

Blossom Street

**08 Traffic and
Transport**

Replacement Environmental Statement

Volume I

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Preface – Update 2015

- This replacement November 2015 Environmental Statement (hereafter referred as the 'November 2015 Replacement ES' or 'this Replacement ES') takes into account the design changes to the Blossom Street project (refer *Chapter 4: Proposed Development*) that have occurred since the submission of the application in December 2014 ES and concludes if any changes to the likely significant effects occur as a result of those changes. This Replacement ES consolidates the environmental assessment of the design changes into a single ES, presenting commentary (under the heading 'Update 2015') for the design changes in the March 2015 ES Addendum (the 'March 2015 ES Addendum') by blue text, and the design changes arising from the current design changes by red text. Where relevant, text removed will be denoted by strike-through, e.g. effect), and updated tables and figures will be denoted by the suffix 'A' (e.g. Table 2.10A).
- This Replacement ES adopts the following terminology to describe the development descriptions and design changes:
 - Proposed Development: description of the development presented in the December 2014 ES;
 - Revised Scheme: description of the scheme incorporating the design changes to the Proposed Development in March 2015 (the design changes referred as the 'March 2015 amendments'), assessed within the March 2015 ES Addendum;
 - Amended Proposed Development: description of the development incorporating the current design changes to the Revised Scheme (the design changes referred as the 'November 2015 amendments'), to be assessed within the November 2015 Replacement ES.
- Further details in regard to the approach taken in this November 2015 Replacement ES are outlined in *Chapter 2: EIA Methodology*.

Introduction

- 8.1 This chapter of the environmental statement (ES) explains the current conditions in the vicinity of the Site in terms of traffic, public transport, cycling and pedestrians. It deals with the likely significant effects of the Proposed Development and considers the requirement for mitigation measures.
- 8.2 This chapter makes reference to the Transport Assessment (TA) which accompanies the planning application (see *ES Volume III: Appendix C*). The TA and this chapter have been produced by Arup.

Legislation and Planning Framework

National Legislation

- 8.3 There is no National Legislation directly relating to traffic and transport issues for the purposes of this assessment.

National Policy and Guidance

National Planning Policy Framework (2012)

- 8.4 The National Planning Policy Framework (NPPF) (Ref. 8-1) identifies a set of core land-use planning principles that should underpin both plan-making and decision-taking, including those relevant to the transport assessment. This includes actively managing 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.
- 8.5 The NPPF requires all developments that generate significant amounts of movement be supported by a Transport Statement or TA. Decisions should take account of whether:
- 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 costs 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.

8.6 In paragraph 35 of the NPPF guidance is given that plans should protect and exploit opportunities for the use of sustainable transport modes for the movement of goods or people. It then goes on to provide that developments should be located and designed where practical to:

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

8.7 The framework supports the provision of Travel Plans to manage demand and the provision of sustainable facilities on Site to reduce the need to travel where practical. All developments which generate significant amounts of movement should be required to provide a Travel Plan (Paragraph 36).

8.8 Regarding parking standards, the NPPF states that (paragraph 39):

- "If setting local parking standards for residential and non-residential development, local planning authorities should take into account:
 - The accessibility of the development;
 - The type, mix and use of development;
 - The availability of and opportunities for public transport;
 - Local car ownership levels; and
 - An overall need to reduce the use of high-emission vehicles."

Planning Practice Guidance (2014)

8.9 The Planning Practice Guidance (PPG) (Ref. 8-2) addresses 'Travel plans, transport assessments and statements in decision-taking'. The PPG provides advice on when transport assessments and transport statements are required, and what they should contain. It covers:

- Overarching principles on Travel Plans, Transport Assessments and Statements;
- Travel Plans; and
- TAs and Statements.

8.10 The PPG includes the following description of TAs and Transport Statements:

"Transport Assessments and Statements are 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).

Transport Assessments are thorough assessments of the transport implications of development, and Transport Statements are a 'lighter-touch' evaluation to be used where this would be more proportionate to the potential impact of the development (i.e. in the case of developments with anticipated limited transport impacts).

Where the transport impacts of development are not significant, it may be that no Transport Assessment or Statement or Travel Plan is required. Local planning authorities, developers, relevant transport authorities, and neighbourhood planning organisations should agree what evaluation is needed in each instance."

