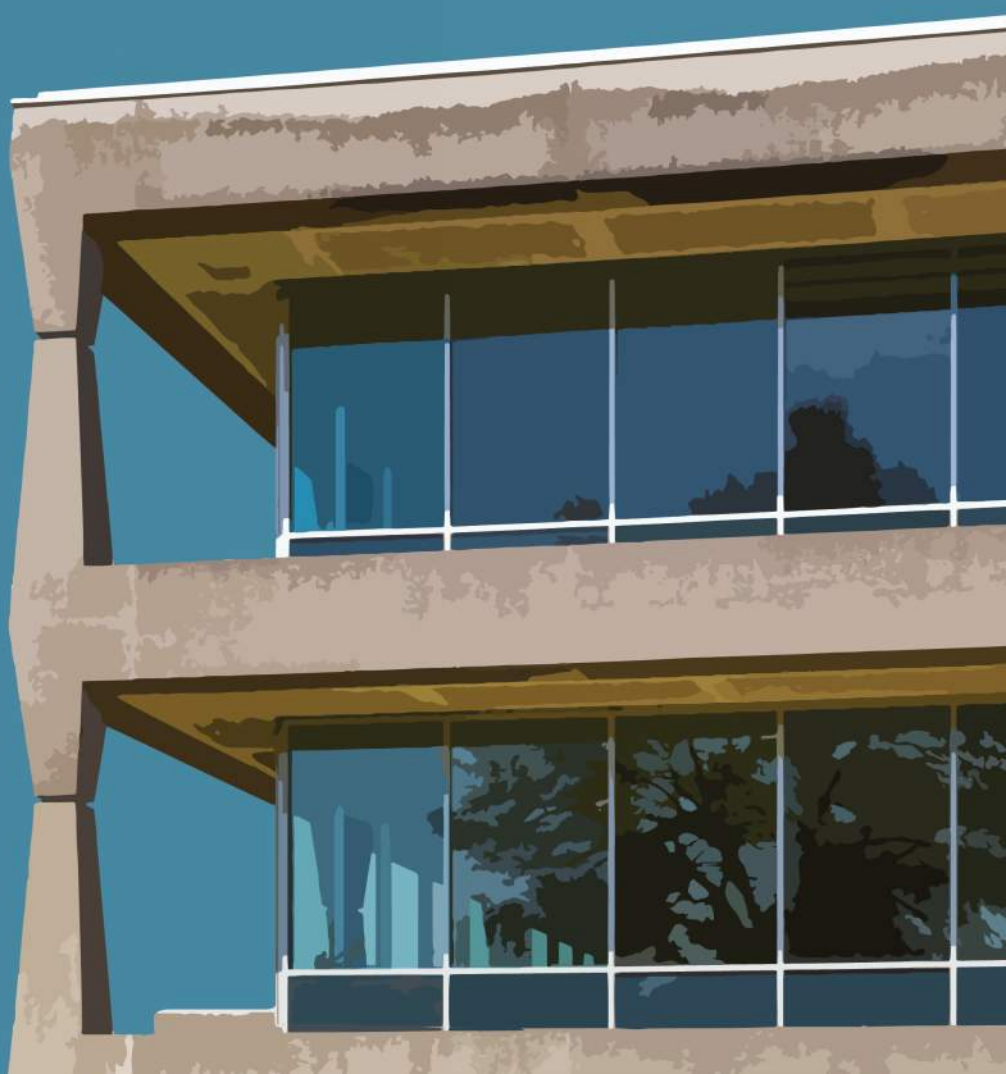
Hayes Park

Transport Assessment

May 2023



Waterman

Hayes Park, Hayes End Road, Hayes, UB4 8FE

Transport Assessment

June 2023

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1. Introduction

Brief

1.1. Waterman Infrastructure & Environment Ltd (Waterman) has been commissioned by Shall Do Hayes Developments Ltd ('the Applicant') to prepare a Transport Assessment for the proposed development at Hayes Park, Hayes End Road, Hayes, UB4 8FE ('the site').

1.1. The local planning and highway authority are the London Borough of Hillingdon (LBH).

Pre-Application Consultation

1.2. Consultation with the LBH Highway Officer was undertaken in November 2022 and has helped to inform the shape and content of this assessment. Notes from a meeting with the LBH Highways Officer on 28 November 2022 is provided in *Appendix A*.

Background

1.3. The description of the proposed development is as follows:

"Change of use of the existing buildings to provide new homes (Use Class C3), together with internal and external works to the buildings, landscaping, car and cycle parking, and other associated works."

1.4. Development proposals are included at *Appendix D*.

1.5. The site lies within a wider former business park know as 'Hayes Park'. The red line site area which forms the basis of this application is 3.73 hectares and comprises of Hayes Park South and Hayes Park Central which are two vacant office buildings as well as the surrounding grassland area, and the associated car parking and internal access road areas.

1.6. The wider Hayes Park business park site includes Hayes Park North and the adjacent multi-storey car park, however these do not form part of this application. The site is accessed from the east via Park Lane and from the west via Hayes Park Road.

Description of Development

1.7. The development proposals are for the change of use of the existing office buildings (Use Class E) to residential use (Use Class C3). The proposed development will provide a total of 124 residential units (25 x Studios, 40 x 1-bed, 41 x 2-bed, 17 x 3-bed and 1x 4-bed units) and ancillary internal and external community space.

1.8. A total of 124 car parking spaces will be retained from the existing site provision, in-line with the London Plan 2021 standards and cycle parking will be provided in-line with the London Plan 2021 standards.

Healthy Streets

1.9. This Transport Assessment has been prepared in-line with Transport for London's (TfL's) Healthy Streets Approach and has assessed the developments links to local amenities, facilities and public transport by walking and cycling. The proposed development will also provide an attractive public realm in-line with the Healthy Streets approach.

Transport Vision

1.10. The proposed development will support the Mayors Transport Strategy, including the Healthy Streets approach and Vision Zero in the following ways:

- The street layout within the site will be designed to encourage pedestrian movement and includes provision of pedestrian infrastructure. The site access road will be discontinuous between Mead House Lane and Park Lane, to deter rat running;
- The proposed development will provide access to the green space and has excellent pedestrian connectivity with the surrounding area. New pedestrian access will be provided from Mead House Lane and Park Lane; and
- The proposed development will provide excellent cycle parking facilities.

Document Structure

1.11. Following this introduction, the remainder of this Transport Assessment is structured as follows:

- Section 2: Transport Planning for People;
- Section 3: Policy Context;
- Section 4: Site and Surrounding Context;
- Section 5: Proposed Development;
- Section 6: Active Travel Zone Assessment;
- Section 7: Network Impact; and
- Section 8: Summary and Conclusions.

2. Transport Planning for People

Introduction

2.1. This section of the TA summarises the expected characteristics of the future residents and visitors of the site, including their likely travel behaviour.

2.2. Given the residential nature of the site, the majority of site users will be the residents themselves, with occasional trips from visitors and delivery and servicing personnel. The majority of trips are anticipated to take place during the peak hours of 08:00-09:00 when residents will travel to work and 17:00-18:00 when residents will return from work.

2.3. Given the site's accessibility to active travel and public transport networks and local amenities, residents will travel using sustainable modes of transport as well as by car given the proposed parking ratio of one space per unit).

2.4. To better understand likely travel habits and attitude to travel, TfL's Transport Classification for Londoners (TCoL) tool, which characterises Londoners based on their travel choices and motivations for their decisions, has been used. The approach to using TCoL within a Transport Assessment follows the TfL guidance on preparing a TA.

2.5. Visitors to the site will primarily be associated with visits to the new residential properties. The amenity space will principally serve residents of the proposed development, with potential for some visitors from existing residents from the surrounding area.

2.6. This section will also show how the proposed development will result in a pleasant and convenient place for people of all abilities to travel to / from by sustainable modes of transport such as walking, cycling and public transport.

Transport Classification of Londoners (TCoL)

2.7. The TCoL is a tool that characterises Londoners based on the travel choices they make, and the motivations for those decisions, to understand their travel behaviour. Such understanding enables better transport planning for people in London.

2.8. The methodology for the TCoL approach involves dividing the population into a set of nine segments. A summary of all nine segments and their characteristics is included in Table 1 below.

Table 1: Segment Summary of Londoners

Segment	Characteristics
Affordable Transition	low car, high bus, walk, cycle; highest level of change.
City Living	high public transport especially Tube / Active travel; average level of change.
Detached Retirement	very high car; very low levels of change.
Educational Advantage	high public / active transport, low car; higher level of change.
Family Challenge	high bus, average others; higher level of change.
Settled Suburbia	high car; below average level of change.
Students and Graduates	low car; high bus / walk; average level of change.
Suburban Moderation	high car, some bus; average level of change.
Urban Mobility	low car, high cycle / public transport; above average change.

2.9. *Appendix B* illustrates a map of London, with each area being colour coded with the segment that is most comparable to the area's existing characteristics.

London Borough of Hillingdon TCoL Profile

2.10. *Appendix B* also includes the TCoL segment profiles by borough which indicates that LBH has a high proportion of detached retirement (31%), settled suburbia (30%) and suburban moderation (26%) as its dominant profiles. The detached retirement profile is described as 'empty nest/retired' the settled suburban profile is described as 'low-income families' and the suburban moderation profile is described as 'families with children'.

2.11. It is noted that the proposed development is a flatted residential development and is unlikely to attract a large number of residents classified under 'detached retirement' who are likely to continue to dwell within a family house (empty nest) or a purpose-built retirement development. The proposed development will be 52% one bed units, 33% two bed units and 15% three and four bed units. Based on this split, over half of units will be one bed units which are unsuitable for families and two bed units would only be suitable for one child families. Therefore, the proposed development is unlikely to attract many families, and could more closely resemble the 'urban mobility' profile within the TCoL.

2.12. The urban mobility profile is defined as young workers, with low car use and high cycle and public transport use. The proposed development provides good walking and cycling opportunities to local facilities and amenities and there are good connections to the bus network along Uxbridge Road to the south of the site. In addition, the proposed development will provide a parking ratio of 1 space per unit, which would be sufficient for a profile of 'low car use'.

2.13. The proposals for the site has been developed with the likely future resident's travel behaviours in mind. The site is well located providing future residents and visitors the choice to travel sustainability. The development has also been designed to encourage walking and cycling with good connections to local amenities and public transport facilities.

3. Transport Policy

Policy Overview

3.1. The development plan policy and guidance that the proposals will be reviewed against comprises:

- National Planning Policy Framework (2021);
- National Planning Practice Guidance;
- London Plan (2021);
- Mayor's Transport Strategy for London (March 2018);
- Hillingdon Local Plan: Part One (2012); and
- Hillingdon Local Plan: Part Two (2020).

National Policy

National Planning Policy Framework (NPPF, 2021)

3.2. The current National Planning Policy Framework (NPPF) sets out several transport objectives in Section 9 'Promoting Sustainable Transport' designed to facilitate sustainable development and contribute to a wider sustainability by giving people a wider choice about how they travel.

3.3. Paragraph 110 states:

"In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

b) safe and suitable access to the site can be achieved for all users;

c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and

d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree."

3.4. In terms of planning applications NPPF states at paragraph 112(a) that development should:

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

3.5. Paragraph 113 covers the need for Travel Plans and Transport Statements / Assessments for all developments which generate significant amounts of movement.

3.6. Regarding parking, Paragraph 107 of the NPPF states that:

"In setting local parking standards for residential and non-residential development, policies should take into account:

a) The accessibility of the development;

b) The type, mix and use of development;

c) *The availability of and opportunities for Public Transport;*

d) *Local car ownership levels; and*

e) *The need to ensure an adequate provision of spaces for charging plug-in and other ultra-low emission vehicles."*

Planning Practice Guidance (NPPG) 'Travel Plans, Transport Assessments and Statements in Decision-Taking'

3.7. This on-line Government Guidance provides advice on when Travel Plans, Transport Assessments and Statements are required, and what they should contain.

3.8. Transport Assessments and Statements are ways of assessing the potential transport impacts of developments, and they may propose mitigation measures to promote sustainable developments. Transport Assessments are thorough assessments of the transport implications of development, and Transport Statements are a 'lighter-touch' evaluation to be used where this would be more proportionate to the potential impact of the development.

3.9. Transport Assessments and Statements can be used to establish whether the residual transport impacts of a proposed development are likely to be "severe", which may be a reason for refusal, in accordance with NPPF.

3.10. Travel Plans are long-term management strategies for integrating proposals for sustainable travel into the planning process. They are based on evidence of the anticipated transport impacts of development and set measures to promote and encourage sustainable travel.

Regional Policy

The London Plan 2021

3.11. The London Plan 2021 is the overall strategic plan for London which covers the period 2019 to 2041. The document provides a long-term view of London's development to inform decision making.

3.12. Policy T1 Strategic Approach to Transport states:

a) *"Development Plans should support, and development proposals should facilitate:*

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

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

3.13. Policy T2 Healthy Streets:

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

Development Plans should:

- *Promote and demonstrate the application of the Mayor's Healthy Streets Approach to: improve health and reduce health inequalities; reduce car dominance, ownership and use, road danger,*

severance, vehicle emissions and noise; increase walking, cycling and public transport use; improve street safety, comfort, convenience, and amenity; and support these outcomes through sensitively designed freight facilities.

- *Identify opportunities to improve the balance of space given to people to dwell, walk, cycle, and travel on public transport and in essential vehicles, so space is used more efficiently, and streets are greener and more pleasant.*
- *In Opportunity Areas and other growth areas, new and improved walking, cycling and public transport networks should be planned at an early stage, with delivery phased appropriately to support mode shift towards active travel and public transport. Designs for new or enhanced streets must demonstrate how they deliver against the ten Healthy Streets Indicators.*

Development proposals should:

- *Demonstrate how they will deliver improvements that support the ten Healthy Streets Indicators in line with Transport for London guidance.*
- *Reduce the dominance of vehicles on London's streets whether stationary or moving.*
- *Be permeable by foot and cycle and connect to local walking and cycling networks as well as public transport."*

3.14. Policy T3 Transport capacity, connectivity, and safeguarding notes the following:

"Development Plans should appropriately safeguard the schemes outlined in Table 10.1. Development proposals should provide adequate protection for and/or suitable mitigation to allow the relevant schemes outlined in Table 10.1 to come forward. Those that do not, or which otherwise seek to remove vital transport functions or prevent necessary expansion of these, without suitable alternative provision being made to the satisfaction of transport authorities and service providers, should be refused."

3.15. Policy T4 Assessing and mitigating transport impacts asserts that:

"When required in accordance with national or local guidance, transport assessments / statements should be submitted with development proposals to ensure that impacts on the capacity of the transport network (including impacts on pedestrians and the cycle network), at the local, network-wide, and strategic level, are fully assessed. Transport assessments should focus on embedding the Healthy Streets Approach within, and in the vicinity of, new development. Travel Plans, Parking Design and Management Plans, Construction Logistics Plans and Delivery and Servicing Plans will be required having regard to Transport for London guidance;

Where appropriate, mitigation, either through direct provision of public transport, walking and cycling facilities and highways improvements or through financial contributions, will be required to address any adverse transport impacts that are identified;

Where the ability to absorb increased travel demand through active travel modes has been exhausted, existing public transport capacity is insufficient to allow for the travel generated by proposed developments, and no firm plans, and funding exist for an increase in capacity to cater for the increased demand, planning permission may be contingent on the provision of necessary public transport and active travel infrastructure;

The cumulative impacts of development on public transport and the road network capacity including walking and cycling, as well as associated effects on public health, should be taken into account and mitigated;

Development proposals should not increase road danger."

Mayor's Transport Strategy (MTS) for London (March 2018)

3.16. The MTS was published in March 2018 after a detailed public consultation. The document sets out the policies and proposals to reshape transport in London over the next two decades.

3.17. Central to the new strategy is the 'Healthy Streets Approach', which seeks to prioritise human health and experience in planning the city, and thus change London's transport mix so the city works better for everyone. As such, the key themes of the strategy are:

"Healthy Streets and healthy people- Creating streets and street networks that encourage walking, cycling and public transport use will reduce car dependency and the health problems it creates.

A good public transport experience- Public transport is the most efficient way for people to travel over distances that are too long to walk or cycle, and a shift from private car to public transport could dramatically reduce the number of vehicles on London's streets.

New homes and jobs- More people than ever want to live and work in London. Planning the city around walking, cycling and public transport use will unlock growth in new areas and ensure that London grows in a way that benefits everyone."

Local Planning Policy and Guidance

Hillingdon Local Plan: Part One (2012)

3.18. The Hillingdon Local Plan (2012) set out the strategic policies, in the area around the proposed site.

3.19. One of its key policies of the Hillingdon Local Plan is policy 1T. This Policy states that:

"The Council will steer development to the most appropriate locations in order to reduce their impact on the transport network. All development should encourage access by sustainable modes and include good cycling and walking provision;

The Council will ensure access to local destinations which provide services and amenities; and

The Council will promote active travel through improvements to Hillingdon's public rights of way."

3.20. The proposed site has good cycle and walking facilities that provide access to local amenities and transport hubs, as such the proposed site is in line with Policy 1T.

3.21. The Hillingdon local Plan (2012) also sets out standards for local destinations, its focus is ensuring:

"That local destinations are accessible by good quality, safe and convenient transport is essential to achieving sustainable development. 'Local destinations' are locations which provide services and amenities including health, education, employment and training, local shopping, community, culture, sport and leisure facilities. It is vital for people to be able to access these types of destinations through well planned routes and integrated public transport, especially for those without a car and for those in more remote parts of the borough."

Hillingdon Local Plan: Part Two (2020)

3.22. The Local Plan Part 2 comprises Development Management Policies, Site Allocations and Designations and Polices Map. It will deliver the detail of the strategic policies set out in the Local Plan Part 1: Strategic Polices (2012) and together they will form the comprehensive development approach for Hillingdon up to 2026. The Local Plan Part 2 was adopted as part of the borough's development plan at on 16 January 2020.

3.23. Policies DMT1 and DMT2 are the basis for transport policy for new developments. Policy DMT1: Managing Transport Impacts, states:

"Development proposals will be required to meet the transport needs of the development and address its transport impacts in a sustainable manner. In order for developments to be acceptable they are required to:

i. be accessible by public transport, walking and cycling either from the catchment area that it is likely to draw its employees, customers or visitors from and/or the services and facilities necessary to support the development;

ii. maximise safe, convenient and inclusive accessibility to, and from within developments for pedestrians, cyclists and public transport users;

iii. provide equal access for all people, including inclusive access for disabled people;

iv. adequately address delivery, servicing and drop-off requirements; and

v. have no significant adverse transport or associated air quality and noise impacts on the local and wider environment, particularly on the strategic road network.

Development proposals will be required to undertake a satisfactory Transport Assessment and Travel Plan if they meet or exceed the thresholds set out in Table 8.1 and any subsequent update to these thresholds. All major developments that fall below these thresholds will be required to produce a satisfactory Transport Statement and Local Level Travel Plan. All these plans should demonstrate how any potential impacts will be mitigated and how such measures will be implemented."

3.24. Policy DMT2 focuses on highway impacts, it states:

"Development proposals must be compatible with the safe and efficient movement of the highway and therefore must ensure that:

i. Safe and efficient vehicular access to the highway network is provided to the Council's standards;

ii. They do not contribute to the deterioration of air quality, noise or local amenity or safety of all road users and residents;

iii. Safe, secure and convenient access and facilities for cyclists and pedestrian are satisfactorily accommodated in the design of highway and traffic management schemes;

iv. Impacts on local amenity and congestion are minimised by routing through traffic by the most direct means to the strategic road network, avoiding local distributor and access roads; and

v. There are suitable mitigation measures to address any traffic impacts in terms of capacity and functions of existing and committed roads, including along roads or through junctions which are at capacity."

