



The Wharves, Deptford

Environmental Statement – Volume 1a

ES Chapter 16: Transport

Prepared for Lend Lease by Vectos

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INTRODUCTION

- 16.1 This chapter of the ES assesses the likely significant effects of the Proposed Development with respect to transport. This chapter also describes the methods used to assess the effects; the baseline conditions currently existing at the Site and surrounding area; the mitigation measures required to prevent, reduce or offset any significant negative effects; and the likely residual effects after these measures have been adopted.
- 16.2 This chapter has been produced by Vectos. The Transport Assessment (TA), which has also been submitted in support of the planning application, helps to inform the content of this chapter.

SCOPE AND OBJECTIVES OF ASSESSMENT

- 16.3 The assessment of the likely significant transport effects has been undertaken using established methodologies and has concentrated on examining the capacity of the relevant local transport infrastructure to accommodate the Proposed Development. This assessment has been carried out looking at future year traffic flows before construction and after completion of the Proposed Development. This exercise defines a pattern of flows then used to quantify the potential effects of the Proposed Development. Thereafter, locations where the predicted changes might cause significant adverse effects are identified and assessed to investigate whether any mitigating measures are necessary to offset or reduce such predicted effects. The cumulative effects have also been assessed. Finally, any residual effects are identified.
- 16.4 The likely significant effects of the Proposed Development have been determined by comparing the 'Future Baseline Plus Development' scenario to the 'Future Baseline' scenario. In each of the scenarios the daily change in traffic flows has been considered. The TA submitted in support of the planning application further considers the weekday morning and evening commuter peak periods have been assessed as the periods when the effects of the Proposed Development on the operation of the transport network would be most critical.
- 16.5 The effects during the construction period are also considered qualitatively in terms of the effects on public transport users, road users, pedestrians and cyclists.

LEGISLATION, POLICY AND GUIDANCE

NATIONAL POLICY AND GUIDANCE

NATIONAL PLANNING POLICY FRAMEWORK (2012)

16.6 The National Planning Policy Framework (NPPF)¹ sets out the Government’s planning policies for England and how these are expected to be applied.

16.7 One of the 12 core land-use principles within the NPPF includes:

“[to] actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable.”

16.8 Section 4 of the NPPF deals with ‘Promoting sustainable transport.’ Paragraph 29 states that:

“the transport systems needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel.”

6.9 Paragraph 32 sets out the transport issues which should be addressed within Development Plans and decisions. These are:

- *“the opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;*
- *safe and suitable access to the site can be achieved for all people; and*
- *improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.”*

NATIONAL PLANNING PRACTICE GUIDANCE (2014)

16.10 On 6 March 2014, the Department for Communities and Local Government (DCLG) launched the National Planning Practice Guidance (NPPG)² web-based resource. One section relates specifically to Transport and is titled ‘Travel Plans, Transport Assessments and Statements in decision-taking’ and this provides the overarching principles of Travel Plans, Transport Assessments and Statements.

16.11 The guidance explains the role of Transport Assessments and Statements as:

“ways of assessing the potential transport impacts of developments (and they may propose mitigation measures to promote sustainable development. Where that mitigation relates to matters that can be addressed by management measures, the mitigation may inform the preparation of Travel Plans)”.

16.12 The guidance also states that Travel Plans are:

“long term management strategies for integrating proposals for sustainable travel into the planning process”.

16.13 They should be brought forward in parallel with development proposals and should be integrated in to the design of developments.

16.14 The guidance explains that when preparing Transport Assessments and Travel Plans the following key principles should be taken into account:

- *“proportionate to the size and scope of the proposed development to which they relate and build on existing information wherever possible;*

- *established at the earliest practicable possible stage of a development proposal;*
- *be tailored to particular local circumstances (other locally-determined factors and information beyond those which are set out in this guidance may need to be considered in these studies provided there is robust evidence for doing so locally);*
- *be brought forward through collaborative ongoing working between the Local Planning Authority/ Transport Authority, transport operators, Rail Network Operators, Highways Agency where there may be implications for the strategic road network and other relevant bodies. Engaging communities and local businesses in Travel Plans, Transport Assessments and Statements can be beneficial in positively supporting higher levels of walking and cycling (which in turn can encourage greater social inclusion, community cohesion and healthier communities)."*

16.15 The guidance demonstrates that Transport Assessments and Statements and Travel Plans can positively contribute in the following ways:

- *"encouraging sustainable travel;*
- *lessening traffic generation and its detrimental impacts;*
- *reducing carbon emissions and climate impacts;*
- *creating accessible, connected, inclusive communities;*
- *improving health outcomes and quality of life;*
- *improving road safety; and*
- *reducing the need for new development to increase existing road capacity or provide new roads."*

REGIONAL POLICY

FURTHER ALTERATIONS TO THE LONDON PLAN (MARCH 2015)

16.16 The London Plan³, Spatial Development Strategy for Greater London was adopted in July 2011 and has been subject to two alteration documents; The Revised Early Minor Alterations to the London Plan was published in October 2013 which aimed to ensure that the London Plan is fully consistent with NPPF. In addition, The Further Alterations to the London Plan was adopted in March 2015 to address key housing and employment issues emerging from analysis of Census 2011 data.

16.17 One of the Mayor's six objectives for London is:

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

16.8 Policy 6.1 establishes the Mayor's strategic approach to transport. Of relevance it states that the Mayor will encourage the closer integration of transport and development by:

- a. encouraging patterns and nodes of development that reduce the need to travel, especially by car;*
- b. seeking to improve the capacity and accessibility of public transport, walking and cycling;*
- c. supporting measures that encourage shifts to more sustainable modes and appropriate demand management; and*
- e. promoting walking by ensuring an improved urban realm".*

16.19 In Paragraph 1.39 the Mayor notes that transport infrastructure will:

"have a vital part to play in supporting the capital's success...The planning of transport services and the physical infrastructure they require will need to be carefully coordinated with the growth and development envisaged by this Plan" (para. 1.39).

16.20 The Mayor states that London Plan will have a new focus on quality of life and transport provision will play a part in this:

"ensuring Londoners in all parts of the city have adequate efficient transport networks and services, and the support for cycling and walking, to enable them to access job, social and other life opportunities while minimising any adverse impacts on the environment or quality of life" (para. 1.44).

16.21 With regard to enhancing London's connectivity, the Mayor will improve the public transport system in London to include, among other things (Policy 6.4):

- *"Implementing Crossrail;*
- *Providing new river crossings;*
- *Improving London's international and national transport links; and*
- *Improving public transport access to airports, ports and international rail termini"*

16.22 The Mayor's target for cycling is that it accounts for at least a five per cent modal share by 2026. Specifically, the Mayor will (Policy 6.9):

- *Identify promote and implement a network of cycle routes across London which will include Cycle Superhighways and Quietways;*
- *Continue to operate and improve the cycle hire scheme; and*
- *Fund the transformation of up to four outer London borough town centres into cycle friendly 'mini Hollands'.*

Among other things, development should, (Policy 6.9B):

- *Contribute positively to an integrated cycling network for London by providing infrastructure that is safe, comfortable, attractive, coherent, direct and adaptable; and*
- *Provide links to existing and planned cycle infrastructure projects including Cycle superhighways, Quietways, the Central London Grid and the 'mini-Hollands'*

16.23 The Further Alterations to the London Plan document also includes car parking standards. Residential parking standards are provided below and non-residential parking standards are summarised below:

- Residential (PTAL 2-4):
 - 1-2 bed – less than 1 space per unit
 - 3 bed – up to 1.5 spaces per unit
 - 4 + bed – up to 2 spaces per unit
- Non-Residential (PTAL 2-4):
 - B1 – 1:600-1000 sqm
 - Retail – 1:30sqm

16.24 In addition, cycle parking spaces have also been updated as part of the Further Alterations to the London Plan document. These are as follows:

- Residential
 - 1 space per 1 bed dwelling, 2 spaces for all other dwellings (long stay parking)
 - 1 space per 40 dwellings (short stay parking).
- Non-Residential
 - B1 - 1/90 sqm (long stay) + 1 space per 500 sqm for the first 5,000 sqm then 1 space per 5,000 sqm (short stay);

- A1 Non-food– 1/250 sqm + 1/150 sqm up to 1,000 sqm (short stay); A1 Food – 1/175 sqm (Long Stay - from a threshold of 100sqm); 1/40 sqm first 750 sqm, 1/300 sqm thereafter (short stay)

THE MAYOR'S TRANSPORT STRATEGY (MTS) (2010)

16.25 The Mayor's Transport Strategy (MTS)⁴ was published in May 2010 and was developed in conjunction with the London Plan and the Economic Development Strategy as part of a strategic policy framework to support the development of London over the next 20 year period. The MTS outlines the Mayor's vision and how TfL and its partners aim to achieve this.

16.26 The Mayor's vision states that:

“London's transport system should excel among those of global 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.”

16.27 The MTS sets out six goals which are designed to achieve the vision. These are as follows:

- *“Support economic development and population growth*
- *Enhance the quality of life of 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”*

16.28 The MTS stresses the importance of integrating development with transport infrastructure and locating development in areas that are highly accessible to sustainable travel modes

LOCAL PLANNING POLICY

LONDON BOROUGH OF LEWISHAM CORE STRATEGY (2011)

16.29 The London Borough of Lewisham Core Strategy⁵ was adopted in June 2011. It sets out the vision, objectives, strategy and policies that will guide public and private sector investment to manage development and regeneration in the borough until 2026.

16.30 The Wharves is one of seven Mixed Use Employment Location (MELs) identified in the Core Strategy (Figure 6.2). The Core Strategy also allocates the site as 'Strategic Allocation 4: Oxestalls Road' for comprehensive redevelopment.

16.31 Core Strategy Policy 14 seeks to prioritise and promote sustainable movement and transport as follows:

- *“The access and safety of pedestrians and cyclists throughout the borough will be promoted and prioritised.*
- *A network of high quality, connected and accessible walking and cycling routes across the borough will be maintained and improved, including Waterlink Way, the South-East London Green Chain, the Thames Path, and new connections throughout the Deptford New Cross area.*
- *A managed and restrained approach to car parking provision will be adopted to contribute to the objectives of traffic reduction while protecting the operational needs of major public facilities,*

essential economic development and the needs of people with disabilities. The car parking standards contained within the London Plan will be used as a basis for assessment.

