Leopard Guernsey Anchor Propco Ltd

Anchor and Hope Lane Sites
Transport Assessment

30821/D008d
December 2017

TPP
transport planning practice

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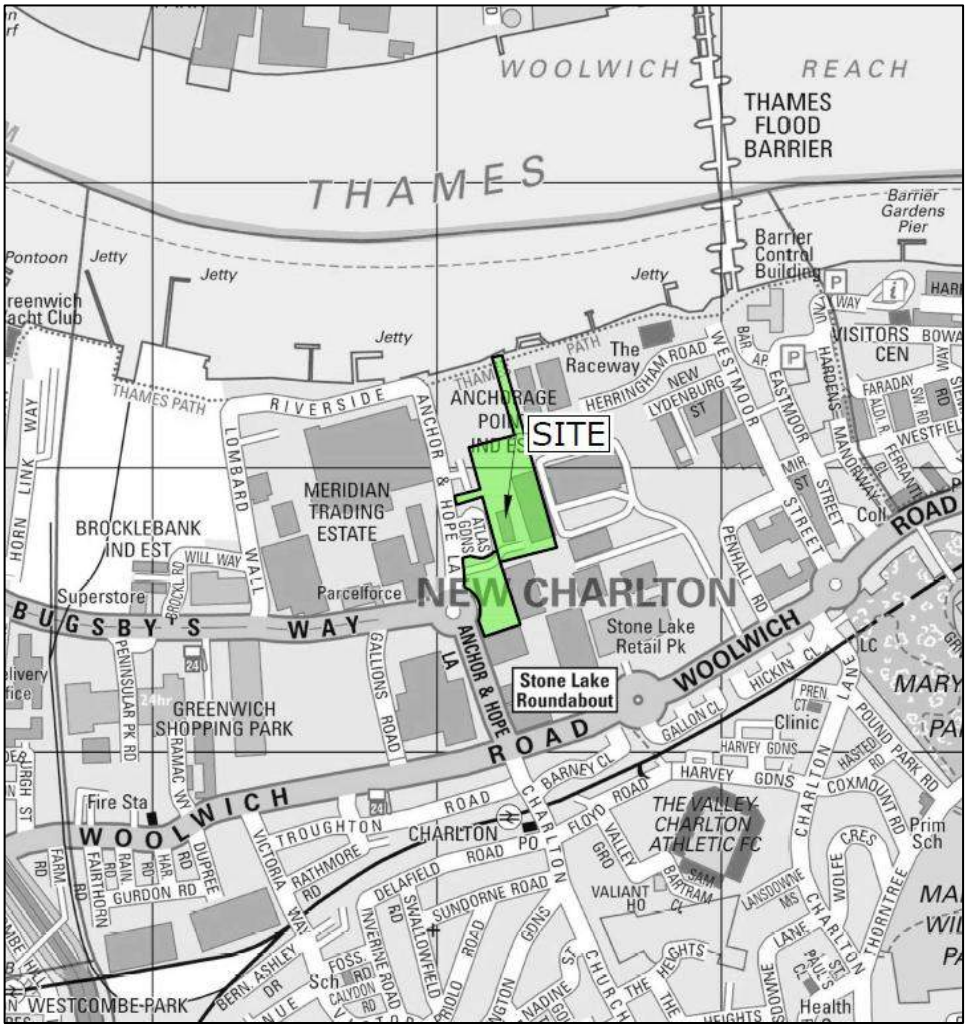
1 INTRODUCTION

1.1 Background Context

1.1.1 Transport Planning Practice (TPP) has been appointed by Leopard Guernsey Anchor Propco Ltd to provide transport advice in relation to the proposed redevelopment of the VIP Trading Estate and the VIP Industrial Estate, Anchor and Hope Lane, London SE7 7TE. The site located within the Charlton Riverside Opportunity Area in the Royal Borough of Greenwich (RBG).

1.1.2 The site is located to the east of Anchor and Hope Lane and comprises two plots of development, Plot A (Northern Plot) and Plot B (Southern Plot), with a strip connecting to Anchor and Hope Lane to the west and another to the north towards the Thames Path. The main access to the site is from Anchor and Hope Lane which runs between Woolwich Road and Bugsby's Way. The site location is shown in Figure 1.1.

Figure 1.1 – Site location



1.1.3 Charlton mainline rail station is located approximately 350m south of the site. Five bus routes are within easy walking distance of the site with bus stops on Bugsby's Way, Anchor and Hope Lane and Woolwich Road. The site has a good average Public Transport Accessible Level (PTAL) of 4 across the site.

1.1.4 The proposed development will provide 771 units residential as well as commercial space (A1-A5, B1, D1 and D2 use classes). The opening year is expected to be 2023.

1.1.5 The scheme will provide the following:

- 771 residential units, including extensive private gardens and roof terraces;
- 3,236 sqm of flexible commercial space;
- Ancillary residential facilities 496 sqm;
- 337 sqm of community uses; and
- Parking, services, plant and circulation.

1.2 Report Structure

1.2.1 This Transport Assessment has been prepared to assess the impact of the proposed development on the local transport network in accordance with TfL's Transport Assessment Guidance.

1.2.2 A previous application was submitted for this site in December 2016 (planning reference 16/4008/F). The proposal at the time was a larger scheme which included 975 units. The scope of the previous TA was discussed with officers at Transport for London (TfL), RBG and their masterplan consultant team, AECOM. Further comments were received from TfL and RBG following the submission of the application as part of the consultation process. As such the development proposals have been amended to address the consultation comments.

1.2.3 This report provides an assessment of the amended which follows the previously agreed methodology and incorporates comments received from TfL and RBG.

1.2.4 This report is structured as follows:

- **Chapter 2: Transport Policy** – summarises the relevant national, regional and local transport policies against which the proposals will be assessed.

- **Chapter 3: Existing Site** – describes the site location and the existing land uses on-site.

- **Chapter 4 to 9: Baseline Conditions** – describes the existing and baseline transport conditions by mode.

- **Chapter 10: Site Accessibility** – outlines the site accessibility to existing local amenities and employment facilities in the baseline scenario.

- **Chapter 11: Proposed Development** – outlines the details of the proposed Charlton Riverside development.

- **Chapter 12: Trip Generation** – describes and summarises the multi-modal trip generation assessment for the proposed development.

- **Chapter 13: Cumulative Assessment Schemes** – sets out the schemes which are considered as part of the cumulative impact assessment.

- **Chapter 14 to 18: Impact Assessment** – assesses the impact of the proposed development by transport mode and considers mitigation measures where required.

- **Chapter 19: Impact Assessment - Construction** – assesses the impact of construction traffic for the development on the local area and considers possible mitigation measures.

- **Chapter 20: Summary and Conclusions** – provides a summary and presents the conclusions of this report.

2 TRANSPORT POLICY

2.1 Introduction

2.1.1 This chapter provides a summary of the key transport policies at a national, regional and local level. These include:

- National Planning Policy Framework, March 2012;
- Draft London Plan, December 2017;
- The London Plan, March 2015;
- City in the East, October 2016;
- Draft Mayor's Transport Strategy, June 2017;
- Mayor's Transport Strategy, May 2010;
- Royal Greenwich Local Plan: Core Strategy with Detailed Policies, July 2014; and
- Royal Greenwich Charlton Riverside Masterplan Supplementary Planning Document, June 2017.

2.2 National Policy

National Planning Policy Framework (March 2012)

2.2.1 The National Planning Policy Framework (NPPF) was published on the 27th March 2012. It focuses on a presumption in favour of sustainable development. One of the core planning principles relates to actively managing patterns of growth to make the fullest possible use of public transport, walking and cycling and focusing significant development in locations which are or can be made sustainable.

2.2.2 The NPPF recognises that the transport system should be balanced in favour of sustainable transport modes so that people are given a real choice about how they travel. It encourages solutions which support reductions in both greenhouse gas emissions and congestion.

2.2.3 Developments which generate significant movements should be located where the need to travel will be minimised and the use of sustainable transport modes

can be maximised. All developments which generate significant amounts of movements should be supported by a Transport Statement or a Transport Assessment and required to provide a Travel Plan. Planning decisions should then consider whether opportunities for sustainable travel modes have been taken up, whether safe and suitable access to the site can be achieved for all people and whether improvements can be undertaken within the transport network which effectively limits the significant impacts of the development.

2.2.4 Developments should be located and designed where practical to:

- Accommodate the efficient delivery of goods and supplies;
- Give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;
- Create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians;
- Incorporate facilities for charging plug-in and other ultra-low emission vehicles;
- Consider the needs of people with disabilities by all modes of transport.

2.2.5 In respect of parking standards, the NPPF states that local planning authorities should take into account the following:

- the accessibility of the development;
- the type, mix and use of development;
- the availability of and opportunities for public transport;
- local car ownership levels; and
- an overall need to reduce the use of high-emission vehicles.

2.3 Regional policy

Draft London Plan (December 2017)

2.3.1 The consultation on the new draft London Plan started on 1st December 2017 and runs until March 2018. The new London Plan will cover the period from 2019

to 2041, providing a longer-term view of London's development to inform decision making.

2.3.2 In terms of transport, an ambitious aim has been established to deliver the Mayor's strategy target of 80% of all trips in London to be made by foot, cycle or public transport by 2041. The Healthy Streets Approach is being promoted which is expected 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.

The London Plan (March 2016)

2.3.3 The London Plan (March 2016) is the currently adopted London wide planning policies which provide the overall strategic plan for London setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.

2.3.4 Policy 6.1 'Strategic Approach' states that the Mayor will work with all relevant partners to encourage patterns and nodes of development that reduce the need to travel; improve the capacity and accessibility of public transport, walking and cycling; support development that generates high levels of trips at locations with high levels of public transport accessibility and / or capacity; and support measures that encourage shifts to more sustainable modes.

2.3.5 Policy 6.3 on 'Assessing Effects of Development on Transport Capacity' states that development proposals should ensure that impacts on transport capacity and the transport network are fully assessed. Transport Assessments should be provided in accordance with TfL guidance and Travel Plans should be provided for applications above the thresholds set out in TfL guidance.

2.3.6 The London Plan sets out standards for car parking in Policy 6.13. It is stated that The Mayor wishes to see an appropriate balance being struck between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use. In locations with high public transport accessibility, car-free developments should be promoted, while still providing for disabled people. The maximum parking standards are set out below.

Table 2.1 - Maximum Car Parking Standards for Residential

Number of beds / unit	Car space / unit
1 to 2 beds	Less than 1
3 beds	Up to 1.5
4 or more beds	Up to 2

Table 2.2 - Maximum Car Parking Standards for Office

Location	Maximum of one parking space per xm^2 of gross floor area, where x is:
Inner London	600-1000
Outer London	100-600

Table 2.3 - Maximum Car Parking Standards for Retail

Use	Maximum of one parking space per xm^2 of gross floor area, where x is:		
	PTAL 6 and 5	PTAL 4 to 2	PTAL 1
Non food	60-40	50-30	30

2.3.7 In terms of Blue Badge parking, the London Plan states that non-residential elements of a development should provide at least one accessible on or off street car parking bay designated for Blue Badge holders, even if no general parking is provided. Any development providing off-street parking should provide at least two bays designated for Blue Badge holders. For residential uses, the London Plan requires adequate parking spaces for disabled people must be provided preferably on-site, and references GLA's 'Housing Supplementary Planning Guidance' (2012) and 'Accessible London Supplementary Planning Guidance' (2014).

2.3.8 The minimum standards for cycle parking are set out in Policy 6.9 and summarised below.

Table 2.4 – The London Plan (2015) cycle parking standards

Land use		Cycle parking	
		Long-stay	**Short-stay**
A1	Food retail	from a threshold of 100 sqm: 1 space per 175 sqm	from a threshold of 100 sqm: first 750 sqm: 1 space per 40 sqm Thereafter: 1 space per 300 sqm
	Non-food retail	from a threshold of 100 sqm: first 1000 sqm: 1 space per 250 sqm thereafter: 1 space per 1000 sqm	from a threshold of 100 sqm: first 1000 sqm: 1 space per 125 sqm. Thereafter: 1 space per 1000 sqm
A3	Cafes and restaurants	from a threshold of 100 sqm: 1space per 175 sqm	from a threshold of 100 sqm: 1 space per 40 sqm
B1	Office	1 space per 90 sqm	First 5000 sqm: 1 space per 500 sqm. Thereafter, 1 space per 5000 sqm
C3	Dwellings	1 space per studio and 1-bedroom unit; 2 spaces per all other dwellings	1 space per 40 units
D1	Nursery	1 space per 8 staff + 1 space per 8 students	1 space per 100 students
D1	Dentist	1 space per 5 staff	1 space per 3 staff
D2	Health Club	1 space per 8 staff	1 space per 100 sqm

2.3.9 The site is located within the Charlton Riverside Opportunity Area as identified within the London Plan. It has an indicative employment capacity of 1,000 and minimum of 3,500 new homes. It states that development at Charlton Riverside should be integrated with the wider development of the south bank of the Thames to complement opportunities at Deptford/Greenwich, Greenwich Peninsula and Woolwich.

City in the East (October 2016)

2.3.10 The Mayor of London's City in the East plan promotes the development of the east of London as an integrated part of the capital. It identifies Charlton Riverside as having the capacity to deliver 5,000 homes and 5,000 jobs. This supersedes the figures contained in the London Plan.

Draft Mayor's Transport Strategy (June 2017)

2.3.11 The Mayor's Transport Strategy sets out the Mayor's policies and proposals to reshape transport in London over the next 25 years. The draft strategy was published in June 2017 and a final version is expected in 2018.

2.3.12 The draft strategy recognises transport is fundamental to the lives of all Londoners and is at the heart of many of the city's present and future challenges. The central aim of the strategy is to create a future London that is not only home to more people, but is a better place for all of those people to live in. At the heart of this vision is the aim that, by 2041, 80 per cent of Londoners' trips will be made on foot, by cycle or using public transport.

2.3.13 The strategy proposes to adopt a Healthy Streets Approach which creates streets and routes that encourage walking, cycling and public transport use, reducing car dependency and the health problems it creates. The strategy also aims to provide a good public transport experience and incorporating the transport principles of 'good growth' in regeneration and new developments.

Mayor's Transport Strategy (May 2010)

2.3.14 The currently adopted Mayor's Transport Strategy has the following vision:

> *"London's transport system should excel among those of world cities, providing access to opportunities for all its people and enterprises, achieving the highest environmental standards and leading the world in its approach to tackling urban transport challenges of the 21st century."*

2.3.15 The following six goals set out how this overarching vision should be implemented. The transport strategy should:

- Support economic development and population growth;
- Enhance the quality of life for all Londoners;
- Improve the safety and security of all Londoners;
- Improve transport opportunities for all Londoners;
- Reduce transport's contribution to climate change and improve its resilience;
- Support delivery of the London 2012 Olympic and Paralympic Games and its legacy.

2.3.16 Chapter 4 sets out the strategic policies, of which the following are relevant to the proposals:

- Policy 4 relates to improving people's access to jobs and maximising public transport connectivity and Policy 5 relates to ensuring efficient and effective access for people and goods.

- Policy 9 relates specifically to development proposals and seeks to ensure the following:

- All high trip generating developments are located in areas of high public transport accessibility, connectivity and capacity;

- The design and layout of development sites maximise access by walking and cycling and to public transport facilities;

- Access for deliveries and servicing;

- Land for transport use is safeguarded;

- Planning contributions are sought for transport improvements where appropriate.

- Policy 11 states that The Mayor will seek to reduce the need to travel, encourage the use of more sustainable and less congesting modes of transport, set appropriate parking standards and promote smarter travel initiatives.

2.3.17 Chapter 5 considers transport proposals to manage the demand for travel, and refers to the need to smooth traffic flow for all user groups. It refers to the need to maximise the efficient use of the road network, both for transportation purposes and also when considered as part of London's public realm.

2.3.18 The term 'smoothing traffic flow' refers to managing road congestion and improving traffic journey time reliability and predictability. As a result, it seeks to improve conditions for cyclists and pedestrians as well as vehicular traffic.

2.3.19 Section 5.6.8 refers to how transport policy has moved away from the 'predict and provide' approach, to one which instead considers how 'to get more' from the existing road network for all road users as well as pedestrians, cyclists and local residents.

Mayor of London, Accessible London Supplementary Guidance (October 2014)

2.3.20 This document provides advice to boroughs, developers, designers and planning applicants on implementing inclusive design principles effectively and on creating an accessible environment in London, with particular emphasis on the access requirements of disabled and older people. It does not introduce new policy or add any additional burdens on developers. It does not form part of the development plan, but should be taken into account as a further material consideration when considering planning applications so has weight as a formal supplement to the London Plan.

2.3.21 In terms of residential disabled parking, it recognises that the London Plan requires 10% of all new homes to be wheelchair accessible or easily adaptable for occupation by a wheelchair user. This London Plan then references the 'Wheelchair Housing Design Guide' (WHDG) which requires one parking bay for every wheelchair accessible or easily adaptable home (so 10% of the total number of residential units). It is considered that any residential development, even when car free, should comply with London Plan Policy 3.8 and provide adequate parking for the wheelchair accessible or easily adaptable units, preferably on-site.

2.3.22 However, based on the nature of the proposed development, the Accessible London SPG also recognises that:

> *"4.3.19 The WHDG also notes that grouped car parking serving multi-storey or high-density developments can be provided on the basis of management arrangements. This could provide at least one designated wheelchair space per wheelchair user dwelling if required. These spaces, whether off street or kerbside, should be of the required size to enable transfer between the car and an adjacent pavement or hardstanding.*
>
> *4.3.20 If the full complement of designated bays is not provided at first occupation, a parking management strategy (to be approved at planning application stage) should set out what mechanisms will be used to ensure that additional provision can be made quickly and easily. This may mean managing bays through leasing arrangements so that they can be assigned*

to Blue Badge holders as necessary, reflecting the actual demand or identifying additional off-site capacity."

2.3.23 Therefore if the disabled parking is not provided at 10% of residential units from the outset, a parking management plan is considered to be acceptable in providing mechanisms to manage the bays to meet demand.

2.3.24 Accessible London further emphases a flexible approach as follows:

> *"4.3.21 On major developments with easy access to step free public transport and that have a significant number of wheelchair accessible /adaptable units boroughs should consider a flexible approaches to the provision associated parking bays and other mitigation measures. This could take the form of the delivery of conveniently located on street bays (through a s106 agreement) that can be taken in and out of use depending on the demand at any point in time, access to a car club and facilities for the storage and charging of mobility scooters and improvements to local bus tops, including the provision of raised kerbs to facilitate bus-ramps."*

2.4 Local policy

Royal Greenwich Local Plan: Core Strategy with Detailed Policies (July 2014)

2.4.1 RBG's Core Strategy with Detailed Policies set out how the council proposes to develop the borough over the next 15 years to improve the lives of the people who live and work here, whilst retaining the strong sense of history and identity of Royal Greenwich.

2.4.2 The Core Strategy identifies a number of Strategic Development Locations. This includes Charlton Riverside (Policy EA2) which will provide a new mixed-use urban quarter. Employment will be consolidated to maximise the use of land whilst maintaining employment levels in the waterfront area. There will be a reduction in the amount of out of town centre retail in this area and an increase in both the quantity and quality of open space. It is expected that the area will be transformed into an attractive and vibrant mixed use urban quarter providing around 3,500 - 5,000 new homes.

2.4.3 It is stated that the new development at Charlton Riverside will require sufficient buffering from the retained Strategic Industrial Location land and the

safeguarded Riverside, Angerstein and Murphy's Wharves to minimise the potential for conflicts of use and interference to new residents.

2.4.4 With regards to transport policies, these are summarised in Table 2.1.

Table 2.5 – Summary of key RBG Core Strategy policies

Policy	Description
Policy IM4 Sustainable Travel	All development in RBG should contribute to improved accessibility and safety, and reduce the use of the private car and the need to travel. The needs of pedestrians, including those with disabilities, and cyclists should be prioritised in development and the design and layout of development should reflect this. Developments along the riverside must ensure that they incorporate the provision for a riverside pathway and contribute to improvements to this where it is required. In order to reduce the use of the car, developments, must not go above those maximum parking standards set out in the London Plan and, where appropriate, should go below these.
Policy IM(a) Impact on the Road Network	When planning transport provision for major developments and extensive sites where comprehensive development can take place, developers should have regard to: i. The road hierarchy ii. Building into highways networks speed management and design criteria for speeds no greater than 20 mph; and iii. Incorporating appropriate traffic calming measures and encouraging residential roads to be designed as shared spaces
Policy IM(b) Walking and Cycling	New developments should provide for the needs of in RBG should: i. integrate with the existing footpath and both the London and local cycle networks and encourage the principles of shared space; ii. provide sufficient provision of changing and shower facilities for cyclists; iii. provide cycle parking in line with policy IM(c); iv. promote walking and cycling safety, with well lit, signed and well maintained routes and safe facilities for crossing roads and at transport interchanges; v. take account of 'desire lines' to local shops, services and schools, including safer routes to school and to public transport nodes; and vi. Take account of the Royal Borough's Cycling Strategy and in particular the development of primary and local cycle networks through Royal Greenwich
Policy IM(c) Parking Standards	Developments must provide the minimum level of car parking provision necessary, for people with disabilities, as set out in the London Plan, and ensure provision for servicing, safe pick-up, drop-off and waiting areas for vehicles such as taxis and coaches, where that activity is likely to be associated with the development. RBG strongly encourage contributions to car clubs and pool car schemes in place of private parking in new developments across Royal Greenwich and seek the provision of electric charging points as part of any car parking provision, following the minimum standards set out in the London Plan. Developments must meet, as a minimum, the standards for cycle parking as set out in the London Plan.

Royal Greenwich Site Allocations Issues and Options Paper, Public Consultation Draft (February 2016)

2.4.5 This document sets out the sites and uses that are important to delivering the spatial strategy set out in the RBG Core Strategy and provide additional detail on these. Once adopted, the site allocations local plan will form part of the Development Plan for RBG and adoption is due in Winter 2017.

2.4.6 Charlton Riverside is identified as a key regeneration area that provides a significant opportunity for new high quality river front development. The site is located within Site C5, known as Charlton Riverside Central. The options for future use are identified as

> *"Mixed use, including land for transport route, employment/commercial, small scale retail, residential and open space. Secondary and primary school area of search. To include bus and cycle eastwest route and transport interchange at the south western corner of the site opposite Charlton Church Lane."*

Royal Greenwich Charlton Riverside Supplementary Planning Document (June 2017)

2.4.7 The purpose of the Charlton Riverside SPD is to provide clear planning guidance for the sustainable regeneration and redevelopment of the Charlton Riverside site.

2.4.8 The SPD facilitates a co-ordinated approach to development that will provide new jobs and homes. It sets out the principles and parameters for development to achieve the vision. This also includes planning policy advice for future planning applications, the nature of acceptable development, potential land uses, urban design requirements and potential Section 106 planning obligations/ Community Infrastructure Levy (CIL) contributions.

2.4.9 The extent of the area considered is shown in Figure 2.1.

Figure 2.1– Charlton Masterplan Area

2.4.10 The vision for Charlton Riverside is to provide a living, working neighbourhood. The vision is underpinned by the following principles:

- An additional 4,400 jobs (over and above existing employment);
- Integration of employment uses into new development;
- An additional 5,000 - 7,500 homes (based on a more detailed assessment of the site's capacity);
- 50% family housing and 35% affordable housing;
- Low to medium rise development (3-6 storeys);
- Transport networks that reflect historic routes;
- In future years, in the SIL area, subject to appropriate relocation, de-designation and new transport infrastructure being provided, some taller buildings may be permitted to transition into the Millennium Village and Peninsula;
- Respect for heritage assets, and
- Creative design response to the need for flood protection.

2.4.11 Objective 3 is on a connected and accessible Charlton Riverside. This involves creating new, public-transport accessible routes and walkable neighbourhoods throughout the development area, increase accessibility to the Thames Path, re-design Woolwich road to prioritise public transport, pedestrians and cyclists, and create a green bridge or green link connecting Charlton Riverside with areas south of the Woolwich Road. Allow for future provision of a Waterfront Rapid Transit route connecting Thamesmead to the Peninsula via Charlton Riverside.

2.4.12 Figure 2.2 is an extract from the document which shows the concept design for the area. It shows that the site is identified within a potential development zone.

Figure 2.2– Charlton Riverside Development Concept Plan

3 EXISTING SITE

3.1 Introduction

3.1.1 This chapter sets out the site location, existing land uses and the details of the adjacent Charlton Riverside Opportunity Area development.

3.2 Existing Site Use

3.2.1 The site is approximately bounded by Anchor and Hope Lane and the residential properties at Atlas Gardens and Derrick Gardens to the west, and industrial units to the east and south. River Thames is to the north of the site.

3.2.2 The existing site currently contains a number of light industrial units. This includes a scaffolding hire company and a vehicle hire company. With the exception of two residential areas known as Atlas Gardens and Derrick Gardens, the site is surrounded by industrial uses.

3.3 Charlton Riverside SPD

3.3.1 The proposed development is located within the Charlton Riverside SPD Area. This was identified in the RBG Core Strategy as one of the Strategy Development Locations. Within the SPD (June 2017), it is expected that the area will be transformed into an attractive and vibrant mixed use urban quarter providing up to 7,500 new homes and commercial space for 4,400 new jobs.

3.3.2 As part of the masterplan, transport improvements are proposed. These are expected to be as follows:

- Charlton Riverside Pier to the north of the site. When the river pier is open, it could be expected that there would be a minimum frequency of 3 services per hour in each direction as operated by Thames Clippers on their current river services.
- New bus routes through the Opportunity Area.
- Improvements to Charlton Station as a transport hub.
- Walking and cycling routes through the masterplan area to enhance permeability and wider connections to the surrounding areas.

4 BASELINE CONDITIONS – WALKING AND CYCLING

4.1 Introduction

4.1.1 This chapter describes the baseline walking and cycling conditions within the vicinity of the site.

4.2 Walking

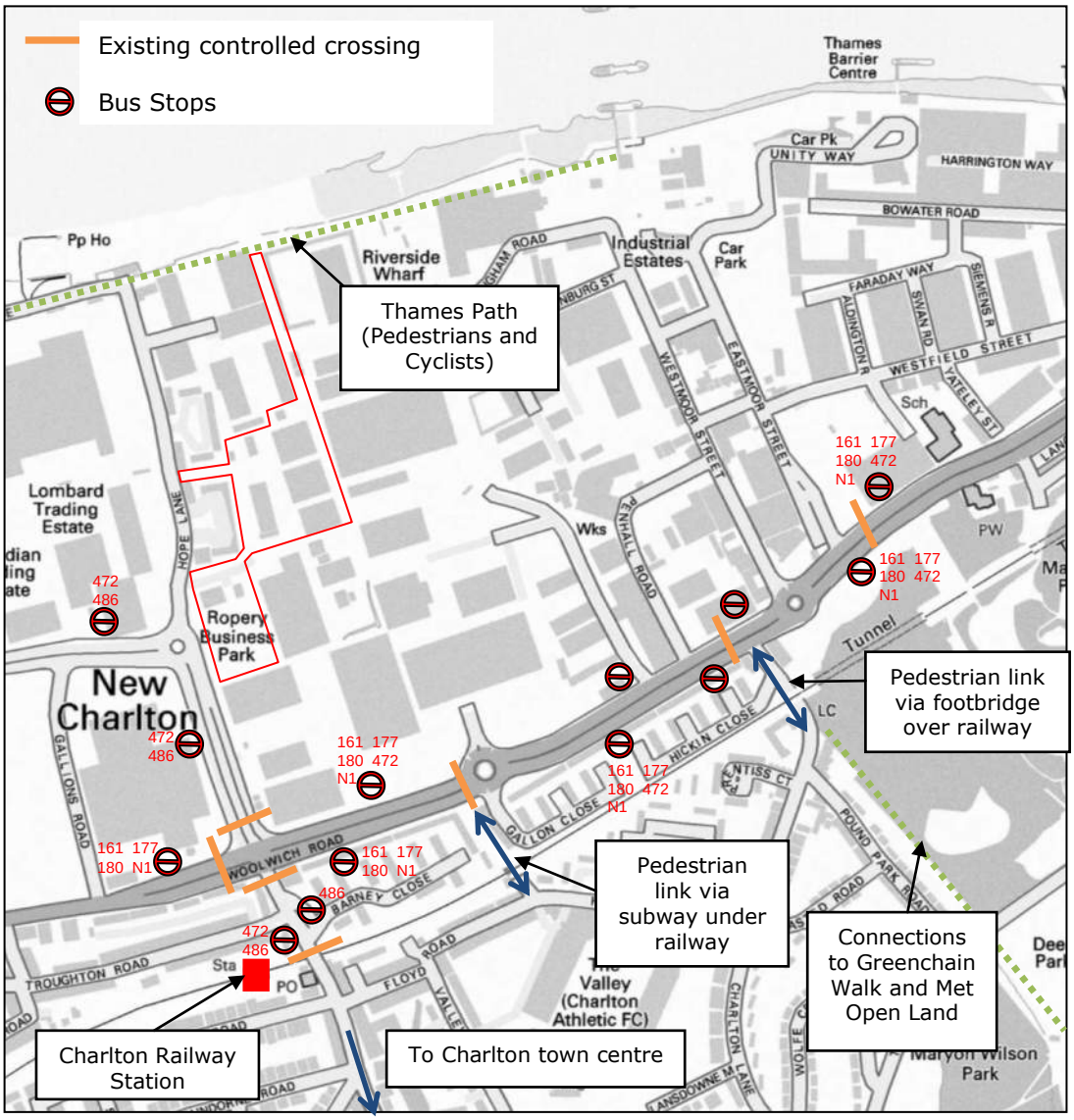
Existing conditions

4.2.1 The most important pedestrian desire lines to a site are considered to be those which provide access to public transport services and local facilities. Within the vicinity of the site, public transport services are located to the south of the site and Greenwich Shopping Park is located to the west on Bugsby's Way.