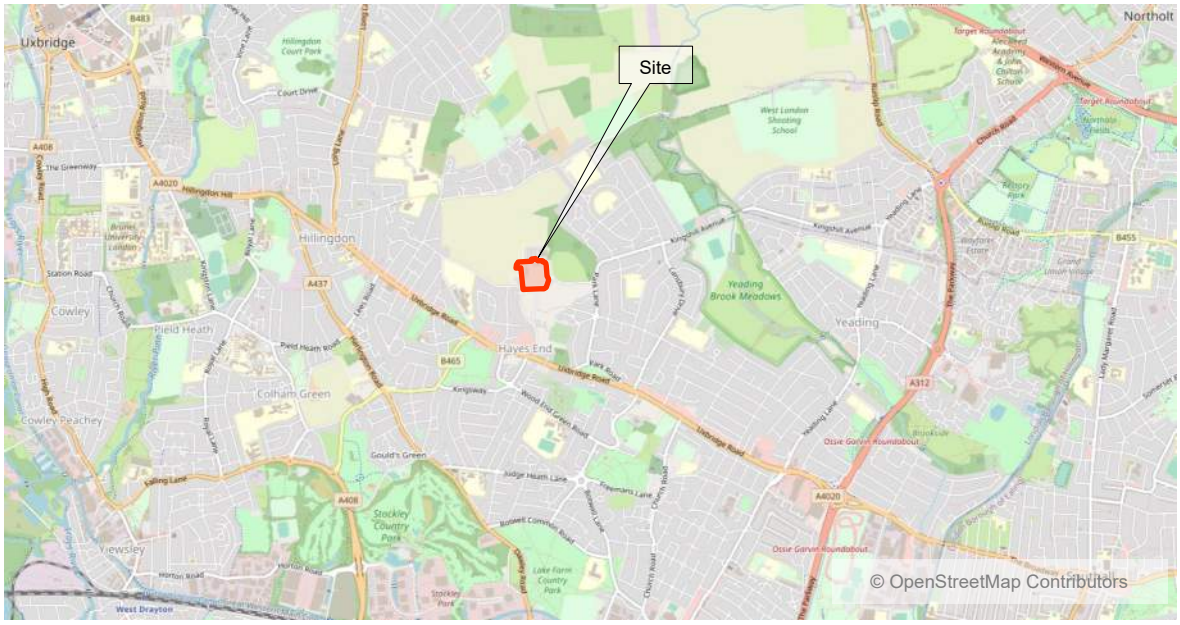
3.25. The proposed development meets all of the requirements outlined in the Local Plan Part Two.

4. Site and Surrounding Context

4.1. The site currently comprises two office buildings, with parking at ground level located around the site, with internal access roads connecting the buildings to the wider site accesses to the east and south.

4.2. The site sits within a wider former business park know as 'Hayes Park'. The site is bound to the east and south by the open parkland, which is private land owned by the Church Commissioners, the site is bound to the west the site is by agricultural land and Home Farm buildings and to the north, the site is bound by Hayes Park North and the adjacent multi-storey car park, with open land beyond that. The site location is shown in *Figure 1* below.

Figure 1: Site Location



4.3. The existing site has two vehicular accesses. One is located to the east in the form of a priority junction with Park Lane and the second to the south via Mead House Lane, which forms a mini-roundabout junction with Hayes Park Road. The site has a private internal road network that connects the two access points.

4.4. The wider Hayes Park business park site provides a total of 676 spaces, of which 506 are located within the multi-story car park located north of the development site. In addition, there are 78 parking spaces bordering the site to the west, of which the site has exclusive use. The previous commercial users of the application site had access to all 754 parking spaces within the wider site.

Highway Network

4.5. Mead House Lane is predominantly a private road that forms a mini-roundabout junction with Hayes End Road.

4.6. To the south of the site, Hayes End Road is a single carriageway running between Uxbridge Road (A4020) to the south and Mellow Lane East to the west of the site. Hayes End Road is subject to a 30-mph speed limit and provides access to the residential areas to the south of the site.

4.7. Uxbridge Road (A4020) is a dual carriageway which links with Hayes End Road via a signalised junction. The road is subject to a 40-mph speed limit and routes between Hillingdon Hill (A4020) to

the west and Ealing to the east. Uxbridge Road (A4020) provides access to the M4 as well as numerous local facilities and amenities.

4.8. To the east of the site, Park Lane is a single carriageway running on a south / north alignment between Kingshill Avenue and Uxbridge Road (A4020). Park Lane is subject to a 30-mph speed limit with footways provided on both sides of the road.

4.9. Hayes End Road has footways on both sides of the road between its junction with Mead House Lane and Uxbridge Road (A4020) while footways are provided only on the western side of the road between Mead House Lane and Mellow Lane East. The eastern site access road is provided with footways on the southern side of the access road.

Local Facilities

4.10. The site is predominantly surrounded by open space and residential dwellings. Several leisure facilities and parks are in close proximity of the site, including the Hayes End Recreation Ground, Park Road Green and the Belmore Playing Fields.

4.11. The site benefits from access to local amenities located along Uxbridge Road, approximately 450m to the south of the site, which provides an Iceland food store, a pharmacy, a vet, convenience stores, a pub and hot food outlets.

4.12. Additionally, there is a parade of shops located on Kingshill Avenue, approximately 750m to the northeast of the site, which provides access to a Co-op food store, a post office, hot food takeaways, a café, pub and a pharmacy.

4.13. Lombardy Retail Park and Brook Industrial Estate are located circa 2.8km and 3.7km respectively southeast of the site. It is anticipated that these will offer several employment opportunities to the future residents of the development site.

4.14. The site is also well located to local schools and education facilities for all age groups. Within 1.4km walking distance of the site the following schools are accessible:

- Lilliput pre-school Hayes – 800m;
- Hedgewood Primary School – 950m;
- De Salis Studio College– 1km;
- Hewens Primary School & College – 1.1km;
- Grange Park Junior School – 1.2km;
- Rosedale Primary School & College – 1.2km; and
- Hayes Park School – 1.2km.

4.15. Table 2 below sets out an overview of the distance to key local facilities and land uses in relation to the site and the walking and cycle journey times to these destinations via existing walking and cycle routes. It should be noted that Table 2 provides examples of key services only and is not intended to form an exhaustive list of all services in the area.

Table 2: Journey Distance to Key Local Facilities from Development Site

Facility	Distance from Site Access (kilometres)	Indicative Journey Times (minutes)	
		Walk	Cycle
Education			
Lilliput pre-school Hayes	800m	10	2-3
Hedgewood Primary School	950m	12	3
De Salis Studio College	1km	13	3-4
Hewens Primary School & College	1.1km	14	3-4
Grange Park Junior School	1.2km	15	4
Rosedale Primary School & College	1.2km	15	4
Hayes Park School	1.2km	15	4
Health and Community			
Hillingdon Hospital	3km	38	10
The Parkview Surgery - Doctor	1.2km	15	4
Dental Worx - Dental clinic	1.2km	15	4
Shopping / Retail			
Day & Night Convenience Store	750m	10	2-3
Co-op Food Convenience Store	750m	10	2-3
Kingshill Post Office	750m	10	2-3
Leisure Facilities			
The Brook House - Pub	850m	11	2-3
Desi Flavours London - Restaurant	650m	8	2
More Energy Fitness Centre	3.2km	40	11
Brook House Football Club	1.2km	15	4
Hayes Cricket Club	1.7km	21	5-6
Employment			
Lombardy Retail Park	2.8km	35	9-10
Brook Industrial Estate	3.7km	46	12-13
Public Transport			

Facility	Distance from Site Access (kilometres)	Indicative Journey Times (minutes)	
		Walk	Cycle
Hayes End Bus Stop	700m	9	2-3
Adelphi Way Bus Stop	750m	10	2-3
The Brook House Bus Stop	1km	12	4
Hayes & Harlington rail station	3.4km	43	11-12

4.16. *Table 2* demonstrates that many local facilities and amenities such as bus stops, schools, retail and health services are either within walking or easy cycle distance of the site.

4.17. Overall, the site is well located to provide access to local education facilities, areas of employment, leisure facilities and a wide variety of local facilities that are required for day-to-day living. It is therefore considered that the site is located in a sustainable location.

Bus Services

4.18. Hayes End bus stops, (Stop XF- westbound) and (Stop XC – eastbound) are the nearest bus stops to the site which are located approximately 700m south of the site on Uxbridge Road (A4020).

4.19. Additional bus stops are available on Adelphi Way and Kingshill Avenue, circa 750m and 1km respectively to the east of the site.

4.20. Details of the available services are provided in Table 3 below.

Table 3: Local Bus Services

Stop	Service	Route	Frequency (weekday)	
			AM Peak	PM Peak
Hayes End	278	Ruislip – Ickenham – Hillingdon – Wood End – Hayes – Harlington – Heathrow	4	4
Hayes End	427	Uxbridge – Hayes End – Southall – Hanwell – West Ealing – Ealing – Acton	15	8
Hayes End	607	Uxbridge – Hayes End – Southall – Hanwell – Ealing – Acton – Shepherd's Bush – White City	8	8
Hayes End	H98	Hayes End – Wood End – Hayes – Harlington – Cranford – Hounslow West – Hounslow	8	8
Adelphi Way	195	Charville Lane – Wood End – Hayes – Southall – Hanwell – Brentford	6	6
Adelphi Way	U7	Hayes Sainsbury's – Charville Lane Estate – Hayes End – Hillingdon Hospital – Uxbridge	2	2
The Brook House	90	Northolt – Yeading – Wood End – Hayes – Harlington – Hatton Cross – Feltham	6	6

4.21. As identified in *Table 3*, seven bus services are accessible in the vicinity of the site and provide links to a number of destinations in the local and wider West London area, including Ruislip, Uxbridge, Ealing, Hounslow and White City.

Rail

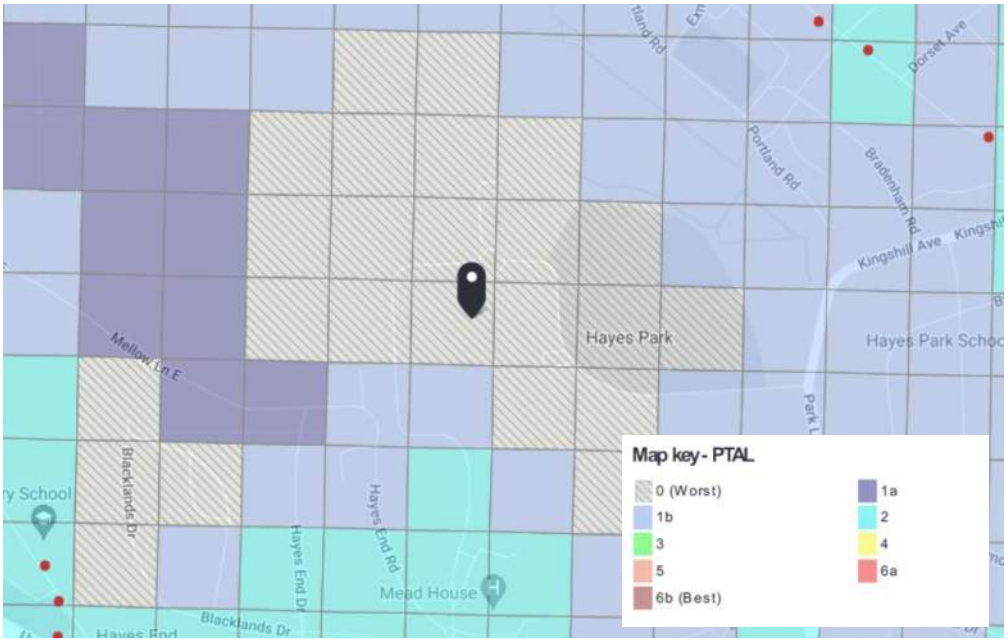
4.22. Hayes & Harlington rail station is the closest station to the site located approximately 3.4km southeast of the site. Hayes & Harlington rail station is served by GWR and Elizabeth Line and provides access to various destinations including Heathrow Airport, Didcot Parkway, London Paddington and Reading. The station provides 118 car parking spaces. Bus routes 90, 195, 278 and H98 which are accessible to the site provide access to Hayes & Harlington rail station.

Public Transport Accessibility

4.23. Public Transport Accessibility Levels (PTALs) provide a useful guide as to the accessibility of an area. PTAL scores range from 0 to 6b, where 6b is the best score and 0 the worst. The base and future year PTAL Outputs are shown below in *Figure 2* and *Figure 3* respectively.

Figure 2: Base Year PTAL Output

Figure 3: Future Year PTAL Output



4.24. The above PTAL review indicates that most of the site have a PTAL score of 0 with southwestern section of the site being considered to have a PTAL score of 1b which represents a 'very poor' level of accessibility to public transport. The TfL PTAL calculator has a distance threshold of 640m for bus services and 960m for rail/underground services to be included within a PTAL rating. The bus services available from the stops on Hayes End, Adelphi Way and The Brook House are just beyond this threshold, and therefore do not count towards the sites PTAL rating. Nevertheless, the distance to these bus stops are considered reasonable and residents would walk to access these services and residents would use bicycles and bus services to access Hayes & Harlington rail station.

Walking and Cycling

4.25. Pedestrian access to the site is provided through Mead House Lane to the south and Park Lane to the east. The pedestrian network surrounding the site is in good condition with dropped/tactile crossings providing safe access for all users.

4.26. To the south, Hayes End Road is provided with footways on both sides of the road between its junction with Mead House Lane and Uxbridge Road (A4020). These footways link with further footways on Uxbridge Road (A4020) where several local facilities are available. A signalised pedestrian crossing is available at the junction between Uxbridge Road (A4020) and Hayes End Road which provides pedestrians safe access to the bus stops on Uxbridge Road (A4020).

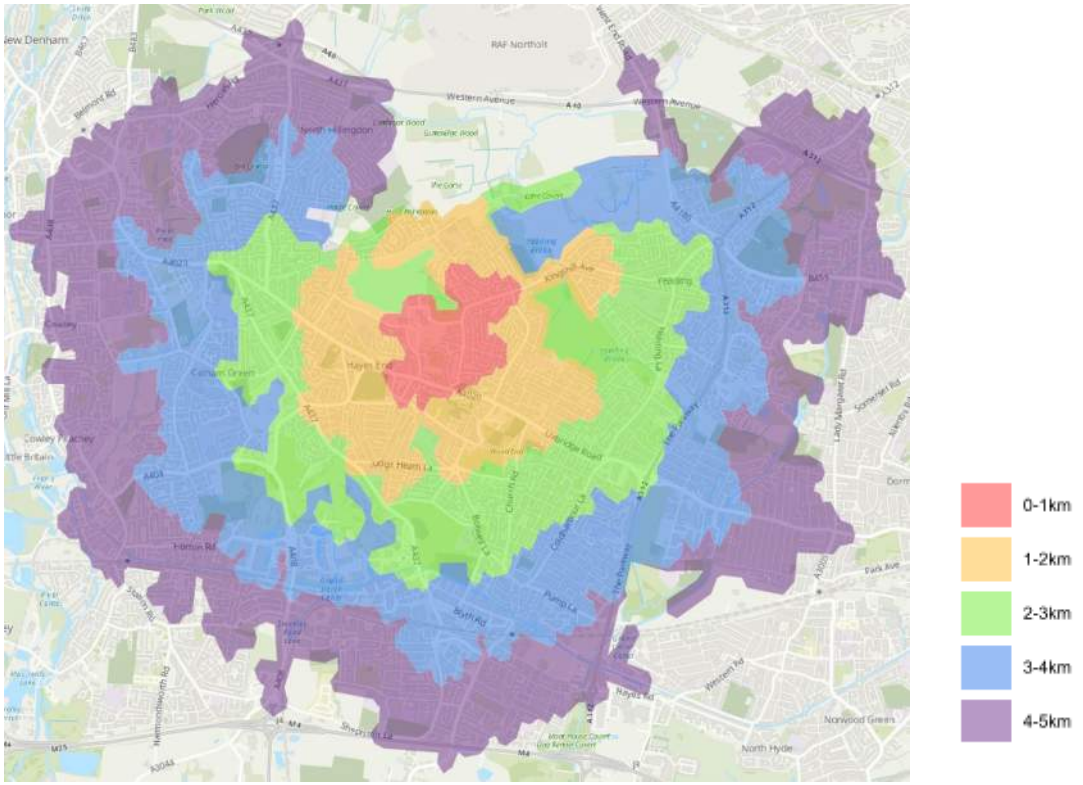
4.27. To the east, Park Lane is equipped with footways on both sides of the road and provides access to the bus stops to the east of the site.

4.28. There are no dedicated cycle routes in the immediate vicinity of the site, however, the local roads are lightly trafficked therefore suitable for cyclists. There are cycle lanes along both sides of Uxbridge Road south of the site.

4.29. *Figure 4* and *Figure 5* below identifies the walking and cycling permeability, from the site up to 2km and 5km respectively, within the area of the site.

Figure 4: 2km Walk Catchment

Figure 5: 5km Cycle Catchment



Existing Modal Split Data

4.30. Details of the Neighbourhood Statistics census has been obtained for "Method of travel to work" for the output area E01002423: Hillingdon 018B, within which the site resides.

Table 4: Method of Travel to Work Residential Mode Split (E01002423: Hillingdon 018B)

Mode of Transport	Percentage	Cumulative
Work from Home	2.1%	2.1%
Underground, Metro, Light Rail, Tram	6.1%	21.2%
Train	3.2%	
Bus, Minibus or Coach	11.9%	
Taxi	0.2%	0.2%
Motorcycle, Scooter or Moped	0.9%	0.9%
Driving a Car or Van	66.3%	70.2%
Passenger in a Car or Van	3.9%	
Bicycle	1.8%	4.8%
On Foot	3.0%	
Other Method of Travel to Work	0.6%	0.6%

Note: Data based on Method of Travel to Work Census Data 2011

Table 5: Method of Travel to Work Workplace Mode Split (E01002423: Hillingdon 018B)

Mode of Transport	Percentage	Cumulative
Underground, Metro, Light Rail, Tram	3.1%	14.0%
Train	2.3%	
Bus, Minibus or Coach	8.6%	
Taxi	0.3%	0.3%
Motorcycle, Scooter or Moped	0.2%	0.2%
Driving a Car or Van	74.2%	77.5%
Passenger in a Car or Van	3.3%	
Bicycle	1.2%	7.6%
On Foot	6.4%	
Other Method of Travel to Work	0.4%	0.4%

Note: Data based on Workplace Population Method of Travel to Work Census Data 2011

Existing Car Ownership

4.31. Details of the Neighbourhood Statistics census has been obtained for "Car or van availability" for the output area E01002423: Hillingdon 018B, within which the site resides. Table 6 below identifies that the total 73 flats, maisonettes or apartments within the output area have access to a total 51 cars or vans, resulting in a car ownership of 0.70 cars per household.