- *Car free status for new development can only be assured where on-street parking is managed so as to prevent parking demand being displaced from the development onto the street. A controlled parking zone (CPZ) may be implemented where appropriate.*
- *Travel plans will need to be submitted which meet or exceed the Department of Transport’s thresholds for transport assessment and Transport for London guidance.*
- *Cycle parking will be required for new development and TfL guidelines will be used to assess provision. Design will need to incorporate safe and secure cycle storage and parking as well as other facilities including showers and lockers, where appropriate.*
- *The use of the River Thames, the rail network and the borough’s strategic routes (Transport for London road network) will be supported as freight transport corridors.*
- *Use of the River Thames for passenger transport and transport of construction and waste materials to and from development sites, where practicable, will be supported.*
- *The Council will work with Transport for London, Network Rail and other partners to ensure the delivery of necessary transport infrastructure, as well as working with adjoining boroughs to address the cumulative impact of development by enabling more effective management of traffic and improving the environment for all users, including pedestrians, cyclists and public transport users”*

16.32 The Site forms part of Strategic Site Allocation 4: Oxestalls Road. With Regard to Oxestalls Road, the Core Strategy states:

“The Oxestalls Road site is allocated for mixed use redevelopment. The Council will require a comprehensive phased approach to redevelopment in line with an approved Masterplan that delivers the following priorities.”

- *provides at least 20% of the built floorspace developed on the site for a mix of business space (B1(c), B2, B8 as appropriate to the site and its wider context).*
- *provides a range of community and leisure facilities and retail uses (A1, A2) to serve local needs that do not adversely impact on existing town centres and a mix of restaurant, food and drink uses to serve the site and neighbourhood*
- *creates a sustainable high density residential environment at a density commensurate with the existing public transport accessibility level (PTAL) of the site or the future PTAL achieved through investment in transport infrastructure and services*
- *provides for a mix of dwelling types accommodating, subject to an acceptable site layout, scale and massing, up to 905 new homes (C3) with a proportion of on-site affordable housing*
- *creates new open spaces, including an accessible high quality route along the former alignment of the Surrey Canal to act as a focus of the development itself and the wider neighbourhood, in order to increase accessibility, permeability and health and recreational opportunities for new and existing residents*

16.33 The following urban design principles have been identified as key features of any Masterplan for the site:

- *Ensure the frontages to Evelyn Street, Oxestalls Road, Grove Street and Dragoon Road are attractive and positive, including the frontages within the development itself.*
- *Enhance connections and legibility within the surrounding neighbourhood, including creating better links to other parks and public spaces particularly Deptford Park, Pepys Park, Evelyn Street and the River Thames frontage, in support of the North Lewisham Links project..*
- *Deal appropriately with the future use of Blackhorse Bridge, the bridge over the former Surrey Canal at the junction of Dragoon Road and Evelyn Street.*
- *Have flexibility in the design of business units to ensure viability and flexibility between business uses, and compatibility with residential uses”*

LONDON BOROUGH OF LEWISHAM DEVELOPMENT MANAGEMENT LOCAL PLAN (2014)

- 16.34 The Development Management Local Plan⁶ was adopted in November 2014, and sets out additional planning policies to guide decisions on planning applications where locational or site-specific provision has not been outlined in the Core Strategy or the London Plan.
- 16.35 DM Policy 29 relates to Car Parking at new developments. This states that the Council will require parking standards in accordance with Core Strategy Policy 14. This policy refers to the London Plan for parking standards.
- 16.36 DM Policy 29 goes on to state:

“Car limited major residential development will only be considered where there is:

- *PTAL level 4 or higher, or where this can be achieved through investment in transport infrastructure and services,*
- *no detrimental impact on the provision of on-street parking in the vicinity,*
- *no negative impact on the safety and suitability of access and servicing,*
- *protection of required publicly accessible or business use car parking,*
- *inclusion of car clubs, car pooling schemes, cycle clubs and cycle parking and storage, as part of a package of measures mitigating the need for on-site car parking provision,*
- *an equitable split of parking provision between private and affordable residential development, and*
- *On-site accessible priority parking for disabled drivers.*

LEWISHAM BOROUGH WIDE TRANSPORT STUDY (2010)

- 16.37 The Lewisham Borough Wide Transport Study (2010)⁷ formed part of the evidence base for the preparation of LBL’s Core Strategy. However, the report is not part of adopted policy. The aim of the report was to assess the combined impact on the highway and public transport networks in the borough of various proposed developments.
- 16.38 The report tests the general impact of two development options within Lewisham. Option 1 includes the development of up to 17,525 homes, including at key development sites in Deptford. Option 2 excludes mixed employment sites and includes the development of up to 14,550 homes.
- 16.39 The report notes that an overall reduction of highway trips by 11% on current levels is considered achievable within Lewisham based on TfL initiatives to achieve modal shift among existing and new residents (para. 5.1.2).
- 16.40 A range of measures will be needed to achieve the modal shift which include, but are not limited to, capacity increases on selected bus services, area based scheme to improve station access, East London Line Extension Phase 2 which is now open (including construction of Surrey Canal Road Station, whose proposed date of opening is unspecified) and local traffic management.
- 16.41 The report identifies travel planning measures that would be useful for supporting the effectiveness of transport infrastructure and development including measures to encourage peak spreading (e.g. changing school opening hours and encouraging flexible working), raising awareness of public transport and raising profile of active modes of travel as well as improving parking control measures (para. 8.2.1).
- 16.42 The assessment concluded that overall the highway network, with the implementation of committed improvements, is able to cope with the levels of growth tested for both Options 1 and 2. Although, there will be instance of local congestion and delay in the future year 2026, these impacts are not so severe as to prevent the highway network from operating.
- 16.43 The assessment also concluded that with the implementation of committed improvements to the public transport network, Options 1 and 2 can be accommodated. There will still be overcrowding on rail services, but at a reduced level compared to present levels due to planned improvements.

SUMMARY

16.44 The Proposed Development accords with national, regional and local policy. The level of vehicle and cycle parking is also in accordance with the relevant London Plan standards.

ASSESSMENT METHODOLOGY

INTRODUCTION

- 16.45 The Institute of Environmental Management and Assessment (IEMA) 'Guidelines for the Environmental Assessment of Road Traffic'⁸ have been used to ensure that the environmental effects arising due to predicted changes in traffic levels are properly and comprehensively addressed. In addition, the Design Manual for Roads and Bridges (DMRB) Volume 11 has been referred to in the development of this section.
- 16.46 The IEMA guidelines advise the use of a 'check-list' of likely effects covering noise, vibration, visual impact, severance, driver delay, pedestrian delay, pedestrian amenity, fear and intimidation, accidents and safety, hazardous loads, air pollution, dust and dirt, ecological impact and heritage and conservation areas, where relevant.
- 16.47 The guidelines acknowledge that for many developments some of the effects listed may not be widely relevant, but suggests that reasons should be provided for any exclusions.
- 16.48 This chapter of the ES deals only with those transport effects likely to be relevant to the Proposed Development i.e. severance; pedestrian amenity (which for the purposes of this assessment includes fear and intimidation); driver delay; pedestrian delay; and accidents and safety. Other effects such as noise and air quality are dealt with in other chapters of this ES.
- 16.49 Within the assessment the future baseline year of 2022 has been compared with the future 'with-development' transport conditions to assess the effect of the Proposed Development on the transport networks, using the IEMA criteria.
- 16.50 The assessments used to inform this analysis assume implementation of the access and highway measures described in Chapter 4: The Proposed Development.
- 16.51 The assessments are in effect cumulative assessments since they consider the effects of the Proposed Development in combination with other developments within the Study Area. The Study Area is described below.
- 16.52 Following this core assessment additional transport mitigation measures are described which will mitigate the potential effects of the Proposed Development. An assessment of residual effects following implementation of these mitigation measures is then provided.

CONSULTATION

- 16.53 The scope of this assessment has been informed by consultation with LBL and TfL. LBL and TfL are the highway authorities for public highways within the Study Area.
- 16.54 A formal pre-application scoping report was sent to LBL and TfL (15th September 2014) and a formal pre-application meeting was held with both TfL and LBL (6th November 2014).
- 16.55 Subsequent discussions have taken place with both LBL and TfL to discuss and agree the trip generation and modelling aspects of the development. The TfL feedback letter from the pre-application discussions and subsequent technical notes from Vectos and LBL (January and February 2015) are included within Appendix A of the Transport Assessment.
- 16.56 This assessment has been carried out in accordance with LBL's EIA Scoping Opinion, see Appendix 3.1: Scoping Correspondence (Volume 2 of the ES).

STUDY AREA

- 16.57 In accordance with the IEMA guidelines, the Study Area has been defined by identifying any link or location where it is felt that significant environmental effects may occur as a result of the Proposed Development. The geographical extent of the Study Area and highway links is shown in Figure 16.1, while the highway links are also summarised in Table 16.1.

Figure 16.1: Geographical Extent of Study Area



Table 16.1: Link Reference of Study Area

Reference	Link
1	Evelyn Street (North of Junction with Oxestalls Rd)
2	Oxestalls Rd
3	Grove Street (North of Junction with Oxestalls Rd)
4	Grove Street (South of Junction with Oxestalls Rd)
5	Evelyn Street (North of Junction with Grinstead Rd)
6	Grove Street (South of Junction with Bowditch)
7	Dragoon Road
8	Grove Street (North of Junction with Evelyn Street)
9	Evelyn Street (South of Junction with Grove Street)
10	Plough Way (East of Junction with Grove Street)
11	Grove Street (South of Junction with Plough Way)

ASSESSMENT YEARS/SCENARIOS

16.58 Three scenarios have been considered within the transport assessment:

- Scenario 1: Effects associated with the completion of Phase 1A (Plots 1 and 2);
- Scenario 2: Effects associated with the completion of Phase 1 (Phase 1A - Plots 1 and 2 and Phase 1B - Plot 3)
- Scenario 3: Effects associated with the completed Proposed Development (Phases 1, 2 and 3).

16.59 The following assessment years have been considered (explanation in paragraphs below):

- Baseline 2014
- Future Baseline 2019 Scenario 1 – Effects associated with Phase 1A
- Future Baseline 2019 Scenario 2 – Effects associated with Phase 1
- Future Baseline 2022 Scenario 3 – Effects associated with full completed Proposed Development

BASELINE 2014

16.60 A baseline assessment year of 2014 has been selected as this represents the submission date of the planning application. The baseline assessment establishes the existing transport conditions in the Study Area.