4.2.2 The main access to the site is from Anchor and Hope Lane from the site's western edge. Footways, dropped kerbs and tactile paving are provided along Anchor and Hope Lane. At the roundabout with Bugsby's Way to the south of the site, uncontrolled crossing facilities are provided on one of the arms (the northern Anchor and Hope Lane arm).

4.2.3 Signal controlled pedestrian crossings are provided at the Anchor and Hope Lane / Woolwich Road junction and Bugsby's Way / Gallions Road junction. It should be noted that there was formerly a Pelican crossing on Bugsby's Way to the west of the roundabout but was removed in 2014 when traffic signals were added at the Gallions Road junction.

Figure 4.1 – Pedestrian Crossing Points & Connections



4.2.4 It was agreed with TfL that there is limited benefit in undertaking an extensive PERS audit as there is expected to be coordinated improvements to this area as part of the Charlton Riverside SPD Area. However, a Pedestrian Environmental Appraisal has been undertaken which is included in Annex A to understand the existing conditions.

Baseline conditions

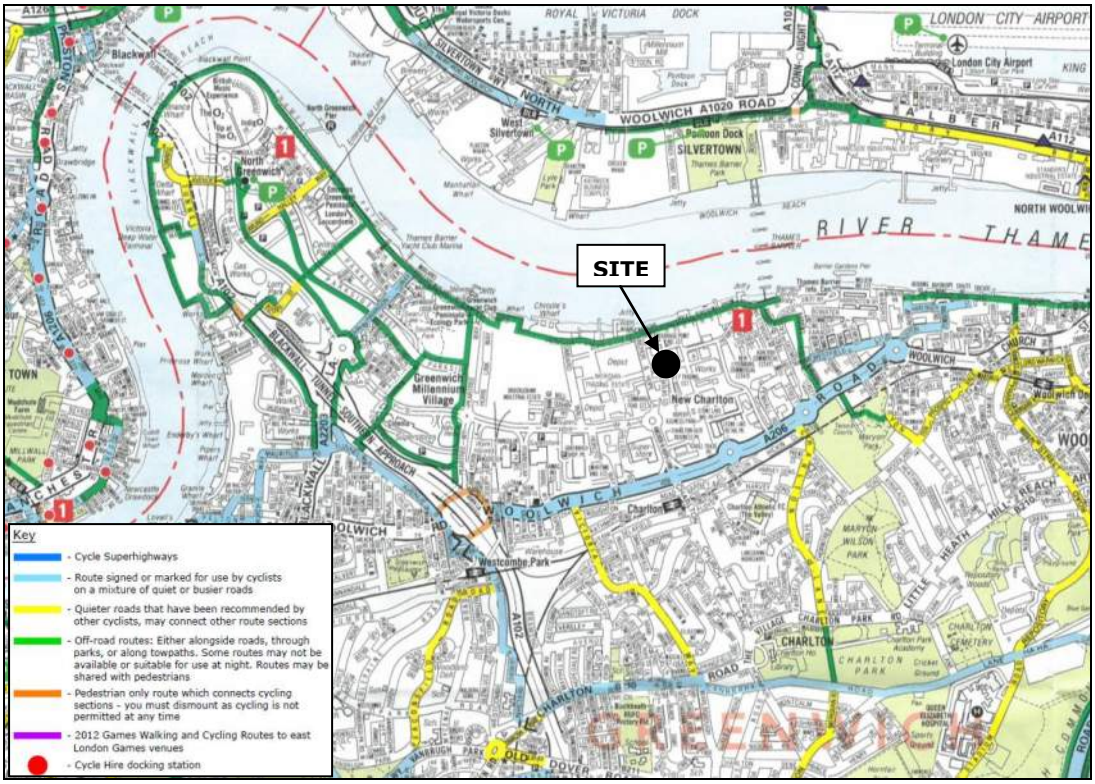
4.2.5 There are no known planned pedestrian improvements to the immediate area prior to the completion of the proposed development.

4.3 Cycling

Existing conditions

4.3.1 The local area is generally flat which helps to make cycling attractive as a mode of transport. Designated cycle routes are provided within close proximity of the site, which connects to the wider network across London. Figure 4.1 shows the local cycle network.

Figure 4.2 – Local Cycle Network



4.3.2 The A206 Woolwich Road to the south of the side is a signed cycle route with marked on-street cycle routes in both directions. The Thames Path is located to the north of the site and forms part of the National Cycle Network (NCN) Route 1. This is an off-road route which provides access to North Greenwich to the northwest and towards Royal Arsenal to the east.

4.3.3 Jubilee line services are available from North Greenwich Station and the cycle time is approximately 8 minutes. A new cycle hub is being provided by TfL at North Greenwich Station which will have 350 spaces.

4.3.4 The existing local cycle routes can be accessed from Anchor and Hope Lane which provide good access to and from local residential areas and other local

facilities. The local routes have adequate street lighting and signage to various local destinations.

Baseline Conditions

4.3.5 RBG and Sustrans are currently working up the details of the Thames Path Quietway scheme which will provide a quieter route to North Greenwich alongside the River Thames. This can be accessed at the northern end of Anchor and Hope Lane. Construction of the scheme is expected to be completed prior to occupation of the proposed development.

4.3.6 In addition, Cycle Superhighway 4 is planned to be implemented between Woolwich and London Bridge, travelling along Woolwich Road. Phase 3 of this cycle superhighway runs along this section of the A206 is between Greenwich and Woolwich, however TfL are unable to confirm the delivery dates for this section at present.

5 BASELINE CONDITIONS - BUS

5.1 Introduction

5.1.1 This chapter summarises the bus services which are and will be available from the site.

5.2 Existing Conditions

5.2.1 The nearest bus stop to the site is on the northern side of Bugsby's Way, to the west of the roundabout with Anchor and Hope Lane (85m from the site boundary). This bus stop is served by bus routes 472 and 486 travelling south on Anchor and Hope Lane towards Queen Elizabeth Hospital or Woolwich. For services in the opposite direction, there are bus stops on the western side of Anchor and Hope Lane (170m) and on the southern site of Bugsby's Way (250m).

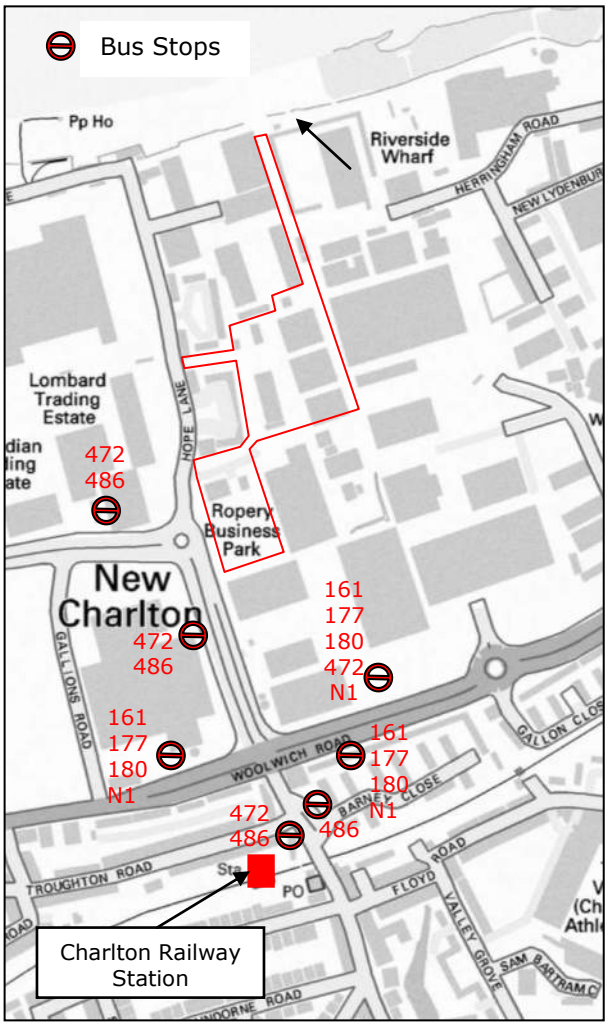
5.2.2 Both the 472 and 486 provide access to North Greenwich Station where interchange can be made with the Jubilee Line. The bus journey time is approximately 10 minutes.

5.2.3 Three additional bus routes (161, 177 and 180) are available on Woolwich Road. The nearest set of bus stops is located to the east of the junction with Anchor and Hope Lane, approximately 330m (a 3 to 4 minute walk) from the site.

5.2.4 Bus route 161 also serves North Greenwich Station and routes 177 and 180 provide further interchange opportunities with DLR services at Cutty Sark and Greenwich. The bus journey time is approximately 15 minutes.

5.2.5 The locations of the existing bus stops are shown in Figure 5.1.

Figure 5.1 – Existing bus stop locations



5.2.6 A summary of the existing bus services are provided in Table 5.1 and the local bus map is included in Annex B.

Table 5.1 – Summary of Bus Routes (Hourly Frequency in Each Direction)

Bus route	Route	AM peak	PM peak	Sat	Sun
472	North Greenwich – Bugsby's Way – Woolwich - Thamesmead	9	9	8	6
486	North Greenwich – Bugsby's Way – Charlton – Eltham – Welling - Bexleyheath	7	7	7	5
161	North Greenwich – Woolwich Road – Woolwich – Eltham – Chislehurst	6	6	5	5
177	Peckham – Greenwich – Woolwich Road – Woolwich - Thamesmead	6	6	5	5
180	Lewisham – Greenwich – Woolwich Road – Woolwich – Abbey Wood – Belvedere	6	6	6	4
	Total	**34**	**34**	**31**	**25**

5.2.7 The above shows that there are up to 34 buses per hour in each direction accessible from the site. This is on average one bus every two minutes in each direction.

5.2.8 In addition to the above services, the Woolwich Road bus stops are served by nightbus N1 which operates between Thamesmead and Central London, with a frequency of 2 to 3 buses per hour in each direction.

5.3 Baseline Conditions

5.3.1 There are no known committed changes to the existing bus routes or frequencies which would be in place prior to the completion of the development.

5.3.2 However, TfL has confirmed that a review is being undertaken of the bus network in the Greenwich and Bexley areas in order to compliment future Crossrail services. As the result of this review, there may be a number of changes to the frequency and routing of services in the immediate area. It is also acknowledged that a bus strategy is likely to be in place as the Charlton Riverside SPD Area is developed. Furthermore, the Silvertown Tunnel Transport Assessment also incorporates potential future bus service routes to use the tunnel. This includes a service connecting Charlton to Canary Wharf. The deadline for the Secretary of State decision on this scheme has been extended to 10th May 2018.

6 BASELINE CONDITIONS – NATIONAL RAIL

6.1 Introduction

6.1.1 This chapter summarises the National Rail services available from Charlton Station.

6.2 Existing Conditions

6.2.1 Charlton Rail Station is located approximately 350m (a 3 to 4 minute walk) south of the site. Trains serving this station run between London and Kent and are operated by Southeastern. There are around 8 trains per hour in each direction during weekday peak times.

6.2.2 The trains serve the London terminals of London Bridge (journey time of 17 minutes), London Waterloo East (26 minutes), London Charing Cross (33 minutes) and Cannon Street (24 minutes).

6.2.3 Interchange opportunities are available at the London terminals for bus services, London Underground services and further rail services. In addition, the passengers can interchange for DLR services at Woolwich Arsenal, Lewisham and Greenwich stations. Journey time to Woolwich Arsenal is either 4 or 6 minutes and the journey time to both Lewisham and Greenwich is around 7 minutes from Charlton.

6.3 Baseline Conditions

6.3.1 Construction is currently underway for Crossrail which will provide a direct rail connection between all of London's main business centres, linking Heathrow, with Paddington, the West End, the City and Canary Wharf.

6.3.2 The nearest Crossrail station to the site will be Woolwich, approximately 3km from the site. Woolwich Station can be accessed from the site using local bus services or rail services from Charlton. Crossrail services on this section of the route are expected to operate in 2018 with a frequency of 12 trains per hour, prior to the opening of the proposed development in 2023.

6.3.3 Crossrail is expected to significantly reduce journey times and from Woolwich Station, it is expected to take 8 minutes to Canary Wharf, 14 minutes to Liverpool Street and 22 minutes to Bond Street.

7 BASELINE CONDITIONS – PTAL

7.1 Introduction

7.1.1 This chapter sets out the existing and baseline Public Transport Accessibility Level (PTAL). The PTAL methodology has been adopted by the GLA and TfL as a means of quantifying and comparing the accessibility of a point of interest by public transport.

7.2 PTAL Methodology

7.2.1 The PTAL methodology takes into account the time taken to access the public transport network, including:

- The walk time to various public transport services;
- The average waiting time for each service; and
- The reliability of each service.

7.2.2 The methodology is based on a walk speed of 4.8kph and considers rail stations within a 12 minute walk (960m) of the site and bus stops within eight minutes walk (640m), with the PTAL assessment being undertaken using the AM peak hour operating patterns of existing public transport services.

7.2.3 An Equivalent Doorstep Frequency (EDF) is calculated for each of the public transport services accessible from the site based on the criteria described above. These individual EDF values are weighted to provide an accessibility index (AI) value for each public transport service accessible from the site. The sum of the AI's for each mode are aggregated to provide a single measure of accessibility for the site. The Total AI value is then compared against the accessibility level bands summarised in Table 7.1.

Table 7.1 – Accessibility level bands

PTAL Score	Range of Index (AI)	Description
1a	0.01 - 2.50	Very Poor
1b	2.51 – 5.00	Very Poor
2	5.01 – 10.00	Poor
3	10.01 – 15.00	Moderate
4	15.01 – 20.00	Good
5	20.01 – 25.00	Very Good
6a	25.01 – 40.00	Excellent
6b	>40.01	Excellent

7.3 Existing PTAL

7.3.1 The site is within walking distance of five bus services and Charlton Station. Given the size of the site, a detailed PTAL assessment was undertaken for pre-application discussions with TfL and RBG. This assessment is included in Annex C.

7.3.2 The existing site ranges from PTAL 4 in the southern end to PTAL 3 at the north end, with an average PTAL across the site of 4 which indicates good accessibility. This has been agreed with TfL.

7.4 Baseline PTAL

7.4.1 There are no known committed changes to the public transport services within walking distance of the site prior to completion of the development which would influence the PTAL.

7.4.2 It should be noted the assessment contained in Annex C also shows that with the incorporation of additional public transport provisions which could be reasonably expected to be associated with the Charlton Riverside Opportunity Area, the site has the potential of achieving a PTAL of 5.

8 BASELINE CONDITIONS - HIGHWAY NETWORK

8.1 Introduction

8.1.1 This chapter sets out the highway network and car parking within the vicinity of the site.

8.2 Highway Network

8.2.1 Site access is provided off Anchor and Hope Lane, via a private access road which provides for two-way vehicle movements. The private access road falls largely within the ownership of the site, albeit a short section owned by the adjacent landowner and there is a right of access across this section.

8.2.2 Anchor and Hope Lane is a wide, two-way carriageway, with sections of marked on-street parking bays on both sides. It meets Bugsby's Way to the south at a roundabout and continues south towards a signal controlled junction with the A206 Woolwich Road.

8.2.3 Bugsby's Way has two lanes in each direction and provides access to the west to Greenwich Shopping Park, Millennium Leisure Park, The O_2 as well as the Blackwall Tunnel. The A206 Woolwich Road is aligned approximately east-west. It provides access to Woolwich to the east and the Greenwich Market to the west. It also provides an alternative route to the A102 Blackwall Tunnel Southern Approach. The A206 Woolwich Road forms part of the Strategic Road Network (SRN).

8.2.4 There is a dedicated, segregated southbound bus lane on Anchor and Hope Lane to the south of the roundabout with Bugsby's Way. There are also other bus priority measures in the local area.

8.2.5 Uncontrolled, marked on-street parking bays are provided on both sides of Anchor and Hope Lane to the north of the site. There is no on-street parking to the south on Anchor and Hope Lane or Bugsby's Way.

Car Clubs

8.2.6 Car Clubs provide an easily accessible vehicle to members for short term hire as and when needed. This provides a lower fixed cost alternative to car ownership and private car use.

8.2.7 There are two Car Club vehicles located to the south of Charlton Station, approximately 550m (a 5 to 7 minute walk) from the site on Sundorne Road. The next nearest Car Club vehicles are located on Peartree Way (1.1km from the site, 2 vehicles) and on Fairthorn Road (1.2m from the site, 2 vehicles). These additional vehicles are operated by Zipcar.

8.3 Existing Traffic Flows

8.3.1 Traffic surveys were undertaken in July 2015 by an independent traffic survey company, avoiding school holidays, road closures, and other events which may have affected traffic patterns.

8.3.2 Manual classified turning counts have been undertaken at the following locations:

- Signalised junction of Bugsby's Way with Gallions Road (site 1);
- Priority junction of Gallions Road and the A206 (left in/ left out) (site 2);
- Priority junction of Anchor and Hope Lane and industrial access road (site 3);
- Roundabout junction of Bugsby's Way and Anchor and Hope Lane (site 4);
- Signalised junction of the A206/Anchor and Hope Lane and Charlton Church (site 5); and
- Roundabout junction of the A206 (Woolwich Road) and Gallon Close (site 6).

8.3.3 Queue length surveys and saturation flows (for signalised junctions) have also been collected.

8.3.4 In addition, link counts were undertaken within the site to establish the existing traffic generation of the existing development.

8.3.5 Automatic Traffic Counters (ATCs) were also laid at the following locations for seven days recording traffic volume and speeds:

- Anchor and Hope Lane to the south of industrial access road;

- Anchor and Hope Lane to the south of Bugsby's Way;
- Bugsby's Way to the east of Lombard Wall;
- The A206 (Woolwich Road) to the west of Charlton Church Lane;
- The A206 (Woolwich Road) to the east of Charlton Church Lane; and
- Charlton Church Lane to the south of the A206.

8.3.6 The survey locations are shown in Figure 9.1 and were agreed with TfL as part of the scoping exercise. The results are summarised in Table 8.1.

Figure 8.1 - Traffic survey locations

Table 8.1 – Existing Traffic Flows

Link	Existing Flows	
	AM Peak	PM Peak
Anchor and Hope Lane North of Bugsby's Way	251	249
Anchor and Hope Lane North of Site Access	192	135
Anchor and Hope Lane South of Bugsby's Way	1,286	1,569
Bugsby's Way West of Gallions Road	1,327	1,700
Bugsby's Way East of Gallions Road	1,362	1,995
Charlton Church Lane North of Delafield Way	404	450
A206 East of Anchor and Hope Lane	2,137	2,587
A206 West of Anchor and Hope Lane	1,201	1,234
Site Access	107	120
Gallions Road	202	390

8.4 Baseline Traffic Flows

8.4.1 It is not considered necessary to apply TEMPRO background growth as the traffic prediction for other committed developments are considered to be a more accurate and suitable means of assessing future traffic conditions. This approach has been agreed with TfL.

8.4.2 A summary of how the daily traffic flows (obtained from the Department for Transport website) on Woolwich Road have fluctuated over a 15 year period is shown in Table 8.2.

Table 8.2 – Annual Average Daily Flow on Woolwich Road (to the west of Anchor and Hope Lane)

Year	All vehicles	All HGVs
2000	25,556	2,628
2001	21,428	1,784
2002	21,433	1,749
2003	21,456	1,764
2004	25,506	1,618
2005	25,321	1,623
2006	25,701	1,629
2007	25,580	1,755
2008	19,927	1,705
2009	19,655	1,664
2010	19,224	1,680
2011	19,219	1,735
2012	16,119	1,430
2013	16,256	1,421
2014	16,322	1,342
2015	16,330	1,322
2016	16,458	1,296

Source: DfT website

8.4.3 The above table shows that the traffic flows along Woolwich Road have generally fallen over time and the normally expected underlying traffic growth has not

been experienced. Furthermore, in the past four years, the flows have been stable and not changed significantly, despite the fact that a number of new development schemes have been constructed and some occupied within the vicinity of the site would have normally been expected to result in an increase in traffic flows. This is, however, not the case. There has also been a decrease in the number of HGV movements.

8.4.4 Table 8.2 therefore further supports that additional background traffic growth is not required, in addition to taking account of committed development generated traffic for future traffic year assessment. This approach has been agreed with TfL.

8.5 Personal Injury Accident Analysis

8.5.1 Personal Injury Accident (PIA) data for the local area has been obtained and analysed for the three year period up to January 2017. The PIA data is provided in Annex D.

8.5.2 Within the study area, a total of 24 accidents were recorded of which 22 resulted in slight injuries and 2 resulted in serious injuries. There were no fatalities. The accidents, including the two serious accidents, occurred mainly at the Anchor and Hope Lane / Woolwich Road junction and the Stone Lake Roundabout.

8.5.3 All the accidents were caused by human error and failure to look properly was attributed to 17 of the accidents. Other causes included carelessness, wrong use of pedestrian crossing facility, cyclist disobeying a red light and following too closely. One of the accidents was due to defective brakes

8.5.4 No accidents were recorded at the site access and one accident was recorded on Anchor and Hope Lane junction with Atlas Gardens. A car turned left onto Anchor and Hope Lane and collided with a motorcyclist. The causes were identified to be poor manoeuvre and failure to look properly.

8.5.5 The PIA data shows that no common causal factor as all of the accidents were caused by human error and were not due to the design of the local highway infrastructure.

9 BASELINE CONDITIONS – SAFEGUARDED WHARVES

9.1 Introduction

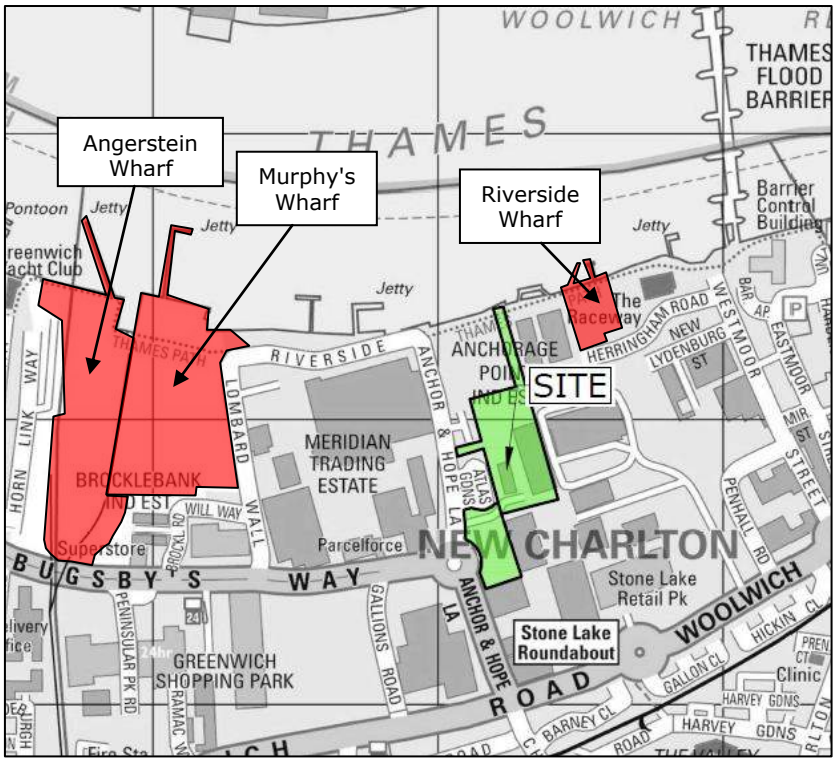
9.1.1 This chapter sets out the locations of nearby safeguarded wharves and their existing access arrangements.

9.2 Existing Conditions

9.2.1 The site is located near to the following safeguarded wharves which are all located within the Charlton Riverside Opportunity Area and the locations are shown in Figure 9.1:

- Angerstein Wharf, Horn Lane - 7.36 hectare in use as an aggregates wharf. Access is provided onto Bugsby's Way and it also has a rail freight access and direct river access.
- Murphy's Wharf, Lombard Wall - 6.58 hectare in use as an aggregates wharf. Planning consent has been granted for a barge-loading facility associated with the outer (jetty) berth.
- Riverside Wharf, Herringham Road - 0.98 hectares in use as an aggregates wharf and includes an asphalt plant. It is accessed from Herringham Road / Westmoor Street and the Thames.

Figure 9.1 – Location of Safeguarded Wharves



9.3 Baseline Conditions

9.3.1 There are no known changes to the safeguarded wharves prior to the completion of the development and therefore the existing conditions are representative of the baseline.

10 SITE ACCESSIBILITY

10.1 Introduction

10.1.1 This section reviews the accessibility of the site to local amenities and employment facilities.

10.2 Access to Retail and Leisure Facilities

10.2.1 There are a number of retail and leisure facilities to the west of the site on Bugsby's Way. Greenwich Shopping Park and Peninsular Park provide a number of retail units and an Asda supermarket is also located in this area. Further west, Millennium Leisure Park contains an Odeon IMAX cinema, restaurants and other retail units. There are also local shops and amenities provided by Charlton Station to the south of the site.

10.2.2 The O_2 is easily accessible from the site using local bus routes or future river services. The O_2 is an entertainment destination and in addition to The O2 Arena, there is a range of other facilities including a cinema, bowling alley, restaurants and bars.

10.2.3 In terms of recreational space, the site is near to The Valley sports stadium (800m) and Maryon Park (950m).

10.2.4 Within the Charlton Riverside SPD Area, it is expected that a new mixed-use urban quarter created with a range of retail / leisure facilities. This is expected to serve the proposed development but there is also a range of existing facilities available in the local area. Improvements are also expected at Barrier Park.

10.3 Access to Employment

10.3.1 Employment generating areas are located close to the site including the adjacent industrial and retail uses such as the Sainbury's distribution centre, Anchor & Hope Business Park, Tarmac, Peninsula Park Westminster Industrial Estate. Additional employment opportunities are also available in Woolwich, Greenwich and Lewisham. All of these are within convenient cycling and public transport access to the site.

10.3.2 Other significant employment areas that are easily reached by public transport include the Canary Wharf Estate, Stratford, Woolwich and Central London. These are easily accessed from the site using local bus routes and Charlton Rail Station

along with further public transport interchange. It is important to note that the proposed development lies within an Opportunity Area which will be redeveloped and regenerated over time.

10.4 Access to Healthcare

10.4.1 The nearest GP surgeries are The Fairfield Centre located on Fairfield Grove (SE7 8TX, 1.4km) and Greenwich Peninsula Practice (SE10 0QN, 1.5km). The nearest dentist surgeries are The Dental Surgery, Cleverly Close (SE7 8DP, 1.3km) and Westcombe Park Dental Practice, Station Crescent (SE3 7EQ, 1.8km). The nearest hospital is Queen Elizabeth Hospital (Lewisham and Greenwich), approximately 2.8km from the site and accessible from the 486 bus route.

10.4.2 Additional healthcare facilities will be provided within the site and it is expected that further facilities would be provided within the Charlton Riverside Opportunity Area.

10.5 Access to Education

10.5.1 The nearest nursery to the site is Pound Park Nursery School (1.1km). The nearest primary schools are Fossdene Primary School (1km), Thorntree Primary School (1.3km), Windrush Primary School (1.3km) and Woodhill Primary School (1.9km). These primary schools also contain nurseries.

10.5.2 The nearest secondary schools are Royal Greenwich Trust School University Technical College (1.0km) and Charlton Park Academy (1.7km).

10.5.3 In respect of further education, many university and colleges are accessed easily by public transport, including University of Greenwich and University of East London as well as those across Central and Inner London.

10.5.4 It is currently proposed that the scheme would incorporate education space within the site for nursery provision.

11 PROPOSED DEVELOPMENT

11.1 Introduction

11.1.1 This chapter sets out the details of the proposed development, including access, car and cycle parking and servicing arrangements.

11.2 Proposed development

11.2.1 The development proposal comprises Plots A and B. Plot A is located to the east of Atlas Gardens (Northern Plot) and Plot B is located adjacent to the Anchor and Hope Lane roundabout with Bugsby's Way (Southern Plot).

11.2.2 The overall development will provide the following land uses:

- 771 residential units.
- 496m^2 (GIA) ancillary residential facilities.
- 3,236m^2 (GIA) flexible commercial use (A1-A3/B1/D1/D2).
- 337m^2 (GIA) crèche / nursery (D1).

11.3 Access for pedestrians and cyclists

11.3.1 The main pedestrian desire lines from the development to public transport services would be towards Charlton Station and bus stops on Anchor and Hope Lane, Bugsby's Way and Woolwich Road. Other key routes would be west towards the retail units off Bugsby's Way and to the north towards the Thames Path.

11.3.2 The development has been designed to be highly permeable in terms of access for pedestrians and cyclists. Routes are provided through the site, and where servicing activities may take place on some of these routes, shared surface design principles have been applied.

11.3.3 At the main vehicular entrance to the site from Anchor and Hope Lane, a raised table is proposed and a Zebra Crossing will also be provided at the northern end of Plot B. This facility will assist pedestrians accessing Plot A from the south.

11.3.4 As well as the main vehicular access from Anchor and Hope Lane, two additional pedestrian and cycle routes will be provided:

- Anchor and Hope Lane, to the north of the existing site access – This has been designed to provide a secondary means of access for emergency vehicles in the event that the main access is blocked.

- To the Thames Path to the north - This route would provide direct access to the Thames Path and riverside activities.

11.3.5 The existing pedestrian environment along Anchor and Hope Lane has been assessed, as agreed with TfL and this is set out in the analysis contained in Annex A. There are currently no designated crossing points provided by the Anchor and Hope Lane / Bugsby's Way roundabout which would allow access to the northbound bus stop on Anchor and Hope Lane, which is located on the western side to the south of Bugsby's Way, however it is noted that with the long gaps in traffic, pedestrians informally cross with ease using the central island.

11.3.6 To improve pedestrian facilities, a Toucan crossing is proposed on Anchor and Hope Lane to the south of the Bugsby's Way roundabout. This takes into account the bus lane and the location of trees on both side of Anchor and Hope Lane. The design also improves access for cyclists and the existing bus lane can also be used as a cycle lane. The proposed layout is contained in Annex E.

11.3.7 The pedestrian routes between the local public transport services and the site are level and dropped kerbs, tactile paving and signal controlled pedestrian crossings are provided where required which are suitable for the mobility impaired. The proposed lay-bys within the development, which are used primarily for servicing activities, are also suitable for drop- off and pick up activities.