Table 6: Car or van availability (E01002423: Hillingdon 018B)

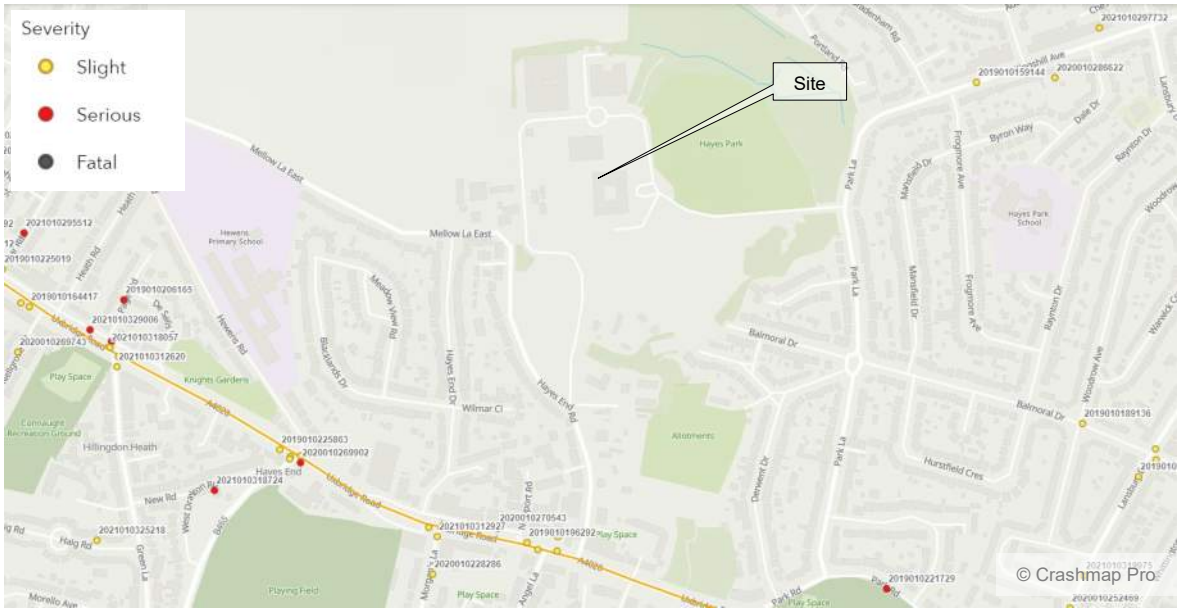
	Number of Households (Flats)	Number of Cars	Ownership Ratio
No Cars or Vans	33	0	
1 Car or Van	29	29	
2 Cars or Vans	11	22	
Total	**73**	**51**	**0.70**

Note: Data based on Car or Van Availability Census Data 2011

Road Safety

4.32. Road traffic incident data (available from www.crashmap.co.uk) has been obtained and reviewed for the three-year period up to December 2021, as identified in *Figure 6* below.

Figure 6: Accident Data



4.33. Crashmap accident data indicates that there have been no accidents within the immediate vicinity of the site accesses, with limited accidents present on the local highway network. Uxbridge Road is subject to a number of accidents, although limited at the junction with Hayes End Road, although this is attributed to the character of Uxbridge Road which operates as a main distributor through the area and is subject to high levels of daily use. The full Crashmap Pro output data is included at *Appendix C*

5. Proposed Development

Development Summary

5.1. The proposed development will provide 124 dwellings within the Hayes Park Central and Hayes Park South blocks. The Site layout plans are provided at *Appendix D*.

5.2. The Proposed Development comprises the following accommodation schedule for up to 124 residential units spread across 2 buildings (*Table 7* below).

Table 7: Proposed Residential Accommodation Schedule

Unit Type	Central	South	Total
Studio Flat	12	13	25
1 Bed Flat	14	26	40
2 Bed Flat	20	21	41
3 Bed Flat	2	15	17
4 Bed Flat	1	0	1
Total	**49**	**75**	**124**

Site Access

5.3. Site access is to be retained from the existing access points on Park Lane (eastern boundary) and Mead House Lane/Hayes End Road (southern boundary). Internal alignments will be configured for low traffic, low speed environments, with segregated internal routes to site boundaries to be provided to encourage cyclists and pedestrians throughout the site.

5.4. Servicing and delivery will be undertaken from within the site via the existing access points, in line with existing arrangements, utilising the internal access roads to serve the proposed development.

5.5. Swept path analysis, illustrating the vehicle manoeuvres undertaken by servicing, delivery, refuse collection and emergency service vehicles is included at *Appendix E*.

Proposed Parking Provision

Car Parking

5.6. Car parking provision has been assessed with regards to a number of potential scenarios, utilising local parking standards and existing levels of car ownership within the local output area. The car parking standards and ratios utilised are detailed in the following table (*Table 8*).

Table 8: Proposed Car Parking Requirements

Standard / Ratio	Maximum Requirement
LBH (High Ratio)	1 space per studio 1.5 spaces per 1 & 2 bed 2 spaces per 3+ bed
LBH (Low Ratio)	1 space per studio, 1 & 2 bed

Standard / Ratio	Maximum Requirement
	2 spaces per 3+ bed
London Plan (PTAL 1B)	1.5 spaces per dwelling
1:1 Ratio	1 space per dwelling

5.7. The site will provide a total of 124 car parking spaces (111 standard spaces and 13 accessible spaces). The proposed car parking provision is within LBH and London Plan maximum requirements and in line with the prevailing level of car ownership for flats within the local area. This approach was agreed at a Pre-Application Meeting with the council on the 28 November 2022.

5.8. Car parking will be provided utilising the existing ground level provision, with accessible parking located in close proximity to the block entrances.

Electric Vehicle Charging Points

5.9. Policy T6.1 of the London Plan (2021) states the following regarding electric vehicle charging provision:

"All residential car parking spaces must provide infrastructure for electric or Ultra-Low Emission vehicles. At least 20 per cent of spaces should have active charging facilities, with passive provision for all remaining spaces."

5.10. Electric vehicle charging facilities will be provided in accordance with the London Plan (2021) requirements. This will enable residents that do require a car for some journey purposes to choose an electric vehicle and minimise the impact of those journeys on the environment.

Disabled Parking

5.11. The disabled parking will be provided in accordance with Policy T6.1 of the London Plan (March 2021) that details the following minimum requirement:

"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 percent 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."

Cycle Parking

5.12. The development will provide long-stay / short stay cycle parking in accordance with the minimum requirements of the London Plan (March 2021) and the LBH Development Management Plan. The cycle parking will also be designed in accordance with the London Cycle Design Guidance in terms of access and layout.

Table 9: Proposed Cycle Parking Requirements

Unit Type	Standard/Ratio	No of Units	Minimum Requirement
Studios & 1 bedroom 1 person	1 space per unit	25	25
1 bedroom 2 person	1.5 space per unit	40	60
2 bedroom +	2 spaces per unit	59	118

Unit Type	Standard/Ratio	No of Units	Minimum Requirement
Visitor	5-40 dwellings 2 spaces 1 space per 40 units	124	4
Total			**203 secure/long-stay** **4 visitor/short-stay**

5.13. Based on the provision of 124 dwellings, as detailed in *Table 7*, a total of 203 long-stay cycle parking spaces for residents, of which 10 spaces will be provided on Sheffield stands for larger and adapted cycles, is required in-line with London Plan 2021 standards.

5.14. Proposals seek to provide a total of 203 long-stay cycle parking spaces. Hayes Park Central will provide 79 long stay cycle parking spaces for residents and Hayes Park South will provide 124 long stay cycle parking for residents. A total of 5% of cycle parking will be provided on Sheffield stands with enlarged spacing for larger/adapted cycles.

5.15. Residential cycle parking will be provided within a secure and covered cycle store in each block. In addition, four short stay cycle parking spaces will be provided for visitors within the site, in close proximity to the block entrance point, that are easily accessible and benefit from good levels of natural surveillance.

Site Accessibility Improvements

5.16. Proposals seek to provide a high-quality environment for walking and cycling within the site to encourage sustainable travel by those residing within or travelling to and from the site.

5.17. Internal alignments will be configured for low traffic, low speed environments, with segregated internal routes to site boundaries to be provided.

6. Active Travel Zone Assessment

6.1. This Active Travel Zone (ATZ) assessment has been undertaken to consider how future residents will be able to make key journeys from the site to support car-free lifestyles on a daily basis. It has been undertaken in accordance with TfL guidance and informed by site visits. The ATZ comprises an area around the site that can be reached within 20 minutes by bicycle.

6.2. A neighbourhood ATZ assessment is a review of the key pedestrian and cycle routes to and from the site to key destinations within the neighbourhood ATZ, measured against the 10 Healthy Streets indicators as displayed in *Figure 7*. The neighbourhood ATZ assessment was supported by a site visit, undertaken in March 2023, which included taking a series of photographs of the active travel network.

Figure 7: Healthy Streets Indicators

6.3. TfL identify key destinations as:

- Public transport stations and bus stops;
- London's current and future London-wide strategic cycle network;
- Town centres;
- Parks;
- Schools / colleges;
- Hospitals / doctors; and
- Places of worship.

ATZ Map 1

6.4. Map 1 (see Appendix F) illustrates all key active travel destinations within the ATZ. The scale of the ATZ (20-minute cycle ride around the site) has been determined using the WebCAT tool.

ATZ Map 2

6.5. Map 2 (see Appendix F) illustrates the revised ATZ at a neighbourhood scale incorporating:

- Most important key destinations;
- Key pedestrian and cycle routes from the site to the key destinations; and
- All accidents that resulted in fatalities (kills; K) or serious injury (seriously injured; SI).

6.6. Key destinations within the neighbourhood ATZ have been assessed in detail on the basis these would be the most important key destinations for future residents of the site.

6.7. Personal Injury Accident (PIA) data has been reviewed using www.crashmap.co.uk for the three-year period to date to help inform the neighbourhood ATZ Assessment. The PIA data and study area are provided at *Appendix C*. As demonstrated in Map 2, there is one cluster of PIA's comprising two SI collisions by the junction between Uxbridge Road, New Road and Paget Road.

6.8. The junction has a right-turning lane across Uxbridge Road which is a dual carriageway, where is it expected these collisions took place. This is an existing safety issue on the local highway network, and it is considered highly unlikely our site users would use this right-turning lane to access either New Road or Paget Road as they do not provide access to the site or to amenities that site users would access. The proposed development is therefore not considered to add to this existing safety issue.

6.9. *Table 10* provides a summary of the key routes most likely to be travelled to access the key destinations, as shown in Map 2.

Table 10 - Summary of Key Routes and Destinations from Development Site

Key Routes and Destinations from Site	
Route	**Links to Destination**
Route 1: Site to Hewens Primary School	• De Salis Studio College • Iceland Supermarket • Hayes End Bus Stops (Stop XC & XF)
Route 2: Site to The Parkview Surgery	• The Parkview Surgery
Route 3: Site to Lilliput pre-school Hayes	• Lilliput pre-school Hayes
Route 4: Site to Co-op Food Convenience Store	• Adelphi Way Bus Stop • The Brook House Bus Stops (Stops G & U) • Hayes Park Primary School
Route 5: Site to Hayes & Harlington Rail Station	• Hayes & Harlington Rail Station

6.10. A good proportion of trips from the site for employment purposes are expected to be via Hayes End Bus Stops, Adelphi Way Bus Stop and Hayes & Harlington Rail Station making them important public transport destinations. The walking routes to these bus stops are covered within the routes above.

ATZ Map 3

6.11. Map 3 (see *Appendix F*) illustrates the characteristics of a typical healthy neighbourhood. These characteristics are as follows:

- Street density;
- Public transport;
- Green spaces; and
- Other development and regeneration projects.

6.12. Map 3 illustrates the proximity of the site to new developments in the local area, highlighting any transport infrastructure improvements due to be brought forward.

ATZ Neighbourhood Review

6.13. Waterman undertook a site visit on the 20th of March 2023 between the hours of 11:00-14:00 where each of the key routes identified in *Table 10* were audited. Point of View (POV) photographs were taken circa every 150 metres as a snapshot of the route. As detailed in the guidance, the worst section of each route has been identified and assessed against the lower-level healthy streets indicators. A high-level summary of the ATZ Neighbourhood Review is provided below, and the full details of the review are included in *Appendix G*.

6.14. The neighbourhood ATZ review has identified the following worst sections of each of the 5 active travel routes:

- Route 1 – Site to Hewens Primary School – worst part of the route Uxbridge Road approaching the Junction with Hewens Road;
- Route 2 – Site to The Parkview Surgery – worst part of the Hayes End Road adjacent to footway;
- Route 3 – Site to Lilliput pre-school Hayes – worst part of the route Derwent Drive approaching Lilliput Pre-School Hayes;
- Route 4 – Site to Co-op Food Convenience Store – worst part of the route Frogmore Avenue towards Hayes Park Primary School; and
- Route 5 – Site to Hayes & Harlington Rail Station – worst part of the route Dawson Close – South Walk.

6.15. The worst section of each of the above routes do not meet the healthy streets indicators and are not attractive to encourage active travel modes.

6.16. The worst section of all routes is associated with the existing deficiencies of the local streets surrounding the site and the historic layout of the local roads as well as the existing mature trees located in the footways restricting available width for pedestrians. These could potentially be addressed by localised widening the footways, keeping the area clean and tidy and resurfacing the footways.

7. Network Impact

Overview

7.1. This section considers the likely multi-modal trips that the proposed development would be expected to generate and considers the impact of the proposals upon the surrounding highway and transport networks.

7.2. The existing site comprises two office buildings with a total GIA of a 12,655sqm.

7.3. The proposals seek to redevelop the site to provide 124 residential units.

7.4. The TRICS database has been used to derive the anticipated total person trip rates associated with the existing office use and the proposed residential use. A full copy of the TRICS output is contained within *Appendix H*.

Existing Trip Generation

Existing Office Use

7.5. For the existing 12,655sqm office use, reference has been made to the TRICS database (v7.10.1) to derive the anticipated Total Person trip rates associated with the site's characteristics.

7.6. To ensure sites selected are comparable to the existing office use the following selection parameters have been applied as follows:

- Land Use: Employment;
- Category: Business Park; and
- Location: Suburban Area.

7.7. The total person trip rates and trip generation for the existing office use are set out in *Table 11*.

Table 11: Existing Office Use – Total Person Trip Rates & Trips (12,655sqm)

Time Range	Trip Rates			Trips		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
AM Peak 08:00-09:00	1.099	0.186	1.285	139	24	**163**
PM Peak 17:00-18:00	0.205	1.296	1.501	26	164	**190**
Daily 0700-1900	5.116	5.077	10.193	647	643	**1,290**

7.8. The above table indicates that the existing 12,655sqm commercial office use has the potential to generate 163 total person 2-way trips in the AM peak hour, 190 2-way trips in the PM peak hour and a total of 1,290 2-way total person trips throughout the day.

7.9. Given the existing dedicated car parking provision within the site, it is acknowledged that all car trips generated by the existing land uses are accommodated within the existing car parking provision within the site.

Multi-Modal Trips

7.10. To understand the multi-modal trip generation associated with the existing office use, the total person trips calculated in *Table 11* have been applied to the workplace modal shares for journeys to work for the local area as set out in *Table 5*. The resulting multi-modal trip generation is presented in *Table 12* below.

Table 12: Existing Multi-Modal Trip Generation (Two-Way)

Mode	Mode Split	08:00-09:00	17:00-18:00	Daily
Underground	3.1%	5	6	40
Train	2.3%	4	4	30
Bus etc.	8.6%	14	16	111
Taxi	0.3%	0	1	4
Motorcycle etc.	0.2%	0	0	3
Car Driver	74.2%	121	141	957
Car Passenger	3.3%	5	6	43
Bicycle	1.2%	2	2	15
On foot	6.4%	10	12	83
Other	0.4%	1	1	5
Total	**100%**	**163**	**190**	**1,290**

7.11. *Table 12* identifies that the extant office use has the potential to generate up to 121 car trips in the AM peak period, 141 car trips in the PM peak period and 957 car trips across daily operation of the Site. The existing site has the potential to generate up to 181 daily trips by public transport (23 in AM peak and 26 in PM peak) and 98 trips by walking and cycling across daily operation.

Proposed Trip Generation

Proposed Residential Use

7.12. For the proposed residential development, anticipated up to 124 units within the Hayes Park Central and Hayes Park South blocks, reference has been made to the TRICS database (v7.10.1) to derive the anticipated Total Person trip rates associated with the site's characteristics.

7.13. To ensure sites selected are comparable to the proposed residential use the following selection parameters have been applied as follows:

- Land Use: Residential;
- Category: Flats Privately Owned;
- Number of Dwelling: 100-400 unites; and
- Location: Edge of Town Centre, Edge of Town, Neighbourhood Centre and Suburban Area.

7.14. The total person trip rates and trip generation for the proposed residential use are set out in *Table 13* below.

Table 13: Proposed C3 Residential Use – Total Person Trip Rates & Trips (124 Units)

Time Range	Trip Rates			Trips		
	Arrivals	Departures	Two-Way	Arrivals	Departures	Two-Way
AM Peak 08:00-09:00	0.089	0.462	0.551	11	57	68
PM Peak 17:00-18:00	0.316	0.145	0.461	39	18	57
Daily 0700-1900	2.653	2.584	5.237	329	320	649

7.15. The above table indicates that the proposed 124 residential units has the potential to generate 68 total person 2-way trips in the AM peak hour, 57 2-way trips in the PM peak hour and a total of 649 2-way total person trips throughout the day.

Multi-Modal Trips

7.16. To understand the multi-modal trip generation associated with the proposed residential use, the total person trips calculated in *Table 13* have been applied to the residential modal shares for journeys to work for the local area as set out in *Table 4*.

7.17. For the purpose of this assessment, the modal split has been adjusted to reflect the proposed car parking ratio of 1 space per household.

7.18. The resulting multi-modal trip generation is presented in *Table 14* below.

Table 14: Proposed Multi-Modal Trip Generation (Two-Way)

Mode	Baseline Mode Split	Adjusted Mode Split	08:00-09:00	17:00-18:00	Daily
Underground	6.2%	9%	6	5	58
Train	3.2%	5%	3	3	32
Bus etc.	12.2%	17.5%	12	10	114
Taxi	0.2%	0.3%	0	0	2
Motorcycle etc.	0.9%	1.2%	1	1	8
Car Driver	67.7%	53.1%	36	30	345
Car Passenger	4.0%	5.7%	4	3	37
Bicycle	1.9%	2.5%	2	1	16
On foot	3.1%	4.9%	3	3	32
Other	0.6%	0.8%	1	0	5
Total	**100%**	**100%**	**68**	**57**	**649**

7.19. *Table 14* identifies that the proposed development has the potential to generate up to 36 car trips in the AM peak period, 30 car trips in the PM peak period and 345 car trips across daily operation of

the Site. The proposed site has the potential to generate up to 204 daily trips by public transport (21 in AM peak and 18 in PM peak) and 48 trips by walking and cycling across daily operation.

Net Change

7.20. *Table 15* below presents the net decrease in total person trips associated with the proposed development.

Table 15: Net Change in Total Person Trips

Period	Net Change in Total Person Trips		
	Arrivals	Departures	Two-Way
AM Peak	-128	33	-95
PM Peak	13	-146	-133
Daily	-318	-323	-641

7.21. The table above suggests that the proposed development could result in a decrease of 95 two-way total person trips in the AM peak, 133 total person trips in the PM peak and a reduction of up to 641 two-way total person trips across the duration of the day.

7.22. The net change across the different modes of travel is presented in *Table 16* below.

Table 16: Net Change in Trips by Mode

Mode	08:00-09:00	17:00-18:00	Daily
Underground	1	-1	18
Train	0	-2	3
Bus etc.	-2	-6	3
Taxi	0	0	-2
Motorcycle etc.	0	0	5
Car Driver	-85	-111	-613
Car Passenger	-2	-3	-6
Bicycle	0	-1	1
On foot	-7	-9	-51
Other	0	0	0
Total	**-95**	**-133**	**-641**

7.23. As shown in the table above, it is anticipated that the proposed development will result in a reduction of 613 daily car driver trips generated by the site.

7.24. It should also be noted that, even with the addition of trips generated by the permitted Hayes Park North development proposals, the proposed development site in its entirety will generate significantly fewer car-based trips compared to the existing site use.

