

1 INTRODUCTION

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 site located on Anchor and Hope Lane within the Royal Borough of Greenwich (RBG).

1.1.2 The site is located within the Charlton Riverside opportunity area between Woolwich Road (A206) and the southern bank of the River Thames. The main access to the site is from Anchor and Hope Lane which runs between Woolwich Road and Bugsby's Way. The site consists of two main areas with a strip connecting to Anchor and Hope Lane to the west and another to the north towards the Thames Path, as shown in Figure 1.1.

Figure 1.1 – Site location



1.1.3 This document is a Framework Travel Plan (FTP). The purpose of this Travel Plan is to set out a strategy for minimising resident's and workplace occupier's dependence on travel by private car and for maximising the use of public transport, walking and cycling. Its objective is to promote sustainable modes of travel, which reflects current Government policy objectives in respect of transport.

1.2 Context

1.2.1 The proposed development will provide 975 units residential as well as commercial space (A1, A3, B1, D1 and D2 use classes). The opening year is expected to be 2023. The description of development is as follows:

"Demolition of existing buildings and erection of 9 buildings ranging from 2 to 28 storeys in height for Class C3 residential use, with Class B1 employment space and flexible uses comprising Class A1 (retail), Class A3 (Café / Restaurant), Class D1 (Community Use) and Class D2 (Leisure) at ground floor and first floor level, alterations to existing vehicular access and creation of new pedestrian access from Anchor and Hope Lane and the riverside, creation of new areas of open space and landscaping together with the provision of associated car parking, cycle space, refuse and recycling storage, plant and all other associated works".

1.2.2 The scheme will provide the following:

- 975 residential units provided within 9 buildings ranging in height from 2 to 28 storeys, including extensive private gardens and roof terraces;
- 1,560 sqm (GIA) of office space;
- Ancillary residential facilities including gym, swimming pool, changing rooms totalling 864 sqm (GIA);
- 690 sqm (GIA) of flexible retail/restaurant/café/leisure use;
- 407 sqm (GIA) of community uses;
- Extensive external public realm improvements and landscaping; and
- Parking, services, plant and circulation.

1.2.3 This FTP has been produced in accordance with TfL's guidance on Travel Plans (<https://tfl.gov.uk/info-for/urban-planning-and-construction/travel-plans>). The remaining chapters within this report are outlined below:

- **Section 2: Site assessment** – describes the accessibility of the site by a range of different transport modes.
- **Section 3: Travel Plan Aims and Objectives** - sets out the aims and objectives of this Travel Plan.
- **Section 4: Travel Plan Management** - outlines how travel planning for the site will be managed by the Sustainable Travel Manager and Travel Plan Co-ordinators and how the Travel Plan will be secured.
- **Section 5 & 6: Travel Plan Measures for Residents and Staff** - sets out the proposed measures to encourage future residents and staff to travel using sustainable modes.
- **Section 7: Travel Surveys** – sets out the proposed modal split for the residential and commercial aspects of the Anchor and Hope Lane sites.
- **Section 8: Targets and Monitoring** - outlines the method for setting targets and monitoring the progress of the Travel Plan.
- **Section 9: Action Plan** - provides an Action Plan for implementing the Travel Plan.

2 SITE ASSESSMENT

2.1 Site location

2.1.1 The site sits within a currently predominately industrial area located between Woolwich Road (A206) and the southern bank of the River Thames. The main access to the site is from Anchor and Hope Lane which runs between Woolwich Road and Bugsby's Way. Figure 1.1 shows the location of the site.

2.1.2 With the exception of two residential areas known as Atlas Gardens and Derrick Gardens the site is surrounded by industrial uses. The site forms part of the wider Charlton Riverside Opportunity Area for substantial residential/mixed-used redevelopment as set out in the mayor's 'City in the East' document.

2.2 Site access

2.2.1 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 to the west of the site and to the north towards the Thames Walkway.

2.2.2 The development has been designed to be highly permeable in terms of access for pedestrians and cyclists. As well as the main vehicular access to the site 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 also allow for secondary means of access for emergency vehicles.
- To the Thames Path to the north - This route would provide direct access to pedestrian and cycle connections along the south of the river Thames.

2.2.3 There are currently no crossing points provided by the Anchor and Hope Lane / Bugsby's Way roundabout which would allow access to the western side of Anchor and Hope Lane (south of Bugsby's Way) where there is an existing bus stop for northbound services.

2.2.4 To improve pedestrian connection to and from the site, 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 by cyclists.

- 2.2.5 Vehicular access to the site is provided from an improved existing access on Anchor and Hope Lane.

2.3 Public Transport

- 2.3.1 The site is within walking distance of five bus services and Charlton Station. 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.

- 2.3.2 However, it should be noted that future public transport improvements associated with the Charlton Riverside Masterplan would be expected to result in the future PTAL of the site increasing to Level 5.

2.4 Bus

- 2.4.1 The nearest bus stop to the site is on the northern side of Bugsby 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 Way (250m).

- 2.4.2 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.

- 2.4.3 A summary of the existing bus services are provided in Table 2.1.

Table 2.1 – Summary of Bus Routes (Hourly Frequency in Each Direction)

Bus route	Route	AM peak	PM peak	Sat	Sun
472	North Greenwich – Bugsby Way – Woolwich – Thamesmead	9	9	8	6
486	North Greenwich – Bugsby 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

2.4.4 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.

2.4.5 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.

2.5 National rail

2.5.1 Charlton 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.

2.5.2 The journey time to London Cannon Street is 24 minutes and to London Charing Cross is 33 minutes.

2.5.3 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.

2.5.4 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, prior to the opening of the proposed development in 2023 with a service frequency of 12 trains per hour in each direction.

2.5.5 Crossrail is expected to significantly reduce journey times to 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.

2.6 River Services

2.6.1 The nearest river service to the site is North Greenwich Pier which is located approximately 1.5 miles to the north west of the site. Bus routes 472 and 486, accessed from Anchor and Hope Lane Stop G, provide services to North Greenwich, the Pier is within a short walk of the bus stops.

2.6.2 North Greenwich Pier is served by river boat services one (RB1) and five (RB5). RB1 provides services east and west along the River Thames terminating at Woolwich Arsenal Pier and London Eye Pier respectively. RB1 operates at approximately three services per hour and serves key destinations including Canary Wharf Pier, London Bridge City Pier, Blackfriars Pier and Embankment Pier. RB5 runs between North Greenwich Pier and Woolwich Arsenal Pier only, operating between 1200 and 1700 at approximately two services per hour.

2.7 Walking

2.7.1 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.

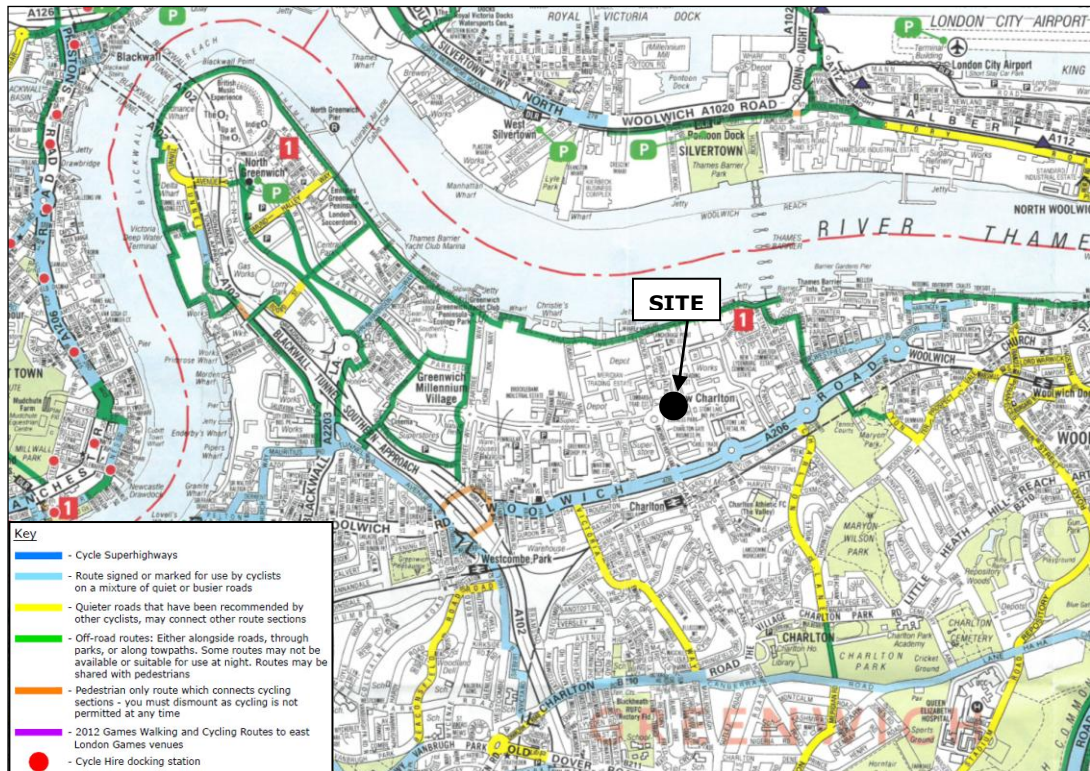
2.7.2 The main access to the site is from Anchor and Hope Lane from the site's western edge. Footways, dropped kerbs and tactile paving are provided along Anchor and Hope Lane. At the roundabout with Bugsby's Way to the south of the site, uncontrolled crossing facilities are provided on one of the arms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

2.7.3 Signal controlled pedestrian crossings are provided at the Anchor and Hope Lane / Woolwich Road junction and Bugsby's Way / Gallions Road junction.

2.8 Cycling

2.8.1 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 2.1 shows the local cycle network.

Figure 2.1 – Local Cycle Network



2.8.2 The A206 Woolwich Road to the south of the site 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.

2.8.3 These cycle routes can be accessed from Anchor and Hope Lane. These 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.

2.9 Highway Network

2.9.1 Site access is provided off Anchor and Hope Lane, via a private access road which can provide for two-way vehicle movements. It also Ropery Business Park

2.9.2 Anchor and Hope Lane is a wide, two-way carriageway, with sections of marked on-street parking 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.

- 2.9.3 Bugsby's Way has two lanes in each direction and provides access to the west to Greenwich Shopping Park, Millennium Leisure Park, The O₂ 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.
- 2.9.4 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.
- 2.9.5 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.

2.10 Car Parking

- 2.10.1 The proposed development will provide 217 car parking spaces for the residential use. This is equivalent to 0.22 space per dwelling which in accordance with standards. There will be two accessible car parking bays allocated to the commercial units.
- 2.10.2 A minimum of 10% of the residential parking provision will be suitable for use as accessible bays which meets the Borough's planning policy, subject to appropriate management of the car parking provision to allow for re-allocation of bays with priority given to car owning blue badge holder residents.
- 2.10.3 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.

2.11 Car club

- 2.11.1 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.
- 2.11.2 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.

3 TRAVEL PLAN AIMS AND OBJECTIVES

3.1.1 This section outlines the proposed aims and objectives of the Travel Plan which will be used to set the targets.

3.2 Aims

3.2.1 The aim of this Travel Plan is to:

'Create a sustainable, community driven environment for all occupants of the development which promotes a range of lifestyle and travel choices and reduces reliance on the private car.'

3.3 Objectives

3.3.1 Objectives are the high-level aims of the Travel Plan. They help to give the Travel Plan direction and provide a focus. The main objectives of this Travel Plan are set out below in the context of current, relevant guidance on Travel Plans:

- Achieve and maintain the predicted sustainable travel patterns to and from the development and increase the sustainable travel mode share.
- Encourage residents to consider altering their travel choices and move up within the sustainable transport hierarchy (e.g. from public transport to walking or cycling).
- Encourage employees to make well-informed and sustainable decisions about the way they travel to and from the development.
- Ensure residents and employees are aware of the range of travel choices available to them and address needs for access to a full range of facilities and services – for health, leisure, recreation and shopping.
- Promote healthy lifestyles and sustainable, vibrant local communities by promoting the health benefits of walking and cycling, and raising awareness on the impacts of transport modes on the environment.
- Monitor travel patterns and identify opportunities to encourage travel by walking and cycling.

4 TRAVEL PLAN MANAGEMENT

4.1.1 This section sets out how the travel planning will be managed by the Sustainable Travel Manager (STM) and Travel Plan Co-ordinators (TPCs). It also sets out how the Travel Plan will be secured.