11.3.8 It should be noted that further pedestrian / cycle improvements to this area are expected when the developments associated with the Charlton Riverside SPD Area come forward.

11.4 Public Realm

11.4.1 Extensive public realm spaces will be provided within the site, including communal amenity space and play space. The focus of these proposals is to improve the quality of connections across the site to the existing links and eventually connect with the wider masterplan. Private amenity space will also be provided for residents through balconies, roof terraces and private gardens.

11.5 Car Parking

11.5.1 Vehicular access to the site will be from Anchor and Hope Lane. Car parking will be provided at basement level for both Plots A and B accessed by ramps at a gradient of 1:10.

11.5.2 The proposed development will provide a total of 210 car parking spaces, including 51 accessible bays suitable for Blue Badge holders. A Car Park Management Plan will be implemented prior to occupation which will set out how car parking will be managed, maintained and controlled for residents, commercial occupiers and members of the public in order to minimise any potential impacts on the public highway. Priority will be given towards Blue Badge holding, car owning residents.

11.5.3 The commercial use will be allocated one of the Blue Badge holder bays and no other general car parking provision.

11.5.4 The residential use will therefore have 209 car parking spaces which is equivalent to 0.27 space per unit. This car parking provision reflects the accessibility of the site by walking, cycling and public transport and it meets the London Plan standards.

11.5.5 The level of Blue Badge parking represents 24% of the car parking spaces which exceeds the minimum of 10% of the parking provision required to be suitable for use as accessible bays as set out in the Borough's planning policy. Together with the car park management plan, it also complies with the Accessible London SPG and the adopted London Plan. Consideration as to how the car park will be operated will be provided within a car park management plan and it would be proposed that a right to park arrangement will be implemented, renewed on an annual basis, in order to allow priority to be given and parking bays to be amended if the need arises for more accessible bays.

11.5.6 As a minimum, 20% of all spaces will have electric vehicle charging points and a further 20% will have a passive provision as required by RBG and GLA adopted policies.

11.5.7 The proposed development will be permit-free where future residents will not be able to apply for a parking permit within the Charlton CPZ. Anchor and Hope Lane sits within the Charlton CPZ, although currently the restrictions on parking bay use do not have the same restrictions as the rest of the Charlton CPZ. This would be amended if necessary by RBG.

11.5.8 All car use to the nursery will be discouraged and the nursery operator will enforce the message that there will be no facilities for car parking or drop-off / pick-up within the vicinity of the site. The size of the nursery is broadly comparable with the size of the development and thus unlikely to attract significant trips from beyond the site boundary. However, should there be an essential need for private vehicle access, such as a Blue Badge holder wishing to drop-off their child, then prior arrangements can be with the nursery and the site management team and they will be given permission to use the lay-by adjacent to the concierge. This would only take place under special circumstances and by prior arrangement.

11.5.9 The main site access road to the site of Anchor and Hope Lane will not be designed to allow for drop-off / pick-up activities and the detailed design will bear this in mind. It would however, in the long term, with the overall masterplan, provide some access for movements within the road network for visitors and be expected to have a CPZ and pay and display bays but not as a major destination but to create a sustainable community.

11.6 Car Club

11.6.1 There are no Car Club vehicles currently proposed within the development. It is expected that there will be an overall Car Club strategy across the Charlton Riverside SPD Area. This would maximise the number of residents within walking distance of the vehicle and ensure the success and financial viability of the Car Club. The applicant will work with RBG as the Charlton Riverside Opportunity Area is developed to promote the use of Car Clubs as and when it is implemented.

11.7 Cycle Parking

11.7.1 Residential cycle parking will be provided which in accordance with the adopted London Plan standards. This is summarised in Table 11.1.

Table 11.1 – Minimum Residential Cycle Parking Provision

Residential unit	Minimum cycle parking standards	Proposed units	Minimum requirement cycle parking
Studio or 1 bedrooms	1 space	339	339
2 or more bedrooms	2 spaces	432	864
Visitor Spaces	1 per 40 apartments	771	20
Total to be provided	-	771	1,223

11.7.2 Residential cycle parking spaces will be provided at ground and basement levels in secure storage areas. Plot A basement cycle parking can be accessed via the car park ramp and a lift is also provided. A separate cycle store is provided in the basement of Building H in Plot A and access is via lifts. For Plot B, accessible cycle parking is provided on ground level and the basement cycle parking can be accessed via the car park ramp.

11.7.3 Table 11.2 shows the minimum parking provision for the non-residential uses to meet London Plan requirements.

Table 11.2 – Minimum Non-Residential Cycle Parking Provision

Land Use	Proposed floor area* (m^2)	Long stay cycle parking	Short stay cycle parking
Flexible commercial use	B1: 3,429m^2	***38***	7
	A1 non food: 553m^2 A2-A3: 1,140m^2 B1: 1,736m^2	28	36
	A1 food: 553m^2 A2-A3: 1,140m^2 B1: 1,736m^2	29	***46***
	A1 non food: 1,693m^2 B1: 1,736m^2	24	12
	A2-A3: 1,693m^2 B1: 1,736m^2	29	45
D1 crèche	373m^2 (16 staff + 56 pupils)	9 (2 adult, 7 children)	1
C3 ancillary residential	496m^2	-	5
Minimum number of cycle parking spaces to be provided		47	52

Proposed floor areas are in Gross External Areas (GEAs).

11.7.4 Long stay cycle parking for staff will be provided within the lettable demise of the flexible commercial units.

11.7.5 Visitor cycle parking will be provided in the form of Sheffield stands at ground level in the public realm and will be able to provide for both commercial and residential visitors.

11.7.6 Long stay residential and commercial cycle parking will be a combination of double-stackers with a minimum 5% will be provided as Sheffield stands to accommodate for larger models of cycles.

11.8 Servicing and Waste Collection Arrangements

11.8.1 All of the servicing and waste collection activities will take place within the site, away from the public highway.

11.8.2 All servicing vehicles will access the site using the private access road off Anchor and Hope Lane and turning areas are provided within the development so that vehicles can enter and exit the public highway in forward gear.

11.8.3 Dedicated refuse storages will be provided within each plot and concierge services will be provided to manage deliveries for residents and to manage waste collections as necessary.

11.8.4 Further details of servicing and waste collection, including servicing routes and zones, are set out in the Delivery and Servicing Plan (DSP) included in Annex F.

11.9 Framework Travel Plan

11.9.1 To encourage sustainable travel patterns, a Framework Travel Plan has been prepared for the proposed development which is included in Annex G. The Framework Travel Plan has been prepared to reflect accessibility at the time when the development is complete.

12 EXISTING TRIP GENERATION

12.1 Introduction

12.1.1 This section summarises the existing trips generated by the site.

12.2 Existing Trip Generation

12.2.1 Currently, the site is occupied by a number of light industrial units, including a scaffolding hire company and a vehicle hire company.

12.2.2 Classified junction counts were undertaken on the site access road to determine the vehicular traffic generated by the existing site uses. Table 12.1 shows the survey results.

Table 12.1 – Existing Vehicular Trips

	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	**Out**	**Total**	**In**	**Out**	**Total**
All vehicles	28	16	44	12	27	39
HGVs	2	3	5	4	1	5

12.2.3 The above table shows the existing site generates 44 two-way vehicle trips during the AM peak hour and 39 trips during the PM peak hour. There were 5 HGV movements for both the AM and PM peak hours. These trips will be taken into account for a net impact assessment of the proposed development.

12.2.4 No trips by other modes were recorded at the existing site as part of the traffic survey. For a robust assessment, the trips by other modes will be assessed as new trips on the network.

13 PROPOSED TRIP GENERATION - RESIDENTIAL

13.1 Introduction

13.1.1 This section will assess the trip generation of the proposed residential development. The methodology for this has been previously agreed with TfL.

13.2 Residential person trip rates

13.2.1 The weekday peak hour trip rates for the residential apartments will be based on surveys of existing residential sites which are comparable with the proposed development in terms of the scale and location. Details of the sites are provided below:

- Canary Central, Lighterman's Road, E14 (April 2006) – 544 residential apartments (private and affordable);
- New Providence Wharf Building A, E14 (March 2006) – 559 residential apartments (private);
- Kempton Court, Whitechapel E1 (April 2006) – 80 residential apartments (private);
- City Walk, Shoreditch E2 (July 2006) – 110 residential apartments (private); and
- Bow Quarter, Bow E3 (July 2006) – 773 residential apartments and houses (private and affordable).

13.2.2 Data for the sites detailed above was obtained by an independent survey company. The survey results are available in the public domain and have been used to establish residential trip generation for many similar developments in the vicinity of the site.

13.2.3 The trips rates for peak times are shown in Table 13.1.

Table 13.1 – Proposed residential person trips

	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Person trip rate (per unit)	0.046	0.504	0.55	0.311	0.113	0.423

13.2.4 The above trip rates have been accepted by TfL as appropriate for planning applications within East London for schemes consented within the past 6 months.

The pattern of movement of residents into and out of their dwellings is highly unlikely to have changed over time, regardless of the age of the surveys.

13.2.5 Transport documents of recent planning applications in the vicinity of the site have been reviewed to understand what trip rates have been deemed an acceptable basis for a trip assessment by RBG. The comparison of person trips per dwelling is shown in Table 13.2.

Table 13.2 – Comparison of residential persons trip rates

Survey Source	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	Out	Total	In	Out	Total
Greenwich Peninsula	0.082	0.492	0.574	0.334	0.13	0.464
Greenwich Millennium Village	0.105	0.444	0.549	0.234	0.156	0.390
Proposed trip rates	0.046	0.504	**0.550**	0.311	0.113	**0.423**

13.2.6 As can be seen from the above table, the independent sites' two-way trip rates are either very similar or higher in both the AM and PM peak time periods when compared to the TRICS sites and these used to support the recent applications in the local area. The independent survey results are therefore considered appropriate.

13.2.7 The proposed residential trip generation, based on 771 units is provided in Table 13.4. The trip rates have been agreed with TfL.

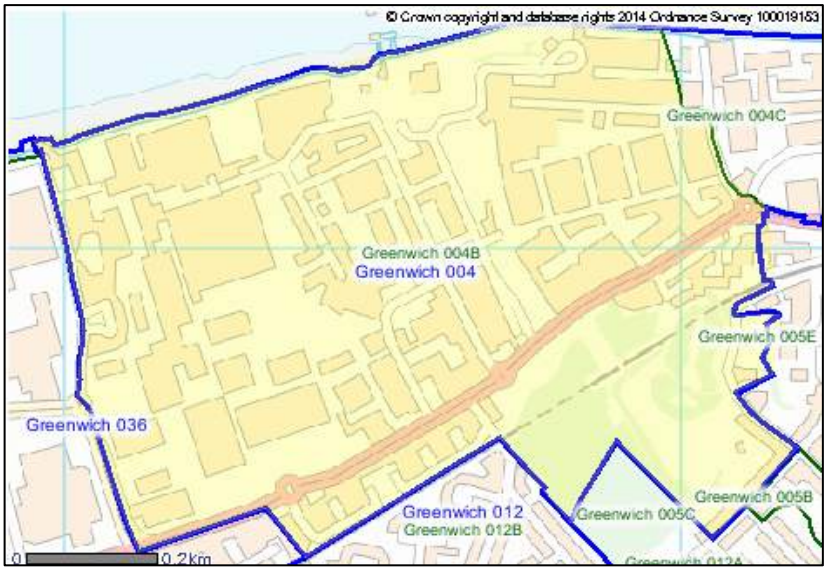
Table 13.3 – Proposed residential person trips

	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	Out	Total	In	Out	Total
Person trip rate per unit	0.046	0.504	0.550	0.311	0.113	0.423
Person trips (771 units)	35	389	424	240	87	327

13.3 Mode share

13.3.1 The residential person trips have been distributed across the transport modes in line with the 2011 Census data for the method of travel to work for residents. The site is located within Greenwich 004B Lower Layer Super Output Area (LSOA) which has been examined to establish the mode split of trips. The extent of the area is shown in Figure 13.1 and includes the existing dwellings at Atlas Gardens and Derrick Gardens adjacent to the site.

Figure 13.1 – Greenwich 004B LSOA



13.3.2 The census mode share data is shown in Table 13.5 and has been agreed with TfL. The analysis shows that over 60% of existing residents travel to work by public transport. The car driver mode share is 27.8%, however it should be noted that the existing car ownership level within the LSOA is 0.51 spaces per unit which is higher than the proposed provision of 0.22. Therefore, in reality the car mode share at the proposed development could be lower.

Table 13.4 – Proposed residential mode share

Mode	Census Mode share
Underground (LUL) / Light Rail (DLR)	19.5%
Rail	15.4%
Bus	25.5%
Taxi	0.2%
Motorcycle	0.6%
Car driver	27.8%
Car passenger	1.0%
Cycling	1.9%
Walking	7.5%
Other	0.6%
Total	100.0%

Source: 2011 Census data for Greenwich 004B LSOA

13.3.3 The above shows that 19.5% of residents currently to work by LUL / DLR. To take into account final modes of travel, further consideration has been undertaken on how passengers can access LUL and DLR services:

- London Underground services - interchange at North Greenwich Station for the Jubilee Line (via local buses or cycling) or at the London terminals (via rail).

- DLR services - interchange at Lewisham or Greenwich (via rail or cycling) or at Cutty Sark or Greenwich (via bus, but journey times are longer and therefore not considered).

13.3.4 Origin-destination data for residents travelling to work by LUL / DLR has been examined. This data is only available at borough level. For Greenwich, most residents who travel by LUL / DLR work in Westminster (29%) and Tower Hamlets (25%). Camden is the next highest with 8% and all other boroughs have less than 5%. The inner London boroughs give a total of 88% and the outer boroughs give 12%

13.3.5 For the purposes for this assessment, it is assumed that:

- Trips to Tower Hamlets will be split 50% bus to Jubilee line and 50% rail to interchange with DLR services.

- Trips to Westminster and the other inner boroughs are assumed to use bus to Jubilee Line.

- Trips to outer boroughs are assumed to be 70% rail to London terminals to interchange with LUL services, and 30% bus to Jubilee line.

- For a robust assessment of the proposed development on bus capacity, it is assumed that North Greenwich Station will be accessed by buses rather than cycling. However, cycling will be actively encouraged, is slightly quicker, and in practice there would be a lower demand for buses.

13.3.6 Therefore the 19.5% LUL / DLR trips have been further split into the following:

- Bus to Jubilee Line: 79.1% of 19.5% = <u>15.4%</u>

- Rail for DLR services (12.5% of 19.5% = 2.5%) and to London terminals for LUL (8.4% of 19.5% = 1.6%) = <u>4.1%</u>

13.4 Multi-Modal Trip Generation

13.4.1 Multi-modal trip generation have been undertaken total person trips and the mode share data. The calculations for the residential trip generation are included in Annex H and the trips are summarised in Table 13.6.

Table 13.5 – Proposed residential multi-modal trip generation

Mode	Mode Share	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
		In	Out	Total	In	Out	Total
LUL/DLR (via bus)	15.4%	6	60	66	37	13	50
LUL/DLR (via rail)	4.1%	1	16	17	10	4	14
Rail	15.4%	5	60	65	37	13	50
Bus	25.5%	9	99	108	61	22	83
Taxi	0.2%	0	1	1	0	0	0
Motorcycle	0.6%	0	3	3	2	1	3
Car driver	27.8%	10	108	118	67	24	91
Car passenger	1.0%	0	4	4	2	1	3
Cycling	1.9%	1	7	8	5	2	7
Walking	7.5%	3	29	32	18	6	24
Other	0.6%	0	2	2	1	1	2
Total	**100%**	**35**	**389**	**424**	**240**	**87**	**327**

13.4.2 The above table shows that the proposed residential development is expected to generate 424 and 327 two-way person trips in the AM and PM peak hours respectively.

13.5 Residential Servicing trip generation

13.5.1 Service vehicle trip rates associated with the residential development will be established from a number of residential servicing surveys which have been previously conducted at the following sites:

- Kempton Court, Whitechapel E1 (April 2006) – 80 residential apartments (private);
- City Walk, Shoreditch E2 (July 2006) – 110 residential apartments (private); and
- Bow Quarter, Bow E3 (July 2006) – 773 residential apartments and houses (private and affordable).

13.5.2 The servicing trip rates and the resulting trips for 771 units in the AM and the PM peak periods are shown in Tables 13.7 and 13.8 respectively.

Table 13.6 – Proposed residential servicing trip rates (per unit)

	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	**Out**	**Total**	**In**	**Out**	**Total**
LGVs	0.002	0.002	0.004	0.000	0.000	0.000
HGVs	0.001	0.001	0.002	0.000	0.000	0.000
Total	0.003	0.003	0.006	0.000	0.000	0.000

Table 13.7 – Proposed residential servicing trips (771 units)

	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	**Out**	**Total**	**In**	**Out**	**Total**
LGVs	2	2	4	0	0	0
HGVs	1	1	2	0	0	0
Total	3	3	6	0	0	0

13.5.3 The above table shows that the residential element of the scheme could generate 6 servicing trips during the AM peak period of which 2 are expected to be by LGVs and there would be one HGV.

13.5.4 The residential servicing trip rates give a rate of 0.0343 trips per residential unit from 7am to 7pm. As a check, servicing movements have been obtained by Transport Planning Practice from Ballymore Asset Management Limited (BAML) for Baltimore Wharf, E14 for all the servicing movements surveyed on 4 December 2015 for the Phase 1 of the overall Baltimore Wharf development.

13.5.5 Phase 1 of Baltimore Wharf comprises a total of 691 private and affordable apartments along with ground floor commercial units. The data provides a full 24 hour set of servicing movements split by specific use. Therefore there is no mixture of non-residential servicing trips with the data.

13.5.6 This data provides a servicing trip rate for the same period, 7am to 7pm, of 0.0203 trips per residential unit. Therefore, the proposed servicing rates are considered a robust assessment of the servicing trips based on a similar type of development. This has been agreed with TfL.

14 PROPOSED TRIP GENERATION - NON-RESIDENTIAL

14.1 Introduction

14.1.1 This section will assess the trip generation of the proposed non-residential uses within the development.

14.2 Flexible commercial use

14.2.1 The proposed development will provide 3,236m^2 of flexible commercial use. Given the car parking provision of only one bay suitable for disabled drivers across all the non-residential uses, this element of the scheme is not expected to attract any vehicle trips except for deliveries.

14.2.2 Trip generation has been undertaken for the worse case land use in terms of the total number of new trips generated on the transport network. This is expected to be B1 office use.

14.2.3 The trip generation for the office has been undertaken based on first principles. As set out in Table 11.2, the office is estimated to have 295 staff (at 1 per 10m^2 NIA). The mode of travel for staff is expected to be similar to existing staff in the area. Therefore the method of travel to work by the workday population from the 2011 Census has been examined for the local area. This information is currently only available for super output areas so the area of Greenwich 004 has been used. The mode shares have then been redistributed to reflect zero general car parking provision for the commercial use. The proposed staff mode share is shown in Table 14.1.

Table 14.1 – Proposed commercial mode share

Mode	Mode share	Redistributed mode share
LUL/DLR	6.9%	14.4%
Rail	8.6%	18.1%
Bus	20.4%	42.7%
Taxi	0.2%	0.4%
Motorcycle	1.2%	2.6%
Car driver	49.1%	0.0%
Car passenger	3.2%	0.0%
Cycling	1.9%	4.0%
Walking	8.1%	16.9%
Other	0.4%	0.9%
Total	**100%**	**100.0%**

14.2.4 A similar assessment to the residential LUL / DLR distribution has been undertaken. Origin-destination data has been examined for existing staff in Greenwich travelling from across London. This shows that trips are more evenly split across boroughs, with highest 14% from Newham, 10% from Greenwich and 8% from Lewisham. The total for inner London is 49% and outer London is 51%.

14.2.5 It should be noted that the data is for the whole of Greenwich where LUL / DLR services are available and therefore adjustments have been made to reflect the accessibility of Charlton. The following assumptions are made.

- Greenwich and Lewisham LUL/DLR trips are assumed to be rail trips to Charlton.
- Trips from other inner London boroughs will use bus to access the site from the Jubilee Line.
- Trips from outer London boroughs are assumed to be 70% LUL then rail from London terminals, and 30% bus from Jubilee line.

14.2.6 Therefore the 14.4% LUL / DLR trips have been further split into the following:

- Bus to Jubilee Line: 47.3% of 14.4% = 6.8%
- Rail for Greenwich and Lewisham (17% of 14.4% = 2.5%), and from LUL / London terminals (35.7% of 14.4% = 5.1%) = 7.6%

14.2.7 It is assumed that 85% of staff would be present on a typical weekday to take account of illness, meeting, annual leave etc. Data from the Canary Wharf Employee Travel Survey (2007) have then been used to estimate the proportion of staff arrival and departure trips which would take place in the AM and PM peak hours. This information is shown in Table 14.2 and the resulting staff trips are shown in Table 14.3.

Table 14.2 – Proposed office arrival and departure profile

	AM Peak		PM Peak	
	In	**Out**	**In**	**Out**
Employees	46.8%	10.0%	18.0%	35.3%

Table 14.3 – Proposed office multi-modal trip generation

Mode	**Mode Share**	**AM peak (0800 – 0900)**			**PM peak (1800 – 1900)**		
		In	**Out**	**Total**	**In**	**Out**	**Total**
LUL/DLR (via bus)	6.8%	8	2	10	3	6	9
LUL/DLR (via rail)	7.6%	9	2	11	4	7	11
Rail	18.1%	21	4	25	8	16	24
Bus	42.7%	50	11	61	19	38	57
Taxi	0.4%	0	0	0	0	0	0
Motorcycle	2.6%	3	1	4	1	2	3
Car driver	0.0%	0	0	0	0	0	0
Car passenger	0.0%	0	0	0	0	0	0
Cycling	4.0%	5	1	6	2	4	6
Walking	16.9%	20	4	24	8	15	23
Other	0.9%	1	0	1	0	1	1
Total	**100%**	**117**	**25**	**142**	**45**	**89**	**134**

14.2.8 The above shows that the proposed office is expected to generate 142 and 134 two-way staff trips in the AM and PM peak hours respectively.

14.2.9 The above methodology was discussed with TfL. As requested, a comparison with TRICS data has been undertaken to ensure that the proposed trip generation is robust. Three Greater London sites in Battersea, Monument and Rotherhithe were found which were considered to be comparable. Person trip rates have been examined against the proposed trips in Table 14.3 and the results are shown below.

Table 14.4 – Comparison of office person trips (TRICS)

	AM peak (0800 – 0900)			PM peak (1700 – 1800)		
	In	**Out**	**Total**	**In**	**Out**	**Total**
TRICS - Trip rates per 100m^2	2.727	0.108	2.835	0.470	2.691	3.161
TRICS – applied to 3,245m^2	88	4	92	15	87	103
Proposed office trips	117	25	142	45	89	134
Net difference	+29	+21	+50	+30	+2	+31

14.2.10 The comparison shows that the office trip generation based on first principles generate more trips than using TRICS and is therefore considered to be robust.

14.2.11 It should be noted that the latest Canary Wharf Employee Travel Survey is not readily publicly accessible and although the data is taken from 2007, it is considered to be a better area specific representation than TRICS data. TfL have confirmed that the results represent a robust assessment.

14.3 Nursery

14.3.1 Based on the proposed floor area of 337m^2, for the purposes of the trip generation assessment, based on similar sites the proposed nursery is expected to have around 16 staff and 56 children.

14.3.2 It would be reasonable to assume that most of the capacity would be taken up by the increase in resident population as the result of the proposed 771 residential units as well as the emerging developments within the Charlton Riverside SPD Area. Currently, the nearest nursery is over 1km away from the site.

14.3.3 Therefore the catchment area is expected to be within easy walking distance to the nursery with some parents expected to be dropping up children on the way to and from work. There is also no car parking or drop-off / pick-up facility provided and therefore no car trips are expected.

14.3.4 On this basis, it is assumed that all children and escorts will walk to the nursery. For a robust assessment, it is assumed that there will be one escort per child. It is assumed that all arrival and departure trips will take place during the AM and PM peak hours. In practice, nurseries tend to have staggered start and finish times for different sessions to enable working parents flexibility in times.

Table 14.5 – Proposed nursery multi-modal trip generation – children and escorts

Mode	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	Out	Total	In	Out	Total
Walking	112	56	168	56	112	168

14.3.5 Staff trips have also been distributed across the difference transport modes based on the mode share set out in Table 14.1. The resulting multi-modal trip generation for staff is shown in Table 14.6.

Table 14.6 – Proposed nursery multi-modal trip generation - staff

Mode	Mode Share	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
		In	Out	Total	In	Out	Total
LUL/DLR (via bus)	6.8%	1	0	1	0	1	1
LUL/DLR (via rail)	7.6%	1	0	1	0	1	1
Rail	18.1%	3	0	3	0	3	3
Bus	42.7%	7	0	7	0	7	7
Taxi	0.4%	0	0	0	0	0	0
Motorcycle	2.6%	0	0	0	0	0	0
Car driver	0.0%	0	0	0	0	0	0
Car passenger	0.0%	0	0	0	0	0	0
Cycling	4.0%	1	0	1	0	1	1
Walking	16.9%	3	0	3	0	3	3
Other	0.9%	0	0	0	0	0	0
Total	**100%**	**16**	**0**	**16**	**0**	**16**	**16**

Ancillary residential facilities

14.3.6 The proposal will include ancillary facilities for the exclusive use of residents and therefore would not generate visitor trips from the wider area. Staff at the facilities are expected to be arranged in shift work, arriving and leaving outside of the peak hours. Therefore this use has been excluded in the trip generation assessment.

14.4 Total non-residential multi-modal trip generation

14.4.1 The calculations for the non-residential trip generation are included in Annex I and the table below provides a summary.

Table 14.7 – Total non-residential multi-modal trip generation

Mode	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	Out	Total	In	Out	Total
LUL/DLR (via bus)	9	2	11	3	7	10
LUL/DLR (via rail)	10	2	12	4	8	12
Rail	24	4	28	8	19	27
Bus	57	11	68	19	45	64
Taxi	0	0	0	0	0	0
Motorcycle	3	1	4	1	2	3
Car driver	0	0	0	0	0	0
Car passenger	0	0	0	0	0	0
Cycling	6	1	7	2	5	7
Walking	135	60	195	64	130	194
Other	1	0	1	0	1	1
Total	**245**	**81**	**326**	**101**	**217**	**318**

14.4.2 Based on the assessment undertaken, it is expected that the non-residential use will generate 326 and 318 two-way person trips in the AM and PM peak hours respectively.

14.5 Commercial servicing trip generation

14.5.1 The number of daily delivery and servicing vehicle trips and their arrival profile for the proposed flexible commercial use within the scheme has been derived using office rates based on the CR Eastman paper 'Servicing at Central London Offices'.

14.5.2 The estimated number of commercial servicing trips are summarised in Table 14.9.

Table 14.8 – Proposed commercial servicing trip rates (per 100m^2)

	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	Out	Total	In	Out	Total
LGVs	0.018	0.018	0.035	0.008	0.008	0.015
HGVs	0.007	0.007	0.014	0.002	0.002	0.003
Total	0.088	0.088	0.176	0.020	0.020	0.040

Table 14.9 - Proposed commercial servicing trips

	AM peak (0800 – 0900)		PM peak (1800 – 1900)			
	In	Out	In	Out	In	Out
LGVs	1	1	2	0	0	0
HGVs	0	0	0	0	0	0

14.5.3 The above shows that 2 servicing trips could be expected the AM peak hour and none in the PM peak.

14.5.4 For the nursery, it could be expected to generate up to one delivery a day. This is likely to take place during the day and have a negligible impact on the peak hours.

15 PROPOSED TRIP GENERATION - TOTAL

15.1 Introduction

15.1.1 This section provides a summary of the total trip generation based on the information set out in Chapters 13 and 14.

15.2 Total trip generation

15.2.1 The total multi-modal trips generated by the residential and non-residential uses are set out below.

Table 15.1 – Total multi-modal trip generation

Mode	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	Out	Total	In	Out	Total
LUL/DLR (via bus)	15	62	77	40	20	60
LUL/DLR (via rail)	11	18	29	14	12	26
Rail	29	64	93	45	32	77
Bus	66	110	176	80	67	147
Taxi	0	1	1	0	0	0
Motorcycle	3	4	7	3	3	6
Car driver	10	108	118	67	24	91
Car passenger	0	4	4	2	1	3
Cycling	7	8	15	7	7	14
Walking	138	89	227	82	136	218
Other	1	2	3	1	2	3
Total	**280**	**470**	**750**	**341**	**304**	**645**

15.2.2 In addition to the above, the following servicing trips will also be generated.

Table 15.2- Summary of Servicing Trips

Mode	AM Peak			PM Peak		
	In	Out	Total	In	Out	Total
LGVs	3	3	6	0	0	0
HGVs	1	1	2	0	0	0
Total vehicle trips	**4**	**4**	**8**	**0**	**0**	**0**

15.2.3 The above table shows that the proposed development is expected to generate 750 and 645 two-way person trips in the AM and PM peak hours respectively. In terms of vehicular movements, it is expected that there will be 118 car driver movements and 8 servicing movements in the AM peak, and 91 car driver movements and no servicing in the PM peak. These trips are assessed for all modes of transport in the following Chapters 17 to 22.

16 CUMULATIVE ASSESSMENT SCHEMES

16.1 Introduction

16.1.1 This chapter sets out the developments which have been taken into account to assess the cumulative impact on the local transport network. It also sets out the methodology in assessing the cumulative impact in this report.