Trip Generation Summary

7.25. Trip generation for the Site has been calculated based on the industry standard software, the TRICS (v.7.9.4) database.

7.26. The results of the TRICS assessment suggests that the proposed development could result in a decrease of 150 two-way total person trips in the AM peak, a decrease of 198 two-way total person trips in the PM peak and a decrease of 1,083 two-way total person trips across the duration of a day.

7.27. In addition, it is anticipated that the proposed development will result in a reduction of 941 daily car driver trips generated by the Site.

8. Summary and Conclusion

Summary

Overview

8.1. Waterman Infrastructure & Environment Ltd (Waterman) has been commissioned by Shall Do Hayes Developments Ltd ('the Applicant') to prepare a Transport Assessment for the proposed development at Hayes Park, Hayes End Road, Hayes, UB4 8FE ('the site').

Site and Scheme

8.2. The site sits within a wider former business park know as 'Hayes Park'. The red line site area which forms the basis of this application is 3.73 hectares and comprises of Hayes Park South, Hayes Park Central, the surrounding grassland area, and the associated car parking and road areas.

8.3. The wider Hayes Park business park site which includes Hayes Park North and the adjacent multi-storey car park do not form part of this application. The site is accessed from the east from Park Lane and from the west from Hayes Park Road.

8.4. The development proposals are for the change of use of the existing office buildings (Use Class E) to residential use (Use Class C3). The proposed development will provide a total of 124 residential units (25 x Studios, 40 x 1-bed, 41 x 2-bed, 17 x 3-bed and 1x 4-bed units) and ancillary internal and external community space.

Car and Cycle Parking

8.5. A total of 124 car parking spaces will be retained from the existing site, in-line with the London Plan 2021 standards and prevailing levels of car ownership for flats (0.7 cars per household) within the local area.

8.6. Cycle parking will be provided in-line with the London Plan 2021 standards.

Site Accessibility

8.7. There are a large number of amenities and facilities to meet residents' day-to-day needs within walking distance from the site. This includes a parade of shops along Uxbridge Road to the south of the site and Kingshill Avenue to the north-east of the site. Access to these amenities have been assessed within the Healthy Streets Assessment and there are excellent pedestrian and cycle routes to these destinations and other destinations within the Healthy Streets Assessment.

8.8. In terms of sustainability, the site is located close to a good number of high frequency bus services within easy walking distance providing connections to several key destinations.

8.9. Hayes & Harlington rail station is the closest station to the site located approximately 3.4km south-east of the site. Hayes & Harlington rail station is served by GWR and Elizabeth Line and provides access to various destinations including Heathrow Airport, Didcot Parkway, London Paddington and Reading. The station provides 118 car parking spaces. The station is also accessible by cycling and a number of bus routes which are accessible from the site.

8.10. Local facilities within Hillingdon and destinations identified within the ATZ and neighbourhood ATZ are within easy walking and cycling distance. The Site therefore provides future residents with realistic sustainable travel choices.

Active Travel Zone and Healthy Streets Assessment

8.11. The Active Travel Zone Assessment has identified the most beneficial improvements that will most effectively encourage walking and cycling amongst future residents for the key journeys.

8.12. The worst section of all routes is associated with the existing deficiencies of the local streets surrounding the site and the historic layout of the local roads as well as the existing mature trees located in the footways restricting available width for pedestrians. These could potentially be addressed by localised widening the footways, keeping the area clean and tidy and resurfacing the footways.

Trip Generation and Impact

8.13. The results of the TRICS assessment suggests that the proposed development could result in a decrease of 150 two-way total person trips in the AM peak, a decrease of 198 two-way total person trips in the PM peak and a decrease of 1,083 two-way total person trips across the duration of a day.

8.14. There will be very limited number of car trips associated with the proposed disabled car parking, which is considered to be negligible and have no material impact on the local network.

8.15. Based on the forecast public transport trip generation it is considered that the additional movements can be accommodated by the extensive public transport network accessible from the site and would have a negligible impact upon service capacity.

Conclusions

8.16. This Transport Assessment demonstrates that the proposed development places future residents at the heart of the design, endeavouring to ensure that people choose to walk and cycle and use public transport.

8.17. The proposed development has been assessed and is demonstrated not to have a ‘severe’ residual impact on the operation of the local transport or highway network in accordance with the requirement of the NPPF.

8.18. Furthermore, the TA demonstrates that safe and suitable access can be provided in accordance with the requirements of the NPPF. Accordingly, it is considered that there are no significant highway or transport grounds preventing the current planning application from being approved.

APPENDICES

A. Pre-App Meeting Minutes

Waterman Infrastructure & Environment Limited
Pickfords Wharf, Clink Street, London, SE1 9DG
www.watermangroup.com

Hayes Park, LB Hillingdon

Pre-Application Meeting
Highways & Transport

Date: 28 November 2022

Document Reference: WIE19060.100.R.1.3.1.MM

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001:2018)

Issue	Prepared by	Checked & Approved by
1.3.1.MM	D. Martin Senior Engineer	M. Powers Technical Director

1. Introduction

1.1. Waterman Infrastructure & Environment Ltd ('*Waterman*') has been commissioned to provide transport planning, drainage and environmental support for a proposed development on land currently occupied by the former McVities headquarters ('*the Site*') at Hayes Park, LB Hillingdon.

1.2. This Meeting Note has been prepared following the initial pre-application meeting held on 28 November 2022. The meeting was attended by the following:

London Borough of Hillingdon

- Alan Tilly (AT) – Transport Planning and Highways Development Control Manager
- Sophie Wilmot (SW) – Senior Transport Planner

Design Team

- Dave Martin (DM) – Senior Engineer, Transport Planning
- Mark Powers (MP) – Technical Director, Transport Planning

1.3. The agreed minutes will be circulated to the above contacts, in addition to the Applicant's design team.

2. Pre-Application Meeting – Discussion Points & Actions

2.1. This section summarises the key themes covered in the meeting and the associated actions arising.

2.2. The meeting presented an overview of the scheme development to date, noting that further design development will take place.

Masterplan Overview and Site Layout

2.3. DM provided a summary of the masterplan development to date, the key transport themes that informed the design development, including:

- Recent approval of '*Hayes Park North*' (64 units)
- Proposed development comprising:
  - '*Hayes Park Central*' (50 units)
  - '*Hayes Park South*' (76 units)
  - Existing accesses to Hayes End Road and Park Lane will remain
  - Existing car park is not included within the application
  - Landscaping improvements, including a square between Hayes Park North and Central, and improvements to movement paths will be included.
- It was noted that the Site's existing PTAL rating is low and improvements to increase it are limited in scope and effectiveness.

Parking Provision

2.4. MP provided a summary of the emerging transport strategy, drawing from the existing site characteristics and prevailing mobility trends in the area.

- Site is reasonably located for local amenities and is close to existing movement networks.
- Proposed development is expected to reduce overall vehicle movements compared with the sites' extant office use.
- Sustainable modes (walking, cycling and public transport) are expected to increase with the proposed development, car club extension considered prudent (if supplier supports, otherwise as a future Travel Plan measure).
- Existing (2011) car ownership data records a ratio of 0.7 cars per flatted household. Based on this, and in accordance with LB Hillingdon adopted London Plan standards, a proposed car ratio of 1 car per household was agreed as reasonable. Visitor parking at c. 0.2 spaces per unit is also considered reasonable.
- AT noted that all spaces should be provided with 20% active and 80% passive EV charging facilities, also that a minimum of 3% (rising to 10%) disabled provision is required as per London Plan.
- AT noted that all accessible units are to have a dedicated disabled parking space.
- AT noted that all parking spaces are to be allocated to units, but leased (not sold), as per London Plan.
- It was agreed that cycle parking should meet London Plan minimum standards.

Transport Assessment

- SW queried the occupancy status of the current buildings. MP noted that activity remains though not operating as a company headquarters. Details to be confirmed for the application/assessment. **ACTION – Waterman**

- It was agreed to progress the assessment with a TRICS multi-modal trip generation assessment. **ACTION – Waterman**
- Resulting trip generation and distributions to be agreed as an early action. **ACTION – Waterman and LBH**;
- Healthy Street Transport Assessment required. Waterman to issue recent proposals for Active Travel Zone assessment extents (including local schools, Kingshill shops, bus routes (including those to Crossrail / Elizabeth Line stations), in addition to obstacles/barriers to movement. **ACTION – Waterman**
- AT requested – if only for future note – possibilities for walking / cycling connections to the north. **ACTION – Waterman**
- AT noted that contributions towards some measures will be likely as part of the application – details to be refined in due course. Future occupiers would not be eligible for future resident parking permits. **ACTION – Waterman and LBH**
- AT noted that Hayes End Road experiences parking pressure that may affect walking and cycling amenity. This will be considered in the ATZ assessment.
- AT noted that internal roads would not be adopted by LBH.
- It was agreed that public transport service enhancements (increased frequency / rerouting) would not be suitable, nor proportionate/cost effective for development of this scale. ATZ to consider improvements for access to bus infrastructure, including bus stop apparatus.
- AT noted that contributions for Santander cycle hire would be very welcome on the site to promote access to local amenities. The potential for Car Club provision is also welcome, but it is noted that providers may be cautious offering facilities to a development of this scale – details to be checked with suppliers, potential for a longer-term Travel Plan measure. **ACTION – Waterman**
- AT noted the LBH requirement for a £20k bond as a surety the Travel Plan will be delivered; noting that, if targets achieved, this is returned after 5 years. If not LBH use it to deliver the TP themselves. This would be secured via a S106 legal agreement.

Application

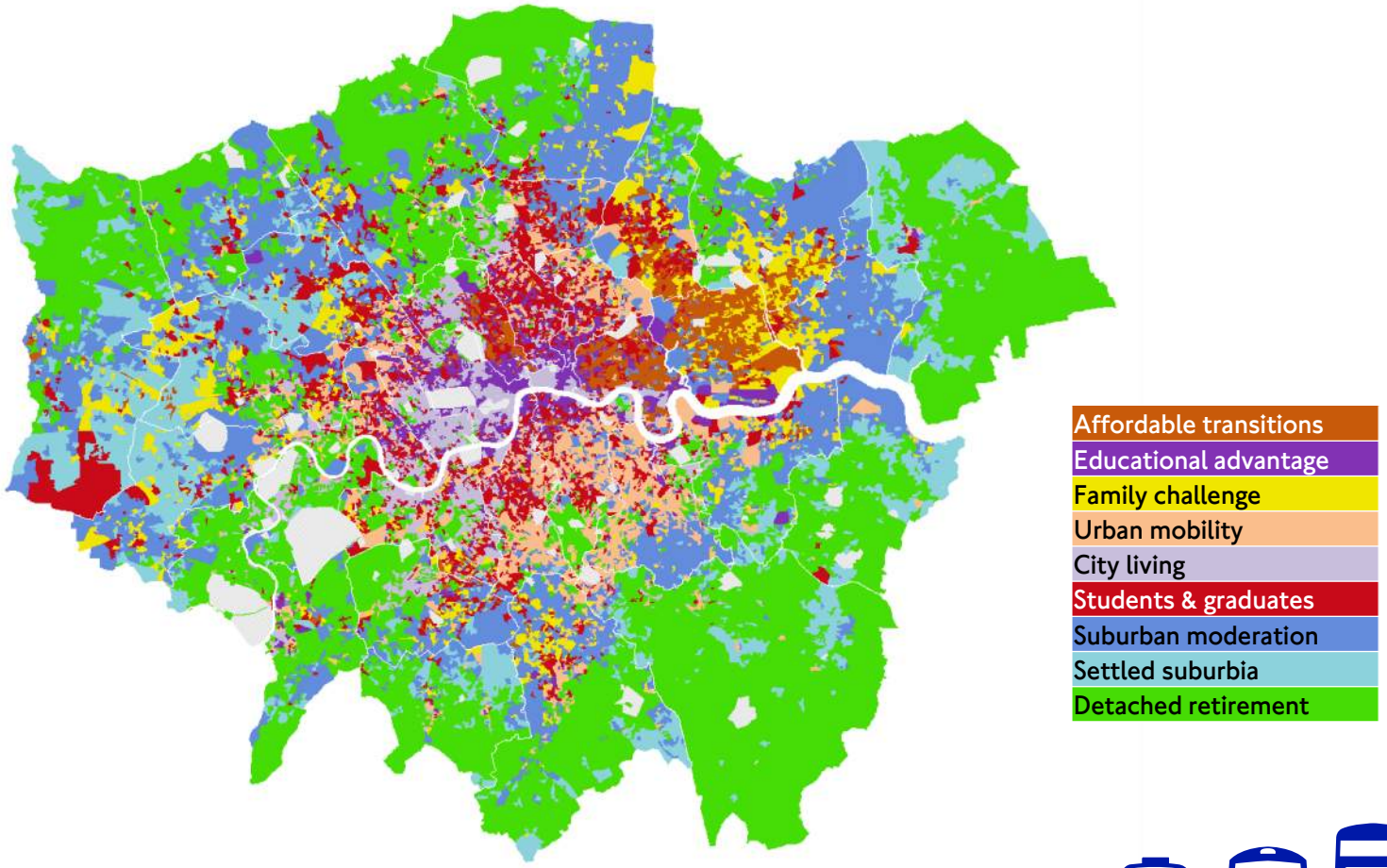
- Potential committed developments were briefly discussed, though details not fixed within the meeting. Considerations mentioned (though some already being implemented): Hillingdon Hospital (though further away), St Andrews (built out/underway), local regeneration schemes (Coldharbour Lane / Avondale Drive / Hayes Town Centre). Details to be confirmed by LBH (if required). **ACTION – LBH**
- Documents required to accompany application:
  - Healthy Streets Transport Assessment
  - Framework Travel Plan
  - Outline Construction Logistics Plan
  - Delivery & Service Plan
  - Parking Management Plan

3. Summary

3.1. The meeting concluded; the above minutes have been circulated to LBH for review, comment and confirmation.

B. TCoL Profile

Transport Classification of Londoners Map



Borough TCoL Profiles

Borough	Affordable transitions	City living	Detached retirement	Educational advantage	Family challenge	Settled suburbia	Students & graduates	Suburban moderation	Urban mobility	Total
Barking and Dagenham	6%	0%	1%	0%	18%	7%	3%	63%	0%	100%
Barnet	0%	1%	45%	3%	9%	3%	10%	25%	4%	100%
Bexley	0%	0%	59%	0%	2%	25%	0%	12%	1%	100%
Brent	1%	1%	2%	3%	13%	23%	20%	27%	11%	100%
Bromley	0%	1%	67%	0%	0%	18%	2%	6%	6%	100%
Camden	19%	24%	6%	22%	0%	0%	23%	0%	4%	100%
City of London	5%	72%	0%	23%	0%	0%	0%	0%	0%	100%
Croydon	1%	0%	29%	1%	12%	9%	6%	32%	8%	100%
Ealing	1%	3%	16%	2%	15%	23%	13%	19%	8%	100%
Enfield	0%	0%	26%	0%	7%	2%	5%	56%	4%	100%
Greenwich	3%	4%	14%	4%	11%	10%	8%	35%	10%	100%
Hackney	2%	2%	2%	16%	4%	0%	30%	8%	37%	100%
Hammersmith and Fulham	0%	21%	3%	18%	1%	0%	32%	5%	21%	100%
Haringey	3%	9%	10%	2%	4%	0%	29%	28%	16%	100%
Harrow	0%	0%	24%	1%	6%	15%	6%	48%	0%	100%
Havering	0%	0%	57%	0%	0%	37%	1%	3%	1%	100%
Hillingdon	1%	0%	31%	0%	7%	30%	4%	26%	0%	100%
Hounslow	1%	3%	11%	2%	13%	29%	8%	30%	4%	100%
Islington	2%	9%	1%	26%	0%	0%	44%	0%	17%	100%
Kensington and Chelsea	0%	51%	3%	24%	0%	0%	12%	0%	10%	100%
Kingston upon Thames	0%	6%	58%	5%	3%	6%	3%	14%	4%	100%
Lambeth	0%	7%	4%	8%	1%	0%	30%	6%	42%	100%
Lewisham	0%	1%	7%	2%	3%	1%	9%	31%	46%	100%
Merton	2%	13%	28%	2%	9%	2%	11%	30%	4%	100%
Newham	58%	0%	0%	4%	22%	0%	3%	11%	1%	100%
Redbridge	11%	1%	18%	1%	32%	3%	3%	31%	0%	100%
Richmond upon Thames	0%	15%	66%	1%	1%	7%	2%	6%	2%	100%
Southwark	1%	7%	6%	12%	1%	0%	23%	7%	42%	100%
Sutton	0%	1%	56%	1%	2%	20%	1%	15%	3%	100%
Tower Hamlets	57%	8%	0%	16%	0%	0%	11%	4%	3%	100%
Waltham Forest	23%	0%	8%	0%	17%	6%	26%	17%	3%	100%
Wandsworth	1%	32%	13%	5%	6%	1%	26%	3%	14%	100%
Westminster	5%	33%	3%	43%	0%	0%	10%	1%	5%	100%
Total	6%	7%	21%	6%	7%	9%	13%	19%	11%	100%