8.11 The PPG also includes the following description of the purpose of Travel Plans:

"Travel Plans are long-term management strategies for integrating proposals for sustainable travel into the planning process. They are based on evidence of the anticipated transport

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impacts of development and set measures to promote and encourage sustainable travel (such as promoting walking and cycling). They should not, however, be used as an excuse for unfairly penalising drivers and cutting provision for cars in a way that is unsustainable and could have negative impacts on the surrounding streets.

Travel Plans should where possible, be considered in parallel to development proposals and readily integrated into the design and occupation of the new Site rather than retrofitted after occupation.

Where there may be more effective or sustainable outcomes, and in order to mitigate the impact of the Proposed Development, consideration may be given to travel planning over a wider area.”

- 8.12** The Government considers that when combined these documents can positively contribute to:
- 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 and Guidance

The London Plan (2011)

- 8.13** The London Plan (Ref. 8-3) aims to ensure that London’s transport is easy, safe and convenient for everyone and encourages cycling, walking and use of electric vehicles. It states that London should be 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 and makes better use of the River Thames.
- 8.14** The London Plan recognises that transport plays a fundamental role in addressing the whole range of spatial planning, environmental, economic and social policy priorities. It is critical to the efficient functioning and quality of life of London and its inhabitants, having major effects on places, especially around interchanges and in town centres and on the environment, both within the city itself and more widely.
- 8.15** The London Plan outlines a number of policies on the integration of transport and development, including the consideration of development proposals in terms of existing transport capacity and supporting sustainable transport in London. The policies relevant to the Site include the following.
- 8.16** Policy 6.1: Strategic Approach:
- Encouraging patterns and nodes of development that reduce the need to travel, especially by car.
 - Seeking to improve the capacity and accessibility of public transport, walking and cycling, particularly in areas of greatest demand.
 - Supporting development that generates high levels of trips at locations with high public transport accessibility and/or capacity, either currently or via committed, funded improvements including, where appropriate, those provided by developers through the use of planning obligations; and
 - Supporting measures that encourage shifts to more sustainable modes and appropriate demand management promoting walking by ensuring an improved urban realm.
- 8.17** Section B of Policy 6.1 states that:

“The Mayor will, and boroughs should, take an approach to the management of street space that takes account of the different roles of roads for neighbourhoods and road users in ways that support the policies in this Plan promoting public transport and other sustainable means of transport (including policies 6.2, 6.7, 6.9 and 6.10) and a high quality

public realm. Where appropriate, a corridor-based approach should be taken to ensure the needs of street users and improvements to the public realm are co-ordinated.”

- 8.18** Policy 6.3 Assessing effects of development on transport capacity:
- Development proposals should ensure that impacts on transport capacity and the transport network, at both a corridor and local level, are fully assessed. Development should not adversely affect safety on the transport network.
- 8.19** Policy 6.9 Cycling. Developments should:
- Provide secure, integrated and accessible cycle parking facilities in line with the minimum standards;
 - Provide on-Site changing facilities and showers for cyclists;
 - Facilitate the Cycle Superhighways; and
 - Facilitate the central London cycle hire scheme.
- 8.20** Policy 6.10 Walking:
- Development proposals should ensure high quality pedestrian environments and emphasise the quality of the pedestrian and street space.
- 8.21** Policy 6.13 Parking:
- Requires that an appropriate balance must be struck between promoting new development and preventing excessive car parking provision that can undermine cycling, walking and public transport use. It identifies maximum parking standards which should be applied to planning applications.
- 8.22** Provision for electric vehicle charging facilities must also be provided in accordance with the London Plan.
- 8.23** The Site is situated in an area with high quality pedestrian connections to nearby facilities. The proposals have been designed to contribute to the high quality public realm to promote a secure and pleasant walking environment.

Revised Early Minor Alterations to the London Plan (2013)

- 8.24** The Revised Early Minor Alterations (REMA), (Ref. 8-4) contains details of the amended cycle standards required to be incorporated into a new development and supersede the standards contained within the London Plan. The REMA includes changes supporting Policy 6.9 on cycling.
- 8.25** In addition, the residential cycle parking standards for residents are supplemented by 1 space per 40 units for visitors, and visitor provision is also included for other development categories.

Draft Further Alterations to the London Plan (2014)

- 8.26** The draft Further Alterations to the London Plan (FALP) (Ref. 8-5) includes a number of revisions, which are relevant to the assessment of the impacts to traffic and transport. The revisions relate to policies regarding cycle facilities and infrastructure, including the implementation of ‘Cycle Superhighways’ and ‘Quietways’.
- 8.27** The revised cycle and car parking standards relevant to the Site are set out in Table 8-1 and Table 8-2 below.