16.2 Cumulative Development Schemes

16.2.1 The cumulative assessment considers all relevant development proposals in the vicinity of the site with planning permission but not yet built. The cumulative developments which have been agreed with RBG as part of the Environmental Statement scoping exercise are as follows:

- Greenwich Millennium Village (Phases 3, 4 and 5), Peartree Way, Greenwich (Ref: 12/0022/O);
- Parcel 2, sub-phase 1, Greenwich Millennium Village Phases 3, 4 and 5 (Ref: 13/3281/R);
- Morris Walk Estate (North), north of Pett Street SE18 (Ref: 14/0127/O);
- Morris Walk Estate, south of Maryon Road SE7 (Ref: 14/0126/O);
- Sainsbury's and former comet stores, 55 and 57 Bugsby's Way, Greenwich SE10 (Ref: 13/3285/O);
- Sainsbury's and former comet stores, 55 and 57 Bugsby's Way, Greenwich SE10 (Ref: 17/0672/R);
- Sainsburys, 50 Lombard Wall, Anchor and Hope Lane, Charlton (Ref: 11/1261/F);
- Land north of Woolwich Road and west of Gallions Road (Ref: 12/0835/F);
- Land r/o 40 Victoria Way, Charlton, SE7 (Ref: 12/0029/F);
- Parcelforce Worldwide, 20 Bugsby's Way (Ref: 14/3007);
- Brocklebank Industrial Estate (Ref: 13/2086/F);

- 1 Ferranti Close, Westfield Street, Woolwich (Ref: 12/1024/F);
- Valley House, 445 Woolwich Road, Charlton, SE7 (Ref: 16/0132/F);
- Former Matalan Site, 30 Bugsby's Way, Charlton, SE7 (Ref: 13/2016/F);
- Land to north of Woolwich Road (Ref: 14/2550/F); and
- Maryon Road and Grove Estate (Ref: 14/0117/O).

16.2.2 The impacts of the cumulative development schemes on the surrounding transport network have been taken from the submitted Transport Assessments, where appropriate, with them being taken into account in the cumulative assessments, against which the proposed development's impact will be assessed.

16.3 Cumulative assessment methodology

Pedestrian and cycle

16.3.1 The cumulative effect assessment on local pedestrian and cycle routes has been based on analysing the provision of mitigation measures provided by the cumulative developments and the appraising the existing pedestrian and cycle network to determine the overall effect.

Bus

16.3.2 The cumulative effect assessment on the bus network has been based on analysing the provision of mitigation measures provided by the cumulative developments and appraising the existing bus and DLR network to determine the overall effect.

Rail

16.3.3 The existing and future line loadings on Southeastern trains are not available due to the data being commercially sensitive. However, each scheme will have contributed towards Crossrail through the S106 development contributions under the Mayoral Community Infrastructure Levy (CIL) policy. This will significantly increase rail capacity and mitigate the cumulative impact.

Highway

16.3.4 Where traffic flows from the cumulative schemes are expected to have an effect on the local highway network surrounding the site, they have been incorporated into the cumulative traffic assessment.

Construction traffic

16.3.5 Given that there is an uncertainty over when the various cumulative schemes would come forward in the area, the methods of construction that would be employed; the management measures that would be adopted at each site; or the periods of peak construction, it is difficult to accurately predict cumulative assessment of construction activities, particularly where the intensive operations are of short duration. Therefore, the cumulative assessment has been based on professional judgement.

17 IMPACT ASSESSMENT – WALKING AND CYCLING

17.1 Introduction

17.1.1 This chapter sets out the number of walking and cycling trips generated by the development, their expected impact and if there is any additional mitigation required for these trips.

17.2 Walking and Cycling Trips

17.2.1 In the morning peak hour, the proposed development is expected to generate 227 walking trips and 15 cycling trips. In the evening peak hour, the proposed development is expected to generate 218 walking trips and 14 cycling trips.

17.2.2 In addition to the above dedicated walking and cycling trips, there will also be trips associated with accessing public transport services. For a robust assessment of public transport services, it is assumed that passengers will use bus services to North Greenwich Station as well as interchange with rail services to access LUL / DLR services. In practice, cycling to North Greenwich Station for the Jubilee line will also be actively promoted. On this basis, the proposed development is expected to generate 122 trips via Charlton Station and 253 bus trips in the AM peak. In the PM peak there are 103 trips via Charlton Station and 207 bus trips.

17.2.3 These public transport trips are expected to arrive and depart the site from Anchor and Hope Lane. Therefore the total two-way walking trips to and from the development are 602 and 528 in the AM and PM peak hours respectively.

17.3 Impact of Walking and Cycling Trips

17.3.1 The walking and cycling trips are expected to dissipate across the existing network. The main pedestrian desire lines are anticipated to be towards Charlton Station and bus stops located along Anchor and Hope Lane, Bugsby's Way and Woolwich Road.

17.3.2 There are existing footways and cycleways provided within the vicinity of the site. Further enhancements will be implemented as part of the scheme, including the provision of a Toucan crossing on Anchor and Hope Lane and dedicated walking / cycling routes to the Thames Path. The existing and proposed infrastructure is therefore considered sufficient to meet the additional pedestrian and cyclists demand and bring benefits to the local area.

17.4 Mitigation of Walking and Cycling trips

17.4.1 Given the level of trips expected and the proposed enhancements to the walking and cycling environment, no further mitigation is considered to be necessary.

17.5 Cumulative Assessment

17.5.1 Walking and cycling trips generated by the cumulative assessment schemes set out in Chapter 16 are not all focused on an isolated route and will be widely dissipated across the existing and proposed pedestrian network due to the greatly increased level of permeability within the area which the proposed development integrates with.

18 IMPACT ASSESSMENT - BUS

18.1 Introduction

18.1.1 This chapter sets out the number of bus trips generated by the development and the expected impact and assesses any suitable mitigation of these trips.

18.2 Bus Trips

18.2.1 The proposed development is expected to generate 176 and 147 dedicated bus trips in the AM and PM peak hours respectively. There will also be additional bus trips associated with accessing Jubilee line services from North Greenwich. These are summarised in Table 18.1 below.

Table 18.1 - Summary of Proposed Bus Trips

3hr Peak Period	AM (0700-1000)			PM (1600-1900)		
	In	Out	Total	In	Out	Total
LUL/DLR (via bus)	35	118	153	71	48	119
Bus	142	204	346	132	164	296
Total	**177**	**323**	**500**	**203**	**212**	**415**
Peak hour	**AM Peak (0800-0900)**			**PM Peak (1700-1800)**		
	In	**Out**	**Total**	**In**	**Out**	**Total**
LUL/DLR (via bus)	15	62	77	40	20	60
Bus	66	110	176	80	67	147
Total	**81**	**172**	**253**	**120**	**87**	**207**

18.2.2 The above shows that a total of 253 and 207 bus trips will be generated in the AM and PM peak hours respectively.

18.3 Impact of Bus Trips

18.3.1 As set out in Chapter 5, the site is currently served by five bus routes with a total peak frequency of 34 buses per hour in each direction. Based on an average bus operational capacity of 63 persons, this provides a bus capacity of 2,142 per hour. Therefore based on the proposed development bus trips set out in Table 16.1, the impact of on the bus network has been calculated in Table 18.2. This assumes a worse case with all additional passengers travelling in one direction.

Table 18.2 - Bus Network Impact Assessment

Time and direction		Bus trips	Bus network capacity (hr)	% of bus network capacity
AM Peak	In	81	2,142	+3.8%
	Out	172	2,142	+8.0%
PM Peak	In	120	2,142	+5.6%
	Out	87	2,142	+4.1%

18.3.2 Table 18.2 shows that the largest impact on the current bus network would be 8.0% which would occur in the weekday AM peak hour due to outbound trips. This impact is not expected to be noticeable and the trips generated equate to 5 additional passengers per bus during the peak hours. This could be adequately accommodated on the existing bus network.

18.3.3 A separate Bus Analysis report has been undertaken for the development, looking at the expected levels and distribution of bus trips generated throughout the day, in accordance with TfL London Buses requirements. Annex J contains the Bus Analysis report. This report will enable TfL to assess the daily profile of impact for the proposed development against their patronage data.

18.4 Mitigation of Bus Trips

18.4.1 The level of bus trips is not expected to have a significantly adverse impact on the bus network. However, TfL will be expected to require contributions towards improving bus services / frequencies as part of the proposed development to accommodate the additional patronage predicted. This will be secured through a financial contribution to bus services. As this would increase service frequencies or the number of services provided it would also benefit the wider public within the area and consequently increase the public transport accessibility of the site.

18.5 Cumulative Assessment

18.5.1 In consideration of cumulative developments, each of the other cumulative schemes will be expected to have provided appropriate funding towards bus service and frequency enhancements to mitigate their own impacts.

19 IMPACT ASSESSMENT – NATIONAL RAIL

19.1 Introduction

19.1.1 This chapter sets out the number of trips generated by the development and the expected impact and assesses if there are any likely suitable mitigation required for these trips.

19.2 Rail Trips

19.2.1 The proposed development is expected to generate 93 and 77 primarily rail trips in the AM and PM peak hours respectively. There will be additional linked rail trips associated for access to LUL/DLR services at North Greenwich, Greenwich and Lewisham. These are summarised in Table 19.1 below.

Table 19.1- Summary of Proposed Rail trips

3hr Peak Period	AM (0700-1000)			PM (1600-1900)		
	In	Out	Total	In	Out	Total
LUL/DLR (via rail)	25	33	58	21	28	49
Train	65	121	186	76	78	154
Total	**90**	**154**	**244**	**97**	**106**	**203**
Peak hour	**AM Peak (0800-0900)**			**PM Peak (1700-1800)**		
	In	**Out**	**Total**	**In**	**Out**	**Total**
LUL/DLR (via rail)	11	18	29	14	12	26
Train	29	64	93	45	32	77
Total	**40**	**82**	**122**	**59**	**44**	**103**

19.2.2 The above shows that a total of 122 and 103 trips will be made on rail services from Charlton Station in the AM and PM peak respectively, including both rail as a main mode and secondary mode.

19.3 Impact of Rail Trips

19.3.1 TfL has confirmed that they do not hold information on rail station usage so numbers generated by the site is sufficient in assessing the impact. However, an estimate of the effect of the development on rail network capacity has been undertaken.

19.3.2 Southeastern was unable to confirm the capacity of the trains which serve Charlton Station during the peak hours, but it is understood that Southeastern Metro trains on the inter-city London routes use Class 465 and 466 Networkers and Class 376 Electrostars.

19.3.3 The typical number of seats in a Class 376 Electrostar is 334 (5-car unit) and in a Class 465/466 Networkers is 348 seats (4-car unit).

19.3.4 It is assumed that during peak times, Charlton Station is served by 8-car units with a total of 696 seats. DfT's methodology in calculating crowding allows a typical standing capacity of 35% of the number of seats for commuter rolling stock. This provides an operational capacity for each train of 940 passengers.

19.3.5 There are currently 8 trains per hour in each direction serving Charlton Station. This equates to an operational capacity of 7,520 passengers in each direction. Therefore based on the proposed development rail trips set out in Table 19.1, the impact of on the rail network has been calculated in Table 19.2. This assumes a worse case with all additional passengers travelling in one direction.

Table 19.2 - Rail Network Impact Assessment

Time and direction		Rail trips	Rail network capacity (hr)	% of rail network capacity
AM Peak	In	40	7,520	+0.5%
	Out	82	7,520	+1.1%
PM Peak	In	59	7,520	+0.8%
	Out	44	7,520	+0.6%

19.3.6 The above shows that the largest impact on the current rail network is expected to be 1.1% which would occur in the weekday AM peak hour with 82 outbound trips. This is equivalent to an average of 10 passengers per train in one direction. This impact is not expected to be significant and could be accommodated by the current rail network.

19.3.7 It should be noted that the above assessment does not take into account the impact of Crossrail, which is expected to reduce the demand on rail trips through Charlton Station into London as Crossrail services from Woolwich would provide faster journeys and would substantially increase rail capacity within this corridor.

19.4 Mitigation of Rail Trips

19.4.1 The above assessment shows the proposed development is not expected to have a significant impact on the existing rail capacity and Crossrail services in the future is expected to improve conditions. Therefore no site specific mitigation is required.

19.5 Cumulative Assessment

19.5.1 Future line loadings on Southeastern services are not available due to the information being commercially sensitive, as a result of the way in which the rail services are franchised. However, the cumulative impact of the proposed development in the context of other committed developments will be fully mitigated by the completion of Crossrail. Funding for a significant proportion of the cost of Crossrail is collected through S106 development contributions under the Mayoral Community Infrastructure Level (CIL) policy. Crossrail will significantly increase rail capacity through this south eastern rail corridor with 12 trains per hour equating to an increase in capacity of 18,000 passengers per hour per direction. Thus cumulative impact would be fully mitigated through Crossrail.

20 IMPACT ASSESSMENT – HIGHWAY NETWORK

20.1 Introduction

20.1.1 This chapter sets out the number of highway trips generated by the development and the expected impact and if there is a need for mitigation of these trips.

20.2 Vehicle Trips

20.2.1 The proposed development is expected to generate 126 and 91 two-way vehicle trips in the AM and PM peak hours respectively. The vehicle trips from the existing have then been taken into account and this is summarised in Table 20.1 below.

Table 20.1– Summary of Net Change in Vehicular Trips

	AM peak (0800 – 0900)			PM peak (1800 – 1900)		
	In	**Out**	**Total**	**In**	**Out**	**Total**
Existing vehicle trips	28	16	44	12	27	39
Proposed car drivers	10	108	118	67	24	91
Proposed LGVs	3	3	6	0	0	0
Proposed HGVs	1	1	2	0	0	0
Total proposed	14	112	126	67	24	91
Net change	-14	+96	+82	+55	-3	+52

20.2.2 When taking into account the trips generated by the existing site, the proposed development will result in a net increase of 82 and 52 two-way vehicular trips in the AM and PM peak hours respectively.

20.2.3 To assess the impact of the above vehicle trips on the local highway network, the following traffic flow scenarios have been assessed:

- Baseline (surveyed flows, 2015)
- Baseline + Proposed Development (without existing site traffic);
- Cumulative Baseline 2023 (Baseline + Cumulative Schemes); and
- Cumulative Baseline 2023 + Proposed Development.

20.2.4 Traffic flow diagrams for the above scenarios for the AM and PM peak hours are included in Annex K.

20.3 Impact of Vehicle Trips on Baseline Flows

20.3.1 The proposed development generated vehicle trips have been added to the baseline vehicle flows and the traffic associated with the existing site use has been removed.

20.3.2 The proposed vehicle trips have been distributed across the highway network based on existing turning movements from the traffic surveys. This takes into account turning restrictions at the local junctions.

20.3.3 The impacts of the development on the key links are shown in Table 20.2.

Table 20.2– Baseline Peak Hour Traffic Flow Assessment

Link	Baseline flows		Baseline + Proposed Development		Percentage Difference	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Anchor & Hope Lane North of Bugsby's Way	251	249	338	303	35%	22%
Anchor & Hope Lane North of Site Access	192	135	185	134	-4%	-1%
Anchor & Hope Lane South of Bugsby's Way	1,286	1,569	1,324	1,601	3%	2%
Bugsby's Way West of Gallions Road	1,327	1,700	1,378	1,719	4%	1%
Bugsby's Way East of Gallions Road	1,362	1,995	1,413	2,017	4%	1%
Charlton Church Lane North of Delafield Way	404	450	410	458	1%	2%
A206 East of Anchor & Hope Lane	2,137	2,587	2,184	2,606	2%	1%
A206 West of Anchor & Hope Lane	1,201	1,234	1,201	1,237	0%	0%
Site Access (Private Road)	107	120	187	172	75%	44%
Gallions Road	202	390	200	393	-1%	1%

20.3.4 The above table shows that the largest increase in traffic flows during the peak hours take place at the site access (+75%) and Anchor and Hope Lane to the south, between Bugsby's Way and the site access (+35%).

20.3.5 The site access currently has very low traffic flows and the proposed development will broadly double the existing traffic in the morning peak hour. Whilst this would be considered to be significant, this level of additional traffic is considered to be well within the environmental capacity of the road of 300 to

600 vehicles / hour for a residential road[1] as the traffic flows remain below this level. The site access junction has also been designed to accommodate this level of traffic.

20.3.6 Anchor and Hope Lane to the south of the site access has two lanes on the approach to the roundabout. The proposed trips are not expected to have a significant impact on the environmental capacity of the road and the flows will remain within the 300 to 600 vehicles per hour threshold for a residential road.

20.3.7 On the wider network, the highest increase is 5% on Bugsby's Way in the AM peak. This level of increase is not expected to have a significant impact on the highway network. Both Anchor and Hope Lane north of the site access and Gallions Road is expected to have a reduction in traffic. There are residential frontages on Anchor and Hope Lane to the north of the site and the reduction in traffic is expected to improve conditions.

20.3.8 The following table shows the impact of the proposed development on 24-hour traffic for all vehicles and for HGVs.

Table 20.3– Baseline 24-Hour Traffic Flow Assessment

Link	Baseline flows		Baseline + Proposed Development		Percentage Difference	
	All vehs	HGVs	All vehs	HGVs	All vehs	HGVs
Anchor & Hope Lane North of Bugsby's Way	3,293	481	3,796	415	15%	-14%
Anchor & Hope Lane North of Site Access	2,019	336	1,983	330	-2%	-2%
Anchor & Hope Lane South of Bugsby's Way	20,809	2,840	21,052	2,804	1%	-1%
Bugsby's Way West of Gallions Road	23,832	3,735	24,084	3,707	1%	-1%
Bugsby's Way East of Gallions Road	21,854	3,679	22,125	3,652	1%	-1%
Charlton Church Lane North of Delafield Way	6,581	553	6,629	545	1%	-1%
A206 East of Anchor & Hope Lane	39,527	6,017	39,770	5,987	1%	-1%
A206 West of Anchor & Hope Lane	23,558	3,542	23,566	3,540	0%	0%
Site Access (Private Road)	1,385	148	1,852	77	34%	-48%
Gallions Road	5,172	17	5,181	16	0%	-9%

[1] Buchanan C et al (1963) - The Buchanan Report 'Traffic in Towns'

20.3.9 The above table shows that the proposed development traffic impact is limited to the private site access road and the short section of Anchor and hope Lane between the site and Bugsby's Way. Elsewhere across the highway network the proposed development would have a negligible impact on the highway network over 24-hours and there would be a reduction in HGV traffic.

20.3.10 Junction capacity modelling has been undertaken for the following junctions:

- Bugsby's Way / Gallions Road signalised junction
- Gallions Road / Woolwich Road priority junction
- Anchor and Hope Lane / Access Road priority junction
- Anchor and Hope Lane North / Bugsby's Way roundabout
- Woolwich Road / Anchor and Hope Lane / Charlton Church Lane signalised junction
- Woolwich Road / Retail Park Access Road / Gallon Close roundabout junction

20.3.11 The methodology and results are set out in the Junctions Modelling Analysis Report included in Annex L. The modelling results show that the proposed development can be accommodated on the surrounding road network and would not significantly impact the overall operation of the junctions assessed and the highway network will continue to operate within capacity.

20.4 Impact of Vehicle Trips on Cumulative Flows

20.4.1 For the cumulative assessment, the trips generated by the cumulative schemes set out in Chapter 13 have been added to the baseline traffic flows to provide a cumulative baseline scenario. The cumulative trips and their distribution have been extrapolated from the individual Transport Assessments for each scheme. The resulting trips are summarised in Table 20.4.

Table 20.4 – Cumulative Baseline Traffic Flows

Link	Baseline flows		Cumulative Baseline		Percentage Difference	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Anchor & Hope Lane North of Bugsby's Way	251	249	251	249	0%	0%
Anchor & Hope Lane North of Site Access	192	135	192	135	0%	0%
Anchor & Hope Lane South of Bugsby's Way	1,286	1,569	1,385	1,710	8%	9%
Bugsby's Way West of Gallions Road	1,327	1,700	1,426	1,841	7%	8%
Bugsby's Way East of Gallions Road	1,362	1,995	1,461	2,136	7%	7%
Charlton Church Lane North of Delafield Way	404	450	418	468	3%	4%
A206 East of Anchor & Hope Lane	2,137	2,587	2,234	2,731	5%	6%
A206 West of Anchor & Hope Lane	1,201	1,234	1,283	1,287	7%	4%
Site Access (Private Road)	107	120	107	120	0%	0%
Gallions Road	202	390	202	390	0%	0%

20.4.2 The largest increase in traffic from the cumulative schemes is 9% which occurs in the PM peak on Anchor and Hope Lane, south of Bugsby's Way. Bugsby's Way and A206 Woolwich Road to the west of Anchor and Hope Lane will also result in similar increases.

20.4.3 The proposed development vehicle trips have been added to the cumulative baseline vehicle flows and this is summarised in Table 20.5.

Table 20.5– Cumulative Baseline and Proposed Development Traffic Flows

Link	Cumulative Baseline flows		Cumulative Baseline + Proposed Development		Percentage Difference	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
Anchor & Hope Lane North of Bugsby's Way	251	249	338	303	35%	22%
Anchor & Hope Lane North of Site Access	192	135	185	134	-4%	-1%
Anchor & Hope Lane South of Bugsby's Way	1,385	1,710	1,423	1,743	3%	2%
Bugsby's Way West of Gallions Road	1,426	1,841	1,476	1,860	4%	1%
Bugsby's Way East of Gallions Road	1,461	2,136	1,512	2,159	4%	1%
Charlton Church Lane North of Delafield Way	418	468	423	476	1%	2%
A206 East of Anchor & Hope Lane	2,234	2,731	2,281	2,750	2%	1%
A206 West of Anchor & Hope Lane	1,283	1,287	1,284	1,290	0%	0%
Site Access (Private Road)	107	120	187	172	75%	44%
Gallions Road	202	390	200	393	-1%	1%

20.4.4 The above table shows that the largest increase in traffic flows during the peak hours take place at the site access (+75%) and Anchor and Hope Lane to the south, between Bugsby's Way and the site access (+35%). Although the increase would be considered to be significant, these routes currently have low traffic flows and the level of additional traffic is considered to be well within the environmental capacity thresholds for residential streets. The highest increase on the other links is 4%. The proposal development is therefore not expected to have a significant impact.

20.4.5 The following table shows the impact of the proposed development on 24-hour traffic for all vehicles and for HGVs.

Table 20.6– Cumulative Baseline 24-Hour Traffic Flow Assessment

Link	Cumulative Baseline flows		Cumulative Baseline + Proposed Development		Percentage Difference	
	All vehs	HGVs	All vehs	HGVs	All vehs	HGVs
Anchor & Hope Lane North of Bugsby's Way	3,293	481	3,796	415	15%	-14%
Anchor & Hope Lane North of Site Access	2,019	336	1,983	330	-2%	-2%
Anchor & Hope Lane South of Bugsby's Way	22,415	2,857	22,658	2,821	1%	-1%
Bugsby's Way West of Gallions Road	25,438	3,752	25,690	3,724	1%	-1%
Bugsby's Way East of Gallions Road	23,460	3,696	23,731	3,669	1%	-1%
Charlton Church Lane North of Delafield Way	6,774	556	6,822	548	1%	-1%
A206 East of Anchor & Hope Lane	41,202	6,034	41,445	6,004	1%	-1%
A206 West of Anchor & Hope Lane	24,126	3,550	24,134	3,548	0%	0%
Site Access (Private Road)	1,385	148	1,852	77	34%	-48%
Gallions Road	5,172	17	5,181	16	0%	-9%

20.4.6 The above table shows that similar to the proposed development will be negligible impact on the local highway network over 24-hours and there would be a reduction in HGV traffic.

20.4.7 The detailed traffic modelling junction assessment for the cumulative baseline and the cumulative baseline plus proposed development is outlined in the Junctions Modelling Analysis Report (Annex L). The results show that the proposed development and the cumulative schemes can be accommodated on the highway network without significant impacts.

20.5 Mitigation of Highway Trips

20.5.1 The proposed development is expected to generate 126 and 91 vehicle trips in the AM and PM peak hours respectively. This is a net increase of 82 and 52 vehicles trips in the AM and PM peak hours respectively when account is taken of the existing site operation. The impact of these trips has been assessed against the baseline traffic flows and also against the cumulative baseline traffic flows which includes all the cumulative schemes. Modelling work has also been undertaken on the local junctions as set out the Annex L.

20.5.2 The assessments have shown that the proposed development will not have a significant impact on the surrounding roads or the capacity of the local junctions. Therefore no highway link or junction capacity mitigation is required to accommodate the proposed development.

21 IMPACT ASSESSMENT – SAFEGUARDED WHARVES

21.1 Introduction

21.1.1 This chapter sets out the impact of the proposed development on the nearby safeguarded wharves.

21.2 Impact on Safeguarded Wharves

21.2.1 The site is located near three safeguarded wharves. Angerstein Wharf and Murphy's Wharf can be accessed from Bugsby's Way and Riverside Wharf is accessed from Herringham Road.

21.2.2 There will be no alterations to the direct access of the three safeguarded wharves as part of the proposals. There will also be no significant impact on the highway routes (SRN or TLRN) which provide access to the wharves as part of the proposals.

21.2.3 There will be an overall reduction in HGV traffic resulting from the development and this will provide a positive impact on the capacity of the roads for access to the safeguarded wharves. Therefore the proposed development does not prejudice the wharves.

21.3 Mitigation

21.3.1 There will be no impact on access arrangements to the safeguarded wharves and a reduction in the HGV traffic which will be a positive impact. Therefore no mitigation is required.

21.4 Cumulative Assessment

21.4.1 The other cumulative schemes would need to have ensured that they will not have an adverse impact on access to the safeguarded wharves.

21.4.2 In terms of traffic flows, it should be noted that this report assesses the baseline scenario, based on existing traffic counts which include traffic associated with the existing wharves. The cumulative assessment includes all relevant development proposals in the vicinity of the site with planning permission but not yet built. The cumulative developments were agreed with RBG as part of the Environmental Statement scoping exercise.

22 IMPACT ASSESSMENT - CONSTRUCTION

22.1 Introduction

22.1.1 An assessment of the anticipated impacts of construction traffic for the proposed development has been undertaken.

22.2 Construction Vehicle Trips

22.2.1 Enabling works, demolition and construction would generate short-term increases in vehicle movements on the highway in the vicinity of the site. It should also be noted that these increases are not constant throughout the construction period and consideration has only been given to the highest peak frequency of vehicle movements so that a worse case assessment can be undertaken.

22.2.2 An assessment of the impacts of demolition and construction traffic has been based on the proposed consultation programme and predicted trips provided in Chapter 5 (Demolition and Construction) of the Environmental Statement. It is expected that the number of demolition and construction vehicle will fluctuate and the peak period is likely to have a maximum of 6 HGVs per hour. However, to provide a robust assessment of the construction impacts, the assessment includes a 33% uplift of construction traffic and is based on 8 HGVs per hour and a 10 hour works-day.

22.2.3 The net impact of construction traffic has been assessed which takes into account the traffic associated with the existing site which would cease, prior to construction of the scheme.

22.3 Construction Vehicle Distribution

22.3.1 All construction vehicles will enter and exit the site via Anchor and Hope Lane. This provides direct access A206 Woolwich Road and the strategic arterial routes of the A102 and other connected routes, thereby avoiding any other local roads where the impact of construction vehicle movements would be more noticeable.

22.3.2 The existing access currently accommodates HGV movements and would therefore be a suitable access point for construction traffic. The assessment of the distribution of construction generated traffic takes into account the anticipated forms of construction material and their source locations. Consideration has also been given to the relative location of the site to the

Strategic Road Network (SRN) and the Transport for London Road Network (TLRN) which are more suitable for construction vehicles.

22.3.3 The construction traffic distribution used is as follows:

- 10% East on the A206 Woolwich Road
- 25% North on the A102 Blackwall Tunnel Southern Approach
- 55% South on the A102 Blackwall Tunnel Southern Approach
- 10% West on the A206 Woolwich Road

22.3.4 It is proposed that 90% of the construction traffic would access the strategic road network from the A1020 / A102 / A206 junction to the west, and 10% would travel south on Anchor and Hope Lane to access A206 to the east. For construction vehicles to / from A206 west, it is assumed that they would enter from Anchor and Hope Lane and exit using the A1020 / A102 / A206 junction.

22.4 Impact of Construction Vehicles

22.4.1 The predicted net increase in traffic flows during construction based on baseline traffic are shown in Tables 22.1, 22.2 and 22.3 for the AM peak, PM peak and 24 hours respectively. The net increase reflects the removal of the existing site traffic and the additional traffic generated by the construction works.

Table 22.1 – AM Peak Percentage Increase from Baseline Traffic Flows on Local Roads Attributed to Construction Traffic (Two-Way)

Link	Baseline Flows		Baseline + Net Construction Traffic		Percentage Increase	
	All vehs	HGV	All vehs	HGV	All vehs	HGV
Anchor & Hope Lane North of Bugsby's Way	251	43	230	55	-8%	28%
Anchor & Hope Lane North of Site Access	192	21	185	20	-4%	-4%
Anchor & Hope Lane South of Bugsby's Way	1,286	229	1,270	230	-1%	0%
Bugby's Way West of Gallions Road	1,327	295	1,324	306	0%	4%
Bugby's Way East of Gallions Road	1,362	213	1,359	224	0%	5%
Charlton Church Lane North of Delafield Way	404	37	400	37	-1%	-1%
A206 East of Anchor & Hope Lane	2,137	451	2,125	451	-1%	0%
A206 West of Anchor & Hope Lane	1,201	291	1,202	292	0%	0%
Site Access (Private Road)	107	10	79	21	-26%	110%
Gallions Road	202	2	200	2	-1%	-8%

Table 22.2- PM Peak Percentage Increase from Existing Traffic Flows on Local Roads Attributed to Construction Traffic (Two-Way)

Link	Baseline Flows		Baseline + Net Construction Traffic		Percentage Increase	
	All vehs	HGV	All vehs	HGV	All vehs	HGV
Anchor & Hope Lane North of Bugsby's Way	249	25	227	36	-9%	46%
Anchor & Hope Lane North of Site Access	135	7	134	7	-1%	-6%
Anchor & Hope Lane South of Bugsby's Way	1,569	166	1,550	166	-1%	0%
Bugby's Way West of Gallions Road	1,700	188	1,698	200	0%	6%
Bugby's Way East of Gallions Road	1,995	106	1,993	118	0%	11%
Charlton Church Lane North of Delafield Way	450	26	446	25	-1%	-2%
A206 East of Anchor & Hope Lane	2,587	306	2,566	305	-1%	0%
A206 West of Anchor & Hope Lane	1,234	159	1,235	160	0%	0%
Site Access (Private Road)	120	6	97	17	-19%	183%
Gallions Road	390	1	389	1	0%	-24%

Table 22.3- 24-Hour Percentage Increase from Existing Traffic Flows on Local Roads Attributed to Construction Traffic (Two-Way)

Link	Baseline Flows		Baseline + Net Construction Traffic		Percentage Increase	
	All vehs	HGV	All vehs	HGV	All vehs	HGV
Anchor & Hope Lane North of Bugsby's Way	3,293	481	2,895	526	-12%	9%
Anchor & Hope Lane North of Site Access	2,019	336	1,983	330	-2%	-2%
Anchor & Hope Lane South of Bugsby's Way	20,809	2,840	20,548	2,814	-1%	-1%
Bugby's Way West of Gallions Road	23,832	3,735	23,706	3,808	-1%	2%
Bugby's Way East of Gallions Road	21,854	3,679	21,728	3,752	-1%	2%
Charlton Church Lane North of Delafield Way	6,581	553	6,522	543	-1%	-2%
A206 East of Anchor & Hope Lane	39,527	6,017	39,296	5,992	-1%	0%
A206 West of Anchor & Hope Lane	23,558	3,542	23,553	3,546	0%	0%
Site Access (Private Road)	1,385	148	951	188	-31%	27%
Gallions Road	5,172	17	5,161	15	0%	-11%

22.4.2 The above table shows that the level of construction is likely to be less than the traffic already generated by the site. When distributed across the highway network, all key links in the AM peak will experience a reduction in overall traffic, but there will be small increases in HGV traffic. Therefore the net construction traffic is expected to have a negligible effect on the surrounding roads.