C. PIA Data

OBJECTID	Accident_ID	Carriageway_Hazards	Severity	Officer_Attended	Accident_DateTime	Year	Number_of_vehicles	Number_of_casualties	Easting	Northing	Highway_Authority	Road_Number	Weather_conditions	Road_Type	Road_surface	Speed_Limit	Light_conditions	Junction_detail	Pedestrian_Crossing	Involved_pedalcycle	Involved_Motorcycle	Pedestrian_casualty	Child_casualty	Pedal_cyclieuser_casualty	Motorcycle_user_casualty	Involved_car	Involved_goodsvehicle	Involved_Bus	Involved_young_driver	Longitude	Latitude	Local_Authority_District	Junction_control	Is_Provisional	Is_Amended	Web_Link	x	y
206	2.02E+12	None	Slight	Police officer attended crash scene	May 17, 2021	2021	1	1	507782	182397	Hillingdon	A4020	Raining without high winds	Dual carriageway	Wet or Damp	40	Daylight: regardless of presence of streetlights	T or staggered junction	can, puffin, toucan or similar non-junction pedestrian light crossing	0	0	1	1	0	0	1	0	0	0	-0.447579	51.5302	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	507782	182397
83590	2.02E+12	None	Slight	Police officer attended crash scene	August 23, 2019	2019	2	2	508632	181883	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	T or staggered junction	can, puffin, toucan or similar non-junction pedestrian light crossing	0	0	0	0	0	0	1	0	0	0	-0.435489	51.5254	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508632	181883
87495	2.02E+12	None	Slight	Police officer attended crash scene	January 23, 2019	2019	1	1	509482	182573	Hillingdon	U0	Fine without high winds	Single carriageway	Wet or Damp	30	Daylight: regardless of presence of streetlights	Other junction	No physical crossing facility within 50 metres	0	0	1	1	0	0	0	0	1	0	-0.423027	51.5315	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	509482	182573
134207	2.02E+12	None	Slight	Police officer attended crash scene	July 11, 2019	2019	2	1	508418	181993	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	Multiple junction	No physical crossing facility within 50 metres	0	1	0	0	0	1	1	0	0	0	-0.435538	51.5265	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	508418	181993
153086	2.02E+12	None	Slight	Police officer attended crash scene	August 16, 2019	2019	3	1	507688	182277	Hillingdon	U0	Raining with high winds	Single carriageway	Wet or Damp	30	Darkness: street lights present and lit	T or staggered junction	No physical crossing facility within 50 metres	0	0	0	0	0	0	1	0	0	0	-0.44897	51.5291	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507688	182277
187743	2.02E+12	None	Slight	Police officer attended crash scene	December 18, 2019	2019	3	1	508401	182003	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	Crossroads	Zebra crossing	0	0	0	0	0	0	1	1	0	1	-0.43878	51.5265	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	508401	182003
190465	2.02E+12	None	Slight	Police officer attended crash scene	September 27, 2021	2021	2	1	507745	182416	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Darkness: street lights present and lit	Multiple junction	can, puffin, toucan or similar non-junction pedestrian light crossing	0	0	0	0	0	0	1	0	0	1	-0.448104	51.5304	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	507745	182416
192422	2.02E+12	None	Serious	Police officer attended crash scene	March 6, 2021	2021	1	1	508004	182339	Hillingdon	U0	Fine without high winds	One way street	Dry	20	Daylight: regardless of presence of streetlights	Not at or within 20 metres of junction	No physical crossing facility within 50 metres	0	0	1	1	0	0	1	0	0	0	-0.444398	51.5296	London Borough	Not Applicable	No	No	co.uk/reports/proreportservice?r	508004	182339
256140	2.02E+12	None	Slight	Police officer attended crash scene	May 28, 2020	2020	2	1	508151	182147	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	Multiple junction	No physical crossing facility within 50 metres	0	0	0	0	0	0	1	0	0	0	-0.442238	51.5279	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508151	182147
276590	2.02E+12	None	Serious	Police officer attended crash scene	March 7, 2021	2021	2	2	508652	181887	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	T or staggered junction	Zebra crossing	0	0	0	0	1	0	0	1	0	0	-0.435199	51.5255	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508652	181887
317692	2.02E+12	None	Slight	Unknown	May 19, 2021	2021	2	1	508831	181846	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	Unknown	Unknown	1	0	0	0	1	0	0	1	0	0	-0.432633	51.5251	London Borough	Unknown	No	No	co.uk/reports/proreportservice?r	508831	181846
334090	2.02E+12	object in carriag	Slight	Police officer attended crash scene	April 2, 2020	2020	2	2	507739	182399	Hillingdon	A4020	Fine without high winds	Single carriageway	Dry	30	Daylight: regardless of presence of streetlights	T or staggered junction	No physical crossing facility within 50 metres	0	0	0	0	0	1	0	0	0	1	-0.448198	51.5302	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	507739	182399
369484	2.02E+12	None	Serious	Unknown	September 14, 2019	2019	1	1	508159	182236	Hillingdon	U0	Fine without high winds	One way street	Dry	30	Darkness: street lights present and lit	T or staggered junction	No physical crossing facility within 50 metres	0	0	1	1	0	0	0	0	0	0	-0.442196	51.5287	London Borough	Unknown	No	No	co.uk/reports/proreportservice?r	508159	182236
385919	2.02E+12	None	Serious	Police officer attended crash scene	September 25, 2020	2020	2	3	508433	181983	Hillingdon	A4020	Fine without high winds	Dual carriageway	Wet or Damp	40	Darkness: street lights present and lit	Crossroads	Pedestrian phase at traffic signal junction	0	0	0	0	0	0	1	0	0	0	-0.438325	51.5264	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	508433	181983
410683	2.02E+12	None	Slight	Police officer attended crash scene	February 19, 2019	2019	2	1	508013	182225	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Darkness: street lights present and lit	T or staggered junction	can, puffin, toucan or similar non-junction pedestrian light crossing	0	1	0	0	0	0	1	0	0	0	-0.444303	51.5286	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508013	182225
430297	2.02E+12	None	Slight	Police officer attended crash scene	March 21, 2019	2019	6	1	508833	181868	Hillingdon	A4020	Fine without high winds	Single carriageway	Dry	40	Daylight: regardless of presence of streetlights	T or staggered junction	No physical crossing facility within 50 metres	0	0	0	0	0	0	1	0	0	0	-0.432597	51.5253	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508833	181868
470217	2.02E+12	None	Serious	Police officer attended crash scene	July 12, 2021	2021	2	1	508300	181940	Hillingdon	B465	Fine without high winds	Single carriageway	Dry	30	Daylight: regardless of presence of streetlights	Other junction	No physical crossing facility within 50 metres	0	1	0	0	0	1	1	0	0	0	-0.440255	51.526	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508300	181940
513629	2.02E+12	None	Slight	Police officer attended crash scene	November 4, 2019	2019	2	1	507965	182274	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	Multiple junction	No physical crossing facility within 50 metres	0	1	0	0	0	0	1	0	0	0	-0.44498	51.5291	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507965	182274
512471	2.02E+12	None	Slight	Police officer attended crash scene	May 16, 2020	2020	2	2	508433	181994	Hillingdon	B465	Unknown	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	Crossroads	Zebra crossing	0	0	0	0	0	0	1	0	0	0	-0.438322	51.5265	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	508433	181994
562510	2.02E+12	Unknown	Slight	Unknown	March 29, 2020	2020	2	1	508000	182231	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	Unknown	Pedestrian phase at traffic signal junction	0	0	0	0	0	0	1	0	0	0	-0.444488	51.5287	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508000	182231
578163	2.02E+12	None	Slight	Police officer attended crash scene	September 16, 2019	2019	2	2	508801	181848	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Darkness: street lights present and lit	T or staggered junction	No physical crossing facility within 50 metres	0	0	0	0	0	0	1	0	0	1	-0.433064	51.5251	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508801	181848
623638	2.02E+12	None	Serious	Police officer attended crash scene	September 28, 2020	2020	2	2	508740	181882	Hillingdon	A4020	Fine without high winds	One way street	Dry	30	Daylight: regardless of presence of streetlights	T or staggered junction	can, puffin, toucan or similar non-junction pedestrian light crossing	1	1	0	0	1	1	0	0	0	1	-0.433933	51.5254	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508740	181882
630828	2.02E+12	None	Slight	Unknown	February 26, 2020	2020	2	1	507751	182231	Hillingdon	U0	Fine without high winds	Dual carriageway	Dry	60	Daylight: regardless of presence of streetlights	Using private drive or entrance	No physical crossing facility within 50 metres	0	0	0	0	0	0	1	1	0	0	-0.448077	51.5287	London Borough	Unknown	No	No	co.uk/reports/proreportservice?r	507751	182231
637667	2.02E+12	Unknown	Slight	Unknown	December 14, 2019	2019	2	1	507971	182283	Hillingdon	U0	Unknown	Unknown	Unknown	20	Daylight: regardless of presence of streetlights	Multiple junction	Unknown	0	0	0	0	0	0	1	0	0	0	-0.44489	51.5291	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507971	182283
644766	2.02E+12	None	Slight	Unknown	June 20, 2019	2019	2	1	507791	182374	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	Not at or within 20 metres of junction	Pedestrian phase at traffic signal junction	0	1	0	0	0	1	1	0	0	1	-0.447456	51.53	London Borough	Not Applicable	No	No	co.uk/reports/proreportservice?r	507791	182374
660957	2.02E+12	Unknown	Slight	Unknown	August 18, 2021	2021	2	1	508118	181863	Hillingdon	U0	Fine without high winds	Single carriageway	Dry	30	Daylight: regardless of presence of streetlights	Not at or within 20 metres of junction	No physical crossing facility within 50 metres	1	0	0	0	1	0	0	1	0	0	-0.442901	51.5253	London Borough	Not Applicable	No	No	co.uk/reports/proreportservice?r	508118	181863
684645	2.02E+12	None	Slight	Police officer attended crash scene	June 27, 2019	2019	2	1	508416	181989	Hillingdon	B465	Fine without high winds	Single carriageway	Dry	30	Darkness: street lights present and lit	Crossroads	Pedestrian phase at traffic signal junction	0	1	0	0	0	1	1	0	0	0	-0.438548	51.5264	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	508416	181989
688276	2.02E+12	None	Slight	Police officer attended crash scene	November 26, 2021	2021	2	1	507748	182419	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Darkness: street lights present and lit	Multiple junction	Pedestrian phase at traffic signal junction	0	1	0	0	0	1	1	0	0	0	-0.448062	51.5304	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	507748	182419
691196	2.02E+12	None	Slight	Police officer attended crash scene	June 30, 2019	2019	2	2	507747	182395	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Darkness: street lights present and lit	T or staggered junction	can, puffin, toucan or similar non-junction pedestrian light crossing	0	0	0	0	0	0	1	0	0	0	-0.448084	51.5302	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	507747	182395
708184	2.02E+12	None	Slight	Unknown	March 13, 2020	2020	2	1	507788	182381	Hillingdon	A4020	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	Crossroads	Pedestrian phase at traffic signal junction	0	1	0	0	0	1	0	0	0	0	-0.447498	51.5301	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	507788	182381
739553	2.02E+12	Unknown	Slight	Unknown	June 17, 2021	2021	2	4	507740	182374	Hillingdon	U0	Unknown	Single carriageway	Unknown	30	Daylight: regardless of presence of streetlights	T or staggered junction	Pedestrian phase at traffic signal junction	0	0	0	0	0	0	1	0	0	0	-0.448191	51.53	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	507740	182374
746201	2.02E+12	None	Slight	Unknown	June 10, 2021	2021	2	1	508149	182132	Hillingdon	A4020	Unknown	Slip Road	Dry	20	Daylight: regardless of presence of streetlights	T or staggered junction	Pedestrian phase at traffic signal junction	1	0	0	0	1	0	1	0	0	0	-0.442372	51.5278	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508149	182132
756651	2.02E+12	None	Serious	Police officer attended crash scene	December 25, 2021	2021	1	1	507883	182307	Hillingdon	A4020	Raining without high winds	Dual carriageway	Wet or Damp	40	Darkness: street lights present and lit	T or staggered junction	Pedestrian phase at traffic signal junction	0	0	0	1	0	0	0	1	0	0	-0.446151	51.5294	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507883	182307
759353	2.02E+12	None	Slight	Police officer attended crash scene	July 27, 2019	2019	2	1	508785	181859	Hillingdon	A4020	Raining without high winds	Dual carriageway	Wet or Damp	40	Daylight: regardless of presence of streetlights	T or staggered junction	Pedestrian phase at traffic signal junction	0	0	0	0	0	0	1	1	0	0	-0.433291	51.5252	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	508785	181859
766196	2.02E+12	None	Slight	Police officer attended crash scene	July 8, 2021	2021	2	1	508138	182162	Hillingdon	A4020	Fine without high winds	Dual carriageway	Wet or Damp	40	Daylight: regardless of presence of streetlights	T or staggered junction	No physical crossing facility within 50 metres	0	0	0	0	0	0	0	1	0	0	-0.442521	51.528	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508138	182162
930237	2.02E+12	None	Slight	Police officer attended crash scene	January 14, 2020	2020	2	1	507963	182270	Hillingdon	A4020	Raining without high winds	Dual carriageway	Wet or Damp	40	Daylight: regardless of presence of streetlights	Multiple junction	No physical crossing facility within 50 metres	0	0	0	0	0	0	1	0	0	0	-0.44501	51.529	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507963	182270
941814	2.02E+12	None	Slight	Police officer attended crash scene	October 20, 2021	2021	1	1	507881	182345	Hillingdon	A4020	Fine with high winds	Dual carriageway	Dry	30	Daylight: regardless of presence of streetlights	T or staggered junction	No physical crossing facility within 50 metres	0	0	0	1	0	0	1	0	0	0	-0.446168	51.5297	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507881	182345
960233	2.02E+12	None	Slight	Police officer attended crash scene	January 2, 2020	2020	1	1	508638	181810	Hillingdon	U0	Fine without high winds	One way street	Dry	30	Daylight: regardless of presence of streetlights	Not at or within 20 metres of junction	No physical crossing facility within 50 metres	0	0	1	0	0	0	1	0	0	0	-0.435425	51.5248	London Borough	Not Applicable	No	No	co.uk/reports/proreportservice?r	508638	181810
980213	2.02E+12	Unknown	Slight	Unknown	August 30, 2020	2020	1	1	507995	182154	Hillingdon	U0	Unknown	Unknown	Unknown	30	Daylight: regardless of presence of streetlights	Unknown	Unknown	0	0	0	0	0	0	1	0	0	0	-0.444584	51.528	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507995	182154
980914	2.02E+12	None	Slight	Police officer attended crash scene	December 4, 2020	2020	2	3	507964	182475	Hillingdon	U0	Fine without high winds	Single carriageway	Dry	30	Darkness: street lights present and lit	T or staggered junction	No physical crossing facility within 50 metres	0	0	0	0	0	0	1	1	0	0	-0.444932	51.5309	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507964	182475
991262	2.02E+12	None	Slight	Police officer attended crash scene	May 22, 2020	2020	2	1	507952	182451	Hillingdon	U0	Fine without high winds	Single carriageway	Dry	30	Daylight: regardless of presence of streetlights	Crossroads	No physical crossing facility within 50 metres	1	0	0	0	1	0	0	0	0	0	-0.445113	51.5307	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507952	182451
1016524	2.02E+12	None	Slight	Police officer attended crash scene	June 11, 2021	2021	1	1	508645	181869	Hillingdon	U0	Fine without high winds	Single carriageway	Dry	30	Daylight: regardless of presence of streetlights	Other junction	Pedestrian phase at traffic signal junction	0	0	1	0	0	0	1	0	0	0	-0.435306	51.5253	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508645	181869
1020952	2.02E+12	None	Slight	Police officer attended crash scene	February 2, 2019	2019	2	1	507883	182338	Hillingdon	U0	Fine without high winds	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	T or staggered junction	can, puffin, toucan or similar non-junction pedestrian light crossing	0	0	0	0	0	0	1	0	1	0	-0.446156	51.5297	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	507882	182338
1024714	2.02E+12	None	Slight	Police officer attended crash scene	November 2, 2021	2021	2	1	507746	182402	Hillingdon	A4020	Other	Dual carriageway	Dry	40	Daylight: regardless of presence of streetlights	T or staggered junction	Pedestrian phase at traffic signal junction	1	0	0	0	1	0	0	1	0	0	-0.448096	51.5303	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	507746	182402
1088943	2.02E+12	None	Slight	Police officer attended crash scene	June 18, 2020	2020	2	2	507750	182411	Hillingdon	A4020	Fine without high winds	Single carriageway	Dry	40	Darkness: street lights present and lit	Crossroads	Pedestrian phase at traffic signal junction	0	0	0	0	0	0	1	0	0	1	-0.448036	51.5303	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	507750	182411
1149905	2.02E+12	None	Serious	Police officer attended crash scene	September 3, 2021	2021	1	1	508107	182189	Hillingdon	A4020	Fine without high winds	Single carriageway	Dry	30	Daylight: regardless of presence of streetlights	Other junction	No physical crossing facility within 50 metres	0	0	1	1	0	0	0	1	0	0	-0.442959	51.5283	London Borough	Auto traffic signal	No	No	co.uk/reports/proreportservice?r	508107	182189
1185330	2.02E+12	None	Serious	Police officer attended crash scene	November 7, 2019	2019	1	1	508140	182171	Hillingdon	A4020	Fine without high winds	Single carriageway	Dry	30	Daylight: regardless of presence of streetlights	Slip road	No physical crossing facility within 50 metres	0	0	0	1	0	0	1	0	0	0	-0.442489	51.5281	London Borough	Give way or uncontrolled	No	No	co.uk/reports/proreportservice?r	508140	182171
1192516	2.02E+12	Unknown	Slight	Unknown	January 12, 2019	2019	2	1	507872	182337	Hillingdon	A4020	Unknown	Dual carriageway	Unknown	40	Daylight: regardless of presence of streetlights	T or staggered junction	Unknown	0	0	0	0	0	0	1	0	0	0	-0.446301	51.5297	London Borough	Unknown	No	No	co.uk/reports/proreportservice?r	507872	182337

D. Site Layout Plans

Key

- Planning Application Boundary
- Building Entrance
- (+30.00) Existing level
- +30.00 Proposed level

Hard Landscape

P01 Paving Type 01
Description: Block Paving (Setts)
Colour: Grey/ silver
Laying: P01a - vehicle loading.
P01b - pedestrian loading

P02 Paving Type 02
Description: Block Paving (Flags)
Colour: Grey/ silver
Laying: Pedestrian loading

P03 Paving Type 03
Description: Asphalt surface with reclaimed stone chippings
Colour: Natural stone
Laying: P03a - vehicle loading. P03b - pedestrian loading

P04 Paving Type 04
Description: Resin Bound Gravel
Colour: Buff / natural aggregate
Laying: Allow for occasional maintenance vehicle loading

P05 Paving Type 05
Description: Grass Paving for fire tender
Laying: Vehicle loading

P06 Paving Type 06
Description: Existing asphalt surface to carriageway/ footpath
Laying: To be retained & repaired as necessary.

P07 Paving Type 07
Description: Recycled rubber play safety surface
Colour: Natural tones
Laying: Depths laid to suit fall heights

P08 Paving Type 08
Description: Tile paving to residents garden patios
Colour: TBC

P12 Paving Type 12
Description: Raised timber walkway (treated timber)
Installation: Above tree RPA as per arboriculturalists guidance.

P13 Paving Type 13
Description: Block Paving Banding
Colour: Light colour banding in Garden Square
Laying: Pedestrian loading.

Softscape

All herbaceous perennials and grasses to have a planting density of minimum 9 p/ms. Refer to Soft Landscape Character Plan, drawing number 0419-SEW-ZZ-ZZ-DR-L-001003

- Existing Tree
- Proposed Semi-Mature Trees
- Proposed Small Trees/ Structural Shrubs
- Existing Trees to be removed
- Pastoral meadow/ managed lawn
- Perennial meadow planting
- Shrubs & herbaceous perennial planting

For more information on features, courtyard design, and levels please refer to Landscape Plans, drawing number 0419-SEW-ZZ-ZZ-DR-L-001001 & 0419-SEW-ZZ-ZZ-DR-L-001002

General Notes

No implied licence exists. This drawing should not be used to calculate areas for the purposes of valuation.
Do not scale this drawing for construction purposes. All dimensions to be checked on site by the contractor and such dimensions to be their responsibility.
All work must comply with relevant British Standards and Building Regulations requirements. Drawing errors and omissions to be reported to the architect.