4.2 Sustainable Travel Manager

4.2.1 A Sustainable Travel Manager (STM) will be appointed to take responsibility for the development and management of the Travel Plan and act as the site-wide Travel Plan Co-ordinator. The STM role for the site will be fulfilled by an appointed consultant or the site management company. It will be the responsibility of the developer to ensure that a STM is appointed prior to the first occupation of the site. The roles and responsibilities of the STM are set out below:

- Ensuring the structures for the ongoing management of the Travel Plan are set up and running effectively;
- Liaising with public transport operators and other service providers such as car club operators.
- Overseeing the monitoring and reporting of the Travel Plan including liaising with the Local Authority where appropriate.
- Overseeing and monitoring the regular surveys and questionnaires, which will inform the ongoing development of the Travel Plan.
- Monitoring and where necessary updating Travel Plan targets.
- Administration of the Travel Plan, involving the maintenance of necessary systems, data and paperwork, consultation and promotion. These duties continue for the duration of the Travel Plan.
- Liaison with the TPCs who will assist in the day to day interface with occupants of the proposed development in facilitating the Travel Plan.

4.3 Travel Plan Co-ordinators

4.3.1 To ensure that there is site wide adoption of the Travel Plan, the STM may be assisted in delivering the measures by TPCs. The STM will liaise with the TPCs, as necessary, to jointly promote the Travel Plan. Commercial occupants may also appoint their own TPCs. The TPC role will involve:

- Giving a 'human face' to the Travel Plan – explaining its purpose and the transport opportunities available. Implementing any additional measures.

- Giving advice and information on transport-related issues to residents, employees and visitors.
- On-site coordination of data collection for the Travel Plan.
- Helping establish and promote the individual measures in the Travel Plan.
- Providing on-site support to the STM, as required.

4.4 Securing the Travel Plan and funding

- 4.4.1 The Travel Plan would be expected to be secured through condition or S106 obligation.
- 4.4.2 The specification of residential and commercial targets will be set within 1 month following the initial baseline travel surveys, i.e. upon 75% occupation.
- 4.4.3 All measures implemented prior to the development being occupied will be funded by the developer, including the appointment of the STM and the production of marketing material. The developer will fund the ongoing monitoring travel survey.

5 TRAVEL PLAN MEASURES FOR RESIDENTS

5.1.1 This section sets out a range of measures that are proposed for the development it describes a number of initiatives proposed with a focus on ensuring that residents are made aware of all sustainable travel options available to them.

5.2 Travel Information Pack

5.2.1 A Travel Information Pack containing travel information will be provided to each household on or before they move into the new development. Providing this information in advance ensures that residents become aware of the various modes of transport and existing services that are available to them at the earliest opportunity.

5.2.2 The packs will include the following:

- an explanation of the Travel Plan, its purpose, aims and objectives;
- contact details for the operation of the Travel Plan;
- information on the health benefits of walking and information on how to plan walking routes;
- TfL cycle network maps relevant to Greenwich and information on the cycle tools in TfL journey planner;
- information on cycle training available to people living, working or studying in Greenwich;
- details on car clubs in the area;
- information on travel planning website services such as TfL and Citymapper journey planners, which also include access to real time information, to raise awareness of transport options and alternatives in case of delays or cancellations; and
- information on train and bus service maps and timetables, including late night travel advice.

5.3 Initiatives to encourage walking

5.3.1 To further encourage walking as a main mode of transport for local trips, the following measures could be implemented by the STM / TPCs:

Promotional material

- 5.3.2 Walking will be promoted within the Travel Packs which will be issued to residents. This could include the health benefits of walking and highlight the network of walking routes in the local area.

Walking events

- 5.3.3 The Travel Information Packs will provide information on walking events and could also promote the Greenwich Get Walking programme where weekly walks are available, led by local volunteers or health trainers. Further information and walk timings can be found at: www.walkingforhealth.org.uk

5.4 Initiative to encourage cycling

Cycle parking

- 5.4.1 Secure cycle parking is provided for residents. All the long stay cycle parking will be provided in secure cycle stores at ground and basement levels. Access to the basement cycle parking will be provided via the ramped access to the basement. Visitor cycle parking will be provided in the form of Sheffield stands at ground level located within the public realm. The usage of cycle parking will be monitored as part of the overall monitoring strategy on the site.

Cycle maps and routes

- 5.4.2 Cycle information, including cycle maps showing key routes and other facilities such as local cycle parking locations and cycle shops, would be provided in the Travel Packs. Cycle route maps for Greenwich are available via the Greenwich Get Active website and for London wide routes they are available from: www.tfl.gov.uk/modes/cycling/routes-and-maps.

Cycle training

- 5.4.3 RBG offer free cycle training to anyone who works, studies or lives in the borough over the age of seven. The sessions take place in different locations around the borough. Participants can borrow bikes for free as well as helmets and high vis vests. The scheme offers three grades of one-to-one courses and group training courses. This helps them to understand and cycle the safest and most convenient route. These cycle training sessions would be promoted by the Travel Information Pack.

Bike maintenance courses

- 5.4.4 Bike maintenance courses are available at Charlton Athletic Football Stadium. Courses cost £10 per person and you need to bring your own bike.

Bicycle user Groups (BUG's)

- 5.4.5 The TPC will encourage the creation of a site wide BUG for residents and other occupiers providing the opportunity for cyclists to meet informally and discuss cycling related issues, such as safe cycle routes within the surrounding area.

Membership to the London Cycling Campaign (LCC)

- 5.4.6 LCC is a cyclists' organisation with local groups throughout London. Local LCC groups promote cycling locally, improve conditions for cyclists in their borough and organise leisure rides and social events and provide support for cyclists. The benefits on offer to LCC members include discounts at over 115 bike shops in London; exclusive cycle theft insurance packages; free third party insurance for damage or injury up to the value of £1 million; access to local LCC borough groups; and free legal advice. Membership could be promoted by the STM / TPCs and the details of the local LCC group together with membership information will be included within the Travel Packs.

5.5 Initiatives to reduce car use

- 5.5.1 The site is well located to take advantage of the good provision of public transport, whilst also having on-site amenities. The following measures will also be considered to reduce car use.

Low car parking provision

- 5.5.2 The Anchor and Hope Lane sites will provide car parking at an overall ratio of approximately 0.22 spaces per dwelling. The provision will meet the expected demand whilst also encouraging lower levels of car dependency and the use of sustainable travel choices.

Car clubs

- 5.5.3 Information on Car Club membership will be provided to residents along with current locations of car club bays. This means it is possible to not own a car but still have the ability to access the use of a car for essential journeys.

Electric vehicle charging points

- 5.5.4 Electric car charging points will be available within the development. A minimum provision of 20% of car parking bays will be fitted with electric vehicle charging points (EVCP). A further 20% of spaces will have a passive EVCP provisions enabling future electric car charging facilities to be provided if required.

Single trip deliveries

- 5.5.5 The site management will provide a facility to allow deliveries of small items to be made during the day and even when residents are not at home. The concierge will be responsible for signing for deliveries and storing packages in secure locations until they are picked up and signed for by the intended recipient. This service will therefore contribute to reduce the number of repeat deliveries to the development.

Provision of internet access at homes

- 5.5.6 All residential units within the development will have internet access, prior to occupation, providing residents with the opportunity to sign up to an internet provider. This enables residents to consider working from home, undertake web based shopping and provide access to travel information.

Initiatives to encourage the use of public transport

- 5.5.7 By the time the proposed development opens, it will be easily accessible by public transport. Future residents will be made aware of the full range of buses, national rail, docklands light railway and underground services available to them through the following measures:

Promotional material

- 5.5.8 Public transport information, such as access to route maps, timetables and fares, will be included in the Travel Packs.

Journey planners

- 5.5.9 Links to the TfL and National Rail journey planners, live bus stop tracking websites and smartphone applications will be promoted within the Travel Packs.

Real time travel information

- 5.5.10 Real time information is easily accessible for all public transport from TfL websites and mobile phone apps. These allow residents to tailor the information that they receive to the journeys they are making.

6 TRAVEL PLAN MEASURES FOR COMMERCIAL EMPLOYEES

6.1 Introduction

6.1.1 Commercial occupiers will be encouraged to include the range of Travel Plan measures which are outlined in this chapter. The STM will work with individual TPCs to ensure that the overall Travel Plan objectives for the site have been considered.

6.2 Provision of travel information

6.2.1 Informing future employees of the range of travel choices available to them as well as the Travel Plan measures which will be implemented at the development will be key to the success of the Travel Plan. The ways in which travel information would be provided are set out below.

Travel Pack

6.2.2 The workplace tenants will be provided with a Travel Information Pack upon occupation. Electronic versions of the travel information would also be made available. The Travel Pack will contain information on travel and the facilities within the development and could contain the following information:

- Provides an explanation of the Travel Plan, its purpose, aims and objectives and measures;
- contact details for the operation of the Travel Plan;
- information on the health benefits of walking and cycling;
- information on planning journey's on foot;
- TfL cycle network maps of the local area and information on the cycle tools in TfL journey planner;
- promotional material setting out the benefits of cycling and information on free adult cycle training from RBG;
- information and location of local car clubs;
- bus network maps and timetable information availability;
- rail network maps and timetables that are available; and
- links to TfL journey planner website and national rail website which provides journey planning and live departure information.

Internet

- 6.2.3 Information on travel planning website services such as TfL and Citymapper journey planners, to raise awareness of transport options, and alternatives in case of delays or cancellations. TfL journey planner: <http://www.tfl.gov.uk/plan-a-journey/>

Website

- 6.2.4 The occupiers of the commercial units could provide information on the location of the nearest transport links, including local buses and stations, cycling routes and Car Club bays on their own company website. Information on the purpose of the Travel Plan could also be provided along with the strategies and measures implemented. This would encourage visitors, new members of staff (and potentially interviewees seeking employment) to use sustainable modes of transport.

6.3 Increasing walking

- 6.3.1 To further encourage walking as a main mode of transport for staff, the following measures could be implemented:

Promotional material

- 6.3.2 Walking will be promoted within the Travel Information Packs which will be issued to tenants. This could include the health benefits of walking and highlight the network of walking routes in the local area.

6.4 Increasing cycling

- 6.4.1 The proposed development will include cycle parking facilities and cycle information will be provided in the Travel Information Packs. The Travel Plan measures to encourage cycling are set out below:

Cycle parking

- 6.4.2 Separate cycle parking will be provided by commercial operators within their demise for the use of staff of the commercial space. Visitor cycle parking will be provided in the form of Sheffield stands at ground level, located within the public realm.

Cycle maps and routes

- 6.4.3 Cycle information, including cycle maps showing key routes would be provided in the Travel Packs and could also be provided on the commercial tenant's website.

Bikes4Work scheme

- 6.4.4 The feasibility of providing interest free loans to purchase a bicycle tax free to staff should be explored by the commercial tenants.

Bicycle User Group (BUG)

- 6.4.5 Workplace BUG's support staff who cycle to and from work by setting up meetings to discuss cycle facility requirements at the workplace and organise events. BUG's are designed to encourage the uptake of cycling for employees.

Cycle training

- 6.4.6 RBG offer free adult cycle training to anyone who works, studies or lives in the borough. This helps occupiers to cycle the safest and most convenient routes.

6.5 Encouraging use of public transport

- 6.5.1 Commercial tenants will be made aware of the full range of bus services, national rail and underground services available to them through the following measures:

Promotional material

- 6.5.2 Access to public transport information, such as route maps, timetables and fares, will be included in the Travel Packs.

Journey planners

- 6.5.3 Links to the TfL and National Rail journey planners, live bus stop tracking websites and smartphone applications will be promoted within the Travel Packs.

Real time travel information

- 6.5.4 Real time information is easily accessible for all public transport from TfL websites and mobile phone apps. These allow residents to tailor the information that they receive to the journeys they are making.

Season Ticket loan

- 6.5.5 The feasibility of providing employees with interest free loans to purchase season tickets should be explored by commercial tenants. The loan is then payed back through the employee's salary.

6.6 Reducing vehicle trips

Low car parking provision

- 6.6.1 Two accessible car parking bays are provided for the commercial uses on the site. No general car parking for staff or visitors is provided. The restricted

parking provision will encourage the use of alternative more environmentally friendly modes.