Table 8.1 Cycle Parking Standards for Developments (FALP)

Land Use	Cycle Parking Standard	
	Long Stay	Short Stay
B1 Office	Inner/ central London: 1 space per 90 sqm	First 5,000 sqm: 1 space per 500 sqm Thereafter: 1 space per 5,000 sqm
A1 Food	From a threshold of 100 sqm: 1 space per 175 sqm	From a threshold of 100 sqm: first 750 sqm: 1 space per 40 sqm

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Land Use	Cycle Parking Standard	
	Long Stay	Short Stay
		Thereafter: 1 space per 300 sqm
A1 Non Food	From a threshold of 100 sqm: First 1000 sqm: 1 space per 250 sqm Thereafter: 1 space per 1000 sqm	From a threshold of 100 sqm: First 1000 sqm: 1 space per 125 sqm Thereafter: 1 space per 1000 sqm
A3 Café & restaurants	From a threshold of 100 sqm: 1 space per 175 sqm	From a threshold of 100 sqm: 1 space per 40 sqm
A4 Drinking establishments	From a threshold of 100 sqm: 1 space per 175 sqm	From a threshold of 100 sqm: 1 space per 40 sqm
C3 Residential	1 space per dwelling up to 45 sqm 2 spaces per all other dwellings	1 space per 40 units

Table 8.2 Car Parking Standards for Developments (FALP)

Land Use	Maximum Car Parking Standard	Electric Vehicle Standard	Blue Badge Standard
B1 Office	1 space per 1000 – 1500 sqm of gross floor space	20 per cent of all spaces must be for electric vehicles with an additional 10 per cent passive provision for electric vehicles in the future	1 space per employee that is a disabled motorist plus 5% of the total number of car parking spaces provided
A1 Food	Unless for disabled people, no non-operational parking should be provided for locations in PTAL 6 central	20 per cent of all spaces must be for electric vehicles with an additional 20 per cent passive provision for electric vehicles in the future.	Adequate parking spaces for disabled people must be provided preferably on-Site
A1 Non Food			
A3 Café & restaurants			
A4 Drinking establishments			
C3 Residential	All developments in areas of good public transport accessibility should aim for significantly less than 1 space per unit, and towards zero / car-free in the areas of highest accessibility. 1/2 bed – 0 to 1 per unit 3 bed – up to 1.5 per unit 4+ bed – up to 2 per unit		

The Mayor's Transport Strategy (2010)

8.28 The Mayor's Transport Strategy was published in May 2010 (Ref. 8-6) and will be the principal tool through which the Mayor exercises his responsibilities for the planning, management and development of transport in London, for both the movement of people and goods. It replaces the 2001 Transport Strategy.

8.29 The legislative framework specifies that the transport strategy must contain policies for “the promotion and encouragement of safe, integrated, efficient and economic transport facilities and services to, from and within Greater London”.

Local Policy and Guidance

LBTH Core Strategy (2010)

8.30 The Core Strategy (Ref. 8-7) sets out LBTH's spatial visions for development for the next 15 years. It is one of a series of documents forming part of the Local Development Framework. Five spatial themes form the focus of the Core Strategy:

- Refocusing on town centres;
- Strengthening neighbourhood well-being;
- Enabling prosperous communities;
- Designing a high-quality city; and
- Delivering place making

8.31 Spatial Policy 09 promotes the implementation of a street hierarchy that puts pedestrians first but notes the importance of maintaining streets that effectively distribute traffic and as such, new development should not have an adverse impact on the safety and capacity of the road network. Furthermore, the policy supports the promotion of car free developments.

8.32 Borough-wide Strategic Objective (SO) 12 states LBTH's commitment to creating “a high-quality, well-connected and sustainable natural environment of green and blue spaces” which inter-connect to form a grid. This has the aim of promoting active lifestyles through the encouragement of physical movement.

8.33 This is linked to SO 20 which covers the aim of delivering an attractive, well-signed and well-designed network of streets and spaces that facilitate movement on foot and by bicycle.