Notes

Key Plan

0 20m
@ 1:500

For Planning

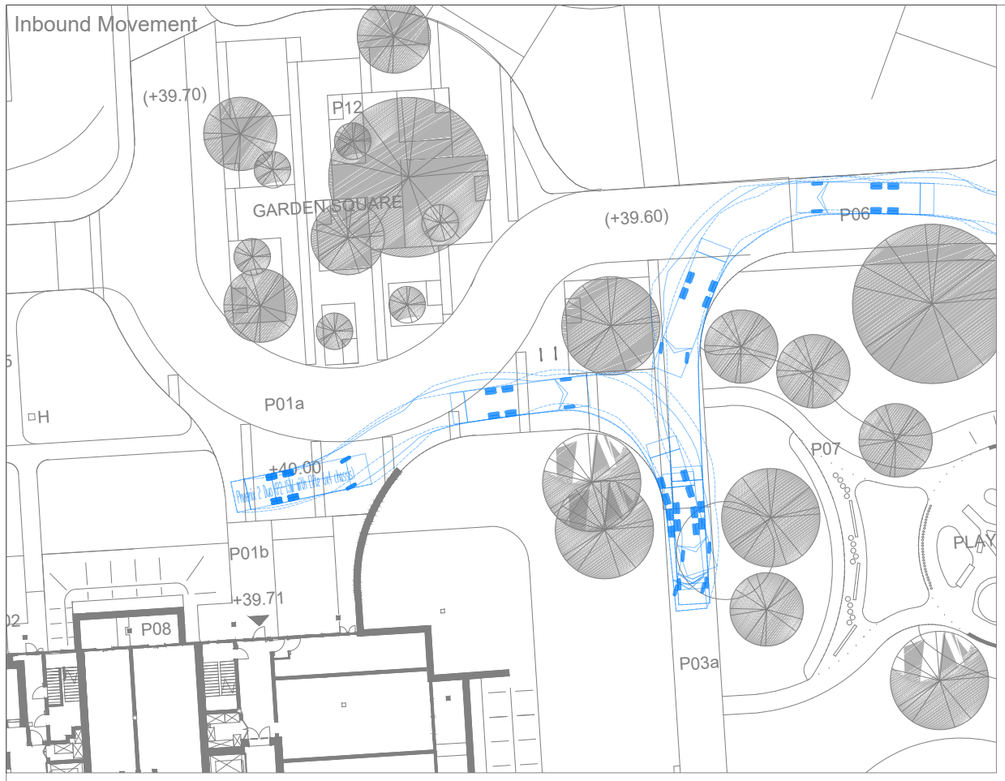
Project No.	0419
Project Name	Hayes Park
Drawing Title	Landscape Masterplan
Client	Shall Do Hayes Developments Limited
Scale @A1	
Date	12/05/2023
Drawn by	ML
Checked by	SEW

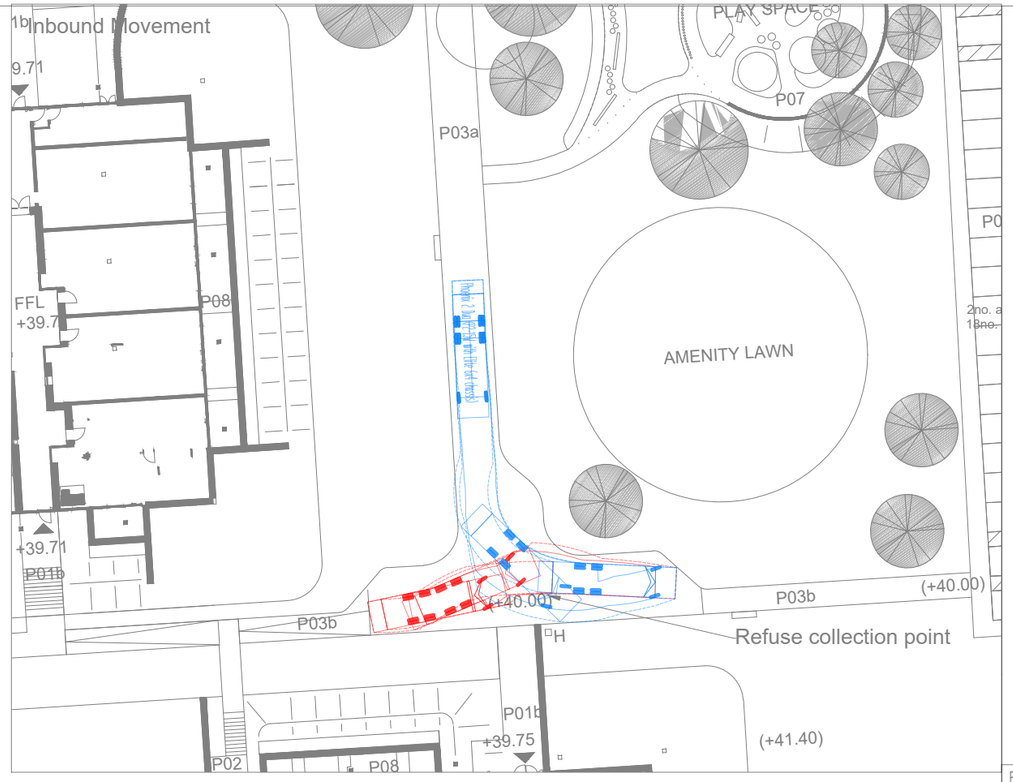
Rev	Date	Reason	Chk
P1	12/05/23	For Planning	SEW

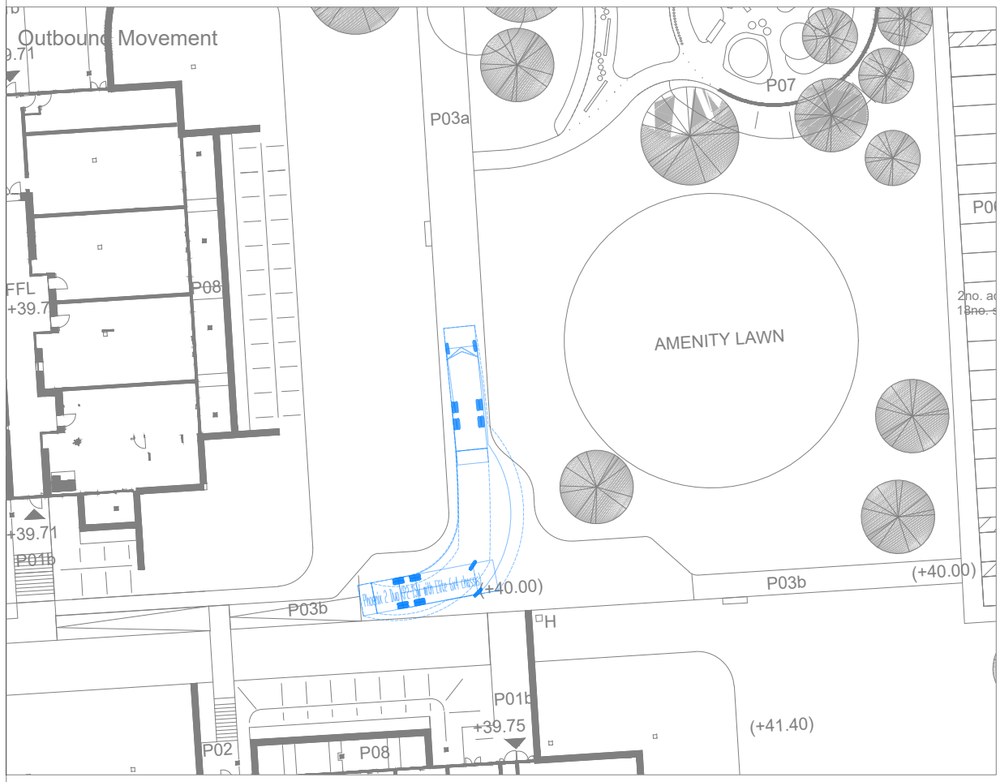
Studio Egret West
3 Brewhouse Yard
London, EC1V 4JQ
hello@egretwest.com
+44 (0) 20 7549 1730

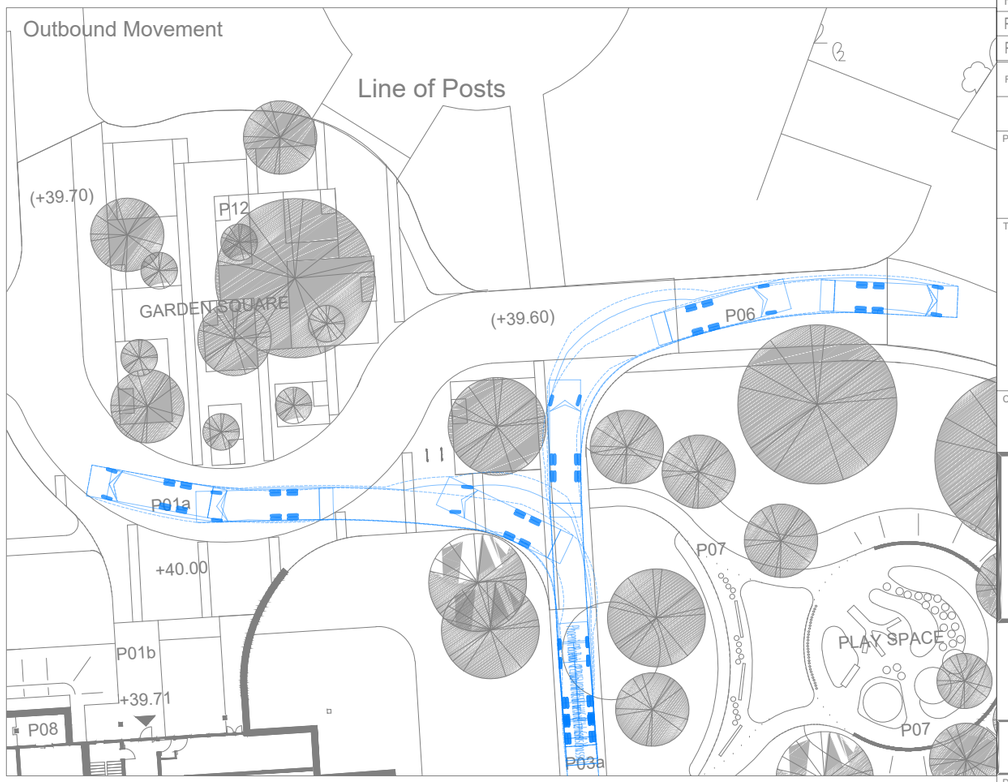
Drawing Number	Rev
0419-SEW-ZZ-00-DR-L-001000	P1

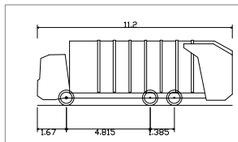
E. Swept Path Analysis











Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)	
Overall Length	11.200m
Overall Width	2.530m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m

Note: Vehicle body overhangs edge of carriageway - wheels remain on carriageway

Rev	Date	Description	By	Chk
P03	20.04.23	LANDSCAPE PLAN UPDATED	AM	MP
P02	18.04.23	LANDSCAPE PLAN UPDATED	JH	MP
P01	16.03.23	ISSUED	DM	MP

Amendments

Project

Hayes Park

Title

Refuse Collection Access Swept Path Analysis

Client

Marson Property

waterman

Pickfords Wharf Clink Street London SE1 9DG
t 020 7928 7888
mail@watermangroup.com www.watermangroup.com

WIP S0

Designed By	JH	Director	MP
Drawn By	GF	Date	May 2023
Waterman Ref	WIE19060		
Scales @ A3	1:500		

Project - Originator - Volume - Level - Type - Role - Number

WIE19060-SA-95-0001-P05

Revision P05

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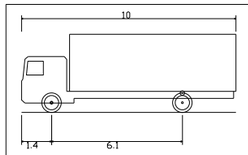
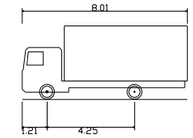
0419-SEW-ZZ-00-DR-L-001000



FTA Design 13/18 Tonne Rigid Vehicle (2016)

Overall Length	10.000m
Overall Width	2.550m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to lock time	3.00s
Kerb to Kerb Turning Radius	11.000m



7.5t Box Van

Overall Length	8.010m
Overall Width	2.100m
Overall Body Height	3.556m
Min Body Ground Clearance	0.351m
Track Width	2.064m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	7.400m

Rev	Date	Description	By	Chk
P01	23.03.23	ISSUED	DA	DM

Amendments

Project

Hayes Park

Title

10m Rigid & Box Van Swept Path Analysis

Client

Shall Do Hayes Developments Ltd

waterman

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WIP S0

Designed By: DA	Director: MP	Waterman Ref: WIE19060
Drawn By: DA	Date: 23.03.2023	Scales @ A3: Scale

Project - Originator - Volume - Level - Type - Role - Number: WIE19060-SA-95-0003-P01

Revision: P01

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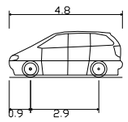
A3-Wat-ISO-S



Standard Design Vehicle (SDV)	
Overall Length	4.800m
Overall Width	2.000m
Overall Body Height	1.950m
Min Body Ground Clearance	0.100m
Track Width	2.000m
Lock to lock time	4.00s
Wall to Wall Turning Radius	6.000m

Rev	Date	Description	By	Chk
P01	23.03.23	ISSUED	DA	DM

Amendments

Project

Hayes Park

Title

Standard Car Access Swept Path Analysis

Client

Shall Do Hayes Developments Ltd

waterman

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mail@watermangroup.com www.watermangroup.com

WIP S0

Designed By	Director	Waterman Ref
DA	MP	WIE19060
Drawn By	**Date**	**Scales @ A3**
DA	23.03.2023	Scale

Project - Originator - Volume - Level - Type - Role - Number

WIE19060-SA-95-0003-P01

Revision

P01

File Path N:\Projects\WIE19060\10\7_CAD\95_Transport\

A3-Wat-ISO-S

Inbound Movement

Outbound Movement

Line of Posts

GARDEN SQUARE

(+39.70)

(+39.60)

P12

P06

P03a

P05

P01a

P01b

P02

P08

P04

P07

P03b

+40.00

+39.71

FFL +39.7

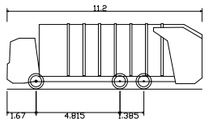
Refuse collection point

REFER TO DRAWING 0419-SEW-ZZ-00-DR-L-001001 FOR COURTYARD DESIGN

(+41.65)

1:500 0 10m 20m 30m 40m 50m

1:1 0 10 20 30 40 50 60 70 80 90 100



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)

Overall Length	11.200m
Overall Width	2.530m
Overall Body Height	3.751m
Min Body Ground Clearance	0.304m
Track Width	2.500m
Lock to lock time	4.00s
Kerb to Kerb Turning Radius	9.500m

Note: Vehicle body overhangs edge of carriageway - wheels remain on carriageway

Rev	Date	Description	By	Chk
P02	20.04.23	NEW LANDSCAPE	AM	MP
P01	18.04.23	ISSUED	JH	MP

Amendments

Project

Hayes Park

Title

Refuse Collection Access Swept Path Analysis

Client

Marson Property

waterman

Pickfords Wharf Clink Street London SE1 9DG

t 020 7928 7888

mail@watermangroup.com www.watermangroup.com

WIP S0

Designed By	Director	Waterman Ref
JH	MP	WIE19060
Drawn By	**Date**	**Scales @ A3**
GF	March 2023	1:500

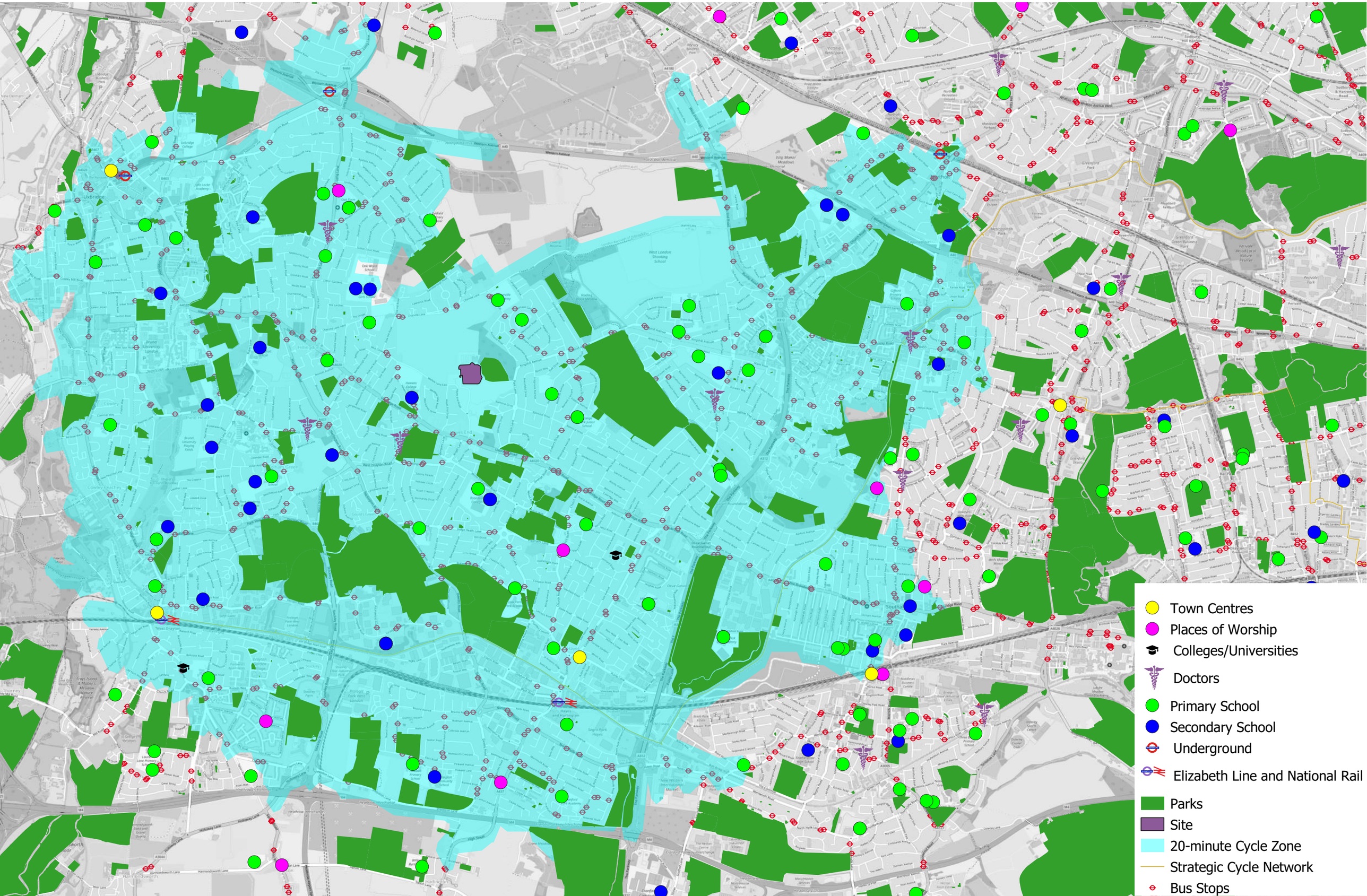
Project - Originator - Volume - Level - Type - Role - Number	Revision
WIE19060-SA-95-0004-P04	P04

File Path N:\Projects\WIE19060\100\7_CAD\95_Transport\

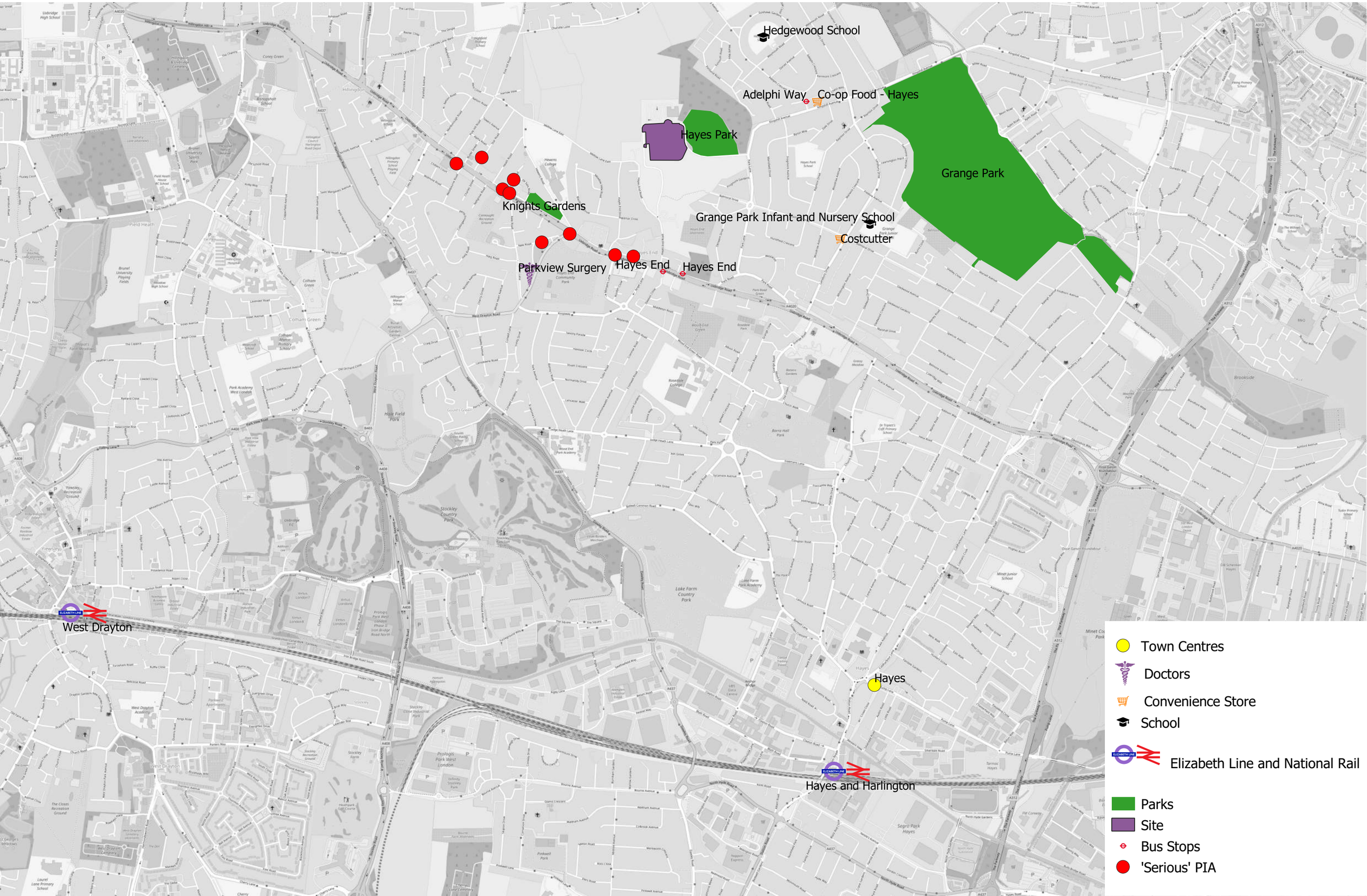
0419-SEW-ZZ-00-DR-L-001000

F. ATZ Maps

ATZ Map One - Active Travel Zone



ATZ Map Two - Neighbourhood Active Travel Zone



ATZ Map Three - Neighbourhood Healthy Characteristics

G. ATZ Neighbourhood Review

ATZ Neighbourhood Review

1.1. Waterman undertook a site visit on the 20th of March 2023 between the hours of 11:00-14:00 where each of the key routes identified were audited. Point of View (POV) photographs were taken circa every 150 metres as a snapshot of the route. As detailed in the guidance, the worst part of each route has been identified and assessed against the lower-level healthy streets indicators.