6.1 Promotion of sustainable practices for deliveries

6.1.1 The baseline survey will collect information on the delivery patterns and the TPC will advise the occupiers about the following measures that could be implemented to make the servicing operations more sustainable:

Consolidating deliveries

6.1.2 Discussing the feasibility of consolidating deliveries which would involve combining and reducing the number of vehicle trips with the delivery operators.

Green vehicles

6.1.3 Use of hybrid, electric and other low carbon emission vehicles that are less harmful to the environment. Encouraging the use of delivery and collection companies which use green vehicles.

7 TRAVEL SURVEYS

7.1.1 This chapter sets out the proposed mode share for the Anchor and Hope Lane sites allowing targets to be set.

7.2 Indicative mode share

7.2.1 The development has not been built, therefore the indicative residential and workplace employee modal split is set out below in Table 7.1. The modal split has been derived from the 2011 Census data for the 'Method of Travel to Work' for the LSOA of Greenwich 004B for the residential mode split and MSOA Greenwich 004 for the Workplace mode split, further workings of the mode share calculations is provided within the Anchor and Hope Lane sites Transport Assessment which has been submitted alongside this FTP. As such the agreed mitigation for the development was based on the impacts arising from this mode split of trips.

Table 7.1 – Indicative travel mode split

Mode	Indicative modal split	
	Residential	Workplace
Underground / Light Rail	19.5%	14.4%
Train	15.4%	18.1%
Bus	25.5%	42.7%
Taxi	0.2%	0.4%
Motorcycle	0.6%	2.6%
Car driver	27.8%	0.0%
Car passenger	1.0%	0.0%
Bicycle	1.9%	4.0%
On Foot	7.5%	16.9%
Other	0.6%	0.9%
Total	100.0%	100.0%

8 TARGETS AND MONITORING

8.1.1 A Travel Plan is essentially a 'living document' which requires monitoring, review and revision to ensure it remains relevant to the organisation and those using the site and provides continuous improvements for its duration. This chapter sets out the targets for the Travel Plan and the monitoring and review process. Monitoring and review will be the responsibility of the STM

8.2 Targets

8.2.1 TfL provide recommendations on the requirements of targets as follows:

- Should be SMART, **S**pecific, **M**easureable, **A**ttainable, **R**ealistic, and **T**ime-bound, and should link to the objectives of the travel plan;
- Should enable measurement of success in achieving objectives of the travel plan;
- Enable enforcement; and
- A minimum five-year time frame, with interim targets at year one, three and five.

Residential

8.2.2 The targets set out below are based on the approximate proposed modal split found in Table 7.1. The targets are set out over a minimum five-year time frame. These provisional targets are included in Table 8.1.

Table 8.1 – Proposed residential targets by mode

Mode	Baseline mode split	Change in mode split	
		Year 3	Year 5
Underground / Light Rail	19.5%	+2.5%	+5%
Rail	15.4%		
Bus	25.5%		
Car Driver	27.8%	-5%	-10%
Walking	7.5%	+5%	+10%
Cycling	1.9%	+75%	+150%

8.2.3 The above mode split target are indicative and will therefore require refinement once the results of the initial Travel Survey have been received. Over the longer term, targets include reducing the peak hour car driver mode split by 10% over 5 years and a 150% increase in cycling usage will be encouraged over 5 years in accordance with the mayors Transport Strategy target for cycling.

Commercial tenants

8.2.4 The limited parking provision will ensure employees will naturally travel to and from the site via alternative more sustainable modes. The proposed mode split indicates that 97% of journeys made to the site by commercial tenants are by sustainable modes of transport. Therefore the commercial tenant's targets will be to maintain this modal split with a long term target of increasing the pedestrian modes have by 5% and cycle mode share by 25% in accordance with the Mayors Transport Strategy target for cycle use.

8.3 Monitoring

8.3.1 The monitoring regime for the development has been determined with reference to the requirements set out in the TfL 'Travel Planning for New Developments in London' guidance document. This recommends that Travel Plan's be monitored by means of a TRICS compliant survey.

8.3.2 The STM will arrange the initial full multi-modal travel survey to be undertaken for the development once a trigger point of 75% occupation is reached. The specification of the multi-modal surveys will be agreed within RBG prior to being undertaken, however, it is envisaged that the surveys will comprise the following components:

- Management questionnaire to identify site specific details (to be completed by the on-site management company);
- Core staff survey and travel diary for a sample of employees within the individual land uses.
- Pedestrian counts at the pedestrian access points into the site;
- Questionnaire/ interview surveys of residents within the site to identify the main mode share of the development.
- Visitor questionnaire surveys would be a personal interview targeting a sample of customers; and
- Vehicle movement and parking count, applicable to office land-uses only, spread throughout the day.

8.3.3 As required by the TfL guidance, a TRICS survey will be undertaken for the baseline survey; plus years 1, 3 and 5.

8.3.4 The precise dates of the future surveys will depend on the date of the baseline survey which will be undertaken once 75% of the development has been occupied. Therefore, at present, it is not possible to agree the calendar dates of

the future surveys. These will be clarified and agreed after the initial surveys have been undertaken.

- 8.3.5 The surveys will form the basis for the monitoring reports which will be submitted to the Council one year after the baseline surveys, and then again three and five years after the baseline survey.

9 ACTION PLAN

- 9.1.1 The programme for the implementation of the travel plan measures for the proposals will be produced, as and when, they are brought forward for development.
- 9.1.2 The action plan for the development will set out tasks, intended implementation dates and funding sources. It is intended to be a live document which will be updated by the STM to reflect the outcome of consultation with the local planning authority, once the first full multi-modal travel survey has been completed. The Residential and Commercial Action Plan for the development proposals is set out in Tables 9.1 and 9.2 respectively.

Table 9.1 – Residential Action Plan

Objective	Measures/Actions	When	Responsibility
- Raise awareness of sustainable modes of travel available	Appoint Sustainable Travel Manager (STM) and Travel Plan Co-ordinator (TPC)	Prior to first occupation	Developer
	Provide Travel Information Packs	When residents move in	STM
- Maintain the predicted sustainable travel patterns to and from the development; - Encourage users to move up within the sustainable transport hierarchy	Provide secure cycle parking in accordance with the standards set out in the Travel Plan	Prior to occupation	Developer
	Ensure all units will be able to access broadband subject to signing up to an Internet Service Provider	At occupation	Developer
- Monitor Travel Plan targets are being met	Undertake a baseline survey	When 75% of development is occupied	Developer (via STM)
	Undertake TRICS compliant survey and prepare monitoring reports	Years 1, 3 and 5	

Table 9.2- Commercial Action Plan

Objective	Measures/Actions	When	Responsibility
- Raise awareness of sustainable modes of travel available	Appoint Sustainable Travel Manager (STM)	Prior to first occupation	Developer/ Estate Management Staff
	Provide Travel Information Packs		Site management (via STM)
- Promote healthy lifestyles and sustainable local communities by promoting health benefits of walking and cycling.	Provide Travel Information Packs	Upon occupation	Site management (via STM)
- Encourage users to move up within the sustainable transport hierarchy	Provide commercial cycle parking	Prior to first occupation	Developer
- Monitor the Travel Plan to see whether targets are being met	Undertake a baseline survey	When 75% of development is occupied	Developer (via STM)
	Undertake TRICS compliant survey and prepare monitoring reports	Years 1, 3 and 5	

Appendix A

ATTrBuTe

Travel plan name	Anchor and Hope Lane sites
Planning application reference number	
Name of travel plan author	Transport Planning Practice
Email address of travel plan author	email@tppweb.co.uk
Telephone number of travel plan author	02076080008
Name of travel plan assessor	Henry Binnian
Job title/role of travel plan assessor	
Plan Type	Strategic level Framework Travel Plan (occupiers known)

--

The development		3/7
Does the framework travel plan include a commitment for occupiers of the site to develop individual travel plans within the context of the overarching plan?	NONE	0
Does the travel plan include details of the number of users expected on site (including employees, residents, deliveries and visitors)?	NONE	0
Does the travel plan include a) a breakdown of the different land uses expected on site? b) details of the size of each type of land use? c) details of how build-out of the development will be phased?	Section 1,2 provides breakdown and size of each land use.	2
Does the travel plan include a) full address of the development? b) contact details for the person responsible for preparing the travel plan?	Contact details are provided on contents page	1
Policy		1/2
Does the travel plan include reference to relevant national, regional and local/borough... a) transport and spatial policy? b) travel planning guidance?	Travel Planning Guidance	1
Site assessment		3/3
To what extent does the travel plan clearly describe the accessibility and quality of... a) existing transport networks and initiatives? b) existing travel initiatives available to all users?	Chapter 2	3
Surveys		3/3
Is a baseline modal split (actual trip numbers and percentage of all trips) estimated for the site?	Indicative modal split is provided in table 7.1	1
Does the travel plan propose the following? a) TRAVL compliant site user travel and freight surveys? b) an agreed date with the borough for the surveys to take place?	TRICS compliant survey baseline survey after 75% of development is occupied	2

Objectives		3/3
Does the travel plan include objectives which reflect... a) Mayoral policy & strategic guidance? b) local / borough policy and guidance? c) the challenges and opportunities specific to the site?	Objectives provided in chapter 3.	3
Targets		1/2
Have targets appropriate to the phasing of the development been set?	NONE	0
Are there targets linking directly to each objective?	Chapter 8	1
TP Co-ordinator		2/3
Has the framework travel plan co-ordinator.... a) roles and responsibilities been made clear? b) been allocated a sufficient amount of time to spend on the travel plan?	roles a responsibilities are set out in chapter 4	1
Has a site-wide travel plan co-ordinator been identified or is there agreement upon when a co-ordinator will be in place?	an agreement is set out in the Travel Plan	1
Measures		5/6
To what extent do the site-wide measures... a) support the objectives of the travel plan? b) reflect the context of the site?	NONE	3
Is an action plan provided which includes... a) short / medium / long term actions? b) timescales and responsibilities?	NONE	2
Is the action plan clear on how and when travel plans will be developed among occupying organisations?	NONE	0
Monitoring		2/2
Is it clear who is responsible for site-wide monitoring?	Chapter 8	1
Is a clear site-wide monitoring programme that adheres to the standardised approach included?	Chapter 8	1
Securing and enforcement		1/1
Is it clear how the travel plan will be secured?	Section 4.4	1
Funding		6/6
Has a sufficient budget been set for the site-wide... a) travel plan co-ordinator post? b) measures? c) monitoring programme?	NONE	3
Have funding streams been identified for the site-wide... a) travel plan co-ordinator post? b) measures? c) monitoring programme?	NONE	3
Total - PASS		30

Annex I

Residential Trip Generation

30821 Charlton Riverside
Residential trip rates

Canary Central
 Units

554

	CANARY CENTRAL Occupants In							CANARY CENTRAL Occupants Out												
	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people
	1	2	3	4+							1	2	3	4+						
0700-0800	4	0	0	0	0	4	0	1	6	11	6	1	0	0	1	7	1	0	143	152
0800-0900	6	1	0	1	4	8	0	0	9	21	6	2	0	1	5	9	0	1	303	318
0900-1000	4	3	1	0	4	8	0	0	17	29	1	0	0	0	5	1	0	0	89	95
1600-1700	10	8	0	0	8	18	0	0	40	66	5	1	1	1	6	8	0	0	13	27
1700-1800	9	3	0	0	3	12	1	0	77	93	8	2	1	0	4	11	1	0	15	31
1800-1900	7	8	1	0	10	16	1	0	166	193	17	2	0	0	2	19	0	0	34	55

NWP BUILDING
 Units

559

	NWP BUILDING Occupants In							NWP BUILDING Occupants Out												
	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people
	1	2	3	4+							1	2	3	4+						
0700-0800	6	1	0	0	1	7	2	2	27	39	12	5	1	0	7	18	1	1	155	182
0800-0900	8	2	0	0	2	10	0	0	15	27	10	4	0	0	4	14	1	0	232	251
0900-1000	11	2	1	0	4	14	0	0	20	38	13	5	0	0	5	18	0	0	93	116
1600-1700	9	6	0	0	6	15	0	0	20	41	14	5	0	0	5	19	0	0	23	47
1700-1800	9	7	0	0	7	16	2	0	67	92	3	6	0	1	9	10	1	0	37	57
1800-1900	14	7	4	3	24	28	0	1	114	167	15	3	3	1	12	22	0	0	43	77