16.61 Baseline traffic flows have been obtained from Automatic Traffic Count (ATC) surveys which were independently commissioned during November 2014. An ATC was placed in each location identified in Figure 17.1, and Table 17.1.

FUTURE BASELINE

16.62 As described elsewhere in this ES it is intended that the Proposed Development will be completed in 2022. As a robust case, the baseline traffic flows for 2022 will represent the future baseline for assessment purposes for all scenarios.

16.63 It has been agreed with LBL and TfL that background traffic growth should not be included within the assessment.

FUTURE BASELINE 2019 SCENARIO 1: EFFECTS ASSOCIATED WITH PHASE 1A

16.64 The Baseline 2019 with Phase 1A scenario assesses observed traffic flow plus the addition of the traffic arising from the Phase 1A. Within this scenario, traffic associated with the existing uses on the site that are not covered as part of Phase 1A will be retained. The existing uses are:

- a. Plot 3 – Safe Store
- b. Plot 4 – House
- c. Plot 5 – Petrol filling station
- d. Plot 5 – Veolia depot
- e. Plot 6 - Metal recycling facility

FUTURE BASELINE 2019 SCENARIO 2: EFFECTS ASSOCIATED WITH PHASE 1

16.65 The Baseline 2014 with Phase 1 scenario assesses observed traffic flow plus the addition of the traffic arising from the Phase 1. Within this scenario, traffic associated with the existing uses on the site that are not covered as part of Phase 1 will be retained. The existing uses are:

- f. Plot 4 – House
- g. Plot 5 – Petrol filling station
- h. Plot 5 – Veolia depot
- i. Plot 6 – Metal recycling facility

FUTURE BASELINE 2022 SCENARIO 3: EFFECTS ASSOCIATED WITH COMPLETED PROPOSED DEVELOPMENT

- 16.66 The Baseline 2014 with Completed Proposed Development scenario (3) assesses observed traffic flow plus the addition of the traffic arising from the completed Proposed Development.
- 16.67 Within this scenario, traffic flows associated within the consented scheme have been included in the future baseline as a 'Do Nothing' Scenario (i.e. if the proposed development does not come forward then the consented scheme could still be implemented). Within the Baseline 2022 + Proposed Development scenario assessment, we have removed traffic flows associated with the consented development from the future baseline and then added on the traffic flows in relation to the proposed development. Therefore, this presents a 'Do Something' Scenario, or a comparison of the effect of the proposed development against the consented scheme.
- 16.68 This approach is consistent with the approach following within the Transport Assessment, which has been agreed with TfL and LBL.

TRAFFIC FLOWS ASSOCIATED WITH THE PROPOSED DEVELOPMENT

- 16.69 Planning permission (DC/09/73189/X) was granted in March 2012 for the comprehensive redevelopment of the site to include the following:
- 905 residential units (mix of private and affordable);
 - 16,393 sqm (GEA from committee report relevant to the extant planning permission) of non-residential uses including commercial, community, leisure and retail land uses;
- 16.70 As discussed in Chapter 4: The Proposed Development, floor areas and land use class are summarised below:
- 1,132 residential units (mix of private and affordable);
 - 10,031 sqm (GEA) of non-residential uses (including 6,396 sqm of B1 office use, and 3,634 sqm of flexible use class i.e. A1/A2/A3/A4/A5/D1/D2 and B1);
- 16.71 The following paragraphs provide a detailed methodology of how the IEMA 'Guidelines for the Environmental Assessment of Road Traffic' (1993) have been applied in this ES chapter.
- 16.72 The effects of construction traffic have been determined by assessing the effects of the estimated construction traffic against observed traffic flows.
- 16.73 The potential effects of the Proposed Development when it is completed have been determined by comparing the '2019/2022 Future Baseline plus Development' scenario with the '2019/2022 Future Baseline' scenario. As discussed, within this Scenario 3, traffic flows associated within the consented scheme have been included in the 2022 Future Baseline as a 'Do Nothing' Scenario (i.e. if the proposed development does not come forward then the consented scheme could still be implemented). Within the Baseline 2022 + Proposed Development scenario assessment, we have removed traffic flows associated with the consented development from the future baseline and then added on the traffic flows in relation to the proposed development. Therefore, this presents a 'Do Something' Scenario, or a comparison of the effect of the proposed development against the consented scheme.
- 16.74 The primary assessments have been undertaken on a daily basis (24 hour Annual Average Daily Traffic [AADT]) since this reflects the effects on severance, pedestrian amenity and safety. However, the highway network morning and evening peak hours have also been assessed since these are relevant in terms of pedestrian delay.
- 16.75 Two factors are considered. First, the receptors (road links) at which the assessment is being undertaken. The sensitivity of each receptor to effects is considered. Secondly, the magnitude of the effect is assessed which will depend on the factor being considered (e.g. severance or pedestrian amenity); the change in traffic flow; and the total traffic flow.
- 16.76 The above two factors are then combined to give a significance of effect which depends on the sensitivity of the receptor and the magnitude of the effect.

- 16.77 The assessment of magnitude of effect, sensitivity of receptors and the significance of the effect is primarily a matter for the assessor based on experience and an assessment of relevant factors.

ASSUMPTIONS AND LIMITATIONS

- 16.78 The main limitation in the baseline conditions presented in this chapter is the precision of traffic counts. Such counts are recorded over a day or a week and are subject to an accuracy of $\pm 10\%$. However conditions have been predicted using standard criteria and are therefore considered to provide a representative estimate.
- 16.79 Traffic generation estimates for the construction of the Proposed Development are based on a number of assumptions on matters such as materials quantities, number of workers, construction programme etc. However, worst case assumptions have been made in a number of instances. For example the period of the highest traffic generation has been used. The distribution of construction vehicles is as provided in the construction effect report.
- 16.80 Traffic generation assumptions for the operational assessment are based on trip rates agreed with LBL and TfL. For the Proposed Development and information from the respective transport reports of the committed and cumulative developments. Further details on the trip generation methodology are included within the TA.

SIGNIFICANCE CRITERIA
SENSITIVITY OF RECEPTORS

- 16.81 The sensitivity of a road can be defined by the vulnerability of the user groups who may use it, e.g. elderly people or children. A sensitive area may be where pedestrian activity is high, for example in the vicinity of a school, or where there is already an existing accident issue. It also takes account of the existing nature of the road e.g. an existing “A” road is likely to have a lower sensitivity than a minor residential road.
- 16.82 Table 16.2 below provides a summary of the types of receptors and the sensitivity of each, defined as high, moderate, low or negligible.

Table 16.2: Sensitivity of Receptors

Receptor Type	Receptor Sensitivity
The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance. Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident clusters, retirement homes, roads without footways that are used by pedestrians.	High
The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance. Traffic flow sensitive receptors: congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, recreation facilities	Moderate
The receptor/resource is tolerant of change without detriment to its character, is of low or local importance. Receptors with low sensitivity to traffic flow: places of worship, public open space, tourist attractions and residential areas with adequate footway provision.	Low

- 16.83 The sensitive receptors in the Study Area have been identified based on the assessor's judgement of their sensitivity. Recognising the quantity of road links within the Study Area, the assessment narrative within this chapter focusses on the road links that will be most affected, i.e. the key links surrounding the Site. The results of the analysis are shown in Table 16.3 below.

Table 16.3: Study Area Receptor Sensitivity

Reference	Link	Sensitivity
1	Evelyn Street (North of Junction with Oxestalls Rd)	Low
2	Oxestalls Rd	High
3	Grove Street (North of Junction with Oxestalls Rd)	Medium
4	Grove Street (South of Junction with Oxestalls Rd)	Medium
5	Evelyn Street (North of Junction with Grinstead Rd)	Low
6	Grove Street (South of Junction with Bowditch)	Medium
7	Dragoon Road	Medium
8	Grove Street (North of Junction with Evelyn Street)	Medium
9	Evelyn Street (South of Junction with Grove Street)	Low
10	Plough Way (East of Junction with Grove Street)	Medium
11	Grove Street (South of Junction with Plough Way)	Medium

MAGNITUDE OF CHANGE

16.84 To assist with the judgement of magnitude of effect, reference has been made to the IEMA guidelines. This guidance sets out consideration and in some cases thresholds in respect to changes in the volume and composition of traffic to facilitate a subjective judgement of traffic effect and significance. These thresholds are guidance only and provide a starting point by which a detailed analysis will inform a subjective assessment of the effect magnitude.

SCREENING PROCESS

16.85 Within the IEMA guidance, two broad rules are suggested which can be used as a screening process to limit the scale and extent of the assessment:

- *“Rule 1: include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and*
- *Rule 2: include any other specifically sensitive areas where traffic flows have increased by 10% or more”.*

16.86 Where the predicted increase in traffic flow is lower than the above thresholds, the IEMA guidelines suggest the significance of the effects can be stated to be negligible and further detailed assessments are not warranted. Furthermore, increases in traffic flows below 10% are generally considered to be insignificant in environmental terms given that daily variations in background traffic flow may vary by this amount.

TYPES OF EFFECT

16.87 The following paragraphs cover each of the types of effects that are considered in this chapter.

SEVERANCE

16.88 Severance is defined as the perceived division that can occur within a community when it becomes separated by a major traffic artery and describes a series of factors that separate people from places and other people. Such division may result from the difficulty of crossing a heavily trafficked road or a physical barrier created by the road itself.

16.89 The measurement and prediction of severance is difficult, but relevant factors include road width, traffic flow, speed, the presence of crossing facilities and the number of movements across the affected route.

16.90 IEMA guidelines refer to the DfT's 'Manual of Environmental Appraisal', which suggests that changes in traffic flow of 30%, 60% and 90% would be likely to produce 'slight', 'moderate' and 'substantial' changes in severance, respectively. It is advised that these broad indicators should be used with care and regard paid to specific local conditions.

PEDESTRIAN DELAY

16.91 IEMA guidelines note that changes in the volume, composition and/or speed of traffic may affect the ability of people to cross roads. Typically, increases in traffic levels result in increased pedestrian delay, although increased pedestrian activity itself also contributes. The guidelines do not set any thresholds, recommending instead that assessors use their judgement to determine the significance of the effect.