Route 1 – Site to Hewens Primary School

1.2. The route between the site and Hewens Primary School has been identified as a key walking and cycling route for future residents as it provides access to Hayes End Bus Stops (Stop XC & XF), being the closest bus stops providing access to Southall, Hounslow, Heathrow Airport and White City. The route also provides access to De Salis Studio College as well as a parade of shops including Iceland Supermarket. The route is approximately 1 kilometre long.

Route POVs

Photograph 1: Site Access towards Mead House Lane / Hayes End Road mini-roundabout

Photo 2: Hayes End Road adjacent to Footway

Photo 3: Uxbridge Road - Hayes End Bus Stop (Stop XC)

Photo 4: Uxbridge Road / Newport Road Junction

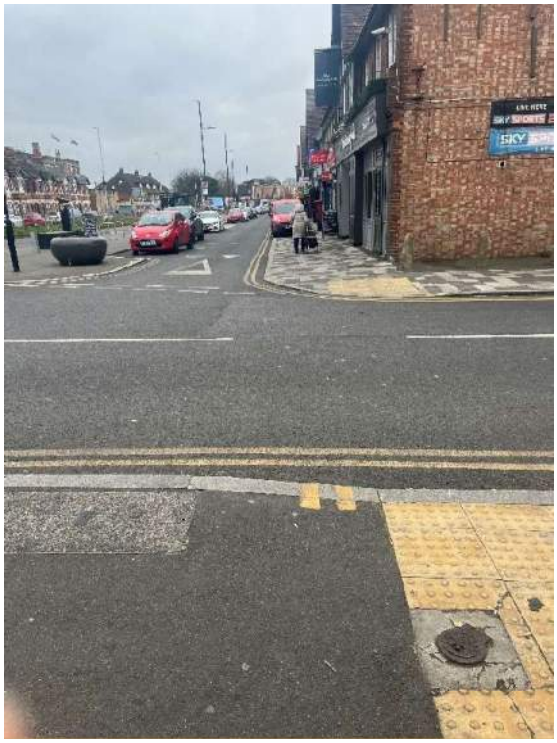


Photo 5: Uxbridge Road / Hayes End Drive Junction

Photo 6: Uxbridge Road Approaching Junction with Hewens Road

Photo 7: Hewens Road Approaching Hewens Primary School

Worst Section – Uxbridge Road Approaching Junction with Hewens Road

1.3. The area shown in Photograph 6 is considered the worst section of Route 1 in terms of the Healthy Streets indicators. This part of the route does not meet the following Healthy Streets indicators:

- People feel safe;
- People feel relaxed;
- Places to stop and rest; and
- Not too noisy.

People Feel Safe

1.4. The area shown in Photograph 6 is not considered 'safe' as the immediate area is not welcoming.

1.5. The pavement is uneven in several locations and there are some defects in the footway surface which are an existing highway maintenance issue. This results in an unattractive street scene that will not help make people feel safe.

1.6. In addition, there is a plant and machinery hire company adjacent to the footway which contributes to a sense that walking on this section of the road might be dangerous. It could therefore be unpleasant for pedestrians to walk along this section, especially in hours of darkness.

1.7. The existing perception of safety could be improved by providing adequate lighting and resurfacing the footway.

People Feel Relaxed

1.8. The section shown in Photograph 6 is not welcoming and unattractive and therefore the experience of walking / cycling here is not relaxing or enjoyable. In addition, the pavement in this section is unpleasant due to some minor defects in the footway surface.

1.9. This could be improved by providing a smooth and level surface to the street.

Places to Stop and Rest

1.10. There is a lack of seating available in this section of Uxbridge Road, as shown in Photograph 6. This could be improved by providing seating.

Not Too Noisy

1.11. The area shown in Photograph 6 is considered noisy. The noise pollution originates from consistent vehicular traffic travelling along Uxbridge Road.

Route 2 – Site to The Parkview Surgery

1.12. The route between the site and The Parkview Surgery has been identified as a key walking and cycling route for future residents as it provides access to The Parkview Surgery. The route is approximately 950 metres kilometres long.

Route POVs

Photo 8: Site Access towards Mead House Lane / Hayes End Road mini-roundabout

Photo 9: Hayes End Road adjacent to Footway

Photo 10: Uxbridge Road / Newport Road Junction

Photo 11: Uxbridge Road / West Drayton Road Junction Crossing Point

Photo 12: West Drayton Road Adjacent Footway Approaching The Parkview Surgery

Worst Section - Hayes End Road adjacent to Footway

1.13. The area shown in Photograph 9 is considered the worst section of Route 2 in terms of the Healthy Streets indicators. This part of the route does not meet the following Healthy Streets indicators:

- People feel safe;
- Things to see and do; and
- Places to stop and rest.

People Feel Safe

1.14. The area shown in Photograph 9 does not meet the 'people feel safe' indicator as the immediate area is not welcoming due to the lack of buildings with doors and windows overlooking the footway. Furthermore, due to the historic layout of the street the pavement is narrow which could result in pedestrians walking in the road to avoid narrow sections of footway. It could therefore be frightening for pedestrians to walk along this section, especially in hours of darkness.

1.15. This is an existing highway issue that could potentially be addressed by localised widening of the footway.

Things to See and Do

1.16. The area shown in and around Photograph 9 does not meet the 'things to see and do' indicator as it is visually unappealing. This section is not provided with any planting or street furniture.

1.17. This could be improved by providing areas of planting to break up the street and make it more visually appealing. The addition of street art could also potentially add interest to the street scene.

Places to Stop and Rest

1.18. The area shown in Photograph 9 suffers from lack of seating and does not meet the 'places to stop and rest' indicator.

Route 3 – Site to Lilliput Pre-School Hayes

1.19. The route between the site and Lilliput pre-school Hayes has been identified as a key walking and cycling route for future residents as it provides access to Lilliput pre-school Hayes. The route is approximately 800 metres long.

Route POVs

Photo 13: Site Access / Park Lane Junction

Photo 14: Park Lane Adjacent Footway

Photo 15: Park Lane / Balmoral Drive / Derwent Drive Roundabout Junction

Photo 16: Derwent Drive Adjacent Footway

Photo 17: Derwent Drive Approaching Lilliput Pre-School Hayes

Worst Section - Derwent Drive Approaching Lilliput Pre-School Hayes

1.20. The area shown in Photograph 17 is considered the worst section of Route 3 in terms of the Healthy Streets indicators. This part of the route does not meet the following Healthy Streets indicators:

- People feel safe;
- People feel relaxed; and
- Places to stop and rest.

People Feel Safe

1.21. This section of Derwent Drive, as shown in Photograph 17 is not considered particularly 'safe'. There are trees present on the pavement which make the street feel cluttered and narrowed, increasing the likelihood that pedestrians may step into the carriageway into the path of a vehicle, especially if they walk in groups.

1.22. This is an existing highway issue that could potentially be addressed by localised widening of the footway around the trees.

People Feel Relaxed

1.23. As shown in Photograph 17, there are a number of trees narrowing the pavement contributing to a sense that walking on this section of the road might be unpleasant for those walking in groups.

Places to Stop and Rest

1.24. There is a lack of seating available in this section of Derwent Drive, as shown in Photograph 17. This could be improved by providing seating.

Route 4 – Site to Co-op Food Convenience Store

1.25. The route between the site and Co-op Food Convenience Store has been identified as a key walking and cycling route for future residents as it provides access to Adelphi Way Bus Stop as well as The Brook House Bus Stops which provide access to a number of destinations such as Brentford, Hillingdon Heath, Uxbridge and Northolt. In addition, the route provides access to Hayes Park Primary School. The route is approximately 650 metres long.

Route POVs

Photo 18: Park Lane / Site Access

Photo 19: Park Lane Adjacent Footway

Photo 20: Kingshill Avenue Approaching Bradenham Road

Photo 21: Frogmore Avenue Towards Hayes Park Primary School

Photo 22: Adelphi Way Approaching Adelphi Way Bus Stop

Photo 23: Kingshill Avenue Crossing Point

Photo 24: Kingshill Avenue / Adelphi Way Junction Towards Co-op Food Convenience Store

Worst Section - Frogmore Avenue Towards Hayes Park Primary School

1.26. The area shown in Photograph 21 is considered the worst section of Route 4 in terms of the Healthy Streets indicators. This part of the route does not meet the following Healthy Streets indicators:

- People feel safe;
- People feel relaxed; and
- Places to stop and rest.

People Feel Safe

1.27. The area shown in Photograph 21 is not considered 'safe' as the immediate area is not welcoming. Litter and rubbish were observed on the footways. Furthermore, the pavement is uneven in several locations and is an existing highway maintenance issue. This results in an unattractive street scene that will not help make people feel safe.

1.28. The existing perception of safety could be improved by keeping the area clean and resurfacing the footway.

People Feel Relaxed

1.29. The section shown in Photograph 21 is not welcoming and unattractive and therefore the experience of walking / cycling here is not relaxing or enjoyable. In addition, the pavement in this section is unpleasant due to the historic layout of the area.

1.30. This could be improved by providing a smooth and level surface to the street.

Places to Stop and Rest

1.31. There is a lack of seating available in this section of Frogmore Avenue, as shown in Photograph 21. This could be improved by providing seating.

1.32. Kingshill Avenue to the northeast of Frogmore Avenue provides setting for people to stop and rest.

Route 5 – Site to Hayes & Harlington Rail Station

1.33. The route between the site and Hayes & Harlington Rail Station has been identified as a key walking and cycling route for future residents as it provides access to Hayes & Harlington Rail Station, being the closest train station providing access to Elizabeth Line and GWR. The route is approximately 3.4 kilometres long.

Route POVs

Photo 25: Site Access towards Mead House Lane / Hayes End Road mini-roundabout

Photo 26: Hayes End Road adjacent to Footway

Photo 27: Uxbridge Road Subway

Photo 28: Dawson Close – South Walk

Photo 29: Wood End Green Road near Junction with Rosedale Avenue

Photo 30: Wood End Green Road Approaching Leven Way

Photo 31: Wood End Green Road / Botwell Lane mini-roundabout

Photo 32: Botwell Lane / Botwell Crescent Junction

Photo 33: Botwell Lane Approaching Barra Hall Circus

Photo 34: Botwell Lane Approaching Manton Close

Photo 35: Botwell Lane / Compton Road Junction

Photo 36: Botwell Lane near Junction with Printing House Lane

Photo 37: Botwell Lane / Church Road mini-roundabout Junction

Photo 38: Station Road Adjacent Footway

Photo 39: Station Road Approaching Hayes & Harlington Station

Worst Section - Dawson Close – South Walk

1.34. The area shown in Photograph 28 is considered the worst section of Route 5 in terms of the Healthy Streets indicators. This part of the route does not meet the following Healthy Streets indicators:

- People feel safe;
- Shade and shelter; and
- Places to stop and rest.

People Feel Safe

1.35. The section shown in Photograph 28 is not considered particularly 'safe'. The footway is quite narrow. This may make it difficult for groups of pedestrians to pass. In addition, there is a lack of lighting on this section. This contributes to a sense that walking on this section might be dangerous, especially in hours of darkness. Furthermore, there is a lack of buildings with doors and windows overlooking the footway.

1.36. The perception of safety here could be improved by widening the footway and provide adequate lighting. This will help remove the perception of the area as being prevalent in crime or anti-social behaviour.

Shade and Shelter

1.37. The immediate area shown in Photograph 28 is relatively exposed in its current form with no opportunity for pedestrians to seek shelter from the elements or shade from the sun.

Places to Stop and Rest

1.38. There is a lack of seating available along this section, as shown in Photograph 28.

Summary

1.39. This Active Travel Zone neighbourhood review has identified the following worst sections of each of the 5 active travel routes:

- Route 1 – Site to Hewens Primary School – Worst part of the route Uxbridge Road Approaching Junction with Hewens Road;
- Route 2 – Site to The Parkview Surgery – Worst part of the Hayes End Road adjacent to Footway;
- Route 3 – Site to Lilliput pre-school Hayes – Worst part of the route Derwent Drive Approaching Lilliput Pre-School Hayes;
- Route 4 – Site to Co-op Food Convenience Store – Worst part of the route Frogmore Avenue Towards Hayes Park Primary School; and
- Route 5 – Site to Hayes & Harlington Rail Station – Worst part of the route Dawson Close – South Walk.

1.40. The worst section of each of the above routes do not meet the healthy streets indicators and are not attractive to encourage active travel modes.

1.41. The worst section of all routes is associated with the existing deficiencies of the local streets surrounding the Site and the historic layout of the local roads as well as the existing mature trees located in the footways restricting available width for pedestrians. These could potentially be addressed by localised widening the footways, keeping the area clean and tidy and resurfacing the footways.

H. TRICS Reports

Calculation Reference: AUDIT-701701-230310-0323

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT
Category : B - BUSINESS PARK
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

01	GREATER LONDON		
	BT	BRENT	1 days
	HO	HOUNSLOW	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: Gross floor area
Actual Range: 15111 to 185000 (units: sqm)
Range Selected by User: 1200 to 185000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 08/11/18

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

Selected survey days:

Thursday	2 days

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

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2

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

Selected Location Sub Categories:

Commercial Zone	1
Development Zone	1

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	2 days - Selected
Servicing vehicles Excluded	X days - Selected

Secondary Filtering selection:

Use Class:
Not Known 2 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Site Operations Breakdown:
All Surveys Included

Population within 500m Range:
All Surveys Included
Population within 1 mile:
25,001 to 50,000 2 days

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

Population within 5 miles:
500,001 or More 2 days

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

Car ownership within 5 miles:
0.6 to 1.0 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 1 days

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

PTAL Rating:
2 Poor 2 days

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

LIST OF SITES relevant to selection parameters

1 BT-02-B-01 BUSINESS PARK BRENT
CENTRAL WAY
PARK ROYAL

Suburban Area (PPS6 Out of Centre)
Commercial Zone
Total Gross floor area: 15111 sqm
Survey date: THURSDAY *21/04/16* *Survey Type: MANUAL*

2 HO-02-B-04 BUSINESS PARK HOUNSLOW
CHISWICK HIGH ROAD
CHISWICK
GUNNERSBURY
Suburban Area (PPS6 Out of Centre)
Development Zone
Total Gross floor area: 185000 sqm
Survey date: THURSDAY *08/11/18* *Survey Type: MANUAL*

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

TRIP RATE for Land Use 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL TOTAL VEHICLES
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 4.54

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	2	100056	0.059	2	100056	0.018	2	100056	0.077
07:30 - 08:00	2	100056	0.086	2	100056	0.026	2	100056	0.112
08:00 - 08:30	2	100056	0.092	2	100056	0.028	2	100056	0.120
08:30 - 09:00	2	100056	0.102	2	100056	0.024	2	100056	0.126
09:00 - 09:30	2	100056	0.082	2	100056	0.030	2	100056	0.112
09:30 - 10:00	2	100056	0.079	2	100056	0.027	2	100056	0.106
10:00 - 10:30	2	100056	0.052	2	100056	0.038	2	100056	0.090
10:30 - 11:00	2	100056	0.047	2	100056	0.025	2	100056	0.072
11:00 - 11:30	2	100056	0.043	2	100056	0.026	2	100056	0.069
11:30 - 12:00	2	100056	0.043	2	100056	0.034	2	100056	0.077
12:00 - 12:30	2	100056	0.043	2	100056	0.029	2	100056	0.072
12:30 - 13:00	2	100056	0.032	2	100056	0.051	2	100056	0.083
13:00 - 13:30	2	100056	0.051	2	100056	0.029	2	100056	0.080
13:30 - 14:00	2	100056	0.048	2	100056	0.035	2	100056	0.083
14:00 - 14:30	2	100056	0.035	2	100056	0.042	2	100056	0.077
14:30 - 15:00	2	100056	0.041	2	100056	0.049	2	100056	0.090
15:00 - 15:30	2	100056	0.024	2	100056	0.039	2	100056	0.063
15:30 - 16:00	2	100056	0.019	2	100056	0.039	2	100056	0.058
16:00 - 16:30	2	100056	0.034	2	100056	0.070	2	100056	0.104
16:30 - 17:00	2	100056	0.028	2	100056	0.098	2	100056	0.126
17:00 - 17:30	2	100056	0.032	2	100056	0.072	2	100056	0.104
17:30 - 18:00	2	100056	0.029	2	100056	0.094	2	100056	0.123
18:00 - 18:30	2	100056	0.024	2	100056	0.091	2	100056	0.115
18:30 - 19:00	2	100056	0.031	2	100056	0.066	2	100056	0.097
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			1.156			1.080			2.236

