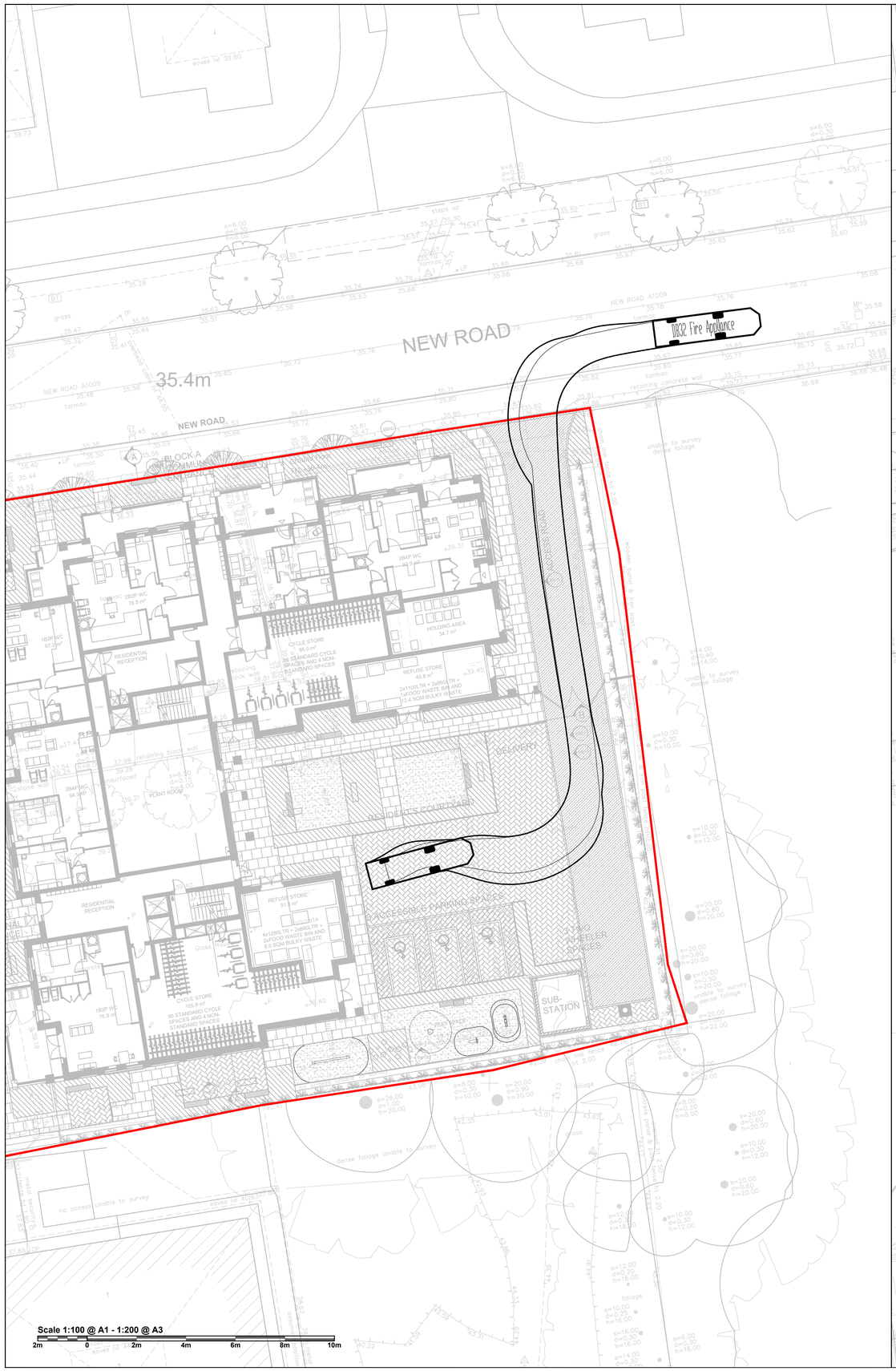
Drawing Title:

SWEPT PATH ANALYSIS - REFUSE VEHICLE

Date: 17.08.2022	Drawn By: LS
Scale: 1:100 @ A1 1:200 @ A3	Checked: WR
Status: PLANNING	Approved: AC

Drawing No.: AVAL/91714/0000/001

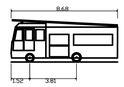
Rev.: -



NOTES

1) ALL DIMENSIONS ARE IN METERS UNLESS STATED OTHERWISE
2) ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS AND LOCAL AUTHORITY GUIDANCE
3) UNDERGROUND SERVICES ARE PRESENT IN THE AREA. CONTRACTOR IS TO CONFIRM THE PRECISE LINE AND DEPTH OF ANY SERVICES PRIOR TO THE COMMENCEMENT OF ANY EXCAVATION WORKS
4) IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT AND MAKE ALL THE NECESSARY ARRANGEMENTS WITH THE STATUTORY UNDERTAKERS FOR THE IDENTIFICATION OF EXISTING SERVICES AND AREAS OF DANGER WHEN EXCAVATING
5) THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT SPECIALIST DETAILS AND SPECIFICATIONS. CONSTRUCTION DETAILS FOR THE USED MATERIALS CAN BE FOUND ON THE RELEVANT DRAWINGS.

KEY



DB32 Fire Appliance	
Overall Length	8.680m
Overall Width	2.180m
Overall Body Height	3.452m
Min Body Ground Clearance	0.327m
Max Track Width	2.181m
Lock to lock time	6.00s
Kerb to Kerb Turning Radius	7.910m

REVISIONS

REV	DESCRIPTION	DATE	BY
–	FIRST ISSUE	17/08/22	WR

Aval Consulting Group.
Transportation Planning : Environmental Consultants
www.aval-group.co.uk, Email: contact@aval-group.co.uk
Company Number: 11922039

Client Name:
LARKSWOOD DEVELOPMENTS LLP

Project Title:
NEW ROAD, CHINGFORD

Drawing Title:
SWEPT PATH ANALYSIS - FIRE TRUCK

Date:	17.08.2022	Drawn By:	LS
Scale:	1:100 @ A1 1:200 @ A3	Checked:	WR
Status:	PLANNING	Approved:	AC

Drawing No.: AVAL/91714/0000/002
Rev.: -