16.92 The IEMA guidelines refer to a report published by the Transport Research Laboratory (TRL SR356, Goldschmidt, 1976) as providing a useful approximation for determining pedestrian delay. The TRL research concluded that mean pedestrian delay was found to be 8 seconds at flows of 1,000 vehicles per hour and below 20 seconds at 2,000 vehicles per hour for various types of crossing condition. This research has been reproduced in DMRB Volume 11, Section 3, Part 8. Figure 1 of Part 8 provides predictive mean pedestrian delay based on empirical data taking into account traffic flow and a range of parameters such as crossing width and vehicle speeds.

- 16.93 A two-way flow of 1,400 vehicles per hour has been adopted as a lower threshold for assessment (equating to a mean 10 second delay for a link with no pedestrian facilities) in the TRL report. Below this flow pedestrian delay is unlikely to be a significant factor. This is deemed a robust starting point for narrowing down the modelled routes within the Study Area and ensuring the routes selected exceed the suggested threshold of analysis in DMRB Volume 11. It should be noted that for controlled forms of pedestrian crossing the pedestrian delays are less.

PEDESTRIAN AMENITY

- 16.94 IEMA guidelines define pedestrian amenity as the relative pleasantness of a journey and can include fear and intimidation if they are relevant. As with pedestrian delay, amenity is affected by traffic volumes and composition along with pavement width and pedestrian activity. The guidelines suggest tentative thresholds of significance would be where the traffic flow is halved or doubled.

DRIVER DELAY

- 16.95 IEMA guidelines note that driver delay can occur at several points on the network, although the effects are only likely to be significant when the traffic on the highway network is predicted to be at or close to the capacity of the system.
- 16.96 A qualitative assessment has been undertaken to establish the effect on driver delay as a result of the Proposed Development. This is based on the traffic generation of the Proposed Development as reported in the TA.

ACCIDENTS AND SAFETY

- 16.97 The IEMA guidelines do not include any definition in relation to accidents and safety, suggesting that professional judgement will be needed to assess the implications of local circumstance, or factors which may increase or decrease the risk of accidents.

PUBLIC TRANSPORT

- 16.98 The IEMA guidelines do not include any definition in relation to public transport. A full assessment of the Proposed Development on surrounding public transport facilities is included within the TA. This chapter provides a summary of the findings of the TA assessment and a judgement of the likely effects on public transport.

MAGNITUDE OF EFFECTS

- 16.99 Table 16.4 below summarises the criteria that has been used to determine magnitude of effects. However, the absolute level of an effect is also important e.g. the total flow of traffic or HGVs on a link. This is because an increase of, say, 100% in the traffic flow on a road is likely to still lead to negligible or minor effects if the existing flows are low.

Table 16.4: Magnitude of Effect (Based on IEMA Guidelines)

Effect	Negligible	Small	Medium	Large
Severance	Change in total traffic or HGV flows of less than 30%	Change in total traffic or HGV flows of 30-60%	Change in total traffic or HGV flows of 60-90%	Change in total traffic or HGV flows over 90%
Pedestrian Delay	Two way traffic flow < 1,400 vehicles per hour	A judgement based on the road links with two way traffic flow exceeding 1,400 vehicles per hour in context of the individual characteristics		
Pedestrian Amenity	Change in total traffic or HGV flows < 100%	A judgement based on the routes with >100% change in context of their individual characteristics		
Driver Delay	A judgement based on the results of junction capacity assessment			
Accidents and Safety	A judgement based on quantitative analysis.			
Public Transport	A judgement based on quantitative analysis (as contained within the TA)			

ASSESSMENT OF THE SIGNIFICANCE OF EFFECTS

16.100 The significance of the effect is judged on the relationship of the magnitude of effect to the assessed sensitivity and/or importance of the receptor. The predicted significance of the effects is summarised in Table 16.5 below:

16.101 Effects have the potential to be adverse, beneficial or negligible. For example, in terms of beneficial effects, the Proposed Development may result in a reduction in trips by car compared to existing baseline, or an increase in pedestrian amenity.

Table 16.5: Criteria for Assessing Effect Significance

Sensitivity of Receptor	Magnitude of Change			
	Large	Medium	Small	Negligible
High	Major	Major	Moderate	Negligible
Moderate	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible

16.102 Potential effects are therefore concluded to be of negligible, minor, moderate or major significance and can be either beneficial or adverse. Moderate and major effects are considered to be significant in terms of EIA guidance.

TEMPORAL SCOPE OF EFFECTS

16.103 The temporal scope of effects is described as short, medium, long term or permanent as shown below. For the operational assessment the effects are permanent whereas for construction effects they are likely to be medium term.

- Short term – < 12 months;
- Medium term – 1 to 5 years;
- Long term - + 5 years; and
- Permanent – effects that are considered to be ‘irreversible’ or extremely long-lasting.

BASELINE ENVIRONMENTAL CHARACTERISTICS

INTRODUCTION

16.104 The relevant baseline conditions within the Study Area are described below.

WALKING

16.105 It is commonly accepted that walking is the most important mode of travel at the local level and offers the greatest potential to replace short car trips, particularly under 2 km. To the south of the Site, a 2 km catchment includes Deptford Rail Station, New Cross Station, access to the River Thames Path, and the fringe of Greenwich Borough. To the north of the Site rests Surrey Quays Station and the Surrey Quays shopping centre, as well as Southwark Park. To the west, Millwall Football Stadium and Deptford Park can both be found within the catchment area and to the east, there are Pepys Park and the River Thames.

16.106 A signalised pedestrian crossing is provided at the junction of Oxestalls Road with Evelyn Street. In addition a central reservation crossing is provided to cross Evelyn Street from the Site providing access into Deptford Park. Footways are situated on both sides of Evelyn Street.

16.107 Footways are located alongside both sides of Grove Street. Pedestrian access to the Thames Path is provided via Pepys Park.

16.108 A Pedestrian Environment Review System (PERS) audit has been undertaken to assess the pedestrian environment along the routes to the following facilities:

- Canada Water and Surrey Quays Stations
- Deptford Station
- Surrey Canal
- Thames Path

16.109 The full PERS audit report is appended to the Transport Assessment.

16.110 The PERS audit concluded that the pedestrian environment surrounding the Site is currently in a good condition, but the provision of some 'quick wins' including improved maintenance, the provision of tactile paving and the provision of wayfinding signage could allow for improvements in the area.

CYCLING

16.111 The Department for Transport (DfT) in their Transport Statistics on Cycling in Great Britain state that the average length of a cycle journey is 3.84km (2.4 miles).

16.112 The DfT's 'Cycle Infrastructure Design' (October 2008) states that, "In common with other modes, many utility cycle journeys are under three miles (ECF, 1998), although, for commuter journeys, a trip distance of over five miles (8km) is not uncommon. Novice and occasional leisure cyclists will cycle longer distances where the cycle ride is the primary purpose of their journey." The City of London, Greenwich, Charlton, Southwark and much of Lewisham is within an 8 kilometre distance of the site, as is access to the Thames Path. Therefore, there is the chance for residents of the Proposed Development to benefit from opportunities in many key areas and boroughs.

16.113 TfL proposes that Evelyn Street will form part of the Cycle Superhighway 4 (CSH4), providing dedicated cycle facilities for long distance north-south travel, including a direct route into Central London.

16.114 In addition, a section of National Cycle Route 4 passes to the east of the site as it follows the River Thames between Greenwich and Putney Bridge. Within the immediate vicinity of the site, the route can be joined along Grove Street after it passes through Pepys Park. Cyclists using National Cycle Route 4 are also able to connect with National Cycle Route 425 (Camberwell – Rotherhithe) to the north and National Cycle Route 21 (London – Hastings) to the south.

16.115 There are on-road advisory cycle lanes on both sides of Evelyn Street. There is also the opportunity to use trails and routes around the local parks such as Deptford Park, Pepys Park and Southwark

Park. Southwark Park can be conveniently reached by heading north along the cycle lanes provided on Evelyn Street.

PUBLIC TRANSPORT

BUS SERVICES

- 16.116 Within the vicinity of the Site, bus stops are located along Evelyn Street. A northbound bus stop is situated approximately 50m to the north of the Evelyn Street/Oxestalls Road junction, with a southbound bus stop located approximately 100m to the south of the same junction.
- 16.117 In addition, two bus stops are situated along Oxestalls Road, adjacent to the northern boundary of the site and a further two stops located on Grove Street just to the north of the mini roundabout junction with Oxestalls Road.
- 16.118 All bus stops in the vicinity of the Site are sheltered.
- 16.119 Table 16.6 provides a summary of the bus services that operate in the vicinity of the proposed development, and call at the above mentioned bus stops.

Table 16.6: Existing Local Bus Services

Service	Route/Destination	Weekday Frequency	Saturday Frequency	Sunday Frequency
47	Catford – Deptford – Southwark – London Bridge – Liverpool St - Shoreditch	7 – 11 mins	9 -12 mins	15 – 20 mins
188	North Greenwich – Deptford – Bermondsey – Elephant & Castle – Russel Square	6 – 10 mins	12 mins	10 – 14 mins
199	Canada Water – Deptford – Greenwich – Lewisham Centre – Catford	10 – 13 mins	12 – 14 mins	15 mins
N1	Deptford – Cutty Sark – Woolwich – Plumstead – Titmuss Avenue	20 - 30 mins	20 mins	30 mins
N47	Trafalgar Square – Deptford – Lewisham Centre – Catford – Bromley Rd – St Mary Cray Station	20 – 30 mins	20 mins	30 mins

- 16.120 Table 16.6 shows that, on weekdays, up to 30 services per hour serve the Site in each direction, resulting in a bus approximately every 2 minutes. On Saturdays, 22 services per hour operate within the vicinity of the Site, relating to a bus every 2.7 minutes. On Sundays, 18 services per hour operate within the vicinity of the Site, relating to a bus every 3.3 minutes.

RAIL, UNDERGROUND AND DLR SERVICES

- 16.121 Deptford Rail Station is one kilometre from the Site and provides regular services between Central London and Dartford, Kent. The existence of this rail station provides a genuine opportunity for residents to travel further afield for purposes such as employment. Whilst the distance is marginally further than the 960m maximum walking distance to rail stations as advised by the Public Transport Accessibility Level (PTAL) calculation, it is still common for people to walk this distance to access rail services. The site has a PTAL rating of 2.
- 16.122 Rail services from Deptford Rail Station are provided by Southeastern. There are up to six trains per hour in each direction from Deptford Rail Station on weekdays and Saturdays. On Sundays there are five trains per hour. Trains operate to London Cannon Street, London Charing Cross, Dartford and Barnehurst calling at locations that include Greenwich, Woolwich Arsenal and Slade Green.