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

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

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Parameter summary

Trip rate parameter range selected:	15111 - 185000 (units: sqm)
Survey date date range:	01/01/14 - 08/11/18
Number of weekdays (Monday-Friday):	2
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 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL OGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	2	100056	0.002	2	100056	0.000	2	100056	0.002
07:30 - 08:00	2	100056	0.002	2	100056	0.001	2	100056	0.003
08:00 - 08:30	2	100056	0.002	2	100056	0.001	2	100056	0.003
08:30 - 09:00	2	100056	0.000	2	100056	0.000	2	100056	0.000
09:00 - 09:30	2	100056	0.002	2	100056	0.000	2	100056	0.002
09:30 - 10:00	2	100056	0.002	2	100056	0.002	2	100056	0.004
10:00 - 10:30	2	100056	0.002	2	100056	0.000	2	100056	0.002
10:30 - 11:00	2	100056	0.001	2	100056	0.004	2	100056	0.005
11:00 - 11:30	2	100056	0.002	2	100056	0.002	2	100056	0.004
11:30 - 12:00	2	100056	0.001	2	100056	0.004	2	100056	0.005
12:00 - 12:30	2	100056	0.002	2	100056	0.002	2	100056	0.004
12:30 - 13:00	2	100056	0.003	2	100056	0.004	2	100056	0.007
13:00 - 13:30	2	100056	0.002	2	100056	0.000	2	100056	0.002
13:30 - 14:00	2	100056	0.001	2	100056	0.003	2	100056	0.004
14:00 - 14:30	2	100056	0.001	2	100056	0.000	2	100056	0.001
14:30 - 15:00	2	100056	0.001	2	100056	0.001	2	100056	0.002
15:00 - 15:30	2	100056	0.002	2	100056	0.002	2	100056	0.004
15:30 - 16:00	2	100056	0.000	2	100056	0.001	2	100056	0.001
16:00 - 16:30	2	100056	0.001	2	100056	0.001	2	100056	0.002
16:30 - 17:00	2	100056	0.000	2	100056	0.001	2	100056	0.001
17:00 - 17:30	2	100056	0.001	2	100056	0.000	2	100056	0.001
17:30 - 18:00	2	100056	0.000	2	100056	0.000	2	100056	0.000
18:00 - 18:30	2	100056	0.001	2	100056	0.001	2	100056	0.002
18:30 - 19:00	2	100056	0.000	2	100056	0.000	2	100056	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.031			0.030			0.061

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 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL TOTAL PEOPLE
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period
Total People to Total Vehicles ratio (all time periods and directions): 4.54

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	2	100056	0.166	2	100056	0.035	2	100056	0.201
07:30 - 08:00	2	100056	0.377	2	100056	0.062	2	100056	0.439
08:00 - 08:30	2	100056	0.484	2	100056	0.078	2	100056	0.562
08:30 - 09:00	2	100056	0.615	2	100056	0.108	2	100056	0.723
09:00 - 09:30	2	100056	0.566	2	100056	0.087	2	100056	0.653
09:30 - 10:00	2	100056	0.339	2	100056	0.109	2	100056	0.448
10:00 - 10:30	2	100056	0.200	2	100056	0.113	2	100056	0.313
10:30 - 11:00	2	100056	0.188	2	100056	0.086	2	100056	0.274
11:00 - 11:30	2	100056	0.121	2	100056	0.061	2	100056	0.182
11:30 - 12:00	2	100056	0.124	2	100056	0.127	2	100056	0.251
12:00 - 12:30	2	100056	0.243	2	100056	0.224	2	100056	0.467
12:30 - 13:00	2	100056	0.207	2	100056	0.231	2	100056	0.438
13:00 - 13:30	2	100056	0.245	2	100056	0.193	2	100056	0.438
13:30 - 14:00	2	100056	0.214	2	100056	0.148	2	100056	0.362
14:00 - 14:30	2	100056	0.167	2	100056	0.162	2	100056	0.329
14:30 - 15:00	2	100056	0.142	2	100056	0.155	2	100056	0.297
15:00 - 15:30	2	100056	0.088	2	100056	0.130	2	100056	0.218
15:30 - 16:00	2	100056	0.075	2	100056	0.134	2	100056	0.209
16:00 - 16:30	2	100056	0.100	2	100056	0.257	2	100056	0.357
16:30 - 17:00	2	100056	0.099	2	100056	0.393	2	100056	0.492
17:00 - 17:30	2	100056	0.100	2	100056	0.538	2	100056	0.638
17:30 - 18:00	2	100056	0.105	2	100056	0.758	2	100056	0.863
18:00 - 18:30	2	100056	0.075	2	100056	0.602	2	100056	0.677
18:30 - 19:00	2	100056	0.076	2	100056	0.286	2	100056	0.362
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			5.116			5.077			10.193

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 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL CARS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	2	100056	0.042	2	100056	0.010	2	100056	0.052
07:30 - 08:00	2	100056	0.060	2	100056	0.011	2	100056	0.071
08:00 - 08:30	2	100056	0.071	2	100056	0.014	2	100056	0.085
08:30 - 09:00	2	100056	0.076	2	100056	0.010	2	100056	0.086
09:00 - 09:30	2	100056	0.062	2	100056	0.012	2	100056	0.074
09:30 - 10:00	2	100056	0.051	2	100056	0.009	2	100056	0.060
10:00 - 10:30	2	100056	0.033	2	100056	0.017	2	100056	0.050
10:30 - 11:00	2	100056	0.029	2	100056	0.010	2	100056	0.039
11:00 - 11:30	2	100056	0.025	2	100056	0.013	2	100056	0.038
11:30 - 12:00	2	100056	0.029	2	100056	0.016	2	100056	0.045
12:00 - 12:30	2	100056	0.022	2	100056	0.015	2	100056	0.037
12:30 - 13:00	2	100056	0.016	2	100056	0.026	2	100056	0.042
13:00 - 13:30	2	100056	0.036	2	100056	0.015	2	100056	0.051
13:30 - 14:00	2	100056	0.036	2	100056	0.022	2	100056	0.058
14:00 - 14:30	2	100056	0.023	2	100056	0.025	2	100056	0.048
14:30 - 15:00	2	100056	0.024	2	100056	0.025	2	100056	0.049
15:00 - 15:30	2	100056	0.008	2	100056	0.024	2	100056	0.032
15:30 - 16:00	2	100056	0.010	2	100056	0.027	2	100056	0.037
16:00 - 16:30	2	100056	0.020	2	100056	0.049	2	100056	0.069
16:30 - 17:00	2	100056	0.013	2	100056	0.078	2	100056	0.091
17:00 - 17:30	2	100056	0.018	2	100056	0.053	2	100056	0.071
17:30 - 18:00	2	100056	0.017	2	100056	0.075	2	100056	0.092
18:00 - 18:30	2	100056	0.012	2	100056	0.072	2	100056	0.084
18:30 - 19:00	2	100056	0.017	2	100056	0.052	2	100056	0.069
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.750			0.680			1.430

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 02 - EMPLOYMENT/B - BUSINESS PARK
MULTI-MODAL LGVS
Calculation factor: 100 sqm
BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	2	100056	0.005	2	100056	0.000	2	100056	0.005
07:30 - 08:00	2	100056	0.005	2	100056	0.004	2	100056	0.009
08:00 - 08:30	2	100056	0.007	2	100056	0.005	2	100056	0.012
08:30 - 09:00	2	100056	0.008	2	100056	0.005	2	100056	0.013
09:00 - 09:30	2	100056	0.008	2	100056	0.008	2	100056	0.016
09:30 - 10:00	2	100056	0.008	2	100056	0.007	2	100056	0.015
10:00 - 10:30	2	100056	0.010	2	100056	0.011	2	100056	0.021
10:30 - 11:00	2	100056	0.006	2	100056	0.003	2	100056	0.009
11:00 - 11:30	2	100056	0.007	2	100056	0.004	2	100056	0.011
11:30 - 12:00	2	100056	0.004	2	100056	0.005	2	100056	0.009
12:00 - 12:30	2	100056	0.011	2	100056	0.005	2	100056	0.016
12:30 - 13:00	2	100056	0.004	2	100056	0.010	2	100056	0.014
13:00 - 13:30	2	100056	0.005	2	100056	0.003	2	100056	0.008
13:30 - 14:00	2	100056	0.005	2	100056	0.004	2	100056	0.009
14:00 - 14:30	2	100056	0.001	2	100056	0.009	2	100056	0.010
14:30 - 15:00	2	100056	0.004	2	100056	0.010	2	100056	0.014
15:00 - 15:30	2	100056	0.004	2	100056	0.004	2	100056	0.008
15:30 - 16:00	2	100056	0.003	2	100056	0.004	2	100056	0.007
16:00 - 16:30	2	100056	0.004	2	100056	0.006	2	100056	0.010
16:30 - 17:00	2	100056	0.004	2	100056	0.007	2	100056	0.011
17:00 - 17:30	2	100056	0.004	2	100056	0.005	2	100056	0.009
17:30 - 18:00	2	100056	0.000	2	100056	0.002	2	100056	0.002
18:00 - 18:30	2	100056	0.001	2	100056	0.002	2	100056	0.003
18:30 - 19:00	2	100056	0.001	2	100056	0.000	2	100056	0.001
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.119			0.123			0.242

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.*

Calculation Reference: AUDIT-701701-230310-0308

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		
	BE	BEXLEY	1 days
	HO	HOUNSLOW	2 days
	HV	HAVERING	1 days
	KI	KINGSTON	1 days
	RD	RICHMOND	1 days
	TH	TOWER HAMLETS	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: 14 to 493 (units:)
Range Selected by User: 100 to 400 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/14 to 28/06/22

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
Tuesday	2 days
Wednesday	1 days
Friday	3 days

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

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	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:

Industrial Zone	1
Development Zone	1
Residential Zone	3
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.

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	28 days - Selected
Servicing vehicles Excluded	5 days - Selected

Secondary Filtering selection:

Use Class:

C3	7 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 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:

10,001 to 15,000	1 days
15,001 to 20,000	1 days
20,001 to 25,000	1 days
25,001 to 50,000	3 days
50,001 to 100,000	1 days

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

Population within 5 miles:

125,001 to 250,000	2 days
500,001 or More	5 days

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

Car ownership within 5 miles:

0.6 to 1.0	5 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	4 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:

1a (Low) Very poor	1 days
1b Very poor	1 days
2 Poor	5 days

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

LIST OF SITES relevant to selection parameters

1 BE-03-C-02 BLOCKS OF FLATS BEXLEY
CLYDESDALE WAY
BELVEDERE

Edge of Town
Industrial Zone
Total No of Dwellings: 402
Survey date: WEDNESDAY *19/09/18* *Survey Type: MANUAL*

2 HO-03-C-03 BLOCKS OF FLATS HOUNSLOW
COMMERCE ROAD
BRENTFORD

Edge of Town Centre
Development Zone
Total No of Dwellings: 150
Survey date: FRIDAY *18/11/16* *Survey Type: MANUAL*

3 HO-03-C-05 BLOCK OF FLATS HOUNSLOW
PARK LANE
HOUNSLOW
CRANFORD
Edge of Town
Residential Zone
Total No of Dwellings: 14
Survey date: FRIDAY *06/03/20* *Survey Type: MANUAL*

4 HV-03-C-02 BLOCKS OF FLATS HAVERING
WATERLOO ROAD
ROMFORD

Suburban Area (PPS6 Out of Centre)
Built-Up Zone
Total No of Dwellings: 493
Survey date: TUESDAY *22/11/16* *Survey Type: MANUAL*

5 KI-03-C-03 BLOCK OF FLATS KINGSTON
PORTSMOUTH ROAD
SURBITON

Edge of Town Centre
Residential Zone
Total No of Dwellings: 20
Survey date: MONDAY *11/07/16* *Survey Type: MANUAL*

6 RD-03-C-06 BLOCKS OF FLATS RICHMOND
BESSANT DRIVE
KEW

Suburban Area (PPS6 Out of Centre)
Residential Zone
Total No of Dwellings: 170
Survey date: TUESDAY *28/06/22* *Survey Type: MANUAL*

7 TH-03-C-04 BLOCK OF FLATS TOWER HAMLETS
LEVEN ROAD
POPLAR
ABERFELDY VILLAGE
Neighbourhood Centre (PPS6 Local Centre)
No Sub Category
Total No of Dwellings: 83
Survey date: FRIDAY *21/06/19* *Survey Type: MANUAL*

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
BE-03-C-01	high PTAL
BN-03-C-01	high PTAL
BT-03-C-01	high PTAL
BT-03-C-02	high PTAL
EN-03-C-03	high PTAL
HG-03-C-01	high PTAL
HG-03-C-02	high PTAL

MANUALLY DESELECTED SITES (Cont.)

Site Ref	Reason for Deselection
HK-03-C-03	high PTAL
HO-03-C-04	high PTAL
IS-03-C-05	high PTAL
IS-03-C-06	high PTAL
IS-03-C-07	high PTAL
SK-03-C-01	high PTAL
SK-03-C-02	high PTAL
SK-03-C-03	high PTAL
WF-03-C-01	high PTAL
WF-03-C-02	Survey undertaken during Covid
WF-03-C-03	Survey undertaken during Covid
WF-03-C-04	Survey undertaken during Covid
WF-03-C-05	Survey undertaken during Covid
WF-03-C-06	Survey undertaken during Covid

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): 2.74

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	190	0.029	7	190	0.112	7	190	0.141
08:00 - 09:00	7	190	0.035	7	190	0.132	7	190	0.167
09:00 - 10:00	7	190	0.055	7	190	0.060	7	190	0.115
10:00 - 11:00	7	190	0.037	7	190	0.050	7	190	0.087
11:00 - 12:00	7	190	0.041	7	190	0.059	7	190	0.100
12:00 - 13:00	7	190	0.058	7	190	0.050	7	190	0.108
13:00 - 14:00	7	190	0.055	7	190	0.060	7	190	0.115
14:00 - 15:00	7	190	0.053	7	190	0.060	7	190	0.113
15:00 - 16:00	7	190	0.084	7	190	0.062	7	190	0.146
16:00 - 17:00	7	190	0.106	7	190	0.060	7	190	0.166
17:00 - 18:00	7	190	0.115	7	190	0.063	7	190	0.178
18:00 - 19:00	7	190	0.128	7	190	0.059	7	190	0.187
19:00 - 20:00	6	140	0.091	6	140	0.058	6	140	0.149
20:00 - 21:00	6	140	0.080	6	140	0.044	6	140	0.124
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.967			0.929			1.896

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

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

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Parameter summary

Trip rate parameter range selected:	14 - 493 (units:)
Survey date date range:	01/01/14 - 28/06/22
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	5
Surveys manually removed from selection:	21

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

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

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	190	0.003	7	190	0.004	7	190	0.007
08:00 - 09:00	7	190	0.002	7	190	0.001	7	190	0.003
09:00 - 10:00	7	190	0.003	7	190	0.003	7	190	0.006
10:00 - 11:00	7	190	0.000	7	190	0.000	7	190	0.000
11:00 - 12:00	7	190	0.003	7	190	0.001	7	190	0.004
12:00 - 13:00	7	190	0.001	7	190	0.002	7	190	0.003
13:00 - 14:00	7	190	0.002	7	190	0.005	7	190	0.007
14:00 - 15:00	7	190	0.002	7	190	0.002	7	190	0.004
15:00 - 16:00	7	190	0.001	7	190	0.002	7	190	0.003
16:00 - 17:00	7	190	0.000	7	190	0.000	7	190	0.000
17:00 - 18:00	7	190	0.002	7	190	0.001	7	190	0.003
18:00 - 19:00	7	190	0.001	7	190	0.001	7	190	0.002
19:00 - 20:00	6	140	0.001	6	140	0.001	6	140	0.002
20:00 - 21:00	6	140	0.000	6	140	0.000	6	140	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.021			0.023			0.044

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): 2.74

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	190	0.056	7	190	0.324	7	190	0.380
08:00 - 09:00	7	190	0.089	7	190	0.462	7	190	0.551
09:00 - 10:00	7	190	0.143	7	190	0.177	7	190	0.320
10:00 - 11:00	7	190	0.087	7	190	0.134	7	190	0.221
11:00 - 12:00	7	190	0.111	7	190	0.153	7	190	0.264
12:00 - 13:00	7	190	0.157	7	190	0.145	7	190	0.302
13:00 - 14:00	7	190	0.139	7	190	0.154	7	190	0.293
14:00 - 15:00	7	190	0.137	7	190	0.160	7	190	0.297
15:00 - 16:00	7	190	0.227	7	190	0.164	7	190	0.391
16:00 - 17:00	7	190	0.270	7	190	0.138	7	190	0.408
17:00 - 18:00	7	190	0.316	7	190	0.145	7	190	0.461
18:00 - 19:00	7	190	0.352	7	190	0.134	7	190	0.486
19:00 - 20:00	6	140	0.322	6	140	0.159	6	140	0.481
20:00 - 21:00	6	140	0.247	6	140	0.135	6	140	0.382
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.653			2.584			5.237

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									
07:00 - 08:00	7	190	0.020	7	190	0.095	7	190	0.115
08:00 - 09:00	7	190	0.025	7	190	0.114	7	190	0.139
09:00 - 10:00	7	190	0.044	7	190	0.047	7	190	0.091
10:00 - 11:00	7	190	0.029	7	190	0.044	7	190	0.073
11:00 - 12:00	7	190	0.029	7	190	0.050	7	190	0.079
12:00 - 13:00	7	190	0.045	7	190	0.040	7	190	0.085
13:00 - 14:00	7	190	0.042	7	190	0.044	7	190	0.086
14:00 - 15:00	7	190	0.040	7	190	0.047	7	190	0.087
15:00 - 16:00	7	190	0.071	7	190	0.047	7	190	0.118
16:00 - 17:00	7	190	0.094	7	190	0.052	7	190	0.146
17:00 - 18:00	7	190	0.088	7	190	0.045	7	190	0.133
18:00 - 19:00	7	190	0.110	7	190	0.045	7	190	0.155
19:00 - 20:00	6	140	0.082	6	140	0.048	6	140	0.130
20:00 - 21:00	6	140	0.073	6	140	0.042	6	140	0.115
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.792			0.760			1.552

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									
07:00 - 08:00	7	190	0.002	7	190	0.006	7	190	0.008
08:00 - 09:00	7	190	0.002	7	190	0.005	7	190	0.007
09:00 - 10:00	7	190	0.005	7	190	0.005	7	190	0.010
10:00 - 11:00	7	190	0.007	7	190	0.005	7	190	0.012
11:00 - 12:00	7	190	0.005	7	190	0.006	7	190	0.011
12:00 - 13:00	7	190	0.008	7	190	0.006	7	190	0.014
13:00 - 14:00	7	190	0.007	7	190	0.006	7	190	0.013
14:00 - 15:00	7	190	0.008	7	190	0.008	7	190	0.016
15:00 - 16:00	7	190	0.007	7	190	0.010	7	190	0.017
16:00 - 17:00	7	190	0.008	7	190	0.005	7	190	0.013
17:00 - 18:00	7	190	0.013	7	190	0.008	7	190	0.021
18:00 - 19:00	7	190	0.003	7	190	0.004	7	190	0.007
19:00 - 20:00	6	140	0.000	6	140	0.002	6	140	0.002
20:00 - 21:00	6	140	0.002	6	140	0.001	6	140	0.003
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.077			0.077			0.154

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.*

Our vision

"Engineering a better environment for people and the planet"

Our mission

"To solve complex problems for the benefit of clients, communities and the climate"

Our values

People orientated

Individually and collectively, people are our business.
We strive to create environments for everyone to flourish and thrive.

Flexible

Pragmatic by nature and dedicated to getting the job done to the highest possible standard.

Professional

Operating at pace with integrity to deliver technical and robust solutions.

Environmentally aware

We understand our responsibility to the environment, it shapes our decision making and informs our practice.

Innovative

Our forensic questioning provides the ability to deliver appropriate innovations at every stage on every project.

Relationship focused

We value individuality and the benefits of working collaboratively to achieve positive outcomes for all.