22.5 Mitigation of Construction of Vehicle Trips

22.5.1 While the assessed distribution of construction traffic is considered a reasonable assumption to determine the scale of changes to traffic on the highway and where significant effects are likely to occur the construction routes would be agreed between the contractor and the RBG prior to construction commencing and mitigation measures at the site. However, based on the above assessment the impacts are insignificant, at most.

22.5.2 Other potential effects as a result of construction would be on road surfaces from mud and dirt, as well as temporary footway closures, if and when required, would be actively managed in accordance with measures set out in the proposed Environmental Management Plan (EMP) and the Construction Logistics Plan (CLP).

Environmental Management Plan (EMP) and Construction Logistics Plan (CLP)

22.5.3 The EMP / CLP are expected to include the following information:

- Restricted hours of work;
- Demolition and construction method statements;
- Considerate Constructors Scheme;
- Management of deliveries and trade contractors;
- Management of noise vibration and dust;
- Management of construction waste; and
- CDM regulations.

22.5.4 Loading and unloading of materials and equipment will occur within the site boundary wherever possible, minimising the likelihood of congestion on highways surrounding the site.

22.5.5 To further minimise the likelihood of congestion, strict monitoring and control of all vehicles entering and exiting the site will be maintained by:

- Setting of specific delivery dates and collection times, where feasible;
- Consolidating deliveries where feasible;
- Using a system of 'just in time' deliveries;
- A requirement for authorisation when visiting the site via vehicles; and
- Safely maintaining pedestrian access around the site perimeter.

22.5.6 Accordingly, it is considered that the temporary effects of construction traffic could be mitigated such as to ensure temporary moderate adverse effects would be limited to the roads immediately adjacent to the site.

23 SUMMARY AND CONCLUSIONS

23.1 Existing Site

23.1.1 The existing site comprises two plots of land off Anchor and Hope Lane. It currently has light industrial uses. The surrounding area is industrial in nature, with the exception of two residential areas known as Atlas Gardens and Derrick Gardens.

23.1.2 Charlton Station is located approximately 350m south of the site with 8 trains per hour in each direction during weekday peak times. The site is also accessible by 5 bus routes with a combined frequency of 34 buses per hour in each direction during peak times. The site has an average PTAL of 4. There are also good pedestrian and cycle facilities in the local area, including the Thames Path to the north of the site.

23.1.3 The site is located within the Charlton Riverside Opportunity area which is identified by both RBG and GLA as a strategic regeneration area for residential led mixed use development. It is expected that the area will be transformed into an attractive and vibrant mixed use urban quarter providing circa 5,000 new homes and 5,000 new jobs. In the future, the site has the potential of achieving a PTAL of 5, with the addition of public transport enhancements associated with regeneration of Charlton Riverside.

23.2 Development Proposals

23.2.1 The development proposals comprises 771 residential units, 3,236m^2 flexible commercial space, 337m^2 crèche and 496m^2 residential facilities with associated car and cycle parking.

23.2.2 Cycle parking will be provide in accordance with the adopted London Plan, with long stay parking located in ground/basement for residents and ground level for staff, and short stay parking located in the public realm which can be used for commercial and residential visitors.

23.2.3 A total of 210 car parking spaces, including 51 accessible bays suitable for Blue Badge holders, will be provided. The commercial use will be allocated one Blue Badge holder bays and no other car parking provision. The residential use will therefore have 209 car parking spaces which is equivalent to 0.27 space per unit. This low car parking provision reflects the accessibility of the site by walking, cycling and public transport and it meets the London Plan standards. A

Car Park Management Plan will be implemented to manage, maintain and control the car parking.

23.2.4 All delivery and servicing activities will take place within the site and vehicles will enter and exit in forward gear from Anchor and Hope Lane. Servicing zones and turning areas are provided within Plots A and B. Each plot will also have a concierge to receive residential deliveries. Refuse collection will take place in the basement of Plot A and at the southern end of Plot B. A Delivery and Servicing Plan (DSP) has been prepared for the development and will be implemented prior to occupation.

23.2.5 The proposals will provide off-site improvements to Anchor and Hope Lane. This includes enhancements to the pedestrian environment and the provision of a Toucan Crossing in order to access the northbound bus stop on Anchor and Hope Lane.

23.3 Trip generation

23.3.1 The proposed development is expected to generate a total of 750 and 645 two-way person trips in the AM and PM peak hours respectively. A significant proportion will be walking, cycling and public transport trips. In terms of vehicle trips, it is expected that 126 and 91 two-way vehicle trips (including servicing trips) will be generated in the AM and PM peak hours respectively. These trips are reduced when the vehicle trips associated with the existing site operations, which is around 40 two-way vehicles trips in the peak hours, are taking into account.

23.4 Impact Assessment

23.4.1 Chapters 17 to 22 sets out the assessment of the proposed development trips by mode, including detailed junction modelling work. The greatest impacts are expected to be at the site access and Anchor and Hope Lane, especially as these roads currently have low traffic and pedestrian flows. However, improvements are proposed to enhance this area and provide a better environment for future residents to travel.

23.4.2 The impact assessments show that the proposed development is not expected to have any material impact on other public transport modes or the highway network.

23.5 Conclusion

23.5.1 The proposed scheme will deliver a high quality development which will be accessible by walking, cycling, buses and rail. The development benefits from its location for encouraging sustainable transport choices.

23.5.2 The scheme has been designed to accommodate for the expected level of walking and cycling trips and the generated trips by each of the different modes of transport can be accommodated on the surrounding transport infrastructure.

23.5.3 Finally, the proposed development fully meets the transport aspirations of the Royal Borough of Greenwich and current Governmental guidance in respect of sustainable development and will, through its design, encourage the use of sustainable modes of transport.

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Annex A

Pedestrian
Environmental Appraisal

Leopard Guernsey Anchor Propco Ltd

Anchor and Hope Lane Sites
Pedestrian Environment Appraisal

30821/D012c
December 2017

TPP
transport planning practice

Contents

TPP
transport planning practice

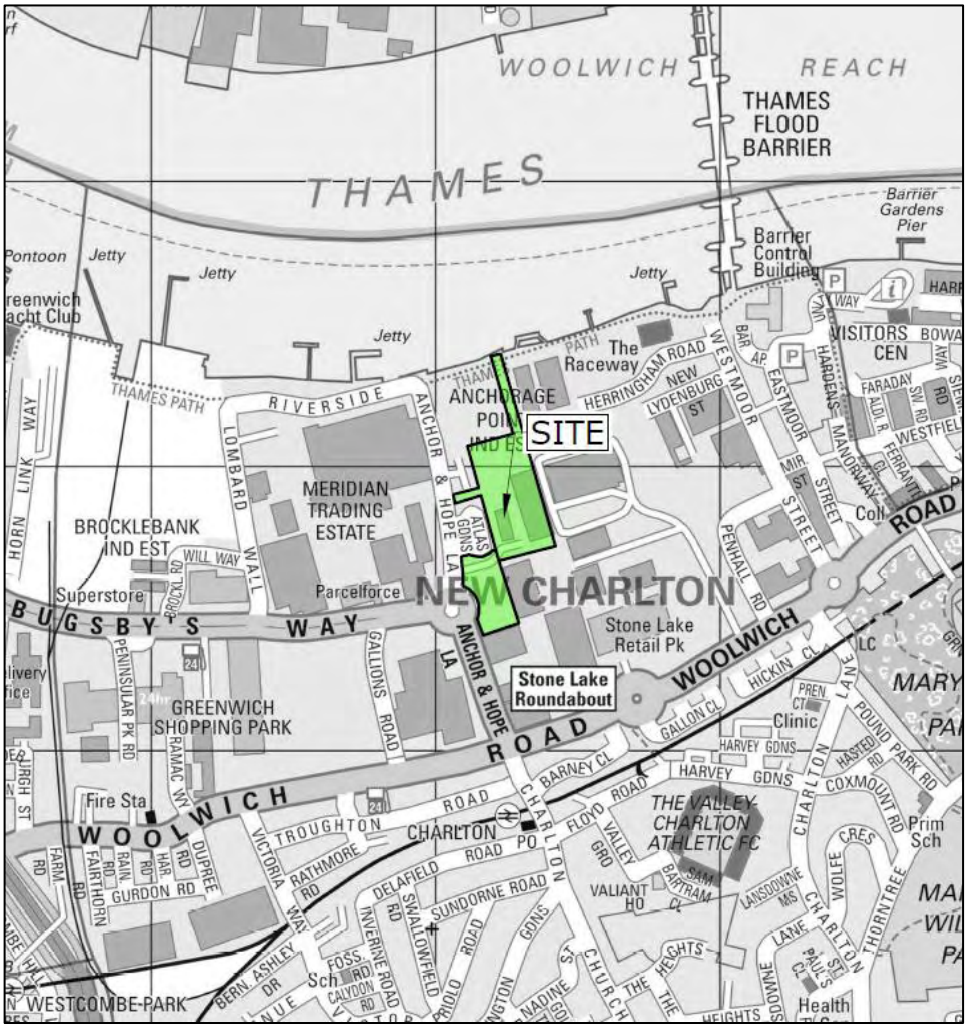
1 INTRODUCTION

1.1 Background Context

1.1.1 Transport Planning Practice (TPP) has been appointed by Leopard Guernsey Anchor Propco Ltd to provide transport advice in relation to the proposed redevelopment of the VIP Trading Estate and the VIP Industrial Estate, Anchor and Hope Lane, London SE7 7TE. The site located within the Charlton Riverside Opportunity Area in the Royal Borough of Greenwich (RBG).

1.1.2 The site is located to the east of Anchor and Hope Lane and comprises two plots of development, Plot A (Northern Plot) and Plot B (Southern Plot), with a strip connecting to Anchor and Hope Lane to the west and another to the north towards the Thames Path. The main access to the site is from Anchor and Hope Lane which runs between Woolwich Road and Bugsby's Way. The site location is shown in Figure 1.1.

Figure 1.1 – Site location



1.2 Existing Site and Proposed Development

1.2.1 The existing site currently contains a number of light industrial units. This includes a scaffolding hire company and a car hire company. With the exception of two residential areas known as Atlas Gardens and Derrick Gardens, the site is surrounded by industrial uses.

1.2.2 The development proposal will provide 771 residential units and as well as flexible commercial space (A1-A3/B1/D1/D2), with associated car and cycle parking. Dedicated pedestrian / cycle only routes will be provided to the Thames Path and to Anchor and Hope Lane.

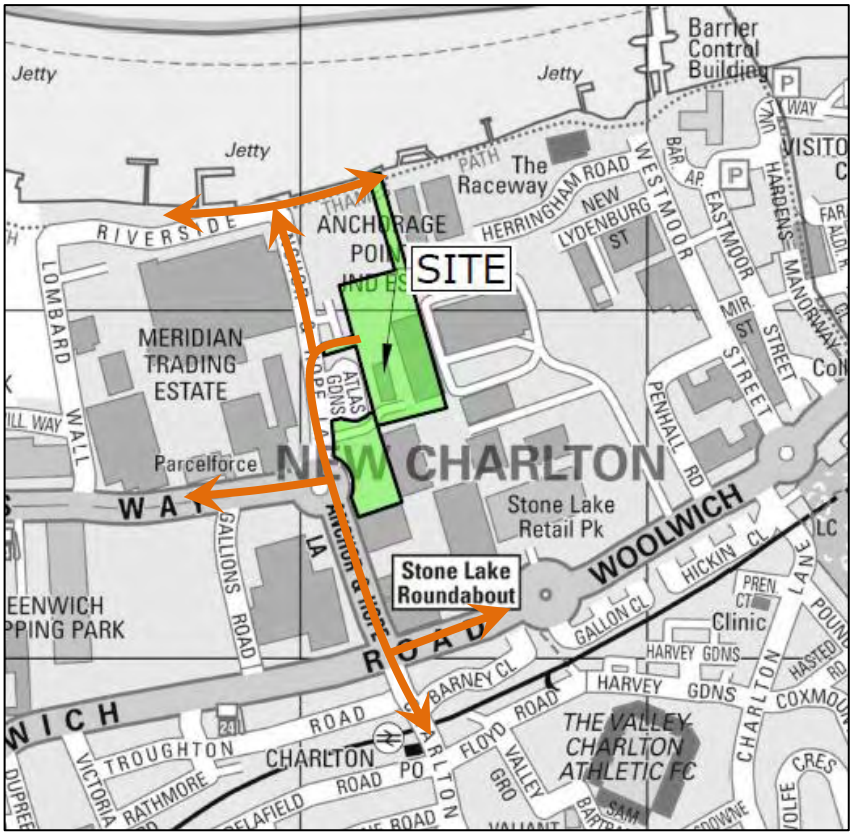
1.2.3 The proposed development is located within the Charlton Riverside SPD Area. This has been identified in the RBG Core Strategy as one of the Strategy Development Locations. It is expected that the area will be transformed into an attractive and vibrant mixed use urban quarter providing around up to 7,500 new homes and 4,400 jobs.

1.3 Key Pedestrian Routes

1.3.1 The existing site is currently accessed from Anchor and Hope Lane. The most important pedestrian desire lines the existing site are considered to be those which provide access to public transport services and existing local facilities within the surrounding area.

1.3.2 There are local bus stops on Bugsby's Way, Anchor and Hope Lane and Woolwich Road. Charlton Church Lane is location to the south via Anchor and Hope Lane. There are local retail, employment and leisure facilities in the local area, including those off Bugsby's Way, Woolwich Road and others which can be accessed via the Thames Path. The key routes to these facilities are shown in Figure 1.2.

Figure 1.2 – Key Pedestrian Routes



1.4 Report Purpose

1.4.1 The purpose of this report is to review the existing pedestrian environment and key routes in the vicinity of site. It was agreed with TfL that there is limited benefit in undertaking an extensive PERS audit as there will be improvements to this area as part of the Charlton Riverside Opportunity Area. However, it was agreed that an assessment will be undertaken on Anchor and Hope Lane between the Thames Path and Woolwich Road.

1.4.2 The following routes and junctions have been considered, from north to south:

- Thames Path
- Northern section of Anchor and Hope Lane (between the River Thames and Bugsby's Way)
- Anchor and Hope Lane / Bugsby's Way roundabout
- Southern section of Anchor and Hope Lane (between Bugsby's Way to Woolwich Road)

- Anchor and Hope Lane / Woolwich Road signal controlled junction

1.4.3 This report should be read in conjunction with the Transport Assessment, prepared to support the planning application of the proposed development.

2 THAMES PATH

2.1 Introduction

2.1.1 This chapter sets out the existing pedestrian conditions along the Thames Path within the vicinity of the site.

2.2 Existing conditions

2.2.1 Thames Path can currently be accessed at the northern end of Anchor and Hope Lane. There is signage provided as shown below.

Figure 2.1 – Signage

Figure 2.2 – Signage

2.2.2 The Thames Path has segregated footpath and two-way cycle. Appropriate road markings are provided and the surface materials are of good condition.

Figure 2.3 – Segregated footpath / cycle lane

Figure 2.4 – Segregated footpath / cycle lane

2.2.3 Lighting is also provided and seating is available further east on the route.

2.3 Summary

2.3.1 The Thames Path is considered to be in good condition, lighting, seating, signage and road markings provided.

3 NORTHERN SECTION OF ANCHOR AND HOPE LANE

3.1 Introduction

3.1.1 This chapter sets out the existing pedestrian conditions along the northern section of Anchor and Hope Lane, between the River Thames and Bugsby's Way.

3.2 Existing conditions

3.2.1 On the northern end of Anchor and Hope Lane, where it reaches the Thames it becomes Riverside to the west. There is a round top speed hump and road markings and signage are provided on the approach, as shown in Figure 3.1.

3.2.2 Given the width constraints along Riverside, there are no kerbed footways provided (see Figure 3.2) and these speed calming measures on the approach help to further reduce vehicle speeds and provide a safer environment for pedestrians and cyclists. Traffic flows are very light and allows the road to provide an appropriate shared route for traffic, pedestrians and cyclists.

Figure 3.1 – Speed calming measures

Figure 3.2 –Riverside

3.2.3 There are footways provided on both sides on Anchor and Hope Lane with dropped kerbs and tactile paving provided across the minor roads, as shown in Figure 3.3. Pedestrian crossing refuge islands are also provided to assist pedestrians crossing Anchor and Hope Lane at suitable locations, as shown in Figure 3.4.

Figure 3.3 - Dropped kerbs and tactile paving

Figure 3.4 – Pedestrian refuge island across Anchor and Hope Lane

3.2.4 The footways are considered to be adequate in width but there are some obstacles such as trees and street furniture. There are also sections of the footway where there is a narrow strip at a lower level.

Figure 3.5 – Tree located in the footway

Figure 3.6 – Footway at difference levels

3.2.5 The site access is currently accessed from this section of Anchor and Hope Lane and this section will be improved as part of the proposed development.

Figure 3.7 – Existing site access

3.3 Summary

3.3.1 There is generally a good pedestrian environment with crossing facilities and speed calming measures provided along the northern section of Anchor and Hope Lane. However, there are obstacles at some locations but sufficient width is still available.

4 SOUTHERN SECTION OF ANCHOR AND HOPE LANE

4.1 Introduction

4.1.1 This chapter sets out the existing pedestrian conditions along the northern section of Anchor and Hope Lane, between Bugsby's Way and Woolwich Road.

4.2 Existing conditions

4.2.1 Anchor and Hope Lane meets Bugsby's Way at a roundabout. There is only one uncontrolled pedestrian crossing at this roundabout which is located on the Anchor and Hope Lane northern arm (Figure 4.1).

Figure 4.1 – Uncontrolled crossing at roundabout

Figure 4.2 – Roundabout

4.2.2 There are central reservations but no specific pedestrian crossing facilities on the Bugsby's Way arm or the Anchor and Hope Lane southern arm. Pedestrians were observed to cross informally between traffic during peak times, especially to access the bus stop located on the western side of Anchor and Hope Lane. Even during the peak periods the gaps in traffic are sufficiently long to allow such informal crossings to take place.

4.2.3 A segregated southbound bus lane is provided on Anchor and Hope Lane as shown below. Cyclists were observed to use the bus lane during peak times.

Figure 4.3 – Segregated bus lane

4.2.4 Footways are provided on both sides of Anchor and Hope Lane and seating is also provided at appropriate locations. Examples of the footways are shown below.

Figure 4.4 – Eastern footway

Figure 4.5 – Western footway

4.3 Summary

4.3.1 There is generally a good pedestrian environment with suitable footway widths. However, there are limited pedestrian crossing facilities at the Anchor and Hope Lane / Bugsby's Way roundabout, especially to access the bus stop on the western side of Anchor and Hope Lane.

5 ANCHOR AND HOPE LANE / WOOLWICH ROAD SIGNAL CONTROLLED JUNCTION

5.1 Introduction

5.1.1 This chapter sets out the existing pedestrian conditions at the Anchor and Hope Lane / Woolwich Road signal controlled junction.

5.2 Existing conditions

5.2.1 The Anchor and Hope Lane / Woolwich Road signal controlled junction is large with up to four lanes at the stop line on the widest arm.

Figure 5.1 – Signal controlled junction

5.2.2 Staggered pedestrian crossings are provided on three of the four arms: Anchor and Hope Lane northern arm, Woolwich Road western arm and Charlton Church Lane southern arm.

5.2.3 These crossings are wide and would be used by pedestrians between the proposed development and Charlton Rail Station, crossing only two of the arms of the junction.

Figure 5.2 – Woolwich Road western arm pedestrian crossing

Figure 5.3 – Staggered pedestrian island

5.3 Summary

5.3.1 There are staggered pedestrian crossings provided at the Anchor and Hope Lane / Woolwich Road signal controlled junction. Adequate footway widths are also provided.

6 SUMMARY AND RECOMMENDATIONS FOR IMPROVEMENTS

6.1 Introduction

6.1.1 Based on the review set out in this report, this chapter provides a summary and outlines the recommendations for improvements when taking into account the proposed development.

6.2 Summary of Pedestrian Conditions

6.2.1 There are generally adequate footways provided in the local area and pedestrian crossings are provided in the form of uncontrolled crossing as well as Pelican crossings. The key points are as follows:

- Thames Path: Segregated footpath and two-way cycle lane. The route is lit with suitable signage and road markings. The surface is level and the materials are in good condition. Seating is also provided.

- Northern Section of Anchor and Hope Lane: Some speed calming measures are in place by Riverside, uncontrolled crossing facilities are provided, there are some obstacles in the footway and the surfacing materials can be improved.

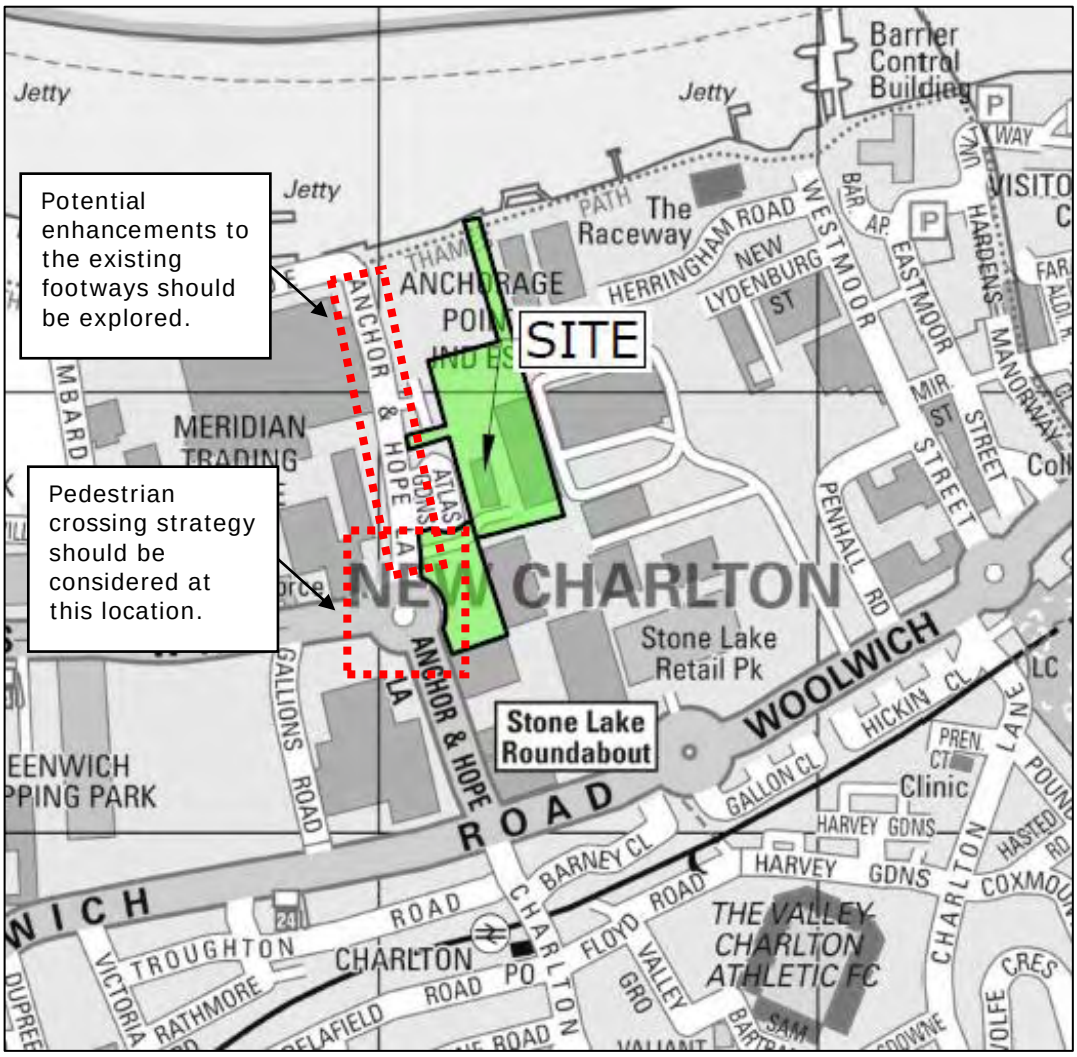
- Southern Section of Anchor and Hope Lane: Limited pedestrian crossing facilities at the roundabout with Bugsby's Way, especially as there is a lack of crossings between the site and the bus stop on the western side of Anchor and Hope Lane. Footways and seating are provided.

- Anchor and Hope Lane / Woolwich Road Signal Controlled Junction: The junction is large and staggered pedestrian crossings are provided at three of the four arms. The crossings are wide and guard rails are provided.

6.3 Recommendations for Potential Improvements

6.3.1 The plan below sets out the improvements which could be undertaken in the local area. These have been taken forward in the Transport Assessment and suitable improvements are proposed as part of the application.

Figure 6.1 – Key Pedestrian Routes

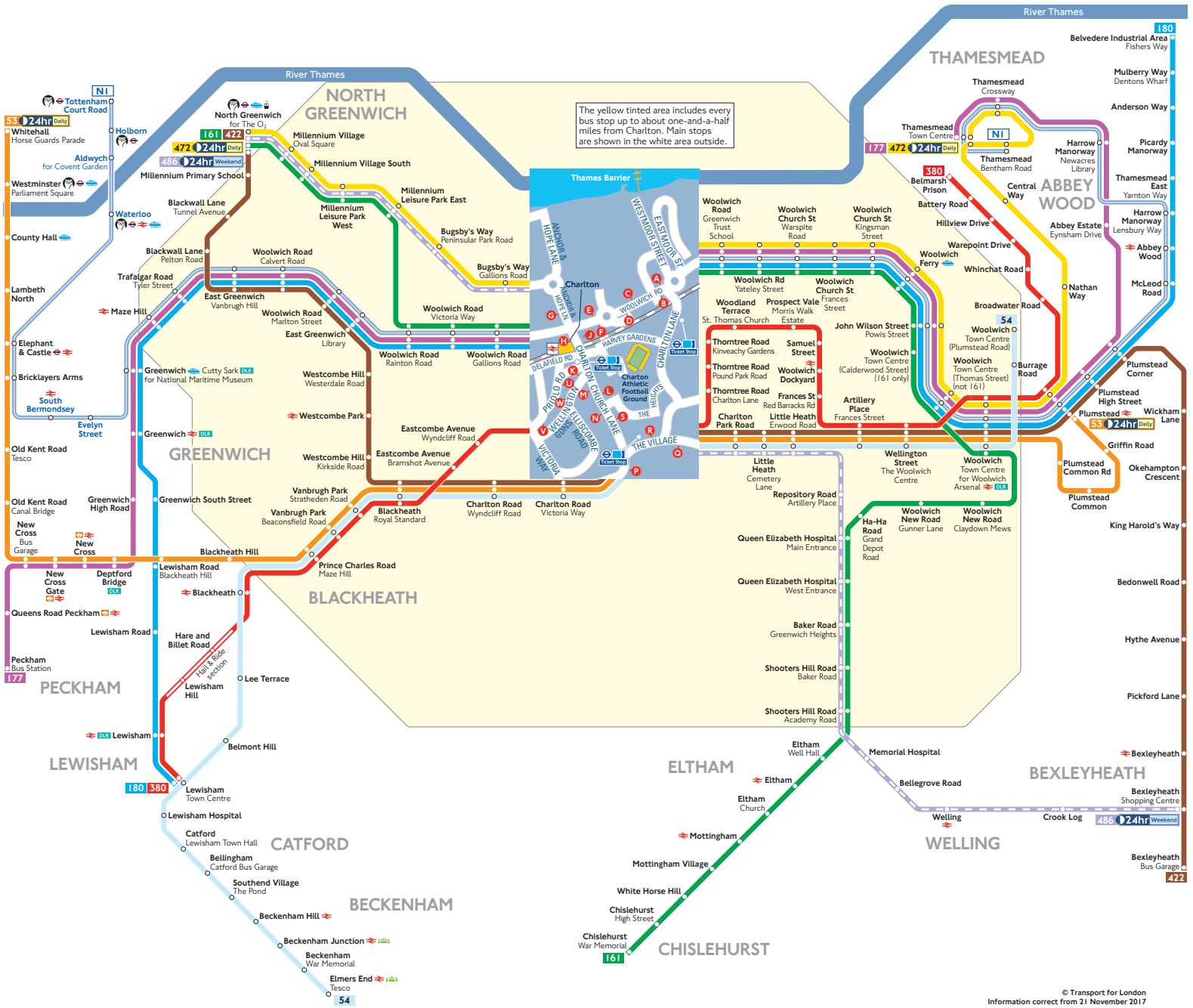


6.3.2 It should be noted that further improvements in the area would be expected to be brought forward as part of the regeneration of the wider Charlton Riverside Opportunity Area.