- 16.123 London Overground services at Surrey Quays are also accessible from the Site. The station is situated approximately 1km to the north of the Site. From Surrey Quays, it is possible to connect to all other Overground services as well as the nearest London Underground Station, which is Canada Water on the Jubilee line.
- 16.124 There are proposals for a new London Overground Station at the Surrey Canal site, approximately 950m to the west of the Proposed Development. A new station at the Surrey Canal site will operate on the Surrey Quays to Clapham Junction line.
- 16.125 Canada Water Underground Station is approximately 1.6km from the Site. As well as operating on the London Overground Line, one stop to the north of Surrey Quays, Canada Water also operates on the Jubilee Line of the London Underground network. This offers services to Canary Wharf, North Greenwich and Stratford to the east, and London Bridge, Waterloo, Westminster, Baker Street, Wembley Park and Stanmore to the west.
- 16.126 The Docklands Light Railway (DLR) is also accessible from the Site. Deptford Bridge Station is located approximately 1.8km from the site offering services between Bank, Stratford and Lewisham.
- 16.127 Whilst all stations are within walking distance of the site, short bus connections are also available from local bus stops.

RIVER SERVICES

- 16.128 As part of the Convoys Wharf permission (included as a S106 obligation) a new pier will be provided to enable a Riverbus calling point. This will be accessible from the Site. It is understood that new Riverbus services are likely to provide a dedicated shuttle to Canary Wharf and/or a new stop on the existing Thames Clipper Embankment to Woolwich Arsenal service.

HIGHWAY NETWORK

- 16.129 The Site has good road transport links. A summary of the key local roads is provided below.

LOCAL ROAD NETWORK

A200 EVELYN STREET

- 16.130 Evelyn Street forms part of the A200 linking London Bridge to the north-west of the site, to the A206 in Greenwich. It is a single carriageway road that forms the western boundary of the development site. Within the vicinity of the site, footways and on-street cycle paths run alongside the road in both directions.
- 16.131 Evelyn Street connects to Oxestalls Road via a signal junction at the north-west corner of the Site.
- 16.132 In the future there are plans for Evelyn Street to form part of the Cycle Superhighway Network (CS4), providing a route for cyclists into central London.

OXESTALLS ROAD

- 16.133 Oxestalls Road is a single carriageway that runs along the northern border of the development site. It connects Evelyn Street to the west via a signalled junction and Grove Street to the east via a mini-roundabout junction. Footways run alongside both sides of the road. Eastbound and westbound bus stops are located within the vicinity of the site.

GROVE STREET

- 16.134 Grove Street runs adjacent to the eastern boundary of the Site. It connects to Plough Way in the north and Evelyn Street in the south, both via priority junctions. Grove Street forms a roundabout junction with Oxestalls Road to the north, and a priority junction with Dragoon Road at the south of site. Traffic calming measures are in place along Grove Street.

DRAGOON ROAD

16.135 Dragoon Road is situated along the south boundary of the Site. It is a single carriageway which forms a priority junction to the east with Grove Street. The former junction with Evelyn Street to the west has been stopped up. Therefore, there is no access provided onto Evelyn Street except for pedestrians and cyclists.

PERSONAL INJURY ACCIDENTS

16.136 Personal injury accident data was obtained from TfL for the previous 60 months up to June 2014. The Study Area includes Evelyn Street (A200), Grove Street, Oxestalls Road and the junction of Evelyn Street and Abinger Grove.

16.137 There were a total of 105 incidents reported in the Study Area. Of the 105 accidents there were no fatal incidents reported, 13 were serious and the remaining 92 resulted in slight injuries.

16.138 A summary of the locations is shown in Table 16.7.

Table 16.7: Summary of the Accident Data

Junction	Number of Accidents	Severity		
		Slight	Serious	Fatal
Evelyn Street/Abinger Grove	17	15	2	0
Evelyn Street/Grove Street	8	8	0	0
Evelyn Street/Oxestalls Road	22	18	4	0
Oxestalls Road/Grove Street	2	2	0	0
Other	55	48	7	0
Total	105	92	13	0

16.139 Of the incidents reported a total of 22 involved pedestrians and 20 involved cyclists.

16.140 Of particular relevance to the Proposed Development site are the junctions of Evelyn Street/Oxestalls Road and Evelyn Street/Grove Street.

16.141 There were 22 reported personal injury accidents at the Evelyn Street/Oxestalls Road junction during the five year study period. Of these, 18 resulted in slight injuries and four resulted in serious injuries. Within the police report, it is stated that all four serious personal injury accidents involved pedestrians crossing the road into the path of an oncoming vehicle. These occurred on a red man signal. Other common accidents that resulted in slight injuries to casualties at this junction included rear-end shunts as a result of vehicles not stopping at the junction in time.

16.142 At the Evelyn Street/Grove Street Junction there were eight personal injury accidents, all resulting in slight injuries. Most of the accidents involved motor vehicles only. One of the accidents involved a cyclist undertaking a vehicle on the near side. The vehicle driver failed to see the cyclist and collided with them.

16.143 At the junction of Oxestalls and Grove Street there were two incidents, both of which resulted in slight injuries. One of the accidents involved a cyclist being hit by a vehicle entering the roundabout into their path.

BASELINE 2014 TRAFFIC FLOWS

16.144 The Baseline 2014 24 Hour AADT traffic flows are provided in Table 16.8 below:

Table 16.8: 2014 Baseline Two-Way Daily (24 Hour AADT) Vehicular Traffic Flows

Reference	Link	Total Vehicles	HGV*	% HGV
1	Evelyn Street (North of Junction with Oxestalls Rd)	24536	188	1%
2	Oxestalls Rd	3057	6	0%
3	Grove Street (North of Junction with Oxestalls Rd)	3787	7	0%
4	Grove Street (South of Junction with Oxestalls Rd)	3382	6	0%
5	Evelyn Street (North of Junction with Grinstead Rd)	24159	141	1%
6	Grove Street (South of Junction with Bowditch)	3459	8	0%
7	Dragoon Road	261	0	0%
8	Grove Street (North of Junction with Evelyn Street)	3763	7	0%
9	Evelyn Street (South of Junction with Grove Street)	29257	253	1%
10	Plough Way (East of Junction with Grove Street)	2721	6	0%
11	Grove Street (South of Junction with Plough Way)	2582	3	0%

*HGV relates to three axle articulated vehicle and larger

ASSESSMENT OF EFFECTS

CONSTRUCTION EFFECTS

16.145 This section of the assessment considers the potential effects of the construction of the proposed development on the local highway network.

16.146 A detailed programme of works will be put together prior to the start of works and included within a full Construction Traffic Management Plan (CTMP). A Draft CTMP is included as part of the planning application supporting documents and will be secured by planning condition. This will include detailed construction phases, together with their duration and anticipated start and end dates will be provided on this programme. An initial programme is summarised below:

- Phase 1- Q2 2016 – Q1 2019;
- Phase 2- Q3 2018 – Q4 2019;
- Phase 3- Q4 2017 – Q1 2022.

16.147 Construction traffic estimates have been provided by the applicant, who it is envisaged will also act as principal contractor for the construction of the development. The CTMP contains details of the indicative construction programme from which an estimate of the likely number of vehicle movements has been calculated. The effects of these construction vehicle movements have been assessed on the basis of a single construction period spanning all phases / scenarios.

16.148 During each phase, the key construction activities will be as follows:

- Demolition/Enabling works;
- Piling and Substructure;
- Podium Structure;
- Superstructure;
- Cladding/Brickwork; and
- Fit out.

VEHICLE MOVEMENTS

16.149 During the busiest period of construction, approximately 100 vehicle movements per day are estimated to be generated at the Site. This busiest period is estimated to last for 2-3 months. During the remainder of the construction period, the number of vehicle movements will be lower, with periods of around 80 vehicles per day during the initial demolition and enabling works. The remainder of the construction period will generate a lower number of vehicle movements, with fewer than 50 per day anticipated.

16.150 Access and egress to the site for construction vehicles is anticipated to be via Grove Street and Evelyn Street, utilising existing points of access, with localised widening as required to accommodate larger vehicles, in order to further minimise disruption.

SEVERANCE

16.151 It is anticipated that construction vehicles will access and egress the site via Grove Street and Evelyn -Street. A peak construction period increase of around 100 vehicle movements relates to a 0.41% increase in vehicle movements on Evelyn Street, and a 2.64% increase in vehicle movements on Grove Street. In reality, vehicles will use only one of these access points, so percentage increase in vehicle movements on these links will be even lower. In addition, assuming a 12 hour day, during the peak hour construction period there are likely to be approximately eight vehicle movements per hour.

16.152 As such, the magnitude of change is negligible across the whole network; the significance of the severance effect is therefore assessed to be negligible.

PEDESTRIAN AMENITY AND DELAY

- 16.153 The increase of up to 100 vehicle movements per day on the local highway network during peak construction times is relatively low in comparison to existing flows. All deliveries will be programmed and phased to meet the construction demands. Delivery times and routes to the Site will be discussed and defined in conjunction with the LBL and TfL guidelines, where considered appropriate, to limit the potential effects on pedestrians and cyclists.
- 16.154 As such, there is likely to be a temporary negligible to minor adverse effect on pedestrians and cyclists during construction.

DRIVER DELAY

- 16.155 Construction vehicle movements are likely to be spread throughout the day, minimising the effect on the local road network. During construction the main access for construction traffic will be via Grove Street and Evelyn Street. An increase of 100 vehicle movements per day during the peak construction period would result in an increase in total traffic flow on Grove Street of 2.64%. As there are low existing HGV movements recorded on Grove Street, the addition of construction traffic to this route will result in an increase; however this would not materially affect the operation of the road network.
- 16.156 There may be periods during the day when there would be increased delays associated with general construction activity, the effect would be local in nature and as such there is likely to be a temporary minor adverse effect on road users.

ACCIDENTS AND SAFETY

- 16.157 Examining the forecast daily flows, the construction effect of the Proposed Development will have a negligible increase in traffic compared to the future observed with the consented scheme traffic flows. Therefore, it is concluded that the overall significance of effect on accidents and safety will be negligible.

PUBLIC TRANSPORT

- 16.158 Public transport trips would be associated with construction employees. Hence the number of additional public transport trips generated by the Proposed Development during the construction phase will be split between London Underground and bus services, and will not, therefore, be significant.
- 16.159 Use of the existing bus stops in the vicinity of the Site will be maintained at all times.