LBTH Managing Development Document (2013)

8.34 LBTH's Managing Development Document (MDD) (Ref. 8-8) provides for the following policies.

- Policy DM9 'Improving air quality' states that “the Council will expect developments to consider a range of measures designed to improve air quality, including reducing vehicle movements and enhancing the public realm”.
- Policy DM10 'Delivering public space' aims to protect and enhance existing open space, create new open spaces and improve connectivity between spaces, in accordance with the Borough's Green Grid Strategy and Open Space Strategy. For the purposes of this policy, open space does not include private amenity space inaccessible to the public.
- Policy DM20 'Supporting a sustainable transport network' states that “developments will need to demonstrate that they will not affect negatively on the capacity and safety of the transport network's operation, or on any planned improvements or amendments to it. Developments having a significant effect on the transport network will be required to produce a Transport Assessment (TA), to be accompanied by a Travel Plan in cases where the TA identifies significant transport effects”.

8.35 The TA should cover the anticipated movements to, from and within the Site, together with measures designed to achieve the highest connectivity by sustainable travel modes. Capacity of the highway and public transport networks should also be considered, together with requirements for capacity enhancement where existing provision would be insufficient to handle the projected demand increases.

8.36 Travel Plans should contain a package of measures designed to meet long-term sustainable transport objectives for the Site, including ways of encouraging use of sustainable travel modes and minimising the number of car trips. Details should be provided in relation to the targets and timescales established, together with the plans to implement, fund and monitor the measures described.

- Policy DM22 'Parking' states that “developments which are to be located in areas of good public transport accessibility and / or areas of existing parking stress will be required to be permit-free, in addition to complying with the parking standard guidelines applicable to all developments. Parking for car club and electric vehicles will be prioritised, as will parking provision for affordable family homes

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since the council recognises that residents of this type of accommodation may have less choice over where they live”.

- Policy DM23 ‘Streets and the public realm’ aims to ensure developments’ good connectivity with the surrounding area by:
 - “Improving permeability and legibility;
 - Ensuring that public realm design is integral to development proposals and takes into account existing public realm designs in the vicinity of the Site;
 - Focusing on the human scale when designing public realm;
 - Providing adequate definition and enclosure to the public realm;
 - Rendering the design inclusive; and
 - Ensuring the public realm is comfortable and useable.”

8.37 Safety and security are important considerations in public realm design. Inclusiveness and good design should be ensured by:

- “Locating entrances in safe, visible and accessible locations;
- Facilitating natural surveillance;
- Avoiding the creation of concealment points;
- Ensuring clear distinctions are made between public, semi-public and private space; and
- Maintaining clear sightlines to enhance visibility of the surrounding area.”

8.38 Ensuring good connectivity, permeability and legibility is a priority. Connectivity refers to the number, integration, layout and relationship of routes to one another, and the effect that this has on being able to get from one point to another. Permeability refers to the variety and capacity of routes through an area, while legibility is the degree to which way-finding is facilitated thanks to the ease of understanding an area.

8.39 In respect of disabled parking, the MDD requires two spaces or 10% of the total parking provision, whichever is greater where off-street parking is provided. Without off-street parking, one space is required on-Site. Where Site constraints mean provision is unfeasible or not safe, the development will be required to demonstrate how a disabled person can park to use the development with ease.

8.40 Motorcycle parking may be provided within the space allowed by the maximum standards, at a guideline rate of 5 motorcycle spaces in place of each permitted car parking space. Where no car parking provision is allowed, motorcycle parking spaces will only be considered if supported and justified by a TA.

8.41 Table 8-3 below sets out LBTH’s car and cycle parking policy standards. Table 8-4 below sets out the car and cycle parking standards that have been applied to the Site.

Table 8.3 Car and Cycle Parking Standards (LBTH MDD)

Use	Maximum Car / Motorcycle Parking	Minimum Cycle Parking (Minimum 2 spaces)
A1	No Car Parking	1/125m ²
A3 - A5	No Car Parking	1/20 staff / visitors - A3 1/100m ² - A4 1/50m ² - A5
B1	1/1000 - 1/1500m ²	1/120m ²
Residential	PTAL 1 and 2 = 0.5 spaces for Less than 3 bed unit and 1.0 for 3 bed plus unit. PTAL 3 and 4 = 0.3 spaces for less than 3 bed unit and 0.4 for 3 bed plus unit. PTAL 5 and 6 = 0.1 spaces for less than 3 bed unit and 0.2 for 3 bed plus unit.	1 per 1 or 2 bed unit 2 per 3 or more bed unit