KEMPTON CRT
 Units

80

	KEMPTON CRT Occupants In							KEMPTON CRT Occupants Out												
	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people
	1	2	3	4+							1	2	3	4+						
0700-0800	1	0	0	0	0	1	0	0	2	3	2	0	1	0	2	3	0	2	17	24
0800-0900	2	1	0	0	1	3	0	0	6	10	0	1	0	0	1	1	0	3	53	58
0900-1000	0	1	0	0	1	1	0	1	4	7	1	0	0	0	0	1	0	1	14	16
1600-1700	0	0	0	0	0	0	0	1	9	10	0	0	0	0	0	0	2	8	10	
1700-1800	4	0	0	0	0	4	0	4	26	34	2	0	0	0	0	2	0	1	14	17
1800-1900	1	0	0	0	0	1	0	0	20	21	2	0	0	0	0	2	0	0	16	18

CITY WALK
 Units

110

	CITY WALK Occupants In							CITY WALK Occupants Out												
	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people
	1	2	3	4+							1	2	3	4+						
0700-0800	0	0	0	0	0	0	1	1	3	5	0	0	0	0	0	0	0	1	19	20
0800-0900	0	0	0	0	0	0	0	1	1	1	0	1	0	0	1	1	2	4	42	50
0900-1000	5	0	0	0	0	5	2	0	5	12	1	1	0	0	1	2	3	1	9	16
1600-1700	0	0	0	0	0	0	0	0	17	17	1	0	0	0	0	1	1	0	12	14
1700-1800	3	0	0	0	0	3	1	3	12	19	1	0	0	0	0	1	1	0	8	10
1800-1900	4	0	0	0	0	4	0	2	18	24	0	0	0	0	0	0	0	2	11	13

BOW QUARTER
 Units

773

	BOW QUARTER Occupants In							BOW QUARTER Occupants Out												
	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people
	1	2	3	4+							1	2	3	4+						
0700-0800	3	1	0	0	1	4	1	0	19	25	13	7	0	0	7	20	4	16	195	242
0800-0900	11	1	0	0	1	12	1	0	23	37	16	3	1	0	5	20	6	17	320	368
0900-1000	7	0	0	0	0	7	0	0	23	30	7	0	0	0	7	2	10	115	134	
1600-1700	9	3	0	0	3	12	2	1	41	59	6	1	0	0	1	7	0	3	35	46
1700-1800	11	4	0	0	4	15	1	7	90	117	4	0	0	0	4	1	1	1	28	34
1800-1900	15	6	0	0	6	21	2	16	194	239	9	2	0	0	2	11	1	2	55	71

Residential units per development

Site	Units
Canary Central	554
NPW Building	559
Kempton Crt	80
City Walk	110
Bow Quarter	773
Total	2076

Total Trips (taken from the 5 sites above)

	Occupants In							Occupants Out												
	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people
	1	2	3	4+							1	2	3	4+						
0700-0800	14	2	0	0	2	16	4	4	57	83	33	13	2	0	17	48	7	19	529	620
0800-0900	27	5	0	1	8	33	1	0	54	96	32	11	1	1	16	45	9	25	950	1045
0900-1000	27	6	2	0	9	35	2	1	69	116	23	6	0	0	11	29	5	12	320	377
1600-1700	28	17	0	0	17	45	2	2	127	193	26	7	1	1	12	35	1	5	91	144
1700-1800	36	14	0	0	14	50	5	14	272	355	18	8	1	1	13	28	4	2	102	149
1800-1900	41	21	5	3	40	70	3	19	512	644	43	7	3	1	16	54	1	4	159	234

Trips Rates (derived from the 5 sites above)

	Occupants In							Occupants Out												
	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people	Car occupancy				Car passenger	Car driver	Motorcycle	Cycle	Walk / PT	Total people
	1	2	3	4+							1	2	3	4+						
0700-0800	0.007	0.001	0.000	0.000	0.001	0.008	0.002	0.002	0.027	0.040	0.016	0.006	0.001	0.000	0.008	0.023	0.003	0.009	0.255	0.299
0800-0900	0.013	0.002	0.000	0.000	0.004	0.016	0.000	0.000	0.026	0.046	0.015	0.005	0.000	0.000	0.008	0.022	0.004	0.012	0.458	0.503
0900-1000	0.013	0.003	0.001	0.000	0.004	0.017	0.001	0.000	0.033	0.056	0.011	0.003	0.000	0.000	0.005	0.014	0.002	0.006	0.154	0.182
1600-1700	0.013	0.008	0.000	0.000	0.008	0.022	0.001	0.001	0.061	0.093	0.013	0.003	0.000	0.000	0.006	0.017	0.000	0.002	0.044	0.069
1700-1800	0.017	0.007	0.000	0.000	0.007	0.024	0.002	0.007	0.131	0.171	0.009	0.004	0.000	0.000	0.006	0.013	0.002	0.001	0.049	0.072
1800-1900	0.020	0.010	0.002	0.001	0.019	0.034	0.001	0.009	0.247	0.310	0.021	0.003	0.001	0.000	0.008	0.026	0.000	0.002	0.077	0.113

30821 Charlton Riverside

Residential Trip generation

Units

975

	0800 - 0900			17:00 - 18:00		
	In	Out	Total	In	Out	Total
Person trip rate	0.046	0.504	0.550	0.311	0.113	0.423
Persons trips	45	491	536	303	110	413

Mode	Mode share	0800 - 0900			17:00 - 18:00		
		In	Out	Total	In	Out	Total
Underground / Light Rail (via bus)	15.4%	6.9	75.6	82.5	46.7	16.9	63.6
Underground / Light Rail (via rail)	4.1%	1.8	20.1	22.0	12.4	4.5	16.9
Train	15.4%	6.9	75.4	82.3	46.5	16.9	63.4
Bus	25.5%	11.5	125.3	136.8	77.3	28.1	105.4
Taxi	0.2%	0.1	1.0	1.1	0.6	0.2	0.9
Motorcycle	0.6%	0.3	3.1	3.3	1.9	0.7	2.6
Car driver	27.8%	12.5	136.5	149.0	84.2	30.6	114.8
Car passenger	1.0%	0.5	5.1	5.6	3.1	1.1	4.3
Bicycle	1.9%	0.8	9.2	10.0	5.7	2.1	7.7
On Foot	7.5%	3.4	36.7	40.0	22.6	8.2	30.8
Other	0.6%	0.3	3.1	3.3	1.9	0.7	2.6
Total	100.0%	45.0	491.0	536.0	303.0	110.0	413.0

Proposed numbers with rounding errors corrected:

Mode	Mode share	0800 - 0900			17:00 - 18:00		
		In	Out	Total	In	Out	Total
Underground / Light Rail	15%	7	76	83	47	17	64
Underground / Light Rail	4%	2	20	22	12	4	16
Train	15%	7	75	82	46	17	63
Bus	26%	12	125	137	77	28	105
Taxi	0%	0	1	1	1	0	1
Motorcycle	1%	0	3	3	2	1	3
Car driver	28%	13	137	150	84	31	115
Car passenger	1%	0	5	5	3	1	4
Bicycle	2%	1	9	10	6	2	8
On Foot	7%	3	37	40	23	8	31
Other	1%	0	3	3	2	1	3
Total	100.0%	45	491	536	303	110	413

Mode share from Greenwich 004B LSOA

Annex J

Non-Residential Trip Generation

30821 Charlton Riverside

Proposed B1 trips

Number of employees
85% of employees present
within the building to take
account of illness, meeting,

140
119

Mode share

The mode share for the proposed commercial staff is expected to be similar to existing staff in the local area. 2011 travel to work data for the workday population in Greenwich 004 has been examined. These have then been redistributed to take into account the proposed car parking provision.

Mode	Mode share	Re-distributed
Underground / light rail	6.9%	14.4%
Train	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%
Bicycle	1.9%	4.0%
On foot	8.1%	16.9%
Other	0.4%	0.9%
Total	100.0%	100.0%

Canary Wharf Employee Survey

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

Source: Canary Wharf Employee Travel Survey 2007

	AM Peak		PM Peak	
	In	Out	In	Out
Proposed	56	12	21	42

Proposed commercial trips

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (via bus)	6.8%	3.8	0.8	5	1.5	3	4
Underground / light rail (via rail)	7.6%	4.2	0.9	5	1.6	3	5
Train	18.1%	10.1	2.2	12	3.9	8	11
Bus	42.7%	23.8	5.1	29	9.1	18	27
Taxi	0.4%	0.2	0.0	0	0.1	0	0
Motorcycle	2.6%	1.5	0.3	2	0.6	1	2
Car driver	0.0%	0.0	0.0	0	0.0	0	0
Car passenger	0.0%	0.0	0.0	0	0.0	0	0
Bicycle	4.0%	2.2	0.5	3	0.9	2	3
On foot	16.9%	9.4	2.0	11	3.6	7	11
Other	0.9%	0.5	0.1	1	0.2	0	1
Total	100.0%	56	12	68	21	42	63

Proposed numbers with rounding errors corrected:

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (via bus)	6.8%	4	1	5	1	3	4
Underground / light rail (via rail)	7.6%	4	1	5	2	3	5
Train	18.1%	10	2	12	4	8	12
Bus	42.7%	24	5	29	9	18	27
Taxi	0.4%	0	0	0	0	0	0
Motorcycle	2.6%	2	0	2	0	1	1
Car driver	0.0%	0	0	0	0	0	0
Car passenger	0.0%	0	0	0	0	0	0
Bicycle	4.0%	2	1	3	1	2	3
On foot	16.9%	9	2	11	4	7	11
Other	0.9%	1	0	1	0	0	0
Total	100.0%	56	12	68	21	42	63

30821 Charlton Riverside
Proposed A1-A5 trips

Number of employees

30

Mode share

The mode share for the proposed commercial staff is expected to be similar to existing staff in the local area. 2011 travel to work data for the workday population in Greenwich 004 has been examined. These have then been redistributed to take into account the proposed car parking provision.

Mode	Mode share	Re-distributed
Underground / light rail	6.9%	14.4%
Train	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%
Bicycle	1.9%	4.0%
On foot	8.1%	16.9%
Other	0.4%	0.9%
Total	100.0%	100.0%

Canary Wharf Employee Survey

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

Source: Canary Wharf Employee Travel Survey 2007

	AM Peak		PM Peak	
	In	Out	In	Out
Proposed	14	3	5	11

Proposed commercial trips

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (via bus)	6.8%	1	0	1	0	1	1
Underground / light rail (via rail)	7.6%	1	0	1	0	1	1
Train	18.1%	3	1	3	1	2	3
Bus	42.7%	6	1	7	2	5	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
Bicycle	4.0%	1	0	1	0	0	1
On foot	16.9%	2	1	3	1	2	3
Other	0.9%	0	0	0	0	0	0
Total	100.0%	14	3	16	5	11	15

Proposed numbers with rounding errors corrected:

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (via bus)	6.8%	1	0	1	0	1	1
Underground / light rail (via rail)	7.6%	1	0	1	1	1	2
Train	18.1%	3	1	4	1	2	3
Bus	42.7%	6	1	7	2	5	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
Bicycle	4.0%	1	0	1	0	0	0
On foot	16.9%	2	1	3	1	2	3
Other	0.9%	0	0	0	0	0	0
Total	100.0%	14	3	17	5	11	16

D1 dentist

Staff

10

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (v)	6.8%	0.7		0.7		0.7	1
Underground / light rail (v)	7.6%	0.8		0.8		0.8	1
Train	18.1%	1.8		1.8		1.8	2
Bus	42.7%	4.3		4.3		4.3	4
Taxi	0.4%	0.0		0.0		0.0	0
Motorcycle	2.6%	0.3		0.3		0.3	0
Car driver	0.0%	0.0		0.0		0.0	0
Car passenger	0.0%	0.0		0.0		0.0	0
Bicycle	4.0%	0.4		0.4		0.4	0
On foot	16.9%	1.7		1.7		1.7	2
Other	0.9%	0.1		0.1		0.1	0
Total	100.0%	10.0		10.0		10.0	10.0

Proposed numbers with rounding errors corrected:

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (v)	6.8%	1	0	1	0	1	1
Underground / light rail (v)	7.6%	1	0	1	0	1	1
Train	18.1%	2	0	2	0	2	2
Bus	42.7%	4	0	4	0	4	4
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
Bicycle	4.0%	0	0	0	0	0	0
On foot	16.9%	2	0	2	0	2	2
Other	0.9%	0	0	0	0	0	0
Total	100.0%	10	0	10	0	10	9