SUMMARY OF CONSTRUCTION EFFECTS

- 16.160 The effects of the Proposed Construction during the operational phase are summarised in Table 16.9 below.

Table 16.9: Summary of Construction Effects

Description of Effect	Effect
Severance	Negligible
Pedestrian Delay	Negligible to Minor Adverse
Pedestrian Amenity	Negligible to minor adverse
Driver Delay	Minor Adverse
Accidents and Safety	Negligible
Public Transport	Negligible

SUMMARY OF OPERATIONAL EFFECTS

16.161 A summary of the operational effects of each scenario are discussed below.

SUMMARY OF OPERATIONAL EFFECTS: SCENARIO 1

16.162 The vehicle movements for Scenario 1, affects associated with Phase 1A are present in this section. The effect on severance, pedestrian delay, pedestrian amenity, driver delay, accidents and safety, and public transport is discussed as part of Scenario 3 for the completed Proposed Development.

VEHICLE MOVEMENTS

16.163 The effect of the additional vehicle movements on the Study Area as a result of Phase 1A is summarised in Tables 16.10 below. Information is presented for total vehicles and %HGVs for the AADT 24 hour periods.

Table 16.10: Baseline 2019 vs. Baseline 2019 with Phase 1A - Two-Way Daily (24 Hour AAWT) Traffic Flows

Ref	Link	Baseline 2019		Baseline 2019 + Phase 1a		Change (%)	
		Total Vehicles	% HGV	Total Vehicles	% HGV	Total Vehicles	% HGV
1	Evelyn Street (North of Junction with Oxestalls Rd)	24536	1%	24979	1%	2%	0%
2	Oxestalls Rd	3057	0%	3511	0%	15%	0%
3	Grove Street (North of Junction with Oxestalls Rd)	3787	0%	3787	0%	0%	0%
4	Grove Street (South of Junction with Oxestalls Rd)	3382	0%	3549	0%	5%	0%
5	Evelyn Street (North of Junction with Grinstead Rd)	24159	1%	24741	1%	2%	0%
6	Grove Street (South of Junction with Bowditch)	3459	0%	3699	0%	7%	0%
7	Dragoon Road	261	0%	504	0%	93%	0%
8	Grove Street (North of Junction with Evelyn Street)	3763	0%	4052	0%	8%	0%

Ref	Link	Baseline 2019		Baseline 2019 + Phase 1a		Change (%)	
		Total Vehicles	% HGV	Total Vehicles	% HGV	Total Vehicles	% HGV
9	Evelyn Street (South of Junction with Grove Street)	29257	1%	30057	1%	3%	0%
10	Plough Way (East of Junction with Grove Street)	2721	0%	2721	0%	0%	0%
11	Grove Street (South of Junction with Plough Way)	2582	0%	2582	0%	0%	0%

SUMMARY OF OPERATIONAL EFFECTS: SCENARIO 2

16.164 The vehicle movements for Scenario 2, effects associated with Phase 1 (A and B) are presented in this section. The effect on severance, pedestrian delay, pedestrian amenity, driver delay, accidents and safety, and public transport is discussed as part of Scenario 3 for the completed Proposed Development.

VEHICLE MOVEMENTS

16.165 The effect of the additional vehicle movements on the study area as a result of Phase 1(A and B) is summarised in Tables 16.11. Information is presented for total vehicles and %HGVs for the AADT 24 hour periods.

Table 16.11: Baseline 2019 vs. Baseline 2019 with Phase 1(A and B) - Two-Way Daily (24 Hour AAWT) Traffic Flows

Ref	Link	Baseline 2019		Baseline 2019+ Phase 1		Change (%)	
		Total Vehicles	% HGV	Total Vehicles	% HGV	Total Vehicles	% HGV
1	Evelyn Street (North of Junction with Oxestalls Rd)	24536	1%	25077	1%	2%	0%
2	Oxestalls Rd	3057	0%	3637	0%	19%	0%
3	Grove Street (North of Junction with Oxestalls Rd)	3787	0%	3787	0%	0%	0%
4	Grove Street (South of Junction with Oxestalls Rd)	3382	0%	3653	0%	8%	0%
5	Evelyn Street (North of Junction with Grinstead Rd)	24159	1%	24819	1%	3%	0%
6	Grove Street (South of Junction with Bowditch)	3459	0%	3852	0%	11%	0%
7	Dragoon Road	261	0%	437	0%	67%	0%
8	Grove Street (North of Junction with Evelyn Street)	3763	0%	4215	0%	12%	0%
9	Evelyn Street (South of Junction with Grove Street)	29257	1%	30274	1%	3%	0%
10	Plough Way (East of Junction with Grove Street)	2721	0%	2721	0%	0%	0%
11	Grove Street (South of Junction with Plough Way)	2582	0%	2582	0%	0%	0%

SUMMARY OF OPERATIONAL EFFECTS: SCENARIO 3

16.166 The vehicle movements for Scenario 3, effects associated with the completed Proposed Development are presented in this section. In addition the effect on severance, pedestrian delay, pedestrian amenity, driver delay, accidents and safety, and public transport are also described.

VEHICLE MOVEMENTS

16.167 The effect of the additional vehicle movements on the study area as a result of the completed Propose Development is summarised in Tables 16.12. Information is presented for total vehicles and %HGVs for the AADT 24 hour periods.

16.168 Within this scenario, the traffic flows from the consented scheme have been added to the Baseline 2014 as a 'Do Nothing' scenario.

Table 16.12: Baseline 2022 vs. Baseline 2022 with completed Proposed Development - Two-Way Daily (24 Hour AAWT) Traffic Flows

Ref	Link	Future Baseline 2022 (+ Consented)		Baseline 2022 + Full Dev		Change (%)	
		Total Vehicles	% HGV	Total Vehicles	% HGV	Total Vehicles	% HGV
1	Evelyn Street (North of Junction with Oxestalls Rd)	25287	1%	25041	0%	-1%	0%
2	Oxestalls Rd	4016	0%	3703	0%	-8%	0%
3	Grove Street (North of Junction with Oxestalls Rd)	3787	0%	3787	0%	0%	0%
4	Grove Street (South of Junction with Oxestalls Rd)	4221	0%	3850	0%	-9%	0%
5	Evelyn Street (North of Junction with Grinstead Rd)	24624	1%	24681	0%	0%	0%
6	Grove Street (South of Junction with Bowditch)	4690	0%	4134	0%	-12%	0%
7	Dragoon Road	499	0%	612	0%	23%	0%
8	Grove Street (North of Junction with Evelyn Street)	5139	0%	4547	0%	-12%	0%
9	Evelyn Street (South of Junction with Grove Street)	30870	1%	30391	0%	-2%	0%
10	Plough Way (East of Junction with Grove Street)	2721	0%	2721	0%	0%	0%
11	Grove Street (South of Junction with Plough Way)	2582	0%	2582	0%	0%	0%

16.169 Table 16.12 shows that the operational effect of the Proposed Development ('Do Something') will have a reduction in traffic compared to the Baseline with the consented scheme traffic flows (fallback or 'Do Nothing').

16.170 A reduction in vehicle trips at the proposed site ('Do Something') compared to the consented site ('Do Nothing') is expected due to a change in land use schedule, and a change in travel habits of the population. This has seen a shift away from private vehicle use since the consented scheme was approved (which was based on 2001 Census Data). It is also as a result of a reduction in parking spaces available for non-residential uses, down from 101 spaces to 40 spaces.

- 16.171 The trip generation methodology was agreed with TfL and LBL through scoping discussions for the TA.
- 16.172 Dragoon Road is the only link whereby traffic flows are predicted to increase. This is because the baseline flow along Dragoon Road is currently low, because Dragoon Road is a cul-de-sac within no through route onto Evelyn Street.

SEVERENCE

- 16.173 Examining daily flows, there is only one link where increases in total traffic flows are greater than 30% on any road in the study area. This is on Dragoon Road where, as discussed, baseline flows are low. On all other links the daily traffic flows are either consistent with or lower than the future baseline with the consented development traffic flows. Therefore on this criterion, the magnitude of change for the study area as a whole is minor beneficial.
- 16.174 As the magnitude of change is minor beneficial across the whole network, the significance of the severance effect is therefore assessed to be minor beneficial.

PEDESTRIAN DELAY

- 16.175 The IEMA guidelines suggest that the effect on pedestrian delay is a judgement based on the road links with two way traffic flow exceeding 1,400 vehicles per hour in context of the individual characteristics.
- 16.176 As discussed, the operational effect of the Proposed Development will have a reduction in traffic compared to the future baseline with the consented scheme traffic flows. Therefore, it is considered that the effect on pedestrian delay will be minor beneficial.
- 16.177 It is noted that the Proposed Development incorporates pedestrian improvements that will allow greater pedestrian permeability through the Site to local parks and the River Thames. It is considered that this could produce a medium magnitude of change in pedestrian journey times, which in turn would lead to a minor beneficial significance of effect with regard to pedestrian delay.
- 16.178 In summary, the significance of the effect in terms of pedestrian delay across the links above is minor beneficial.

PEDESTRIAN AMENITY

- 16.179 Based on advice in the IEMA Guidelines, the change in flows at which pedestrian amenity changes should be considered in detail are a doubling or halving in the flow of all traffic or HGV numbers.
- 16.180 As discussed, the operational effect of the Proposed Development ('Do Something') will have a reduction in traffic compared to the future baseline with the consented scheme traffic flows ('Do Nothing'). Therefore, it is considered that the effect on pedestrian delay will be minor beneficial.
- 16.181 Pedestrian amenity is defined as the relative pleasantness of a journey and can include fear and intimidation if they are relevant. As with pedestrian delay, amenity is affected by traffic volumes and composition along with pavement width and pedestrian activity. The pedestrian accessibility improvements surrounding the Site will serve to benefit both existing pedestrians but also those associated with the Proposed Development. This includes a new proposed Toucan Crossing on Evelyn Street. As a result it is considered that the Proposed Development will result in a medium magnitude of change in the relative pleasantness of pedestrian journeys surrounding the Site. Assessing this change against the low sensitivity of receptors surrounding the Site produces a minor beneficial significance of effect on pedestrian amenity.

DRIVER DELAY

- 16.182 As discussed earlier in this report, IEMA guidance suggests this assessment should only include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and any other specifically sensitive areas where traffic flows have increased by 10% or more.