Annex B

Local Bus Map

Buses from Charlton



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Information correct from 21 November 2017

Route finder

Bus route	Towards	Bus stops
53 24hr Daily	Plumstead	R
	Whitehall	P Q
54	Elmers End	P Q
	Woolwich	R
161	Chislehurst	A C E
	North Greenwich	B D F
177	Peckham	B D F
	Thamesmead	A C E
180	Belvedere Industrial Area	A C E
	Lewisham	B D F
380	Belmarsh Prison	K L R S W
	Lewisham	M N Q U V
422	Bexleyheath	R
	North Greenwich	P Q
472 24hr Daily	North Greenwich	B D G
	Thamesmead	A C E
486 24hr Weekend	Bexleyheath	J L R S
	North Greenwich	G H M N Q

Night buses

Bus route	Towards	Bus stops
N1	Thamesmead	A C E
	Tottenham Court Road	B D F

Key

53	Day buses in black
N1	Night buses in blue
	Connections with London Underground
	Connections with London Overground
	Connections with National Rail
DLR	Connections with DLR
	Connections with Emirates Air Line
	Connections with London Trams
	Connections with river boats
	Operates daily with 24-hour service Friday and Saturday nights
	Tube station with 24-hour service Friday and Saturday nights

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Sign up for an online account to top up online and see your travel history and spending.

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Annex C

PTAL Assessment

Charlton Riverside, Greenwich

PTAL Note

Introduction

1. This Note has been prepared to examine the Public Transport Accessibility Level (PTAL) of the Charlton Riverside site to guide the redevelopment of this prominent riverside site adjacent to the River Thames, immediately up-river of the Thames Barrier.

2. As the site is currently occupied by commercial and industrial uses and is laid out so as to primarily facilitate vehicle movement, pedestrian, cycle and public transport activity within and to the site is generally low. Permeability of the overall site is also very poor due to the security requirements of industrial development. Therefore in assessing the existing site, these constraints can have a severe impact on the PTAL of the masterplan area.

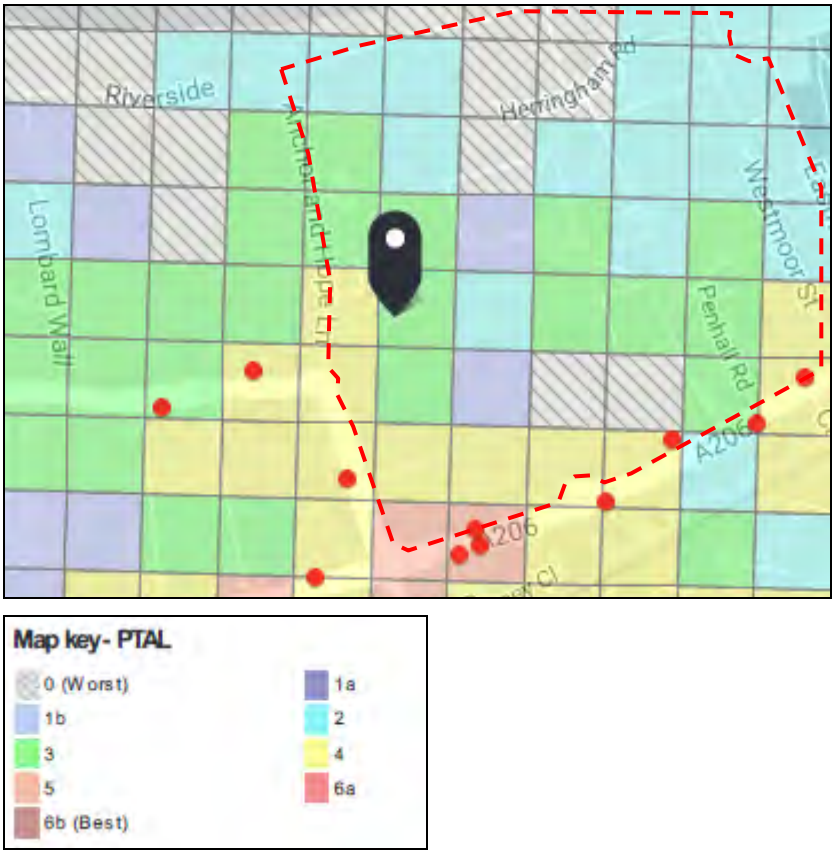
3. The majority of the site is located in proximity to five different bus routes (routes 161, 177, 180, 472 and 486) with bus stops located on Bugsby's Way and the A206. Charlton national railway station is located near the south-western corner of the site.

4. This Note reports the findings of an assessment of Public Transport Accessibility Levels (PTAL) within the site. This has been undertaken for the current and a number of future scenarios taking account of future improvements to the public transport network including bus and river taxi services.

Existing PTAL Assessment (TfL 2015)

5. In the first instance, Transport for London's (TfL's) online-based PTAL tool, WebCAT, has been used to examine the existing PTAL at the site. PTAL values are displayed in the form of a map as averages of 100m by 100m squares. The PTAL map extract relevant to the site is shown in Figure 1.

Figure 1: Existing TfL Output - 2015



6. It should be noted that WebCAT is based on bus and rail services from 2015 and therefore it does not account for any changes to services that might have been made since.

7. Whilst a future PTAL map can be generated using WebCAT, it does not provide an accurate representation of the future accessibility levels as it only provides limited future improvements to rail services with no alterations to future bus services. Also it is unhelpful in taking no account of larger alterations to pedestrian permeability of sites which may be brought forward. These are the sorts of alterations that would be expected as part of any Masterplan.

Detailed PTAL Assessment

Existing Scenario

8. Given the limitations of the TfL's PTAL tool, a detailed assessment has been undertaken based on the current public transport services in the area. Additionally, the assessment removes the existing barriers to pedestrian access and movement assuming the site would be fully permeable for pedestrians – one of the key principles of regeneration.

9. The resulting PTAL assessment is illustrated in Figure 2.

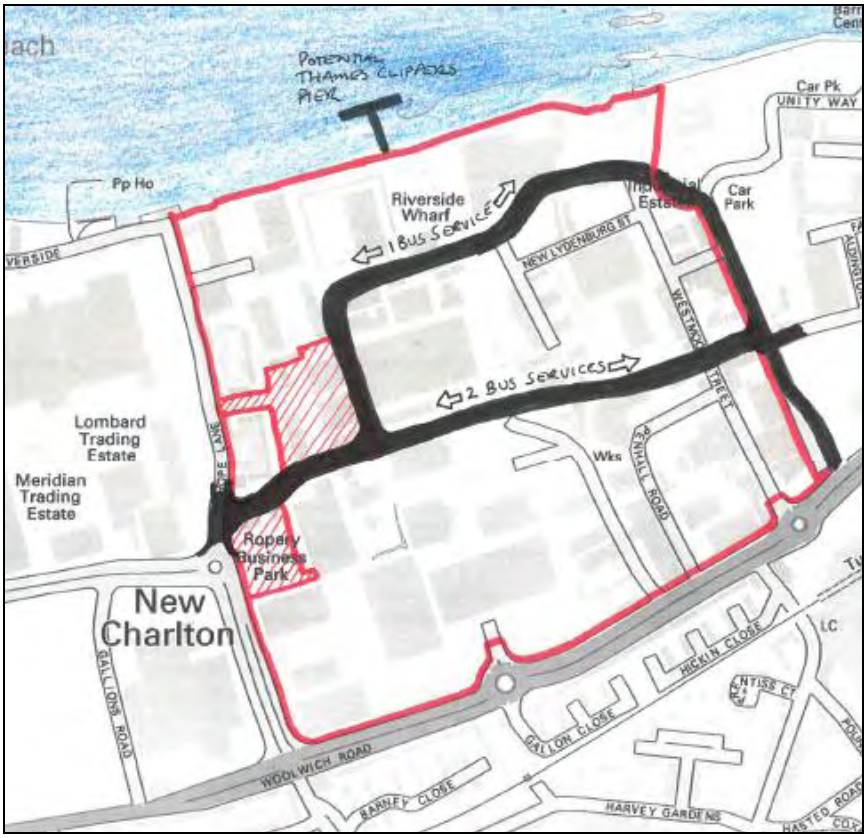
Figure 2: Existing 2015

10. It can be seen that by enhancing pedestrian permeability within site (but maintaining the existing level of public transport services) would result in the site having PTALs ranging from 2 to 4 with the majority of the site falling within a PTAL of 3/ 4.

Future Scenario

11. It is expected that a long term approach would be taken in considering the redevelopment of the Charlton Riverside Master Plan area. Therefore, enhancements would be expected to be made to bus and river services to support masterplan proposals. Figure 3 illustrates indicative routing of additional bus services and the inclusion of a Thames Clipper river taxi service pier.

Figure 3: Possible New Bus Routes and River Pier within the Site



12. It should be noted that the TfL PTAL assessment guidance does not currently incorporate river taxi services within the calculations. This is despite it being a mode that is encouraged through the London Plan policies and also the Mayors River Action Plan. In the following assessment of PTAL across the Master Plan site, the incorporation of the river services has been therefore provided for information purposes to show the changes to accessibility, if river services were to be considered within the PTAL assessment. This approach has been taken forward on other similar riverside sites.

Future Scenario 1 - Two additional bus routes without/with river service

13. In the event of a comprehensive redevelopment of the Master Plan area, it would be expected that new bus routes would be incorporated into the development. With these additional improvements in mind, a PTAL scenario has been developed assuming that two extra bus services are introduced with a frequency of 6 buses an hour for both services through the centre of the site on an east-west axis.

14. A further scenario has been assessed which in addition to the two extra buses also introduces a river pier with 3 river taxi services an hour. The results of the PTAL assessments are included in Figures 4 and 5.

Figure 4: Future Scenario – 2 Additional Bus Services

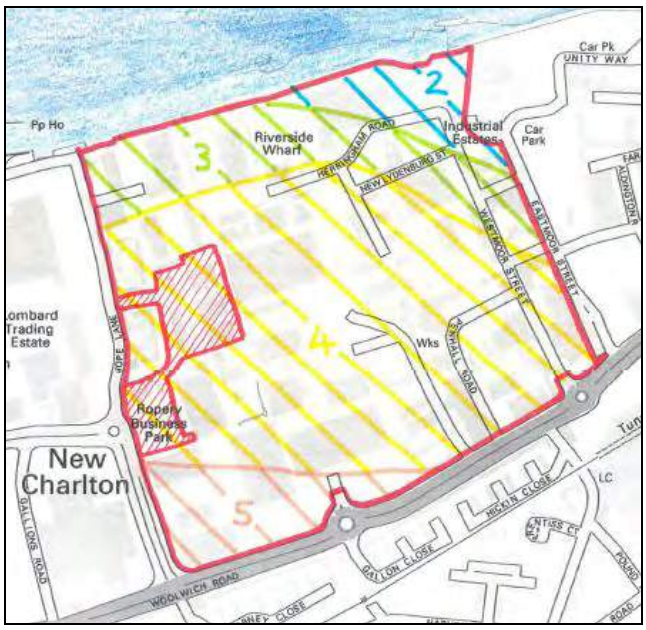


Figure 5: Future Scenario – 2 Additional Bus Services + River Taxi

Future Scenario 2 – Three additional bus services without/with river service

15. A further future scenario has been considered assuming that three additional bus services are provided through the master plan site. These are assumed to be two services on an east-west axis, bisecting the site (as in Scenario 1) and a further service providing a closer relationship to the proposed river services and pier. This would provide improved interchange for river services and would be expect to have the support of Thames Clippers.

16. As with Scenario 1, this has been examined without and with the inclusion of river services. The PTAL results are shown in Figure 6 and 7.

Figure 6: Future Scenario – 3 Additional Bus Services

Figure 7: Future Scenario – 3 Additional Bus Services + River Taxi

Detailed Area of Master Plan

17. It would be expected that the master plan would be developed in phases with initial sites becoming available at different times.

18. Whilst it will be important to consider these on their individual merits, it will be essential in realising the full potential of the regeneration opportunities to take account of the previous work and assessment undertaken above.

19. The first plots expected to be brought forward are shown hatched within the master plan area. This area currently has a PTAL of 4 to 3 based on the existing public transport services (see Figure 2).

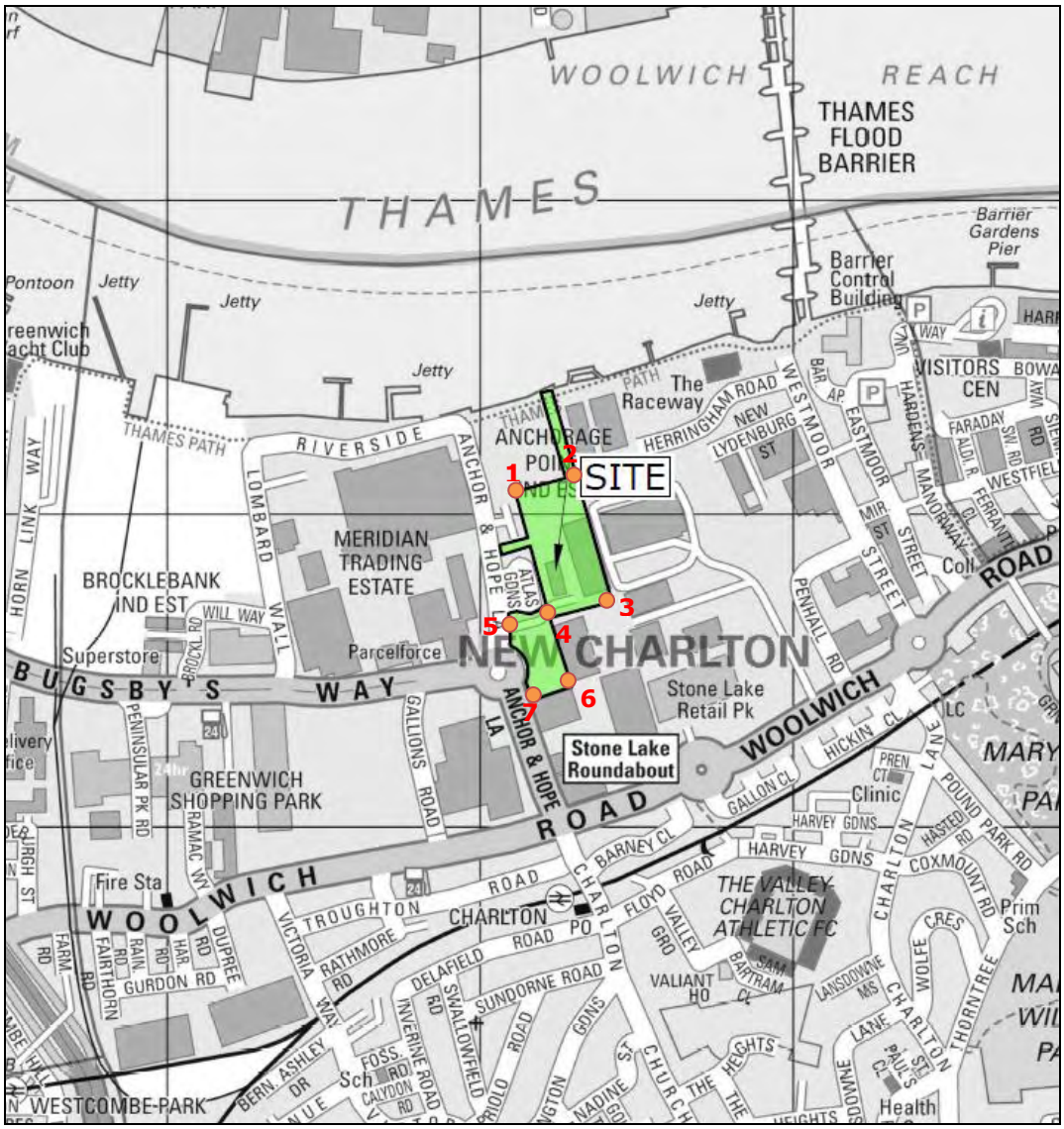
20. As part of the development of the site, and considering the likely Section 106 bus service contribution to mitigate additional demand, funding towards enhancements of the existing bus services would be expected. A future scenario has been therefore developed which increases the frequency of two existing bus services (bus route 472 and 486) to provide an extra bus on each service per hour. The PTAL assessment results are shown in Figure 8 and shows that the PTAL 4 boundary moves slightly north across more of the site. However, recognition of the further changes as part of the master plan should consider the site as PTAL 4 or 5.

Figure 8: Existing 2015 + Increased Frequency of Two Existing Bus Services

Detailed Area of Master Plan – Average PTAL Calculations

21. Additional calculations have been undertaken for the detailed area of the masterplan in order to establish the average PTAL rating across the site. This has been undertaken by calculating individual PTAL scores at 7 different points along the boundary of the site. The selected points are shown in Figure 9 below.

Figure 9: Selected points for PTAL calculation



22. The score at each of the points has then been averaged in order to obtain an average index score for the site. Table 1 shows a summary of the individual PTAL scores and the corresponding PTAL ratings. This assessment has been undertaken for the existing and future scenarios.

Table 1: Summary of average PTAL calculations

Point	Scenario									
	Existing		Future Scenario – 2 additional bus services		Future Scenario – 2 additional bus services + River Taxi		Future Scenario – 3 additional bus services		Future Scenario – 3 additional bus services + River Taxi	
	Index Score	PTAL Value	Index Score	PTAL Value	Index Score	PTAL Value	Index Score	PTAL Value	Index Score	PTAL Value
1	13.67	3	17.25	4	19.21	4	19.23	4	21.19	5
2	12.5	3	16	4	17.9	4	17.8	4	19.7	4
3	14.22	3	18.15	4	19.8	4	19.9	4	21.55	5
4	15.2	4	19	4	21	5	20.9	5	22.9	5
5	16.1	4	19.5	4	21.2	5	21.6	5	23.3	5
6	18.22	4	21.51	5	23.26	5	23.15	5	24.9	5
7	17.06	4	20.34	5	22.04	5	21.99	5	23.69	5
Average	**15.28**	**4**	**18.82**	**4**	**20.63**	**5**	20.65	**5**	**22.46**	**5**

23. As can be seen from the above Table, the site has currently an average PTAL rating of 4 indicating good accessibility. It can also be seen that the rating would remain unchanged with the provision of 2 additional bus services. The assessment demonstrates that an average PTAL of 5 can be achieved at the site if 2 extra bus services and a river service was provided; or if 3 additional bus services were introduced. Provision of 3 additional and a river taxi would increase the score although the rating would remain at 5.

Charlton Riverside SPD PTAL

24. The adopted Charlton Riverside Supplementary Planning Document (SPD) sets out the proposed changes / improvements to public transport provision and a potential revised PTAL map is included in the document. This has been extracted and shown below.

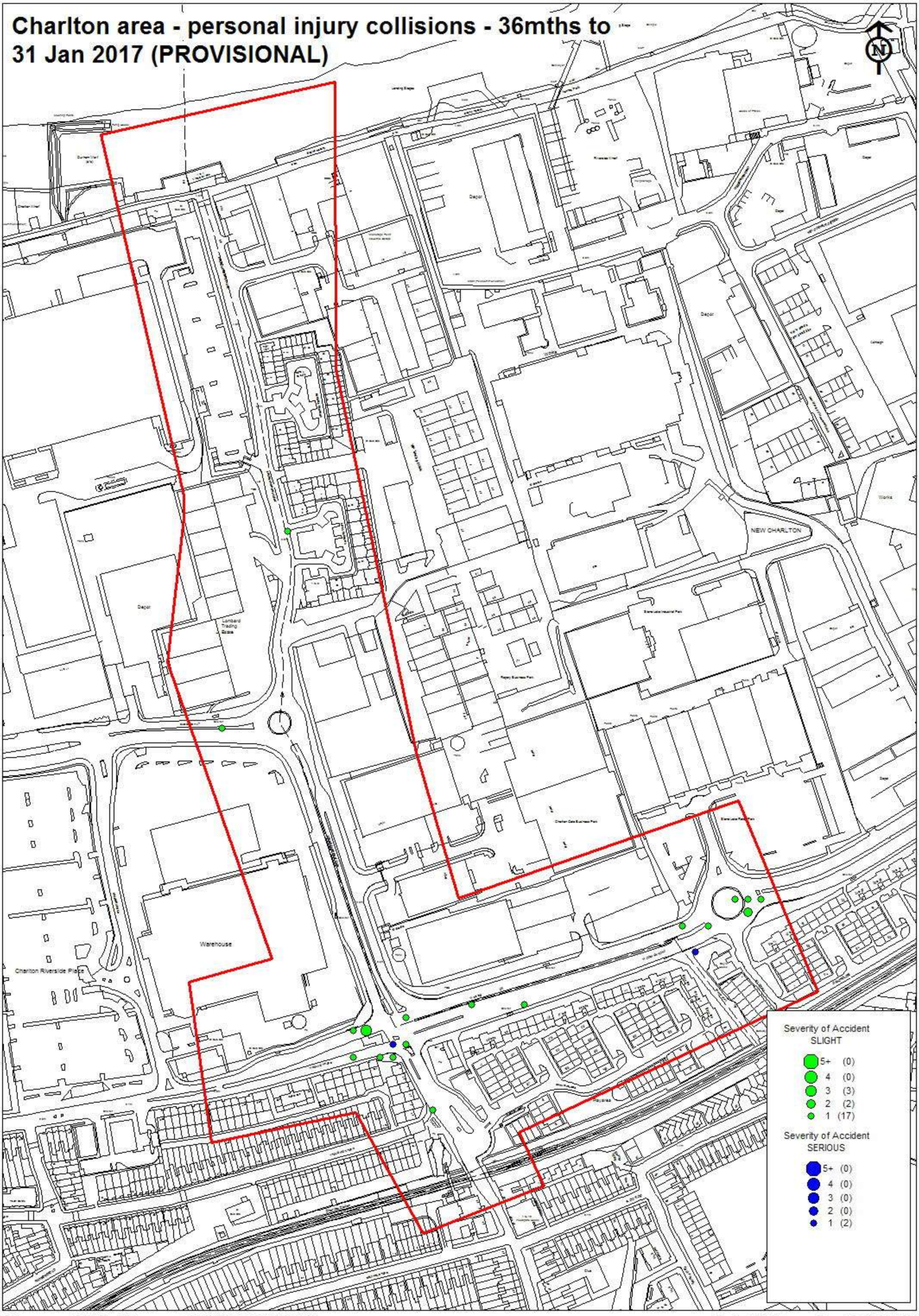
Figure 10: Charlton Riverside SPD Potential Revised PTAL

25. The above shows that the PTAL for the area is expected to increase. For the site, the PTAL is expected to increase to PTALs 4 and 5 which is broadly consistent with the manual PTAL assessment undertaken by TPP.

Annex D

Personal Injury Accident Data

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)



Scale : 1:2500 Created: 19-DEC-2017

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

Summary of Accidents Selected

Site Reference and Description (zero accident counts shown in bold)	Date Period	Accidents
.001 GIS AREA stone lake roundabout (P)	36 MTS TO JAN-2017	24

The description of how the accident occurred and the contributory factors are the reporting officer's opinion at the time of reporting and may not be the result of extensive investigation

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

1 0114RG40263 MON 05/05/14 16:35 LIGHT ANCHOR AND HOPE LANE J/W WOOLWICH RD 06 NODE 158 541120 / 178520
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
PED CROSSED RD AND GOT HIT BY V1

CASUALTY 001 (001) (37 Yrs - M SE3) SLIGHT PEDESTRIAN CROSSING ROAD WITHIN 50M XING SE BOUND FROM DRIVERS N/SIDE

VEHICLE 001 (000) TAXI (46 Yrs - M SE9) GOING AHEAD OTHER W TO E JNY PART OF WORK JCT MID
BT - NEGATIVE FRONT HIT FIRST

C001 A 802 (FAILED TO LOOK PROPERLY) C001 A 808 (CARELESS/RECKLESS/IN A HURRY)
C001 A 804 (WRONG USE OF PEDESTRIAN CROSSING FACILITY)

---

2 0114RG40304 SUN 25/05/14 02:24 DARK WOOLWICH RD J/W CHARLTON CHURCH LANE 06 NODE 158 541120 / 178500
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
V1 TURNED RIGHT AND GOT HIT BY V2. V2 WENT THROUGH RED ATS

CASUALTY 001 (002) (? Yrs - M UNKN) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (21 Yrs - M SE18) TURNING RIGHT W TO S JCT MID
BT - NEGATIVE N/S HIT FIRST

VEHICLE 002 (001) PEDAL CYCLE (? Yrs - M UNKN) GOING AHEAD OTHER E TO W JCT MID
BT - NOT APPLICABLE FRONT HIT FIRST

V002 A 301 (DISOBEYED AUTOMATIC TRAFFIC SIGNAL) V002 A 602 (CARELESS/RECKLESS/IN A HURRY)
V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 507 (CYCLIST WEARING DARK CLOTHING AT NIGHT)

---

3 0114RG40337 TUE 10/06/14 18:21 LIGHT WOOLWICH RD J/W GALLON CLOSE 06 LINK 158-163 541340 / 178570
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M
V1 HIT THE REAR OF PARKED V2

CASUALTY 001 (001) (39 Yrs - M TN31) SERIOUS DRIVER/RIDER

VEHICLE 001 (002) PEDAL CYCLE (39 Yrs - M TN31) GOING AHEAD OTHER E TO W JCT CLEARED
BT - NOT APPLICABLE FRONT HIT FIRST
HIT PARKED VEH

VEHICLE 002 (001) BUS/COACH (40 Yrs - M N15) PARKED P TO P JNY PART OF WORK JCT CLEARED
BT - NEGATIVE BACK HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

4 0114RG40400 TUE 24/06/14 19:10 LIGHT ANCHOR AND HOPE LANE J/W ATLAS GARDENS 06 LINK 157-237 541030 / 178890

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M

V2 PULLED OUT AND DIDN'T SEE V1, V1 HIT V2

CASUALTY 001 (001) (22 Yrs - M SE9) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) M/C 50-125CC (22 Yrs - M SE9) GOING AHEAD OTHER N TO S JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (36 Yrs - F SE7) TURNING LEFT E TO S JCT MID
BT - NOT REQUESTED BACK HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE) V002 A 405 (FAILED TO LOOK PROPERLY)

---

5 0114RG40561 TUE 30/09/14 15:30 LIGHT WOOLWICH ROAD J.W GALLON CLOSE 06 LINK 158-163 541330 / 178590

POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 COLLIDED WITH REAR OF V2

CASUALTY 001 (002) (7 Yrs - M UNKN) SLIGHT PASSENGER BACK SEAT
Sch Attended : UNKNOWN

VEHICLE 001 (002) CAR (63 Yrs - M ME2) SLOWING OR STOPPING SW TO NE JCT APP
BT - NEGATIVE FRONT HIT FIRST

VEHICLE 002 (001) CAR (30 Yrs - M SE18) SLOWING OR STOPPING SW TO NE JCT APP
BT - NOT REQUESTED BACK HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 706 (VISION AFFECTED - DAZZLING SUN)

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

6 0114RG40604 MON 20/10/14 12:15 LIGHT CHARLTON CHURCH LANE J/W TROUGHTON ROAD 06 LINK 113-158 541140 / 178450
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY T/STAG JUN GIVE WAY/UNCONT NO XING FACILITY IN 50M
V2 PULLED OUT AND DIDN'T SEE V1, V2 HIT V1

CASUALTY 001 (001) (21 Yrs - M SE3) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) PEDAL CYCLE (21 Yrs - M SE3) GOING AHEAD OTHER SE TO NW JCT MID
BT - NOT APPLICABLE N/S HIT FIRST

VEHICLE 002 (001) OTH NON MOT (26 Yrs - M SE18) MOVING OFF SE TO NW JCT MID
BT - NOT APPLICABLE O/S HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE) V002 A 405 (FAILED TO LOOK PROPERLY)

---

7 0114RG49033 TUE 04/11/14 09:30 LIGHT WOOLWICH ROAD 50M NE J.W GALLIONS ROAD 06 LINK 235-237 540980 / 178740
POLICE - OVER COU ROAD-WET WEATHER-FINE DUAL CWY NO JUN IN 20M NO XING FACILITY IN 50M
V2 PASSED TOO CLOSE TO V1 AND COLLIDED

CASUALTY 001 (001) (30 Yrs - M SE7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) PEDAL CYCLE (30 Yrs - M SE7) GOING AHEAD OTHER NE TO SW
BT - NOT APPLICABLE O/S HIT FIRST

VEHICLE 002 (001) GDS 3.5-7.5T (? Yrs - U UNKN) OVERTAKE MOVE VEH O/S NE TO SW
BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 602 (CARELESS/RECKLESS/IN A HURRY)
V002 A 407 (PASSING TOO CLOSE TO CYCLIST, HORSE RIDER OR PEDESTRIAN)

---

8 0114RG40678 MON 10/11/14 07:35 DARK NFL WOOLWICH RD J/W CHARLTON CHURCH LANE 06 NODE 158 541100 / 178490
POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
V1 DELIBERATLY HIT PED IN RD

CASUALTY 001 (001) (46 Yrs - M SE7) SLIGHT PEDESTRIAN IN ROAD - NOT CROSSING W BOUND

VEHICLE 001 (000) CAR (51 Yrs - M SE7) GOING AHEAD OTHER E TO W JCT APP
BT - NEGATIVE FRONT HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 601 (AGGRESSIVE DRIVING)
C001 A 808 (CARELESS/RECKLESS/IN A HURRY) C001 A 805 (DANGEROUS ACTION IN CARRIAGEWAY (EG PLAYING))

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

9 0114RG40754 TUE 16/12/14 12:31 LIGHT NFL WOOLWICH RD J/W ANCHOR AND HOPE LANE 06 NODE 158 541090 / 178510
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
V2 HIT THE REAR OF SLOWING V1

CASUALTY 001 (001) (38 Yrs - M SE18) SLIGHT DRIVER/RIDER
CASUALTY 002 (002) (28 Yrs - F DA16) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (38 Yrs - M SE18) GOING AHEAD OTHER W TO E JCT APP
BT - NEGATIVE BACK HIT FIRST