D1 nursery

Staff

22

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (via bus)	6.8%	1.5		1		1.5	1
Underground / light rail (via rail)	7.6%	1.7		2		1.7	2
Train	18.1%	4.0		4		4.0	4
Bus	42.7%	9.4		9		9.4	9
Taxi	0.4%	0.1		0		0.1	0
Motorcycle	2.6%	0.6		1		0.6	1
Car driver	0.0%	0.0		0		0.0	0
Car passenger	0.0%	0.0		0		0.0	0
Bicycle	4.0%	0.9		1		0.9	1
On foot	16.9%	3.7		4		3.7	4
Other	0.9%	0.2		0		0.2	0
Total	100.0%	22.0		22		22.0	22

Proposed numbers with rounding errors corrected:

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (via bus)	6.8%	1	0	1	0	1	1
Underground / light rail (via rail)	7.6%	2	0	2	0	2	2
Train	18.1%	4	0	4	0	4	4
Bus	42.7%	9	0	9	0	9	9
Taxi	0.4%	0	0	0	0	0	0
Motorcycle	2.6%	1	0	1	0	1	1
Car driver	0.0%	0	0	0	0	0	0
Car passenger	0.0%	0	0	0	0	0	0
Bicycle	4.0%	1	0	1	0	1	1
On foot	16.9%	4	0	4	0	4	4
Other	0.9%	0	0	0	0	0	0
Total	100.0%	22	0	22	0	22	22

Children

76

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (via bus)		0	0	0	0	0	0
Underground / light rail (via rail)							
Train		0	0	0	0	0	0
Bus		0	0	0	0	0	0
Taxi		0	0	0	0	0	0
Motorcycle		0	0	0	0	0	0
Car driver		0	0	0	0	0	0
Car passenger		0	0	0	0	0	0
Bicycle		0	0	0	0	0	0
On foot		144	72	216	72	144	216
Other		0	0	0	0	0	0
Total		144	72	216	72	144	216

Total

Mode	Mode share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Underground / light rail (via bus)		1	0	1	0	1	1
Underground / light rail (via rail)		2	0	2	0	2	2
Train		4	0	4	0	4	4
Bus		9	0	9	0	9	9
Taxi		0	0	0	0	0	0
Motorcycle		1	0	1	0	1	1
Car driver		0	0	0	0	0	0
Car passenger		0	0	0	0	0	0
Bicycle		1	0	1	0	1	1
On foot		148	72	220	72	148	220
Other		0	0	0	0	0	0
Total		166	72	238	72	166	238

Annex K

Bus Analysis Report



Leopard Guernsey Anchor Propco Ltd

Anchor and Hope Lane Sites Bus Analysis

30821/D010b
December 2016

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A Bus Calculations

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 site located on Anchor and Hope Lane within the Royal Borough of Greenwich (RBG).

1.1.2 The site sits within a currently predominately industrial area located between Woolwich Road (A206) and the southern bank of the River Thames. The main access to the site is from Anchor & Hope Lane which runs between Woolwich Road and Bugsby's Way. The site consists of two main areas with a strip connecting to Anchor & Hope Lane to the west and another to the north towards the Thames Path. Figure 1.1 shows the location of the site.

Figure 1.1 - Site Location



1.1.3 The proposed development will provide 975 units residential as well as commercial space (A1, A3, B1, D1 and D2 use classes). The opening year is expected to be 2023. The description of development is as follows:

"Demolition of existing buildings and erection of 9 buildings ranging from 2 to 28 storeys in height for Class C3 residential use, with Class B1 employment space and flexible uses comprising Class A1 (retail), Class A3 (Café / Restaurant), Class D1 (Community Use) and Class D2 (Leisure) at ground floor and first floor level, alterations to existing vehicular access and creation of new pedestrian access from Anchor and Hope Lane and the riverside, creation of new areas of open space and landscaping together with the provision of associated car parking, cycle space, refuse and recycling storage, plant and all other associated works".

1.1.4 The scheme will provide the following:

- 975 residential units provided within 9 buildings ranging in height from 2 to 28 storeys, including extensive private gardens and roof terraces;
- 1,560 sqm (GIA) of office space;
- Ancillary residential facilities including gym, swimming pool, changing rooms totalling 864 sqm (GIA);
- 690 sqm (GIA) of flexible retail/restaurant/café/leisure use;
- 407 sqm (GIA) of community uses;
- Extensive external public realm improvements and landscaping; and
- Parking, services, plant and circulation.

1.2 Report Purpose

1.2.1 An assessment has been undertaken to evaluate the level of bus trips which could be expected to be generated by the proposed development. This report sets out the trip generation methodology and distribution by journey purpose, for all bus trips generated from the development site associated with the following six time periods:

- 0400-0700 (Night time)
- 0700-1000 (AM peak)
- 1000-1600 (Day time)
- 1600-1900 (PM peak)
- 1900-2200 (Evening); and
- 2200-0400 (Night time).

1.2.2 This report is set out as follows and a copy of all of the calculations is contained within Appendix A.

- **Chapter 2: Existing travel patterns by bus** – summarises the existing residential travel patterns by bus in Inner London.
- **Chapter 3: Residential bus trip generation** – sets out the methodology for estimating residential bus trips for the proposed development.
- **Chapter 4: Residential bus trip distribution** – sets out how the residential bus trips for the proposed development have been distributed.
- **Chapter 5: Commercial staff bus trip generation** – sets out how the methodology for estimating staff bus trips for the proposed development.
- **Chapter 6: Commercial staff bus trip distribution** – sets out how the staff bus trips for the proposed development have been distributed.
- **Chapter 7: Total development bus trip distribution** – sets out the total developments bus trip distribution.

2 EXISTING RESIDENTIAL TRAVEL PATTERNS BY BUS

2.1 Introduction

2.1.1 This chapter sets out the analysis of the London Travel Demand Survey's (LTDS) for 2010-2013, including the daily profile of residential bus trips and journey purpose by bus. The full analysis of the data is included in Appendix A and summarised within this report.

2.2 Residential bus trips

2.2.1 The London Travel Demand Survey (LTDS) is a continuous household survey of the London area, covering all London boroughs and the City of London. Three years of LTDS data are combined (2010-2013) to provide average figures to ensure a large enough sample size to give robust results. This data has been examined for Inner London, excluding Central London:

- **Inner London** consists of London boroughs of Camden, Hackney, Hammersmith & Fulham, Haringey, Islington, Kensington & Chelsea, Lambeth, Lewisham, Newham, Southwark, Tower Hamlets, Wandsworth, the City of Westminster, and the City of London.
- **Central London** is defined as an area roughly rectangular in shape, bounded by Regent's Park to the north, Whitechapel to the east, Elephant & Castle and Vauxhall to the south, and Kensington Gardens to the west.

2.2.2 The LTDS has been used to determine the inbound and outbound total person trips, for all modes of transport and journey purposes, associated with all surveyed households in Inner London (excluding Central London). These are summarised in Table 2.1.

Table 2.1 - LTDS Total Person Trips for Inner London (excluding Central London)

Time Period	Total Person Trips from LTDS		
	Inbound	Outbound	Two-way
0400-0700	10,790	139,000	149,790
0700-1000	167,300	1,322,670	1,489,970
1000-1600	1,060,570	1,033,140	2,093,710
1600-1900	833,690	337,260	1,170,950
1900-2200	373,560	183,220	556,780
2200-0400	200,410	27,470	227,880

2.2.3 The proportions of LTDS total person trips which are bus trips have been derived for inbound and outbound journeys, per time period, for all surveyed households. The daily profile of residential bus trips over the day are shown in Table 2.2.

Table 2.2 - Daily Profile of Residential Bus Trips for Inner London (excluding Central London)

Time Period	% of LTDS Bus Trips to Total Person Trips	
	Inbound	Outbound
0400-0700	15%	24%
0700-1000	11%	22%
1000-1600	24%	25%
1600-1900	19%	15%
1900-2200	15%	13%
2200-0400	19%	10%

2.3 Residential journey purpose by bus

2.3.1 The LTDS data has been examined for journey purpose. The percentages of LTDS bus trips for each journey purpose (work, education, shopping and personal business, leisure, and other) associated with all inbound and outbound trips to and from households within Inner London, excluding Central London, have been calculated. The percentages in Table 2.2 have been split by journey purpose and the results are set out in Tables 2.3 and 2.4 below.

Table 2.3 - LTDS Inbound Journey Purpose by Bus

Time Period	Inbound				
	Work	Education	Shopping and personal business	Leisure	Other (inc Escort/Worship)
0400-0700	67%	0%	33%	0%	0%
0700-1000	15%	1%	31%	13%	41%
1000-1600	10%	24%	50%	10%	6%
1600-1900	33%	17%	29%	17%	4%
1900-2200	29%	4%	9%	48%	10%
2200-0400	31%	1%	4%	58%	6%

Table 2.4 - LTDS Outbound Journey Purpose by Bus

Time Period	Outbound				
	Work	Education	Shopping and personal business	Leisure	Other (inc Escort/Worship)
0400-0700	89%	2%	3%	5%	1%
0700-1000	39%	39%	10%	4%	7%
1000-1600	12%	5%	54%	22%	7%
1600-1900	13%	6%	28%	36%	17%
1900-2200	18%	0%	4%	62%	15%
2200-0400	47%	0%	13%	41%	0%

3 RESIDENTIAL BUS TRIP GENERATION

3.1 Introduction

3.1.1 This chapter sets out the methodology for estimating bus trips for the proposed 975 residential apartments.

3.2 Person trips

3.2.1 In order to determine the number of total person trips associated with the residential land use, the following peak period trip surveys have been used. This method has been agreed with TfL when scoping the Transport Assessment (TA).

- Canary Central, Lighterman's Road, E14 (April 2006) – 544 residential apartments (private & 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).

3.2.2 The surveys were undertaken between the hours of 0700 - 1000 (AM peak hour period) and 1600 - 1900 (PM peak hour period). Total person trip rates were then derived and applied to the proposed 975 units and these are summarised in Table 3.1. Further details of the trip generation are contained within the TA.

Table 3.1 - Total Development Person Trips in the Peak Periods

	Time period	Inbound	Outbound	Total two-way
AM	0700-0800	39	291	1097
	0800-0900	45	491	
	0900-1000	54	177	
PM	1600-1700	91	68	808
	1700-1800	167	70	
	1800-1900	302	110	

3.2.3 The total person trips associated with all the other time periods being assessed for this bus analysis have been calculated by applying a factor of 0.016% to LTDS data contained within Table 2.1. This factor is the average proportion of the peak period development trips to the LTDS peak period trips and has been derived by undertaking the following calculation:

$$\frac{\text{Total development person trips for the AM \& PM peak periods}}{\text{Total person trips in the LTDS data for the AM \& PM peak period}} = 0.016\%$$

3.2.4 The estimated total development person trips by time period over 24-hours are summarised in Table 3.2.

Table 3.2 - Total Development Person Trips

Time Period	Total Person Trips		
	Inbound	Outbound	Two - Way
0400-0700	8	100	108
0700-1000	138	959	1097
1000-1600	759	740	1499
1600-1900	560	248	808
1900-2200	267	131	398
2200-0400	143	20	163

Note: 0700-1000 and 1600-1900 person trips calculated based on surveys. Other time periods calculated by applying a factor of 0.056% to the LTDS data.

3.3 Residential bus trip generation

3.3.1 The residential bus trips for the proposed development have been estimated using the proportion of LTDS total person trips which are bus trips. These proportions (as set out in Table 2.2) have been applied to the total development person trips shown in the above table.

3.3.2 The resulting daily profile of residential bus trips are shown in Table 3.3 below.

Table 3.3 - Total Development Residential Bus Trips

Time Period	Inbound	Outbound	Total
0400-0700	1	24	25
0700-1000	15	207	222
1000-1600	180	182	362
1600-1900	108	37	145
1900-2200	39	17	56
2200-0400	27	2	29

3.3.3 The total residential bus trips have then been split by journey purpose. This is based on the percentages of bus trips by journey purpose derived from the LTDS data (as set out in Tables 2.3 and 2.4). This provides a daily profile of

development bus trips by journey purpose and the results for inbound trips are summarised in Table 3.4 and outbound trips are summarised in Table 3.5.