16.183 This assessment has indicated that the operational effect of the Proposed Development be a reduction in traffic compared to the future baseline with the consented scheme traffic flows. Therefore, it is considered that the effect on driver delay will be minor beneficial.

ACCIDENTS AND SAFETY

16.184 An assessment of accident data has been undertaken for the purpose of this ES. The data across the study network shows that the level of reported accidents is not uncommon for this type of location. The causative factors identify that the majority of the accidents were the results of human error. As a result, there is no evidence to suggest that there is an existing road safety problem in the vicinity of the Site.

16.185 Examining the forecast daily flows, the operational effect of the Proposed Development will be a reduction in traffic compared to the future baseline with the consented scheme traffic flows. Therefore, it is concluded that the overall significance of effect on accidents and safety will be minor beneficial.

PUBLIC TRANSPORT

16.186 A full assessment of the effect of the Proposed Development on surrounding public transport facilities is included within the TA. The TA assessment sets out the number of additional trips on different public transport services as a result of the Proposed Development.

16.187 The TA shows that, whilst the vehicle trip generation is lower than the consented scheme, the Proposed Development will result in a higher number of trips utilising public transport modes.

16.188 Taking into account the greater number of people using public transport but the benefit of increased revenues through ticket fees, it is concluded that the Proposed Development will result in a negligible magnitude of effect, therefore resulting in a negligible significance of effect on public transport.

SUMMARY OF OPERATIONAL EFFECTS

16.189 The effects of the Proposed Development during the operational phase are summarised in Table 16.13 below.

Table 16.13: Summary of Operational Effects

Description of Effect	Effect
Severance	Minor Beneficial
Pedestrian Delay	Minor Beneficial
Pedestrian Amenity	Minor Beneficial
Driver Delay	Minor Beneficial
Accidents and Safety	Minor Beneficial
Public Transport	Negligible

MITIGATION AND ENHANCEMENT

MITIGATION MEASURES DURING CONSTRUCTION PHASE

16.190 A CTMP will be prepared by the Contractor prior to the commencement on site and monitored by LBL and TfL (as appropriate) to control the potential effects of the construction process. A draft CTMP is included as part of the planning application supporting documents.

16.191 The CTMP, to be secured by planning condition, will ensure that:

- A strategy for planning of the construction access routes will be implemented to take into account current legislation, Police, Fire Authority and HSE guidance, Local Authority Transport Schemes and Neighbourhood Lorry Restrictions.
- The strategy for planning of the construction access routes will be reviewed and updated in line with the construction programme and would typically include details of the following:
 - Temporary traffic control measures, if required;
 - Timing controls (e.g. limiting peak period vehicle movements);
 - Temporary and permanent access to the works for personnel/vehicles;
 - Traffic management procedures for waste disposal vehicles;
 - Personnel and vehicle segregation;
 - Equipment, e.g. road cones, temporary fencing and signage etc;
 - Provision would be made to ensure that vehicles can be loaded and unloaded off the public highway where possible;
 - The site labour force would be encouraged to use public transport to travel to and from the Site where possible. There would only be limited vehicle parking permitted on site for visitors.
 - HGV wheels will be washed prior to vehicles leaving the Site;
 - Road sweepers will be used on adjacent roads at an appropriate frequency depending on the stage of construction to keep the roads clean and free from mud etc, if necessary.
 - Traffic management plans would be implemented to minimise the potential effect of the works. This would include ensuring that any lane closures are undertaken outside of peak hours where considered necessary and appropriate; and
 - Pedestrian and cycleways would be temporarily diverted during the public highway works where necessary following approval with LBL.

MITIGATION MEASURES DURING OPERATIONAL PHASE

16.192 A range of mitigation measures have been included in the design of the Proposed Development. It should be noted that no significant adverse effects have been identified that require mitigation; however best practice mitigation measures have been included. Additional mitigation measures included alongside the design of the Proposed Development are set out below.

INCREASED PERMEABILITY FOR PEDESTRIANS AND CYCLISTS

16.193 Footways and cycle links will be provided throughout the site, linking Pepys Park to the east of the Site with Deptford Park to the west of the Site. In addition, a new Toucan Crossing will be provided across Evelyn Street. This will help to provide a positive effect associated with the Proposed Development on Severance, Pedestrian Delay, Pedestrian Amenity, and Accidents and Safety.

TRAVEL PLAN

16.194 As part of the development proposals, a Travel Plan, to be secured by planning condition, will be developed to encourage the use of non-car modes of travel, and ensure the sustainability of the Proposed Development. A Travel Plan which covers both the residential and non-residential uses of the Proposed Development is also submitted as a supporting document to the planning application.

- 16.195 A Travel Plan sets out the tools and measures deemed necessary to enable residents and employees of the site to make informed decisions about their travel, with the ultimate objective of reducing single occupancy vehicle trips. The Travel Plan includes targets to reduce travel by single occupancy vehicles, and a commitment to monitor travel against these targets through a series of travel surveys.
- 16.196 The Travel Plan has been developed in accordance with guidance issued by Transport for London in November 2013.

DELIVERY AND SERVICING MANAGEMENT PLAN (DSMP)

- 16.197 All servicing movements will be controlled by a Delivery and Servicing Management Plan (DSMP) which has been produce to ensure that servicing vehicle operation is controlled and managed. A Draft DSMP has been produced, and forms part of the planning application. This will be secured by a planning condition.

CUMULATIVE EFFECTS

FUTURE BASELINE 2022

16.198 As described elsewhere in this ES it is intended to complete Phase 1 of the Proposed Development in 2019, with the remainder being completed by 2022. As a robust case, the baseline for 2022 will represent the future baseline for assessment purposes for all scenarios.

16.199 The committed and cumulative development sites agreed for assessment with TfL and LB Lewisham are:

- Marine Wharf West
- Marine Wharf East
- Surrey Quays Shopping Centre
- Cannon Wharf
- Surrey Quays Leisure Centre
- Convoys Wharf
- Thames Tideway Tunnel
- Surrey Canal
- Tavern Quay Commercial Centre
- Neptune Wharf
- Canada Water Sites C & E
- Mulberry Business Park
- Quebec Way Industrial Estate

16.200 Owing to the extent of committed and cumulative schemes for inclusion, it has been agreed with LBL and TfL that additional background traffic growth should not be included within the assessment.

FUTURE BASELINE 2019 SCENARIO 1: EFFECTS ASSOCIATED WITH PHASE 1A

16.201 The Future Year Baseline with Phase 1A scenario assesses observed traffic flow plus committed and cumulative development traffic and the addition of the traffic arising from the Phase 1A. Within this scenario, traffic associated with the existing uses on the site that are not covered as part of Phase 1A will be retained.

FUTURE BASELINE 2019 SCENARIO 2: EFFECTS ASSOCIATED WITH PHASE 1

16.202 The Future Year Baseline with Phase 1 (A and B) scenario assesses observed traffic flow plus committed and cumulative development traffic and the addition of the traffic arising from the Phase 1. Within this scenario, traffic associated with the existing uses on the site that are not covered as part of Phase 1 will be retained.

FUTURE BASELINE 2022 SCENARIO 3: EFFECTS ASSOCIATED WITH FULL DEVELOPMENT

16.203 The Future Year Baseline with the completed Proposed Development scenario assesses observed traffic flow plus committed and cumulative development traffic and the addition of the traffic arising from the full development.

16.204 Within this scenario, traffic associated with the existing planning consent has been deducted from the future baseline.

SUMMARY OF CUMULATIVE EFFECTS

16.205 A summary of the operational effects of each scenario are discussed below.

SUMMARY OF CUMULATIVE EFFECTS: SCENARIO 1

16.206 The vehicle movements for Scenario 1, Effects associated with Phase 1A are presented in this section. The effect on severance, pedestrian delay, pedestrian amenity, driver delay, accidents and safety, and public transport is discussed as part of Scenario 3 for the full development.

VEHICLE MOVEMENTS

16.207 The effect of the additional vehicle movements on the study area as a result of Phase 1a is summarised in Tables 16.14 below. Information is presented for total vehicles and %HGVs for the AADT 24 hour periods.

Table 16.14: Future Baseline 2019 vs. Future Baseline 2019 with Phase 1a - Two-Way Daily (24 Hour AAWT) Traffic Flows

Ref	Link	Future Baseline 2019		Future Baseline 2019 + Phase 1a		Change (%)	
		Total Vehicles	% HGV	Total Vehicles	% HGV	Total Vehicles	% HGV
1	Evelyn Street (North of Junction with Oxestalls Rd)	32667	1%	33110	1%	1%	0%
2	Oxestalls Rd	6034	0%	6488	0%	8%	0%
3	Grove Street (North of Junction with Oxestalls Rd)	4367	0%	4367	0%	0%	0%
4	Grove Street (South of Junction with Oxestalls Rd)	6359	0%	6526	0%	3%	0%
5	Evelyn Street (North of Junction with Grinstead Rd)	31368	1%	31950	1%	2%	0%
6	Grove Street (South of Junction with Bowditch)	6436	0%	6676	0%	4%	0%
7	Dragoon Road	261	0%	504	0%	93%	0%
8	Grove Street (North of Junction with Evelyn Street)	4670	0%	4959	0%	6%	0%
9	Evelyn Street (South of Junction with Grove Street)	36043	1%	36843	1%	2%	0%
10	Plough Way (East of Junction with Grove Street)	3301	0%	3301	0%	0%	0%
11	Grove Street (South of Junction with Plough Way)	3162	0%	3162	0%	0%	0%

16.208 Table 16.14 indicates that, with the competition of Phase 1A, there will be a small uplift in vehicle flows compared to the Future Baseline 2019 on the majority of links. The large percentage increase in flows observed on Dragoon Road is as a result of low Baseline 2019 traffic flows.

SUMMARY OF CUMULATIVE EFFECTS: SCENARIO 2

16.209 The vehicle movements for Scenario 2, effects associated with Phase 1 (A and B) are presented in this section. The effect on severance, pedestrian delay, pedestrian amenity, driver delay, accidents and safety, and public transport is discussed as part of Scenario 3 for the full development.

VEHICLE MOVEMENTS

16.210 The effect of the additional vehicle movements on the Study Area as a result of Phase 1 (A and B) is summarised in Tables 16.15. Information is presented for total vehicles and %HGVs for the AADT 24 hour periods.