VEHICLE 002 (001) CAR (28 Yrs - F DA16) GOING AHEAD OTHER W TO E JCT APP
BT - NEGATIVE FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 308 (FOLLOWING TOO CLOSE)

---

10 0114RG49037 SUN 28/12/14 15:15 LIGHT NFL WOOLWICH RD J/W ANCHOR AND HOPE LANE 06 NODE 158 541080 / 178510
POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
V2 HIT THE REAR OF V1

CASUALTY 001 (001) (72 Yrs - F SE28) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (72 Yrs - F SE28) GOING AHEAD OTHER W TO E JCT APP
BT - DRV NOT CONTACTED BACK HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M SE18) GOING AHEAD OTHER W TO E JCT APP
BT - DRV NOT CONTACTED FRONT HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 308 (FOLLOWING TOO CLOSE)

---

11 0115RG40068 SAT 07/02/15 11:30 LIGHT NFL WOOLWICH RD J/W ANCHOR AND HOPE LANE 06 NODE 158 541090 / 178510
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
PASSENGER FELL DOWN STAIRS ON V1 - [PASSENGER FELL DOWN BUS STAIRS (C001)]

CASUALTY 001 (001) (5 Yrs - M SE13) SLIGHT PASSENGER STANDING ON PSV
Sch Attended : N/K

VEHICLE 001 (000) BUS/COACH (56 Yrs - M SE28) GOING AHEAD OTHER W TO E JNY PART OF WORK JCT APP
BT - NEGATIVE DID NOT IMPACT

C001 A 999 (OTHER FACTOR)

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

12 0115RG40108 THU 26/02/15 12:30 LIGHT NFL WOOLWICH RD J/W ANCHOR AND HOPE LANE 06 NODE 158 541090 / 178510
POLICE - OVER COU ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
V2 CHANGED LANE AND HIT V1

CASUALTY 001 (001) (45 Yrs - M BR1) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (45 Yrs - M BR1) GOING AHEAD OTHER W TO E JCT APP
BT - DRV NOT CONTACTED O/S HIT FIRST

VEHICLE 002 (001) CAR (? Yrs - M SE10) CHANGE LANE TO LEFT W TO E JCT APP
BT - DRV NOT CONTACTED N/S HIT FIRST

V002 A 405 (FAILED TO LOOK PROPERLY) V002 A 403 (POOR TURN OR MANOEUVRE)

---

13 0115RG40229 THU 30/04/15 17:15 LIGHT WOOLWICH ROAD J.W CHARLTON CHURCH LANE 06 NODE 158 541110 / 178490
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS
V1 TURNED LEFT INTO THE SIDE OF V2

CASUALTY 001 (002) (50 Yrs - F UNKN) SLIGHT PASSENGER SEATED ON PSV
CASUALTY 002 (002) (? Yrs - F UNKN) SLIGHT PASSENGER SEATED ON PSV

VEHICLE 001 (002) CAR (70 Yrs - F BR7) TURNING LEFT SE TO SW JCT MID
BT - NEGATIVE N/S HIT FIRST

VEHICLE 002 (001) BUS/COACH (44 Yrs - M DA1) GOING AHEAD OTHER SE TO NW JNY PART OF WORK JCT MID
BT - NEGATIVE O/S HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 602 (CARELESS/RECKLESS/IN A HURRY)
V001 A 403 (POOR TURN OR MANOEUVRE)

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

14 0115RG49106 SUN 10/05/15 05:07 LIGHT WOOLWICH ROAD J/W ANCHOR AND HOPE LANE 06 NODE 158 541110 / 178500

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V2 WASN'T LOOKING AND HIT THE REAR OF V1

CASUALTY	001 (001)	(36 Yrs - M DA1)	SLIGHT	DRIVER/RIDER			
CASUALTY	002 (001)	(31 Yrs - M)	SLIGHT	PASSENGER	FRONT SEAT		
VEHICLE	001 (002)	CAR BT - NEGATIVE	(36 Yrs - M DA1)		SLOWING OR STOPPING	SW TO NE BACK HIT FIRST	JCT MID
VEHICLE	002 (001)	CAR BT - NOT REQUESTED	(? Yrs - M CM2)		GOING AHEAD OTHER	SW TO NE FRONT HIT FIRST	JCT MID

V002 A 308 (FOLLOWING TOO CLOSE)

V002 A 405 (FAILED TO LOOK PROPERLY)

---

15 0115RG40359 MON 01/06/15 17:50 LIGHT WOOLWICH ROAD J/W GALLON CLOSE 06 LINK 158-163 541380 / 178610

POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 WAS IN THE LEFT LANE GOING RIGHT AT THE ROUNDABOUT, V2 HIT THE SIDE OF V1

CASUALTY	001 (001)	(20 Yrs - M N14)	SLIGHT	PASSENGER	FRONT SEAT		
VEHICLE	001 (002)	CAR BT - NOT REQUESTED	(20 Yrs - M NW10)		TURNING RIGHT	NE TO NW O/S HIT FIRST	JCT MID
VEHICLE	002 (001)	CAR BT - NOT REQUESTED	(? Yrs - M ME8)		GOING AHEAD OTHER	NE TO SW N/S HIT FIRST	JCT MID

V001 A 403 (POOR TURN OR MANOEUVRE)

V001 A 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)

V001 A 603 (NERVOUS/UNCERTAIN/ PANIC)

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

16 0115RG40615 TUE 25/08/15 16:30 LIGHT WOOLWICH ROAD J.W GALLON CLOSE 06 LINK 158-163 541370 / 178610

POLICE - AT SCENE ROAD-WET RAINING ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 PERFORMED U TURN ON ROUNDABOUT ACROSS PATH OF V2

CASUALTY 001 (001) (54 Yrs - M X-UK) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (37 Yrs - F SE18) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (54 Yrs - M X-UK) U-TURNING SW TO SW JCT MID
BT - NEGATIVE O/S HIT FIRST

VEHICLE 002 (001) CAR (37 Yrs - F SE18) GOING AHEAD OTHER SW TO NE JCT MID
BT - NEGATIVE N/S HIT FIRST

V001 A 405 (FAILED TO LOOK PROPERLY)
V001 A 602 (CARELESS/RECKLESS/IN A HURRY)
V001 A 403 (POOR TURN OR MANOEUVRE)

---

17 0115RG49077 MON 12/10/15 15:50 LIGHT WOOLWICH ROAD J/W GALLON CLOSE 06 LINK 158-163 541380 / 178600

POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M

V1 WAS DISTRACTED, SWERVED, LOST CONTROL AND HIT A KERB

CASUALTY 001 (001) (28 Yrs - M SE18) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) M/C <= 50CC (28 Yrs - M SE18) GOING AHEAD OTHER NE TO SW JCT MID
BT - NOT REQUESTED N/S HIT FIRST
HIT KERB

V001 A 409 (SWERVED)
V001 A 510 (DISTRACTION OUTSIDE VEHICLE)
V001 A 410 (LOSS OF CONTROL)

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

18 0115RG40690 SAT 31/10/15 19:44 LIGHT WOOLWICH ROAD J/W GALLON CLOSE 06 LINK 158-163 541380 / 178600
POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M
V2 WAS NOT LOOKING AND TRIED OVERTAKING TURNING RIGHT V1, V2 HIT V1

CASUALTY 001 (001) (21 Yrs - M SE18) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	CAR BT - NOT REQUESTED	(21 Yrs - M SE18)	TURNING RIGHT	NE TO NW O/S HIT FIRST	JCT MID
VEHICLE	002 (001)	M/C 50-125CC BT - DRV NOT CONTACTED	(? Yrs - M)	OVERTAKING NEARSIDE	NE TO SW N/S HIT FIRST	JCT MID

V002 A 403 (POOR TURN OR MANOEUVRE) V002 A 405 (FAILED TO LOOK PROPERLY)
V002 A 601 (AGGRESSIVE DRIVING)

---

19 0115RG40642 TUE 03/11/15 12:15 LIGHT NFL WOOLWICH ROAD 28 M NE J/W ANCHOR AND HOPE LANE 06 LINK 158-163 541170 / 178530
POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M
V1'S BREAKS FAILED CAUSING V1 TO HIT THE REAR OF V2

CASUALTY 001 (001) (24 Yrs - M) SLIGHT DRIVER/RIDER

VEHICLE	001 (002)	M/C 50-125CC BT - NOT REQUESTED	(24 Yrs - M)	GOING AHEAD OTHER	SW TO NE FRONT HIT FIRST	
VEHICLE	002 (001)	CAR BT - NOT REQUESTED	(28 Yrs - F SE18)	GOING AHEAD OTHER	SW TO NE BACK HIT FIRST	

V001 A 203 (DEFECTIVE BRAKES) V001 A 603 (NERVOUS/UNCERTAIN/ PANIC)

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

20 0115RG40757 FRI 11/12/15 19:15 LIGHT NFL WOOLWICH ROAD 100 M NE J/W ANCHOR AND HOPE LANE 06 LINK 158-163 541210 / 178530

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY NO JUN IN 20M NO XING FACILITY IN 50M

V3 WASN'T LOOKING AND HIT THE REAR OF V1, V1 WAS PUSHED INTO V2

CASUALTY 001 (001) (21 Yrs - M DA17) SLIGHT DRIVER/RIDER

CASUALTY 002 (002) (50 Yrs - M SE7) SLIGHT DRIVER/RIDER

VEHICLE	001 (003)	CAR BT - NOT REQUESTED	(21 Yrs - M DA17)	SLOWING OR STOPPING	NE TO SW BACK HIT FIRST	
VEHICLE	002 (001)	CAR BT - NOT REQUESTED	(50 Yrs - M SE7)	SLOWING OR STOPPING	NE TO SW BACK HIT FIRST	
VEHICLE	003 (001)	CAR BT - DRV NOT CONTACTED	(? Yrs - M)	GOING AHEAD OTHER	NE TO SW FRONT HIT FIRST	

V003 A 308 (FOLLOWING TOO CLOSE) V003 A 405 (FAILED TO LOOK PROPERLY)

---

21 0116RG40235 FRI 22/04/16 07:22 LIGHT CHARLTON CHURCH LANE J/W WOOLWICH ROAD 06 NODE 158 541110 / 178500

POLICE - AT SCENE ROAD-DRY WEATHER-FINE SINGLE CWY CROSSROADS AUTO SIG PEDN PHASE AT ATS

V1 WAS WAITING AT A.T.S AND PASSENGER OPENED THE DOOR, V2 WAS FILTERING THROUGH TRAFFIC AND HIT V1'S DOOR

CASUALTY 001 (002) (37 Yrs - M SE28) SERIOUS DRIVER/RIDER

VEHICLE	001 (002)	CAR BT - NEGATIVE	(51 Yrs - F SE17)	GOING AHEAD HELD UP	SE TO NW O/S HIT FIRST	JCT MID
VEHICLE	002 (001)	M/C 50-125CC BT - NOT REQUESTED	(37 Yrs - M SE28)	GOING AHEAD OTHER	SE TO NW FRONT HIT FIRST	JCT MID

V001 A 405 (FAILED TO LOOK PROPERLY) V001 A 904 (VEHICLE DOOR OPENED OR CLOSED NEGLIGENTLY)

Charlton area - personal injury collisions - 36mths to 31 Jan 2017 (PROVISIONAL)

.001 GIS AREA stone lake roundabout (P) 36 MTS TO JAN-2017 SORTED BY DATE

22 0116RG40567 SUN 17/07/16 16:48 LIGHT WOOLWICH ROAD J/W GALLON CLOSE 06 LINK 158-163 541350 / 178590
POLICE - AT SCENE ROAD-DRY WEATHER-FINE ROUNDABOUT ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M
V2 IN LEFT LANE TURNING RIGHT, V2 HIT V1

CASUALTY 001 (001) (? Yrs - F DA7) SLIGHT DRIVER/RIDER

VEHICLE 001 (002) CAR (? Yrs - F DA7) GOING AHEAD OTHER SW TO NE JCT MID
BT - NOT REQUESTED FRONT HIT FIRST

VEHICLE 002 (001) CAR (45 Yrs - M) TURNING RIGHT SW TO SE JCT MID
BT - NOT REQUESTED O/S HIT FIRST

V002 A 403 (POOR TURN OR MANOEUVRE) V002 A 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)
V002 A 603 (NERVOUS/UNCERTAIN/ PANIC)

---

23 01170010003 THU 05/01/17 13:30 LIGHT WOOLWICH ROAD 25M W OF J/W CHARLTON CHURCH LANE 06 LINK 158-236 541080 / 178490
POLICE - AT SCENE ROAD-DRY WEATHER-FINE DUAL CWY NO JUN IN 20M PEDN PHASE AT ATS
NOT KNOWN HOW COLLISION OCCURRED

CASUALTY 001 (001) (26 Yrs - F SE2) SLIGHT DRIVER/RIDER

VEHICLE 001 (000) CAR (26 Yrs - F SE2) GOING AHEAD OTHER E TO W
BT - NOT REQUESTED BACK HIT FIRST

VEHICLE 002 (000) GDS => 7.5T (49 Yrs - M LE4) SINGLE GOING AHEAD OTHER E TO W JNY PART OF WORK
BT - NOT REQUESTED FRONT HIT FIRST

V001 A 403 (POOR TURN OR MANOEUVRE) V001 A 406 (FAILED TO JUDGE OTHER PERSON'S PATH OR SPEED)
V001 B 404 (FAILED TO SIGNAL/ MISLEADING SIGNAL)

---

24 01170040395 WED 11/01/17 17:10 LIGHT WOOLWICH ROAD J/W WOOLWICH ROAD 06 LINK 158-163 541390 / 178610
SELF COMPLETION ROAD-DRY WEATHER-FINE SINGLE CWY ROUNDABOUT GIVE WAY/UNCONT NO XING FACILITY IN 50M
NOT KNOWN HOW COLLISION OCCURRED

CASUALTY 001 (001) (62 Yrs - M SE7) SLIGHT PEDESTRIAN CROSSING ROAD (NOT ON XING) UNKNOWN

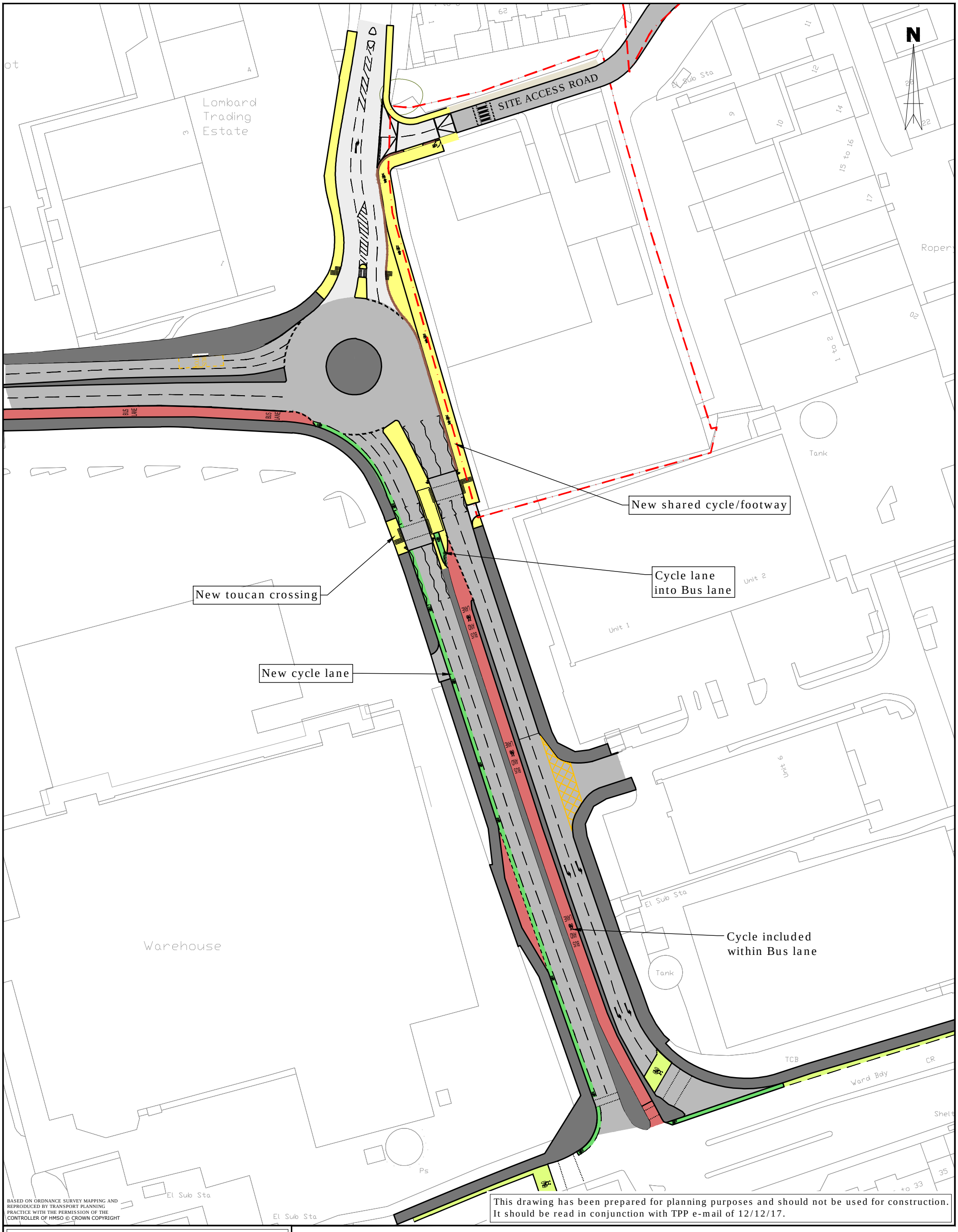
VEHICLE 001 (000) GDS =< 3.5T (? Yrs - U) UNKNOWN (S/F UNKNOWN (S/R) U(TO U(LEAVING R'ABOUT
BT - DRV NOT CONTACTED UNKNOWN (S/R) UNKNOWN (S/R)
UNKNOWN (S/R)

End of Accidents for .001 GIS AREA stone lake roundabout (P)

End of Report

Annex E

Proposal at Anchor and Hope Lane



BASED ON ORDNANCE SURVEY MAPPING AND REPRODUCED BY TRANSPORT PLANNING PRACTICE WITH THE PERMISSION OF THE CONTROLLER OF HMSO © CROWN COPYRIGHT

This drawing has been prepared for planning purposes and should not be used for construction. It should be read in conjunction with TPP e-mail of 12/12/17.

T:\30000_Projects\30821 Charlton Riverside, Greenwich\ACAD\2017 scheme\216_B.dwg

Key

- Site boundary
- Cycle lane works
- Footway/cycle lane works
- carriageway works

CHARLTON RIVERSIDE, GREENWHICH

Highway works

TRANSPORT PLANNING PRACTICE

70 Cowcross Street
London, EC1M 6EL

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w: www.tppweb.co.uk

SCALE @ A3	DATE	DRAWN BY	CHECKED	DRAWING NUMBER	REV
1:1000 (0 10 20m)	12/12/17	LD	CW	30821/AC/216	-

Annex F

Delivery and Servicing Plan (DSP)

Leopard Guernsey Anchor Propco Ltd

Anchor and Hope Lane Sites
Delivery and Servicing Plan

30821/D14d
December 2017

TPP
transport planning practice

Contents

Tables

Figures

Appendix

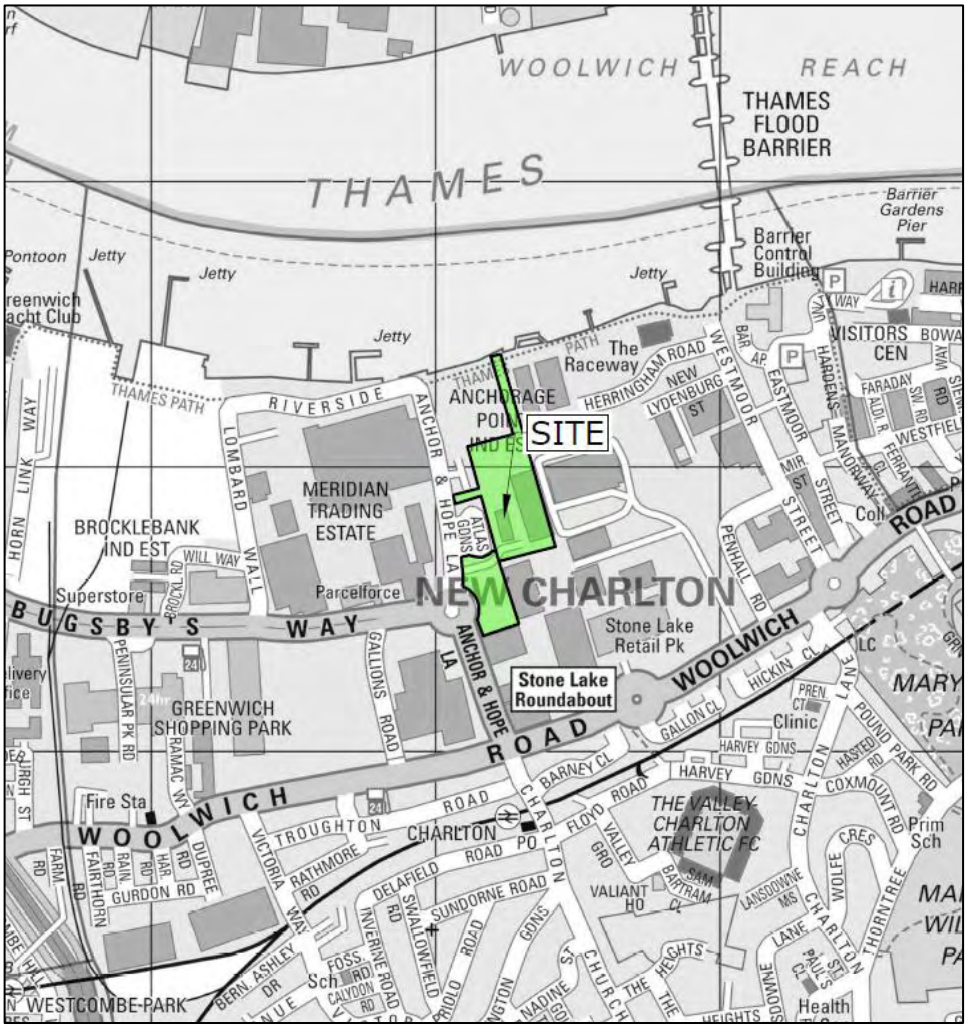
1 INTRODUCTION

1.1 Background context

1.1.1 Transport Planning Practice (TPP) has been appointed by Leopard Guernsey Anchor Propco Ltd to prepare a Delivery and Servicing Plan (DSP) for the redevelopment of the VIP Trading Estate and the VIP Industrial Estate, Anchor and Hope Lane, London SE7 7TE. The site located within the Charlton Riverside SPD Area in the Royal Borough of Greenwich (RBG).

1.1.2 The site is located to the east of Anchor and Hope Lane and comprises two plots of development, Plot A (Northern Plot) and Plot B (Southern Plot), with a strip connecting to Anchor and Hope Lane to the west and another to the north towards the Thames Path. The main access to the site is from Anchor and Hope Lane which runs between Woolwich Road and Bugsby's Way. The site location is shown in Figure 1.1.

Figure 1.1 – Site location



1.1.3 The proposed development will provide 771 units residential as well as flexible commercial space (A1-A3/B1/D1/D2). The scheme will provide the following:

- 771 residential units, including extensive private gardens and roof terraces;
- 3,236 sqm of flexible commercial space;
- 496 sqm of ancillary residential facilities; and
- 337 sqm of community uses.

1.2 Report Purpose

1.2.1 A DSP is used to inform the local and regional authorities of the intent of the applicant in managing delivery and servicing trips to and from the development in order to minimise the impact of these trips on the surrounding local highway network.

1.2.2 This report is structured as follows:

- **Chapter 2 – Policy Context** – summarises planning policies and guidance regarding deliveries and servicing.
- **Chapter 3 – Deliveries and Servicing Design Proposals** – outlines the design proposals for delivery and servicing activities within the development.
- **Chapter 4 – Delivery and Servicing Plan Objectives** – sets out the objectives of this DSP.
- **Chapter 5 – Delivery and Servicing Plan Measures** – outlines the overarching measures and initiatives to be implemented at the site.
- **Chapter 6 – Summary** – provides a summary of this report.

2 POLICY CONTEXT

2.1 Introduction

2.1.1 This chapter provides a summary of the planning policies and guidance on deliveries and servicing.

2.2 The London Plan, March 2016

2.2.1 The London Plan provides the overall strategic plan for London setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20-25 years.

2.2.2 Policy 6.14 Freight states that strategically:

> *"The Mayor will work with all relevant partners to improve freight distribution (including servicing and deliveries) and to promote movement of freight by rail and waterway. The Mayor supports the development of corridors to bypass London, especially for rail freight, to relieve congestion within London."*

2.2.3 It also states for planning decisions that development proposals will be encouraged which:

> *"Locate developments that generate high numbers of freight movements close to major transport routes."*
>
> *"Promote the uptake of the Freight Operators Recognition Scheme, construction logistics plans and delivery and servicing plans. These should be secured in line with the London Freight Plan and should be co-ordinated with travel plans and the development of approaches to consolidate freight."*

2.3 Draft Mayor's Transport Strategy, June 2017

2.3.1 The Mayor's Transport Strategy sets out the Mayor's policies and proposals to reshape transport in London over the next 25 years. The draft strategy was published in June 2017 and a final version is expected in 2018.

2.3.2 The draft strategy recognises that London's continued success relies on safe, reliable, sustainable and efficient goods delivery and servicing. Improving the efficiency of deliveries – shifting them to alternative times of the day when the

network can better accommodate them, and maximising deliveries by sustainable modes – is considered essential to address congestion.

2.3.3 Proposal 15 states that The Mayor, through TfL and the boroughs, will work with business and the freight industry to improve the efficiency and safety of freight and servicing in London by:

- a) Developing tailored and targeted approaches to address the unique challenges faced by the individual sectors such as food and construction deliveries.
- b) Planning a strategic consolidation and distribution network, including a review of funding requirements, and protecting industrial land through the London Plan.
- c) Encouraging London's businesses, starting with Business Improvement Districts, to work together to use their procurement power to reduce or re-time their deliveries and servicing trips to avoid traffic congestion.
- d) Ensuring that all London is within a 30-minute drive of a construction consolidation centre and encouraging their use through Construction Logistics Plans and the planning process.
- e) Encouraging businesses in central London to ban personal deliveries, and extending the network of collection points in order to reduce the overall number of work place personal deliveries.
- f) Working with Business Improvement Districts to promote waste and recycling consolidation, using the waste consolidation toolkit.
- g) Developing a 'London lorry standard' to simplify the regulatory environment for HGVs operating in London.

2.3.4 Furthermore, the draft strategy states that new developments will be expected to be designed to encourage efficient, safe and low-emission delivery and servicing trips. Planning permissions should secure delivery and servicing plans that support off-peak (including night-time) deliveries.

2.3.5 Proposal 77 states that The Mayor, through TfL and the boroughs, will seek to ensure that delivery and servicing plans facilitate off-peak deliveries using quiet technology, and the use of more sustainable modes of delivery, including cargo bikes and electric vehicles where practicable.

2.4 London Freight Plan, November 2007

2.4.1 Following the adoption of the new Mayor's Transport Strategy in 2018, a new freight action plan is expected to be published. In the meantime, TfL's London Freight Plan sets out the steps to identify and address the challenge of delivering freight sustainably in London.

2.4.2 The specific aims are to:

- Ensure that London's transport networks allow for the efficient and reliable handling and distribution of freight and the provision of servicing in order to support London's economy;
- Minimise the adverse environmental impact of freight transport and servicing in London;
- Minimise the impact of congestion on the carriage of goods and provision of servicing; and
- Foster a progressive shift of freight from road to more sustainable modes such as rail and water, where this is economical and practicable.

2.4.3 Four main projects have been identified to achieve the above objectives, these are:

- 1) Freight Operator Recognition Scheme;
- 2) Delivery and Servicing Plans;
- 3) Construction Logistics Plan; and
- 4) Freight Information Portal.

2.5 Delivery and Servicing Plans: Making freight work for you

2.5.1 This TfL document provides guidance on how to develop a DSP, including the benefits of a DSP, the importance of data gathering, and the range of tools and techniques which could be implemented.

2.5.2 The suggested measures to manage deliveries include:

- Inform suppliers of the delivery location
- Implement a delivery booking system
- Move deliveries outside of peak, or normal working, hours
- Reduce the time spent on-site by suppliers
- Reduce delivery, servicing and collection frequencies
- Establish a centralised ordering system
- Reduce or consolidate the number of suppliers
- Waste management

2.6 Low Emissions Zone, February 2008

2.6.1 The Low Emission Zone (LEZ) operates to encourage the most polluting heavy diesel vehicles driving in London to become cleaner. The LEZ covers most of Greater London and is in operation 24 hours a day, every day of the year.

2.6.2 The LEZ aims to improve air quality in the city by setting and enforcing new emissions standards for vehicles and deterring the use of the most polluting vehicles by freight operators. Cars and motorcycles are not affected.

2.6.3 If measures cannot be taken to meet LEZ standards, there is a daily charge of £200 being applicable for HGV's, coaches and buses; and £100 for large vans, pickups and minibuses.

2.6.4 The LEZ is enforced through fixed and mobile cameras which read vehicle registration number plates as vehicles are driven within the LEZ and check it against a database of vehicles. The database contains vehicles which meet the LEZ emissions standards and are therefore exempt from charges, are registered

for a 100% discount or have paid the LEZ daily charge. Vehicles not within the database are will be issued a penalty charge notice which will need to be paid by midnight the next working.

2.7 Ultra Low Emission Zone, September 2020

2.7.1 The Ultra Low Emission Zone (ULEZ) will come into force in September 2020 and will operate 24 hours a day, 7 days a week within the same area as the current Congestion Charging Zone (CCZ).