Table 3.4 - Daily Profile of Inbound Residential Bus Trips by Journey Purpose

Time Period	Inbound					Total
	Work	Education	Shopping and personal business	Leisure	Other (inc Escort/Worship)	
0400-0700	1	0	0	0	0	1
0700-1000	2	0	5	2	6	15
1000-1600	17	44	89	18	12	180
1600-1900	36	18	31	19	5	108
1900-2200	11	2	3	19	4	39
2200-0400	8	0	1	16	2	27

Table 3.5 - Daily Profile of Outbound Residential Bus Trips by Journey Purpose

Time Period	Outbound					Total
	Work	Education	Shopping and personal business	Leisure	Other (inc Escort/Worship)	
0400-0700	22	0	1	1	0	24
0700-1000	81	81	21	9	15	207
1000-1600	22	10	98	39	13	182
1600-1900	5	2	11	13	6	37
1900-2200	3	0	1	11	2	17
2200-0400	1	0	0	1	0	2

4 RESIDENTIAL BUS TRIP DISTRIBUTION

4.1.1 This chapter sets out the methodology used to distribute residential bus trips established in Chapter 3 for the proposed development.

4.2 Trip distribution proportions

4.2.1 The geographical location of local employment zones, secondary schools, shopping and leisure facilities from the site have been examined in order to determine the distribution of bus trips. The distribution of trips per journey purpose is summarised in Table 4.1 below.

Table 4.1 - Distribution of Bus Trips by Direction and Purpose

Journey Purpose	West	East	North	South
Work	50%	30%	0%	20%
Education	20%	50%	0%	30%
Shopping and personal business	50%	40%	0%	10%
Leisure	45%	35%	0%	20%
Other	40%	30%	0%	30%

4.3 Residential bus trip distribution

4.3.1 The bus distribution percentages in the above table have been applied to the daily profile of development bus trips (Tables 3.4 and 3.5). The results are shown in Table 4.2, 4.3 and 4.4.

Table 4.2 - Distribution of Residential Inbound Bus Trips

Time Period	Inbound			
	West	East	North	South
0400-0700	1	0	0	0
0700-1000	7	5	0	3
1000-1600	75	72	0	33
1600-1900	47	40	0	21
1900-2200	18	13	0	8
2200-0400	12	9	0	6

Table 4.3 - Distribution of Residential Outbound Bus Trips

Time Period	Outbound			
	West	East	North	South
0400-0700	12	7	0	5
0700-1000	77	81	0	49
1000-1600	85	68	0	29
1600-1900	17	13	0	7
1900-2200	8	6	0	3
2200-0400	1	1	0	0

Table 4.4 - Distribution of Residential Two-way Bus Trips

Time Period	Two-way			
	West	East	North	South
0400-0700	12	8	0	5
0700-1000	85	86	0	52
1000-1600	159	141	0	61
1600-1900	64	54	0	28
1900-2200	26	19	0	12
2200-0400	13	10	0	6

5 COMMERCIAL STAFF BUS TRIP GENERATION

5.1 Introduction

5.1.1 This chapter sets out the methodology for estimating staff bus trips generated from the proposed commercial land use. It should be noted that the proposed community health club and retail elements of the proposed development are expected to be ancillary to the residential part of the development and would not become a 'destination'. Therefore, customers would be expected to arrive on foot. Hence, the reason for considering staff bus trips only.

5.2 Commercial staff bus trips

5.2.1 LTDS data was considered suitable to use for commercial staff trips. It is estimated that the proposed commercial uses would have a daily staffing of 203 employees on a typical day. The resulting daily profile of staff trips are shown in Table 5.1 below.

Table 5.1 - Total Development Commercial Staff Trips

Time Period	Inbound	Outbound	Total
0400-0700	33	2	35
0700-1000	124	6	130
1000-1600	32	45	77
1600-1900	8	96	104
1900-2200	4	31	35
2200-0400	2	23	25

5.2.2 Table 5.1 shows that the proposed commercial uses are expected to generate 203 two-way employee trips throughout the entire day. To calculate the number of staff who would travel to the site by bus the 2011 Census 'method of travel to work data' for the Lower Layer Super Output Area of Greenwich 004 was used. The mode share data was adjusted to remove vehicular trips and account for 'second leg' bus trips made to the site from Greenwich. The staff mode share has been calculated to be 49.5%. Table 5.2 presents the expected number of staff who travel to the site by bus during each time period.

Table 5.2 - Total Development Commercial Staff Bus Trips

Time Period	Inbound	Outbound	Total
0400-0700	16	1	17
0700-1000	61	3	64
1000-1600	16	23	39
1600-1900	4	47	51
1900-2200	2	15	17
2200-0400	1	11	12

6 COMMERCIAL STAFF BUS TRIP DISTRIBUTION

6.1.1 This chapter sets out the methodology used to distribute commercial staff bus trips established in Chapter 5 for the proposed commercial uses.

6.2 Trip distribution proportions

6.2.1 Census 2011 'place of work' data has been analysed for employees working within Greenwich to obtain the proposed bus trip distribution which is presented in Table 6.1 below.

Table 6.1 - Distribution of Bus Trips by Direction

	West	East	North	South
Trip distribution by %	30	40	0	30

6.3 Staff bus trip distribution

6.3.1 The bus distribution percentages in the above table have been applied to the daily profile of development bus trips in Tables 6.2, 6.3 and 6.4.

Table 6.2 - Distribution of Staff Inbound Bus Trips

Time Period	Inbound			
	West	East	North	South
0400-0700	10	13	0	10
0700-1000	37	50	0	37
1000-1600	10	13	0	10
1600-1900	2	3	0	2
1900-2200	1	2	0	1
2200-0400	1	1	0	1

Table 6.3 - Distribution of Staff Outbound Bus Trips

Time Period	Outbound			
	West	East	North	South
0400-0700	1	1	0	1
0700-1000	2	2	0	2
1000-1600	14	18	0	14
1600-1900	29	38	0	29
1900-2200	9	12	0	9
2200-0400	7	9	0	7

Table 6.4 - Distribution of Staff Two-way Bus Trips

Time Period	Two-way			
	West	East	North	South
0400-0700	11	14	0	11
0700-1000	39	52	0	39
1000-1600	24	31	0	24
1600-1900	31	41	0	31
1900-2200	10	15	0	10
2200-0400	8	10	0	8

7 TOTAL DEVELOPMENT BUS TRIP DISTRIBUTION

7.1.1 This chapter combines the residential and commercial staff bus trip distribution to generate the total bus trip distribution for the entire development. Tables 7.1, 7.2 and 7.3 provide a summary of the proposed bus trip distribution for the development.

Table 7.1 - Distribution of proposed Inbound Bus Trips

Time Period	Inbound			
	West	East	North	South
0400-0700	11	13	0	10
0700-1000	44	55	0	40
1000-1600	85	85	0	43
1600-1900	49	43	0	23
1900-2200	19	15	0	9
2200-0400	13	10	0	7

Table 7.2 - Distribution of proposed Outbound Bus Trips

Time Period	Outbound			
	West	East	North	South
0400-0700	13	8	0	6
0700-1000	79	83	0	51
1000-1600	99	86	0	43
1600-1900	46	51	0	36
1900-2200	17	18	0	12
2200-0400	8	10	0	7

Table 7.3 - Distribution of proposed Two-way Bus Trips

Time Period	Two-way			
	West	East	North	South
0400-0700	23	22	0	16
0700-1000	124	138	0	91
1000-1600	183	172	0	85
1600-1900	95	95	0	59
1900-2200	36	34	0	22
2200-0400	21	20	0	14

7.1.2 Tables 7.1, 7.2 and 7.3 above provide Transport for London with the information they require in order to assess the effects of the development proposals on their current and future bus network.

Appendix A

Bus Calculations

London Travel Demand Survey 2010-2013 (Inner London, excluding Central London)**0400-0700 (Inbound)**

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	0						0
02 Underground/DLR	350			410			760
03 Bus (+sch/wk bus/coach/tram)	1050			520	0		1570
04 Taxi/Other							
05 Car (+ van/lorry/mcycle)	2400	390		530		1310	4630
06 Walk/Cycle				870	2960	0	3830
Total	3800	390		2330	2960	1310	10790

0400-0700 (Outbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	12620	5600	720		370		19310
02 Underground/DLR	23180	4510	260		190	690	28830
03 Bus (+sch/wk bus/coach/tram)	24780	5340	810	1020	1780	200	33930
04 Taxi/Other	900	270		340	320	740	2570
05 Car (+ van/lorry/mcycle)	16930	10300	80	830	1350	3300	32790
06 Walk/Cycle	13740	2100	360	860	4100	410	21570
Total	92150	28120	2230	3050	8110	5340	139000

0700-1000 (Inbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	390	190				1030	1610
02 Underground/DLR	2000	1340		270	1130	880	5620
03 Bus (+sch/wk bus/coach/tram)	2130	520	180	5620	2280	7430	18160
04 Taxi/Other							
05 Car (+ van/lorry/mcycle)	1190	150		5660	3080	29840	39920
06 Walk/Cycle	2220	1180	770	21290	12080	64450	101990
Total	7930	3380	950	32840	18570	103630	167300

0700-1000 (Outbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	84720	13480	13070	3160	2730	2450	119610
02 Underground/DLR	161210	30620	26650	7130	4290	2960	232860
03 Bus (+sch/wk bus/coach/tram)	90850	21450	111360	29000	12310	21190	286160
04 Taxi/Other	2900	1980	210	1280	440	380	7190
05 Car (+ van/lorry/mcycle)	65700	33000	37270	19070	17580	55650	228270
06 Walk/Cycle	102460	21360	157710	36260	26090	104700	448580
Total	507840	121890	346270	95900	63440	187330	1322670

1000-1600 (Inbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	4650	6090	5530	4140	4950	820	26180
02 Underground/DLR	9350	5970	8770	14180	6110	2780	47160
03 Bus (+sch/wk bus/coach/tram)	14490	9590	61050	124260	25500	16030	250920
04 Taxi/Other	0	350	230	8110	1460	160	10310
05 Car (+ van/lorry/mcycle)	21870	17060	21970	80140	26010	44250	211300
06 Walk/Cycle	19440	10290	125720	189030	85560	84660	514700
Total	69800	49350	223270	419860	149590	148700	1060570

1000-1600 (Outbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	4040	3380	1390	7570	14580	720	31680
02 Underground/DLR	18180	16890	12370	28500	19330	6510	101780
03 Bus (+sch/wk bus/coach/tram)	19110	10780	13460	136910	55010	18540	253810
04 Taxi/Other	440	960	470	4180	2810	280	9140
05 Car (+ van/lorry/mcycle)	13470	13370	1280	88460	50160	41490	208230
06 Walk/Cycle	17610	17740	13610	194730	98000	86810	428500
Total	72850	63120	42580	460350	239890	154350	1033140

1600-1900 (Inbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	47670	13150	3250	1730	5940	160	71900
02 Underground/DLR	71560	22470	13950	8010	9800	690	126480
03 Bus (+sch/wk bus/coach/tram)	43100	10200	27010	46020	28110	6870	161310
04 Taxi/Other	0	810		2020	230	540	3600
05 Car (+ van/lorry/mcycle)	61100	30030	13340	35150	22650	34180	196450
06 Walk/Cycle	50550	16050	27080	82320	71050	26900	273950
Total	273980	92710	84630	175250	137780	69340	833690

1600-1900 (Outbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	570	200	100	620	7890	880	10260
02 Underground/DLR	3270	4030	1390	4480	15980	1850	31000
03 Bus (+sch/wk bus/coach/tram)	3670	2970	3240	14400	18340	8470	51090
04 Taxi/Other	120	310		800	1190	0	2420
05 Car (+ van/lorry/mcycle)	8600	4300	2580	14670	32720	26870	89740
06 Walk/Cycle	4320	4030	1960	63450	61870	17120	152750
Total	20550	15840	9270	98420	137990	55190	337260

1900-2200 (Inbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	10650	2160	760	2590	7510		23670
02 Underground/DLR	14890	3700	1740	2930	17460	1580	42300
03 Bus (+sch/wk bus/coach/tram)	10540	5340	2200	4840	26350	5740	55010
04 Taxi/Other	190	330		1650	3300	270	5740
05 Car (+ van/lorry/mcycle)	21750	7310	2330	19200	43750	20370	114710
06 Walk/Cycle	14510	5450	4530	38710	58310	10620	132130
Total	72530	24290	11560	69920	156680	38580	373560