Table 16.15: Future Baseline 2019 vs. Future Baseline 2019 with Phase 1 - Two-Way Daily (24 Hour AAWT) Traffic Flows

Ref	Link	Future Baseline 2019		Future Baseline 2019+ Phase 1		Change (%)	
		Total Vehicles	% HGV	Total Vehicles	% HGV	Total Vehicles	% HGV
1	Evelyn Street (North of Junction with Oxestalls Rd)	32667	1%	33208	1%	2%	0%
2	Oxestalls Rd	6034	0%	6614	0%	19%	0%
3	Grove Street (North of Junction with Oxestalls Rd)	4367	0%	4367	0%	0%	0%
4	Grove Street (South of Junction with Oxestalls Rd)	6359	0%	6630	0%	8%	0%
5	Evelyn Street (North of Junction with Grinstead Rd)	31368	1%	32028	1%	3%	0%
6	Grove Street (South of Junction with Bowditch)	6436	0%	6829	0%	11%	0%
7	Dragoon Road	261	0%	437	0%	67%	0%
8	Grove Street (North of Junction with Evelyn Street)	4670	0%	5122	0%	12%	0%
9	Evelyn Street (South of Junction with Grove Street)	36043	1%	37060	1%	3%	0%
10	Plough Way (East of Junction with Grove Street)	3301	0%	3301	0%	0%	0%
11	Grove Street (South of Junction with Plough Way)	3162	0%	3162	0%	2%	0%

16.211 Table 16.15 indicates that, with the competition of Phase 1, there will be a small uplift in vehicle flows compared to the Future Baseline 2019 on the majority of links. Again, the large percentage increase in flows observed on Dragoon Road is as a result of low Baseline 2019 traffic flows.

SUMMARY OF OPERATIONAL CUMULATIVE EFFECTS: SCENARIO 3

16.212 The vehicle movements for Scenario 3, Effects associated with the Full Development are present in this section. In addition the effect on severance, pedestrian delay, pedestrian amenity, driver delay, accidents and safety, and public transport are also described.

VEHICLE MOVEMENTS

16.213 The effect of the additional vehicle movements on the Study Area as a result of full development is summarised in Tables 16.16. Information is presented for total vehicles and %HGVs for the AADT 24 hour periods.

16.214 Within this scenario, the traffic flows from the consented scheme have been added to the Future Baseline 2022 as a 'Do Nothing' scenario.

Table 16.16: Future Baseline 2022 vs. Future Baseline 2022 with Phase 3 - Two-Way Daily (24 Hour AAWT) Traffic Flows

Ref	Link	Future Baseline 2022 (Inc Consent)		Future Baseline 2022 + Full Dev		Change (%)	
		Total Vehicles	% HGV	Total Vehicles	% HGV	Total Vehicles	% HGV
1	Evelyn Street (North of Junction with Oxestalls Rd)	33418	1%	33172	1%	-1%	0%
2	Oxestalls Rd	6993	0%	6680	0%	-4%	0%
3	Grove Street (North of Junction with Oxestalls Rd)	4367	0%	4367	0%	0%	0%
4	Grove Street (South of Junction with Oxestalls Rd)	7198	0%	6827	0%	-5%	0%
5	Evelyn Street (North of Junction with Grinstead Rd)	31833	1%	31890	1%	0%	0%
6	Grove Street (South of Junction with Bowditch)	7667	0%	7111	0%	-7%	0%
7	Dragoon Road	499	0%	612	0%	23%	0%
8	Grove Street (North of Junction with Evelyn Street)	6046	0%	5454	0%	-10%	0%
9	Evelyn Street (South of Junction with Grove Street)	37656	1%	37177	1%	-1%	0%
10	Plough Way (East of Junction with Grove Street)	3301	0%	3301	0%	0%	0%
11	Grove Street (South of Junction with Plough Way)	3162	0%	3162	0%	0%	0%

16.215 Table 16.16 shows that the operational effect of the Proposed Development will have a reduction in traffic compared to the future baseline with the consented scheme traffic flows.

16.216 A reduction in vehicle trips from the Proposed Development compared to the consented scheme is expected due to a change in land use schedule, and a change in travel habits of the population. This has seen a shift away from private vehicle use since the consented scheme was approved (which was based on 2001 Census Data). It is also as a result of a reduction in parking spaces available for non-residential uses, down from 101 spaces to 40 spaces.

16.217 The trip generation methodology was agreed with TfL and LBL through scoping discussions for the TA.

16.218 Dragoon Road is the only link whereby traffic flows are predicted to increase. This is because the baseline flow along Dragoon Road is currently low, because Dragoon Road is a cul-de-sac within no through route onto Evelyn Street.

SEVERENCE

16.219 Examining daily flows, there is only one link where increases in total traffic flows are greater than 30% on any road in the Study Area. This is on Dragoon Road where, as discussed, baseline flows are low. On all other links the daily traffic flows are either consistent with or lower than the future baseline with the consented development traffic flows. Therefore on this criterion, the magnitude of change for the Study Area as a whole is minor beneficial.

16.220 As the magnitude of change is minor beneficial across the whole network, the significance of the severance effect is therefore assessed to be minor beneficial.

PEDESTRIAN DELAY

- 16.221 The IEMA guidelines suggest that the effect on pedestrian delay is a judgement based on the road links with two way traffic flow exceeding 1,400 vehicles per hour in context of the individual characteristics.
- 16.222 As discussed, the operational effect of the Proposed Development will have a reduction in traffic compared to the future baseline with the consented scheme traffic flows. Therefore, it is considered that the effect on pedestrian delay will be minor beneficial.
- 16.223 It is noted that the Proposed Development incorporates pedestrian improvements that will allow greater pedestrian permeability through the Site to local parks and the River Thames. It is considered that this could produce a medium magnitude of change in pedestrian journey times, which in turn would lead to a minor beneficial significance of effect with regard to pedestrian delay.
- 16.224 In summary, the significance of the effect in terms of pedestrian delay across the links above is minor beneficial.

PEDESTRIAN AMENITY

- 16.225 Based on advice in the IEMA Guidelines, the change in flows at which pedestrian amenity changes should be considered in detail are a doubling or halving in the flow of all traffic or HGV numbers.
- 16.226 As discussed, the operational effect of the Proposed Development will have a reduction in traffic compared to the future baseline with the consented scheme traffic flows. Therefore, it is considered that the effect on pedestrian delay will be minor beneficial.
- 16.227 Pedestrian amenity is defined as the relative pleasantness of a journey and can include fear and intimidation if they are relevant. As with pedestrian delay, amenity is affected by traffic volumes and composition along with pavement width and pedestrian activity. The pedestrian accessibility improvements surrounding the Site will serve to benefit both existing pedestrians but also those associated with the Proposed Development. This includes a new proposed Toucan Crossing on Evelyn Street. As a result it is considered that the Proposed Development will result in a medium magnitude of change in the relative pleasantness of pedestrian journeys surrounding the Site. Assessing this change against the low sensitivity of receptors surrounding the Site produces a minor beneficial significance of effect on pedestrian amenity.

DRIVER DELAY

- 16.228 As discussed earlier in this report, IEMA guidance suggests this assessment should only include highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%); and any other specifically sensitive areas where traffic flows have increased by 10% or more.
- 16.229 This assessment has indicated that the operational effect of the Proposed Development will have a reduction in traffic compared to the future baseline with the consented scheme traffic flows. Therefore, it is considered that the effect on driver delay will be minor beneficial.

ACCIDENTS AND SAFETY

- 16.230 An assessment of accident data has been undertaken for the purpose of this ES. The data across the study network shows that the level of reported accidents is not uncommon for this type of location. The causal factors identify that the majority of the accidents were the results of human error. As a result, there is no evidence to suggest that there is an existing road safety problem in the vicinity of the Site.
- 16.231 Examining the forecast daily flows, the operational effect of the Proposed Development will have a reduction in traffic compared to the future baseline with the consented scheme traffic flows. Therefore, it is concluded that the overall significance of effect on accidents and safety will be minor beneficial.

PUBLIC TRANSPORT

- 16.232 A full assessment of the Proposed Development on surrounding public transport facilities is included within the TA. The TA assessment sets out the number of additional trips on different public transport services as a result of the Proposed Development.
- 16.233 The TA shows that, whilst the vehicle trip generation is lower than the consented scheme, the proposed development has a higher number of trips utilising public transport modes.
- 16.234 Taking into account the greater number of people using public transport but the benefit of increased revenues through ticket fees, it is concluded that the Proposed Development will result in a negligible magnitude of effect, therefore resulting in a negligible significance of effect on public transport.

SUMMARY OF CUMULATIVE EFFECTS

- 16.235 The effects of the Proposed Development during the operational phase are summarised in Table 16.17

Table 16.17: Summary of Cumulative Effects

Description of Effect	Effect
Severance	Minor Beneficial
Pedestrian Delay	Minor Beneficial
Pedestrian Amenity	Minor Beneficial
Driver Delay	Minor Beneficial
Accidents and Safety	Minor Beneficial
Public Transport	Negligible

RESIDUAL EFFECTS

16.236 It is considered that the mitigation measures described will have a beneficial effect in relation to Severance, Pedestrian Delay, Pedestrian Amenity, and Accidents and Safety. However, all effects will remain as described in previous sections. In relation to the Travel Plan, while no quantitative analysis has been undertaken to determine the overall effect it is widely acknowledged that a successful travel plan can reduce traffic generation from a development.

16.237 A summary of the residual effects is provided in Table 16.8 below:

Table 16.18: Summary of Residual Effects

Potential Effect / Receptor	Construction Effects			Operational Effects			
	Pre Mitigation Effect	Mitigation Measure	Residual Effect – Post Mitigation	Pre Mitigation Effect	Mitigation Measure	Residual Effect – Post mitigation	
Severance	Negligible	CTMP	Negligible	Minor Beneficial	DSMP, Travel Plan, Increased pedestrian and cyclist permeability	Minor Beneficial	
Pedestrian Delay	Negligible to Minor Adverse		Negligible	Minor Beneficial		Minor Beneficial	
Pedestrian Amenity	Negligible to minor adverse		Negligible	Minor Beneficial		Minor Beneficial	
Driver Delay	Minor Adverse		Minor Adverse	Minor Beneficial		Minor Beneficial	
Accidents and Safety	Negligible		Negligible	Minor Beneficial		Minor Beneficial	
Public Transport	Negligible		Negligible	Negligible		Negligible	Negligible

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