2.7.2 The ULEZ is an area within which all cars, motorcycles, vans, minibuses, buses, coaches and heavy goods vehicles (HGVs) will need to meet exhaust emission standards (ULEZ standards) or pay a daily charge to travel.

2.7.3 The introduction of the ULEZ will reduce exhaust emissions of NO2 and particulate matter PM10 and PM2.5, making central London a more pleasant place to live, work and visit.

2.8 T-Charge, October 2017

2.8.1 From 23 October 2017, cars, vans, minibuses, buses, coaches and heavy goods vehicles (HGVs) in central London will need to meet minimum exhaust emission standards, or pay a daily £10 Emissions Surcharge (also known as the Toxicity Charge, or T-Charge).

2.8.2 The T-Charge will operate in central London, and applies to the same area as the Congestion Charge. The T-Charge will be in addition to the Congestion Charge. The minimum emissions standards are Euro 4/IV for both petrol and diesel vehicles and Euro 3 for motorised tricycles and quadricycles.

3 DELIVERIES AND SERVICING DESIGN PROPOSALS

3.1 Introduction

3.1.1 This chapter sets out the design of the scheme and how deliveries and servicing will be managed within the site.

3.2 Access Routes and Servicing Zones

3.2.1 Vehicular access to the site will be from Anchor and Hope Lane via a private access road. The roads within the development will remain as private roads and surface texture and paving materials will differentiate routes, parking areas and servicing zones. In the longer term as the Charlton Riverside SPD Area is developed, parts of routes around the site are expected to become public highway. This way in which the development servicing strategy and site layout has been orientates allows these routes to be developed whilst maintaining the proposed servicing strategy.

3.2.2 Swept path analysis has been undertaken and the drawings are included in Appendix A. The access routes and serving zones are considered in relation to the two plots of development land.

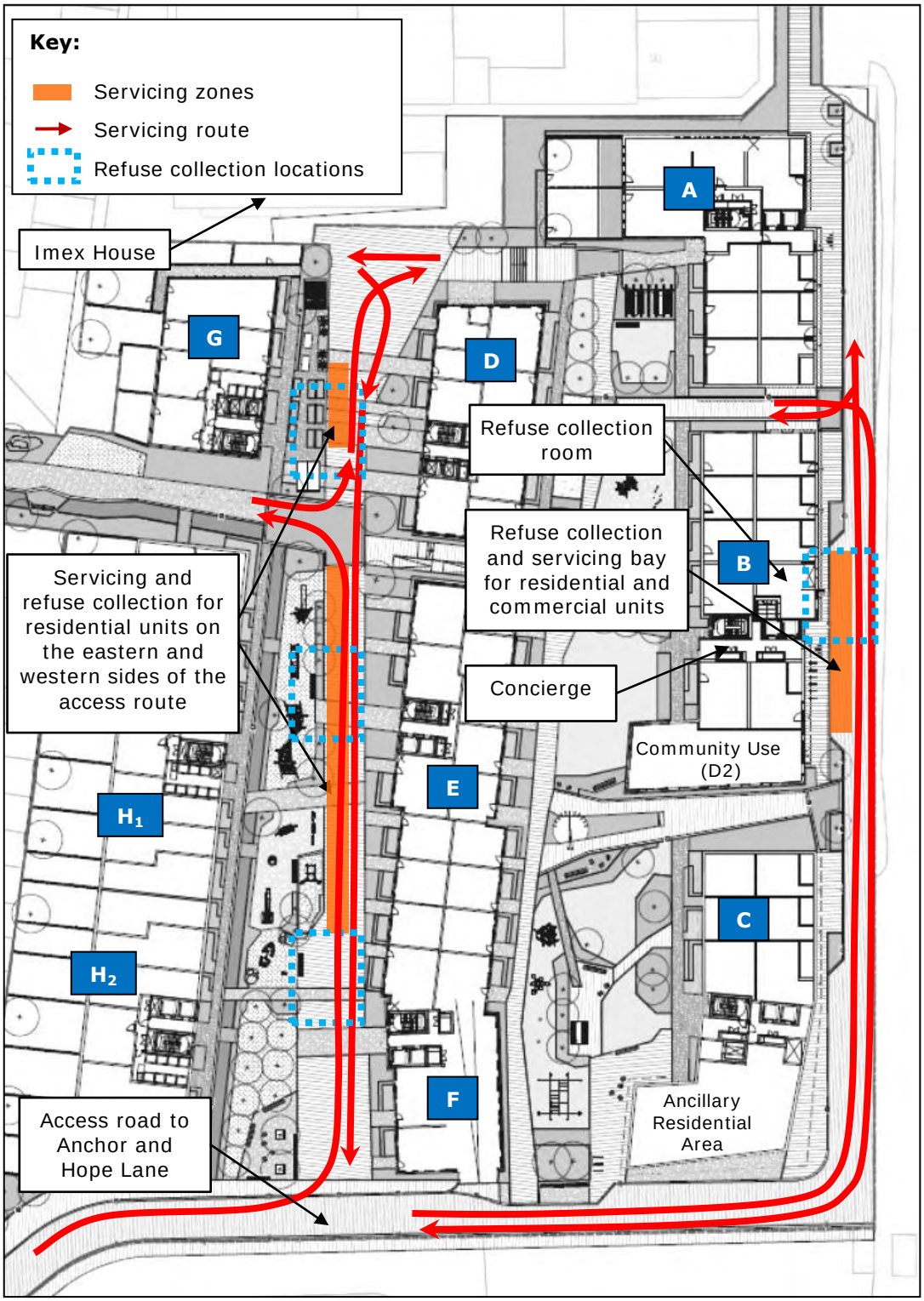
Plot A – Northern Plot

3.2.3 There are two servicing routes provided within Plot A. The eastern servicing route will serve the residential units on the eastern side of the development (Blocks A, B and C) as well as the commercial units. The Plot A concierge office is located along this route. The western route is used for the residential units along the both sides of the access route (Blocks D, E, F, G and H) and will be for both servicing and refuse collection (of G and H).

3.2.4 Dedicated loading areas, refuse collection areas and turning areas are provided. Refuse bins are transported from the basement to the ground level collection room by on site management for Blocks A, B, C, D, E and F.

3.2.5 The access routes and servicing zones are shown in Figure 3.1.

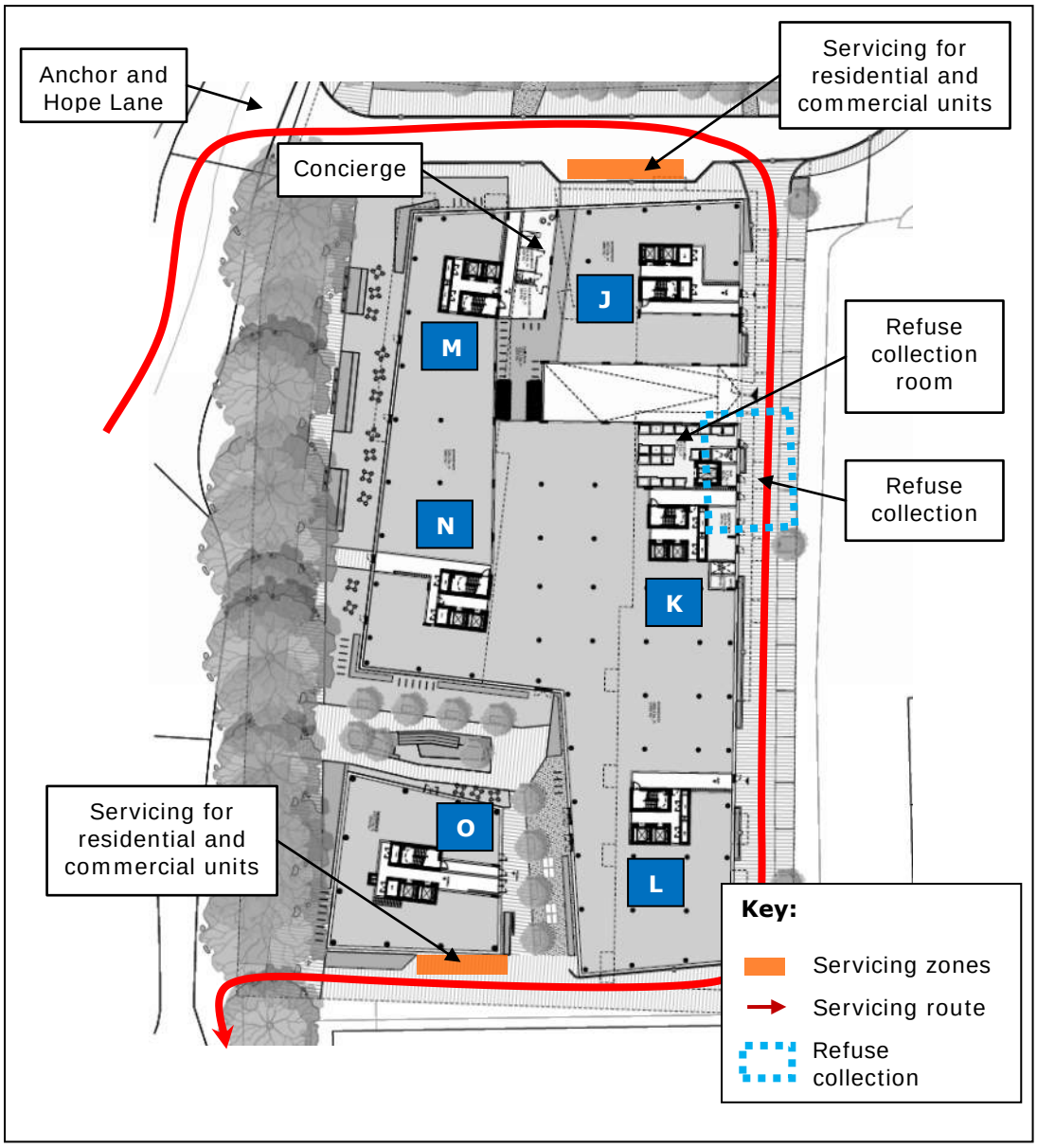
Figure 3.1 – Access Routes and Servicing Zones Locations for Plot A



Plot B – Southern Plot

3.2.6 The servicing route is one-way from Anchor and Hope Lane and along the eastern edge of the plot. Two servicing zones are provided to the north and south of the plot. The concierge is located at the northern end and a servicing bay is provided adjacent to this on the site access road. Refuse collection is located along the eastern section. Residential refuse storage is located within the basement of the plot adjacent to each core, then transported to the refuse collection room by on site management with a lift to ground level. This is shown in Figure 3.2.

Figure 3.2 – Access Routes and Servicing Zones Locations for Plot B



3.3 On-Site Management

3.3.1 Access to the site and the use of the servicing zones will be managed and controlled by the on-site management team. Servicing activities will also be monitored by CCTV surveillance and reviewed by site management.

3.3.2 A maximum dwell time of 20 minutes will apply to each of the servicing zones unless specifically arranged with on-site management. Where pre-booking will be required, this will be arranged with the on-site management company. Residents and workplace occupants will arrange this directly with the management team or concierge. Ad-hoc deliveries are expected to be minimal and normally made using light goods vehicles reporting to the concierge.

3.3.3 Outside of the site boundary, any parking and loading restrictions apply on the public highway will be enforced by RBG. It is noted that Anchor and Hope Lane forms part of the Charlton CPZ area although currently not formally controlled as such.

3.4 Refuse Collection

3.4.1 The refuse produced by the development would be residential and commercial waste. As such the commercial waste is subject to the "Duty of Care" and "Controlled Waste" as set out in the 1990 Environmental Protection Act – Waste Management, The Duty of Care Code of Practice.

3.4.2 For both the residential and commercial land uses within the development, Eurobins will be the most suitable container for the storage of waste. Residential refuse collection rooms are located within 15m of the refuse vehicle collection points with suitable doors, corridors and level / ramped access. Residential refuse will be segregated into Residual Waste and Dry Recyclable Waste in accordance with RBG current waste collection policies. Residential Organic Waste is accommodated through in-sink macerators.

3.4.3 Commercial waste will be provided within each of the commercial tenant's leased area. This enables different tenant's specific operations to be catered for Commercial waste collection will be arranged through waste contractors by the commercial tenants or coordinated through the site management office. The latter would be encouraged for residual and dry recyclable waste in order to reduce vehicle movements, however, some commercial tenants may have specific requirements for other recyclable waste streams.

3.5 Goods Vehicle Trip Generation

Residential Deliveries

3.5.1 The maximum size vehicle which can reasonably be expected to deliver to any residential apartment is a 10.0m rigid heavy goods vehicle (HGV). It is, however, more likely that deliveries to the residential element of the development would be undertaken by an 8.0m rigid HGV or smaller.

3.5.2 The number of daily delivery and servicing vehicle trips and their arrival profile for the development has been derived using detailed delivery and servicing vehicle surveys undertaken at the following residential developments:

- Kempton Court – 80 residential units.
- City Walk – 110 residential units.
- Bow Quarter – 714 residential units.

3.5.3 The delivery and servicing vehicle trip rates derived from the above surveys have then been applied to the 771 residential units at the development.

3.5.4 Table 3.1 below shows the number of delivery and servicing vehicles predicted for the residential element of the overall development.

Table 3.1: Residential delivery and servicing vehicles

Time Period	LGV	HGV	Total
07:00-08:00	1	0	1
08:00-09:00	2	1	3
09:00-10:00	1	1	2
10:00-11:00	3	1	4
11:00-12:00	2	0	2
12:00-13:00	2	1	3
13:00-14:00	3	0	3
14:00-15:00	4	1	5
15:00-16:00	2	0	2
16:00-17:00	2	0	2
17:00-18:00	0	0	0
18:00-19:00	1	0	1
Total	**23**	**5**	**28**

3.5.5 The above table shows that the residential element of the scheme is expected to generate 28 delivery and servicing vehicles a day (56 two-way trips), of which

the majority will be LGVs. The peak hour for delivery and servicing trips is expected to be between 14:00 and 15:00 when 5 vehicles would enter and leave the site.

Commercial Deliveries

3.5.6 The proposed development will provide 3,236m^2 of flexible commercial space. The largest delivery and servicing vehicle is expected for the commercial units to be a 10.0m rigid HGV, with the most frequent being Transit sized light good vehicles (LGVs).

3.5.7 For the purposes of the Transport Assessment in assessing a robust scenario with the highest overall trips on the local transport network, it has been assumed that the commercial space will be office.

3.5.8 The number of daily delivery and servicing vehicle trips and their arrival profile have been derived the CR Eastman paper on servicing for commercial office development within London. The results are summarised in Table 3.2.

Table 3.2: Commercial delivery and servicing vehicles

Time Period	LGV	HGV	Total
07:00-08:00	0	0	0
08:00-09:00	1	0	1
09:00-10:00	1	0	1
10:00-11:00	2	0	2
11:00-12:00	1	0	1
12:00-13:00	1	0	1
13:00-14:00	0	0	0
14:00-15:00	1	0	1
15:00-16:00	1	0	1
16:00-17:00	1	0	1
17:00-18:00	0	0	0
18:00-19:00	0	0	0
Total	**9**	**0**	**9**

3.5.9 The above table shows that the office element of the scheme would be expected to generate 9 deliveries a day (18 two-way movements) which are all expected to be made by LGV. Most deliveries are expected to take place in the morning, with one delivery an hour between 8am and 1pm.

Nursery

3.5.10 For the nursery, it could be expected to generate up to one delivery a day. These are likely to take place throughout the day and have a negligible impact on the peak hours.

Total Goods Vehicle Trip Generation

3.5.11 Based on the above assessment, the residential and office elements of the scheme are expected to receive regular and frequent deliveries. Based on Tables 3.1 to 3.3, the total numbers of good vehicles generated on a typical day are set out below.

Table 3.3: Total delivery and servicing vehicles

Time Period	LGV	HGV	Total
07:00-08:00	1	0	1
08:00-09:00	3	1	4
09:00-10:00	2	1	3
10:00-11:00	5	1	6
11:00-12:00	3	0	3
12:00-13:00	3	1	4
13:00-14:00	3	0	3
14:00-15:00	5	1	6
15:00-16:00	3	0	3
16:00-17:00	3	0	3
17:00-18:00	0	0	0
18:00-19:00	1	0	1
Total	**32**	**5**	**37**

3.5.12 Table 3.4 shows that the site would expect to around 37 delivery and servicing vehicles a day, of which 32 would be LGVs. The peak servicing hours are expected to be from 14.00 to 15.00 when a total of 6 vehicles are expected to arrive and depart. In addition to the above, an additional vehicle a day could be expected for nursery. Therefore up to 38 deliveries per day could be expected across the two plots of development.

3.5.13 With this number of vehicles per hour and a 20 minute dwell time, a total of 2 bays would be required. There is ample spare capacity within the site to accommodate these vehicle numbers.

4 DELIVERY AND SERVICING PLAN OBJECTIVES

4.1 Introduction

4.1.1 This chapter sets out the overarching objectives of this DSP for the proposed development.

4.2 Objectives

4.2.1 The objective of this DSP is to seek to support a sustainable and well managed development with regards to deliveries and servicing. This DSP has been prepared within the context of the guidance provided within the London Freight Plan and TfL's best practice guidance.

4.2.2 This DSP will therefore seek to achieve the following objectives:

- Demonstrate that goods and services can be delivered, and waste removed, in a safe, efficient and environmentally-friendly way;
- Identify deliveries that could be reduced, re-timed or even consolidated, particularly during busy periods;
- Improve the reliability of deliveries to the site;
- Reduce the operating costs of building occupants and freight companies; and
- Reduce the impact of freight activity on local residents and the environment.

5 DELIVERY AND SERVICING PLAN MEASURES

5.1 Introduction

5.1.1 This chapter outlines the proposed measures and initiatives which will be implemented to a sustainable and well managed development with regards to deliveries and servicing, with minimal disruption to the local highway network.

5.1.2 The management measures and initiatives have been grouped into the following areas:

- Design;
- Procurement Strategy;
- Operational Efficiency;
- Waste Management; and
- Road Trip Reduction.

5.2 Design

5.2.1 The London Freight Plan recognises that good design can minimise disturbance for residents at, or on-route to, the site, and the impact of servicing upon the surrounding highway network, the specific design related measures implemented as part of the development are set out in turn below:

Servicing Facilities

5.2.2 The development's servicing zones has been designed to ensure that delivery and servicing activities will be undertaken within the development site without impacting on the operation of the public highway. Details of the servicing proposals are provided within Chapter 3 of this report.

Risk assessment of servicing area

5.2.3 A risk assessment would be normally undertaken by suitably trained site management staff prior to use. This assessment will examine the following issues.

- Adequate manoeuvring space for the vehicles;

- Interaction with pedestrians;
- Adequate unloading area;
- Level route from vehicle to destination;
- Interaction with vehicles; and
- Visibility of management staff.

Servicing Restrictions

5.2.4 The manoeuvring within the site and access to and from the public highway has been designed to accommodate the largest vehicle types that can reasonably be expected to deliver to and service each occupier within the development. These vehicles are as follows:

- 10m Rigid HGV (Width 2.5m; Length 10m; Height: 3.7m);
- Refuse Vehicle (Width 2.5m; Length 10.1m; Height: 3.5m);
- Transit Van (Width 2.2m; Length 5.5m; Height: 2.4m).

5.2.5 Vehicle swept path analysis for the on-site routes are included in Appendix A.

5.2.6 Any vehicles exceeding the maximum vehicle size set out above would not be permitted onto the site, unless specific delivery arrangements were made with the site management in advance. Any abnormal / overweight vehicles would need to be specifically assessed for appropriate means of accessing the site and any essential temporary mitigation that may be required to cater for the weight or size of the vehicle / load. These would be treated as exceptional circumstances.

Traffic Management Regulation Audit

5.2.7 An audit of the local traffic management regulations on the road network surrounding the site has been undertaken based upon site observations and Traffic Management Regulations. The routes to and from the site do not place any particular restrictions on access due to its good connections to the strategic road network. Further information can be obtained across the road network, including more minor routes using the London Lorry Control network website

(www.londonlorrycontrol.com). The main restrictions that may affect goods vehicle movements that are in place surrounding the site are summarised below:

Height Restrictions

- 4m (northbound) and 4.7m (southbound) through the Blackwall Tunnel;
- 6m through Rotherhithe Tunnel; and
- 4.6m through Limehouse Link Tunnel.

Weight Restrictions

- Max 16.5 tonnes limit at Preston Road Bridge across West India Dock.

Width Restrictions

- 2.2m through Rotherhithe Tunnel.

5.2.8 Servicing for the development will all be undertaken within the site and entry and exit movements onto the public highway of Anchor and Hope Lane will be in forward gear.

5.2.9 The London Low Emission Zone will also require suppliers operating delivery vehicles which do not meet emission standards, to pay a daily charge for journeys within London.

Security Measures

5.2.10 The main site security office will be manned 24 hours a day, 7 days a week. All vehicle movements to, from and within all servicing areas within the site will be monitored by CCTV surveillance to ensure that deliveries and servicing are being undertaken in a safe and secure manner, and within the agreed times.

Secure Delivery Facilities

5.2.11 The London Freight Plan identifies that first-time delivery efficiency to premises, including for home delivery, should be encouraged through the use of locker banks or agreed delivery points and concierge services.

5.2.12 To ensure that the turnaround of delivery and servicing vehicles is maximised and ensure that duplication of journey's to the site is minimised, the site management concierge will seek authority by residents to receive small / medium sized goods (with the exception of food deliveries and other perishable items) for residents.

5.2.13 Residents will be provided with the opportunity to opt in or out of this scheme to minimise risks of liabilities for valuable items. To aid this process, residents opting into this scheme will be encouraged to inform the on-site management office or concierge of any expected parcels which may be delivered whilst their dwelling is unoccupied.

5.2.14 Acceptance of deliveries to the commercial units are not considered to be required since these will be normally received during business operating hours where a member of staff will be available to accept the delivery.

Accommodating Special Deliveries

5.2.15 Any special deliveries to the site, such as plant maintenance vehicles will need to be pre-arranged. The delivery time and duration will be negotiated with the development management to minimise the impact upon the routine daily servicing requirements of the development. Out of peak deliveries will be encouraged for such deliveries wherever possible.

5.3 Procurement strategy

5.3.1 Procurement process should demonstrate an awareness of all vehicle activity associated with the site, its impacts and appropriate measures to reduce it. This will be undertaken by the site management company.

Freight Operator Recognition Scheme

5.3.2 The site management will be encouraged to contract suppliers registered with a best practice scheme, such as the Freight Operator Recognition Scheme (FORS). Full details of the benefits associated with FORS can be found at www.tfl.gov.uk/fors.

Consolidation of Suppliers

5.3.3 Residents will be encouraged to source everyday items from local shops in order to contribute towards reducing the number of deliveries to the site. The location of local shops and services, including supermarkets, will be promoted through the residential travel pack that will be issued to residents as part of the Travel Plan.

5.3.4 Commercial occupiers will also be encouraged to co-ordinate deliveries and waste collections wherever possible in instances where common suppliers are used through the site management company. This will be achieved through an arrangement of an informal businesses forum with all commercial tenants encouraged to participate.

5.4 Operational efficiency

Delivery restrictions and enforcement

5.4.1 The restriction of peak hour deliveries will be largely self-regulating due to the busy peak hour conditions on the local road network in and surrounding the Royal Docks, resulting in most suppliers seeking to avoid non-essential deliveries during the peak hours.

5.4.2 Analysis undertaken within this document identifies that 4 deliveries to the development will occur during the AM Peak Hour (08:00-09:00) with zero deliveries predicted during the PM peak hour (17:00-18:00).

5.4.3 Other than the promotion of out-of-hours deliveries, it is not considered necessary to implement any other measures to reduce peak hour deliveries further.

Communication of delivery procedures

5.4.4 The delivery procedures in operation on the site will be communicated to residents and commercial tenants upon occupation. Freight operators will be able to contact the site management or concierge prior to arriving at the site so that they can be informed of the site arrangements for deliveries and any procedures they should undertake to deliver goods and services the site safely and efficiently.

Out of hours deliveries

5.4.5 The design of the site is such that care will need to be taken for managing and permitting out of hours deliveries, taking cognisance of the residential nature of the site. It is noted that daytime deliveries will not present a significant impact on residents and tenants with suitable and appropriate management.

5.4.6 A noise abatement strategy will also be in place for any permitted out of hours deliveries, whereby services vehicles would be instructed by the management office to turn off their engines once parked within the site, for the duration of servicing activity.

5.5 Training Requirements and Responsibilities

5.5.1 The site management company will be responsible for all of their site-based staff to receive appropriate training related to the processes and procedures in operation on the site.

5.6 Waste management

Waste reduction, storage and removal measures

5.6.1 Guidance contained within the London Freight Plan identifies that developments should provide sufficient facilities for storage and collection of segregated waste.

5.6.2 The development will provide segregated waste storage for the residential and the commercial uses. Waste will be segregated into residual waste recyclable waste. Provision for recyclables is provided within the site in accordance with the London Borough of Newham guidance. All residential waste will be stored in suitable refuse storage and collection rooms, with commercial waste stored within their demise.

Refuse Collection Procedures

5.6.3 On refuse collection days, residential refuse collection will be undertaken as set out in Chapter 3 of this document.

5.6.4 Refuse collection will be undertaken outside of the peak hours where possible, with the specific collection times being arranged with the local authority or private waste contractor to minimise impacts upon the uses within the site. All waste will be collected directly from the refuse collection rooms.

5.7 Road trip reduction

Delivery and servicing vehicle frequencies

5.7.1 The number of delivery and servicing trips has been considered earlier on in this document in Chapter 3. It is predicted that there will be a total of 38 individual delivery and servicing trips generated by the site on a daily basis for the overall development. Reductions of deliveries for commercial premises will be targeted where consolidation of suppliers can be achieved.

Encouraging Deliveries by Sustainable Modes

5.7.2 Occupiers of the site will be encouraged to use suppliers who are affiliated to the Freight Operator Recognition Scheme (FORS) and operating green fleets complying with the emission standards set out by the London Emission Zones. In so doing this measure will contribute towards encouraging more maintenance contractors to use electric vehicles.

5.8 Targets and monitoring

Monitoring

5.8.1 A programme of monitoring and review will be carried out in accordance with TfL's guidance for undertaking surveys as set out in Delivery and Servicing Plans, Making freight work for you. These surveys will be undertaken on a periodic basis.

5.8.2 Monitoring and review of deliveries to the site will be the responsibility of the site management. A delivery survey audit will be undertaken a maximum of 6 months after 75% of residential units and 75% of commercial floor area are occupied.

5.8.3 The site management team (or appointed consultant) will undertake delivery monitoring surveys on the third and fifth year after the initial survey.

Review

5.8.4 The site management will use the results of the surveys to identify particular trends such as a particular supplier visits the site more than once a day or that a number of different companies deliver similar products. The results will then help the development management to look for 'quick wins'.

5.8.5 These could include for example, that four suppliers deliver delivering the same types of products to the site four times a week, which could potentially be reduced to twice, or even once, a week.

5.8.6 This process will provide the opportunity for current delivery operations and procedures on the site at the time to be reviewed and new management measures to be implemented (if necessary) to achieve the objectives set out within Chapter 4.

6 SUMMARY

6.1.1 The proposed development is located off Anchor and Hope Lane, to the north of Charlton Station. The development comprises 771 residential units as well as flexible commercial space.

6.1.2 This DSP has been prepared to minimise the impact of delivery and servicing trips on the surrounding public highway network. Chapter 3 sets out the provision within the site to accommodate all delivery and servicing activities. Vehicular access to the site is from Anchor and Hope Lane and there will be dedicated servicing zones for each Plot. All delivery and servicing operation on the site will be managed and controlled by the site management team.

6.1.3 A servicing trip generation assessment has been undertaken for all land uses. It is expected that up to 38 vehicles a day would be generated for deliveries and to servicing the overall development. The peak servicing hour will have up to 6 goods vehicles. With a maximum dwell time of 20 minutes, a total of 2 bays would adequately accommodate this number of vehicles across the site. Therefore, the number of loading locations incorporated into the scheme provides ample space for the predicted servicing and refuse collection activities.

6.1.4 Chapter 4 and 5 sets out the objectives and measures of this DSP respectively. The range of measures is in accordance to TfL's best practice guidance and includes servicing restrictions, security measures, consolidation of suppliers and monitoring and review.

6.1.5 This report has therefore set out how delivery and servicing will take place and be accommodated within the site, and the range of measures which will be implemented to further minimise the impact.

Appendix A

Vehicle Swept Path Analysis

BASED ON ORDNANCE SURVEY MAPPING AND REPRODUCED BY TRANSPORT PLANNING PRACTICE WITH THE PERMISSION OF THE CONTROLLER OF HMSO © CROWN COPYRIGHT

Based on layout, drawing Z_ExA_COORDINATION GF. TPP REF - IN_112.

This drawing has been prepared for planning purposes and should not be used for construction.

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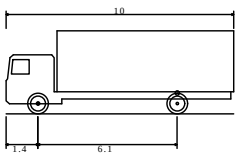
Vehicle used



FTA Design HG Rigid Vehicle (1998)	
Overall Length	10.000m
Overall Width	2.500m
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

CHARLTON RIVERSIDE, GREENWICH

Plot A
Swept path analysis of 10.0m Rigid HGV

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SCALE @ A3	DATE	DRAWN BY	CHECKED	DRAWING NUMBER	REV
1:500 (0 5 10m)	12/12/17	LD	CW	30821/AC/209	A

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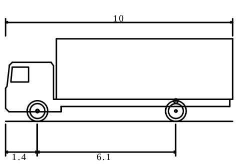
Based on layout, drawing Z_ExA_COORDINATION GF. TPP REF - IN_112.

This drawing has been prepared for planning purposes and should not be used for construction.

Vehicle used



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Kerb to Kerb Turning Radius	11.000m

CHARLTON RIVERSIDE, GREENWICH

Plot B

Swept path analysis of 10.0m Rigid HGV

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SCALE @ A3	DATE	DRAWN BY	CHECKED	DRAWING NUMBER	REV
1:500 (0 5 10m)	18/12/17	LD	CW	30821/AC/210	B

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