1900-2200 (Outbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	490	190		1090	2950		4720
02 Underground/DLR	1130	270			11210		12610
03 Bus (+sch/wk bus/coach/tram)	3040	1410		1050	15110	3750	24360
04 Taxi/Other	130	180			7600	0	7910
05 Car (+ van/lorry/mcycle)	3770	1320		6600	30020	13780	55490
06 Walk/Cycle	1200	720		23820	45210	7180	78130
Total	9760	4090		32560	112100	24710	183220

2200-0400 (Inbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground	1330	500		380	7920	0	10130
02 Underground/DLR	5960	4630	310	950	15140	570	27560
03 Bus (+sch/wk bus/coach/tram)	10170	1300	390	1620	21630	2370	37480
04 Taxi/Other	1710	0		750	14400	370	17230
05 Car (+ van/lorry/mcycle)	5940	4420	130	3230	34930	8910	57560
06 Walk/Cycle	4030	1090	160	6240	33020	5910	50450
Total	29140	11940	990	13170	127040	18130	200410

2200-0400 (Outbound)

Mode	01 Usual workplace	02 Other work related	03 Education	04 Shopping and personal business	05 Leisure	06 Other (inc Escort/Worship)	Total
01 National Rail/Overground					180		180
02 Underground/DLR	0				920		920
03 Bus (+sch/wk bus/coach/tram)	800	480		350	1120		2750
04 Taxi/Other				270	1110		1380
05 Car (+ van/lorry/mcycle)	1960	780		770	2650	2770	8930
06 Walk/Cycle	210			3050	5670	4380	13310
Total	2970	1260		4440	11650	7150	27470

30821 Charlton Riverside
Residential Bus Trip Generation

Residential units **975**

Total Development Person Trips

Time period	Total trip rates in	Total trip rates out	Total person in	Total person out
0700-0800	0.040	0.299	39	291
0800-0900	0.046	0.503	45	491
0900-1000	0.056	0.182	54	177
1600-1700	0.093	0.069	91	68
1700-1800	0.171	0.072	167	70
1800-1900	0.310	0.113	302	110

Total Person Trips

Time Period	Total Person Trips from LTDS (Inner London)			Total Proposed Person Trips		
	Inbound	Outbound	Two - Way	Inbound	Outbound	Two - Way
0400-0700	10790	139000	149790	8	100	107
0700-1000	167300	1322670	1489970	139	959	1098
1000-1600	1060570	1033140	2093710	759	740	1499
1600-1900	833690	337260	1170950	560	248	807
1900-2200	373560	183220	556780	267	131	399
2200-0400	200410	27470	227880	143	20	163

0.072%

Bus Trips

Time Period	Proportion of Total Person Trips that are Bus Trips*		Development Bus Trips		
	Inbound	Outbound	Inbound	Outbound	Two - Way
0400-0700	15%	24%	1	24	25
0700-1000	11%	22%	15	207	223
1000-1600	24%	25%	180	182	361
1600-1900	19%	15%	108	37	146
1900-2200	15%	13%	39	17	57
2200-0400	19%	10%	27	2	29

* From London Travel Demand Survey 2010-2013 for Inner London

Mode Split per Journey Purpose*

Time Period	Inbound (destination)					Outbound (origin)				
	Work	Education	Shopping and personal business	Leisure	Other (inc Escort/Worship)	Work	Education	Shopping and personal business	Leisure	Other (inc Escort/Worship)
0400-0700	67%	0%	33%	0%	0%	89%	2%	3%	5%	1%
0700-1000	15%	1%	31%	13%	41%	39%	39%	10%	4%	7%
1000-1600	10%	24%	50%	10%	6%	12%	5%	54%	22%	7%
1600-1900	33%	17%	29%	17%	4%	13%	6%	28%	36%	17%
1900-2200	29%	4%	9%	48%	10%	18%	0%	4%	62%	15%
2200-0400	31%	1%	4%	58%	6%	47%	0%	13%	41%	0%

* From London Travel Demand Survey 2010-2013 for Inner London

Bus Trips per Journey Purpose

Time Period	Inbound (destination)					Total	Outbound (origin)					Total
	Work	Education	Shopping and personal business	Leisure	Other (inc Escort/Worship)		Work	Education	Shopping and personal business	Leisure	Other (inc Escort/Worship)	
0400-0700	0.75	0.00	0.37	0.00	0.00	1.12	21.56	0.58	0.73	1.27	0.14	24.29
0700-1000	2.19	0.15	4.65	1.89	6.15	15.04	81.43	80.74	21.03	8.93	15.36	207.49
1000-1600	17.24	43.70	88.96	18.26	11.48	179.63	21.40	9.64	98.01	39.38	13.27	181.70
1600-1900	35.79	18.14	30.90	18.88	4.61	108.32	4.87	2.38	10.57	13.46	6.22	37.49
1900-2200	11.37	1.57	3.46	18.86	4.11	39.38	3.19	0.00	0.75	10.82	2.68	17.44
2200-0400	8.21	0.28	1.16	15.48	1.70	26.83	0.92	0.00	0.25	0.80	0.00	1.97

Residential Bus Trip Distribution

Bus Trip / Journey Purpose

Time Period	Inbound (destination)					Total
	Work	Education	Shopping & personal business	Leisure	Other (inc Escort/Worship)	
0400-0700	1	0	0	0	0	1
0700-1000	2	0	5	2	6	15
1000-1600	17	44	89	18	11	180
1600-1900	36	18	31	19	5	108
1900-2200	11	2	3	19	4	39
2200-0400	8	0	1	15	2	27

Time Period	Outbound (origin)					Total
	Work	Education	Shopping & personal business	Leisure	Other (inc Escort/Worship)	
0400-0700	22	1	1	1	0	24
0700-1000	81	81	21	9	15	207
1000-1600	21	10	98	39	13	182
1600-1900	5	2	11	13	6	37
1900-2200	3	0	1	11	3	17
2200-0400	1	0	0	1	0	2

Journey Purpose - Work

West	50%
East	30%

Time Period	Inbound			Outbound			Two-way		
	West	East	Total	West	East	Total	West	East	Total
0400-0700	0	0	1	11	6	22	11	7	18
0700-1000	1	1	2	41	24	81	42	25	67
1000-1600	9	5	17	11	6	21	19	12	31
1600-1900	18	11	36	2	1	5	20	12	33
1900-2200	6	3	11	2	1	3	7	4	12
2200-0400	4	2	8	0	0	1	5	3	7

Journey Purpose - Education

West	20%
East	50%

Time Period	Inbound			Outbound			Two-way		
	West	East	Total	West	East	Total	West	East	Total
0400-0700	0	0	0	0	0	1	0	0	0
0700-1000	0	0	0	16	40	81	16	40	57
1000-1600	9	22	44	2	5	10	11	27	37
1600-1900	4	9	18	0	1	2	4	10	14
1900-2200	0	1	2	0	0	0	0	1	1
2200-0400	0	0	0	0	0	0	0	0	0

Journey Purpose - Shopping & Personal business

West 50%
East 40%

Time Period	Inbound			Outbound			Two-way		
	West	East	Total	West	East	Total	West	East	Total
0400-0700	0	0	0	0	0	1	1	0	1
0700-1000	2	2	5	11	8	21	13	10	23
1000-1600	44	36	89	49	39	98	93	75	168
1600-1900	15	12	31	5	4	11	21	17	37
1900-2200	2	1	3	0	0	1	2	2	4
2200-0400	1	0	1	0	0	0	1	1	1

Journey Purpose - Leisure

West 45%
East 35%

Time Period	Inbound			Outbound			Two-way		
	West	East	Total	West	East	Total	West	East	Total
0400-0700	0	0	0	1	0	1	1	0	1
0700-1000	1	1	2	4	3	9	5	4	9
1000-1600	8	6	18	18	14	39	26	20	46
1600-1900	8	7	19	6	5	13	15	11	26
1900-2200	8	7	19	5	4	11	13	10	24
2200-0400	7	5	15	0	0	1	7	6	13

Journey Purpose - Other

West 40%
East 30%

Time Period	Inbound			Outbound			Two-way		
	West	East	Total	West	East	Total	West	East	Total
0400-0700	0	0	0	0	0	0	0	0	0
0700-1000	2	2	6	6	5	15	9	6	15
1000-1600	5	3	11	5	4	13	10	7	17
1600-1900	2	1	5	2	2	6	4	3	8
1900-2200	2	1	4	1	1	3	3	2	5
2200-0400	1	1	2	0	0	0	1	1	1

Total Trips in Each Direction

Time Period	Inbound			Outbound			Two-way		
	West	East	Total	West	East	Total	West	East	Total
0400-0700	1	0	1	11.89	7.54	19	12.45	7.91	20.37
0700-1000	7	5	12	77.54	80.94	158	84.30	86.05	170.35
1000-1600	75	72	147	84.66	68.21	152.87	159.31	140.65	299.95
1600-1900	47	40	87	16.74	13.45	30.19	64.05	53.61	117.66
1900-2200	18	13	31	7.91	5.85	13.76	25.77	19.27	45.04
2200-0400	12	9	234	0.94	0.66	1.60	13.33	9.65	22.98

Residential Bus Trip Distribution

Bus Trip / Journey Purpose

Time Period	Inbound (destination)					Total
	Work	Education	Shopping & personal business	Leisure	Other (inc Escort/Worship)	
0400-0700	1	0	0	0	0	1
0700-1000	2	0	5	2	6	15
1000-1600	17	44	89	18	11	180
1600-1900	36	18	31	19	5	108
1900-2200	11	2	3	19	4	39
2200-0400	8	0	1	15	2	27

Time Period	Outbound (origin)					Total
	Work	Education	Shopping & personal business	Leisure	Other (inc Escort/Worship)	
0400-0700	22	1	1	1	0	24
0700-1000	81	81	21	9	15	207
1000-1600	21	10	98	39	13	182
1600-1900	5	2	11	13	6	37
1900-2200	3	0	1	11	3	17
2200-0400	1	0	0	1	0	2

Journey Purpose - Work

North	0%
South	20%

Time Period	Inbound			Outbound			Two-way		
	North	South	Total	North	South	Total	North	South	Total
0400-0700	0	0	1	0	4	22	0	4	4
0700-1000	0	0	2	0	16	81	0	17	17
1000-1600	0	3	17	0	4	21	0	8	8
1600-1900	0	7	36	0	1	5	0	8	8
1900-2200	0	2	11	0	1	3	0	3	3
2200-0400	0	2	8	0	0	1	0	2	2

Journey Purpose - Education

North	0%
South	30%

Time Period	Inbound			Outbound			Two-way		
	North	South	Total	North	South	Total	North	South	Total
0400-0700	0	0	0	0	0	1	0	0	0
0700-1000	0	0	0	0	24	81	0	24	24
1000-1600	0	13	44	0	3	10	0	16	16
1600-1900	0	5	18	0	1	2	0	6	6
1900-2200	0	0	2	0	0	0	0	0	0
2200-0400	0	0	0	0	0	0	0	0	0

Journey Purpose - Shopping & Personal business

North 0%
South 10%

Time Period	Inbound			Outbound			Two-way		
	North	South	Total	North	South	Total	North	South	Total
0400-0700	0	0	0	0	0	1	0	0	0
0700-1000	0	0	5	0	2	21	0	3	3
1000-1600	0	9	89	0	10	98	0	19	19
1600-1900	0	3	31	0	1	11	0	4	4
1900-2200	0	0	3	0	0	1	0	0	0
2200-0400	0	0	1	0	0	0	0	0	0

Journey Purpose - Leisure

North 0%
South 20%

Time Period	Inbound			Outbound			Two-way		
	North	South	Total	North	South	Total	North	South	Total
0400-0700	0	0	0	0	0	1	0	0	0
0700-1000	0	0	2	0	2	9	0	2	2
1000-1600	0	4	18	0	8	39	0	12	12
1600-1900	0	4	19	0	3	13	0	6	6
1900-2200	0	4	19	0	2	11	0	6	6
2200-0400	0	3	15	0	0	1	0	3	3

Journey Purpose - Other

North 0%
South 30%

Time Period	Inbound			Outbound			Two-way		
	North	South	Total	North	South	Total	North	South	Total
0400-0700	0	0	0	0	0	0	0	0	0
0700-1000	0	2	6	0	5	15	0	6	6
1000-1600	0	3	11	0	4	13	0	7	7
1600-1900	0	1	5	0	2	6	0	3	3
1900-2200	0	1	4	0	1	3	0	2	2
2200-0400	0	1	2	0	0	0	0	1	1

Total Trips in Each Direction

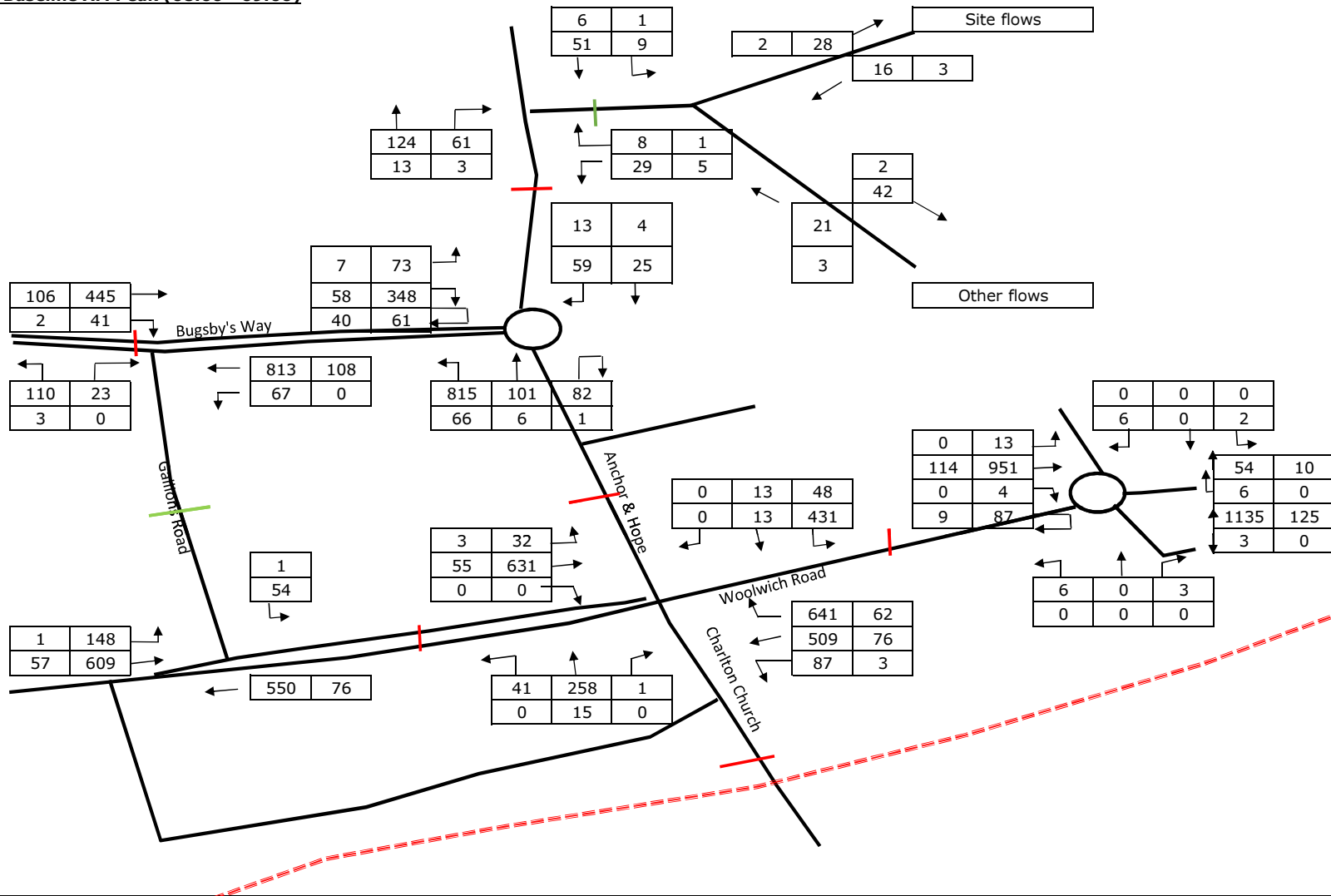
Time Period	Inbound			Outbound			Two-way		
	North	South	Total	North	South	Total	North	South	Total
0400-0700	0	0	0	0.00	4.86	5	0.00	5.04	5.04
0700-1000	0	3	3	0.00	49.01	49	0.00	52.18	52.18
1000-1600	0	33	33	0.00	28.83	29	0.00	61.38	61.38
1600-1900	0	21	21	0.00	7.30	7	0.00	28.15	28.15
1900-2200	0	8	8	0.00	3.68	4	0.00	11.78	11.78
2200-0400	0	5	0	0.00	0.37	0	0.00	5.82	5.82

Annex L

Traffic Flow Diagrams

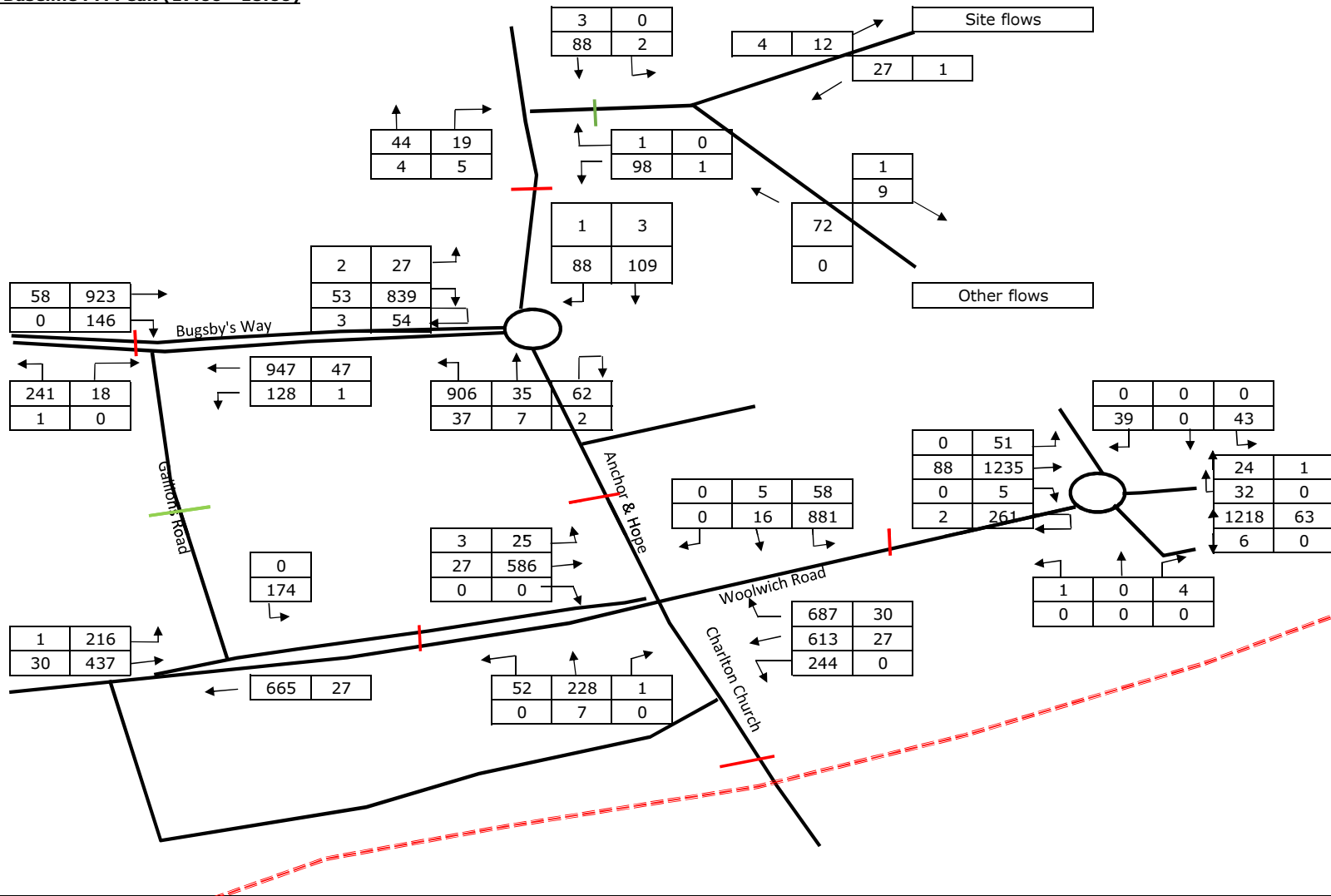
30821 - Charlton Riverside

2016 Baseline AM Peak (08:00 - 09:00)



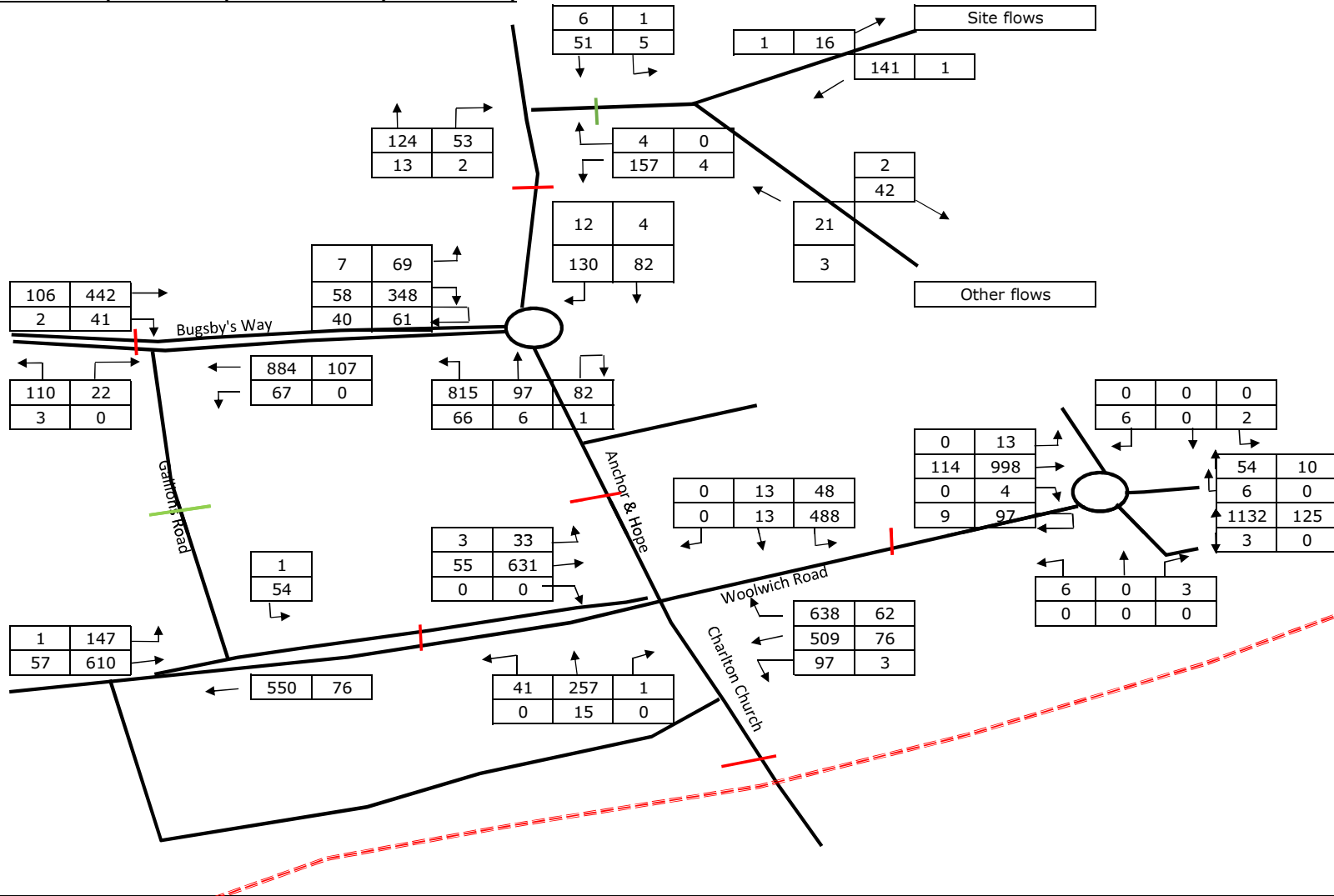
30821 - Charlton Riverside

2016 Baseline PM Peak (17:00 - 18:00)



30821 - Charlton Riverside

Baseline Plus Proposed Development - AM Peak (08:00 - 09:00)



30821 - Charlton Riverside

Baseline Plus Proposed Development - PM Peak (17:00 - 18:00)