Table 8.4 Car and Cycle Parking Standards Applied

Use	Car Parking Standard Applied	Cycle Parking Standard Applied
		Long Stay
A1	No parking provided (LBTH MDD and London Plan)	
A3 and A4	No parking provided (LBTH MDD and London Plan)	From a threshold of 100 sqm: 1 space per 175 sqm
B1	No parking provided (LBTH and London Plan)	Inner/ central London: 1 space per 90 sqm
Residential	PTAL 5 and 6 = 0.1 spaces for less than 3 bed unit and 0.2 for 3 bed plus unit. (LBTH MDD Standard applied which is consistent with the London Plan)	1 space per dwelling up to 45 sqm 2 spaces per all other dwellings

LBTH Code of Construction Practice (2006)

8.42 With specific reference to transport matters, LBTH’s Code of Construction Practice (CoCP) (Ref. 8-9) provides guidance on the requirements for mitigation of transport impacts in the vicinity of a construction Site.

8.43 The CoCP states that the number of lorry movements, hours of operation and a ‘planned route’ for construction vehicles should be agreed in advance with LBTH and the Police. The contractor must abide by the Borough’s Transport Scheme.

Other Relevant Policy and Guidance

8.44 There is no other policy or guidance directly relating to traffic and transport issues for the purposes of this assessment.

Legislation and Planning Framework - Update 2015

March 2015 ES Addendum

8.45 Since the submission of the December 2014 ES, the FALP has been adopted which sets out revised cycle parking standards, although these standards formed part of the Proposed Development presented in the December 2014 ES and have been retained for the Revised Scheme.

November 2015 Amendments

The London Plan (2015)

8.46 As acknowledged within the March 2015 ES Addendum, the Mayor adopted the FALP in March 2015 resulting in the consolidation of changes to the London Plan (2011) to become the ‘London Plan (2015)’ (Ref. 8-14). The London Plan (2015) also incorporates the REMA, which were published in October 2013. As the Proposed Development presented in the December 2014 ES incorporated the revised cycle parking standards sought in the FALP and retained as part for the Revised Scheme for the March 2015 ES Addendum, the Amended Proposed Development is therefore consistent with the requirements of the London Plan (2015).

Minor Alterations to the London Plan (2015)

8.47 On 11 May 2015 the Mayor of London published for six weeks public consultation (11th May to 22nd June) two sets of Minor Alterations to the London Plan – on Housing Standards and on Parking Standards (Ref. 8-15). Both sets of minor alterations were to be considered at a public examination, commencing on 21 October 2015.

8.48 These minor alterations have been prepared to bring the London Plan in line with new national housing standards and car parking policy. The minor alterations that are undergoing consultation relate to the

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proposed car parking policy for outer London boroughs. As the Site is located within the LBTH, the proposed alterations do not apply to the Amended Proposed Development.

Assessment Methodology and Significance Criteria

- 8.49 The following section outlines the methodologies applied to identify and assess the range of potential traffic and transport effects that may result from the Proposed Development.
- 8.50 The assessment has been undertaken in line with Transport for London (TfL) 'Transport Assessment Best Practice' (Ref. 8-7).

Consultation

- 8.51 LBTH has been consulted throughout the evolution of the Proposed Development. The scope of the traffic and transport assessment for the EIA was set out in the EIA Scoping Report submitted to LBTH on July 2014. The EIA Scoping Opinion identified a list of the information to be accounted for within the assessment. These have been addressed within this Chapter or where topics have not been addressed, reasons are provided in Table 8-5.

Table 8.5 Matters raised within the Scoping Opinion and Response from Consultees

Consultee Comment	Reference in this ES Chapter / Application Documentation
London Borough of Tower Hamlets	
Consultation with the Council's Highways Officers and Transport for London will need to be undertaken to agree the scope of the TA e.g. such as the peak hours to be assessed.	Consultation with TfL/LBTH referenced in the TA
Cumulative assessment - should include Bishopsgate Goodsynd. This is of particular relevance to public transport capacity	Included in cumulative impact assessment within the TA and this ES chapter
Under potential impacts, there should be an item on mitigation. New pedestrian routes are proposed and LBTH would like to see improvements to crossing points along the public highway, particularly Commercial Street	Enhancements are proposed to the pedestrian facilities as well as permeability within the site. An additional crossing on Commercial Street is not required as this is being provided separately by TfL and is therefore outside of the scope of this planning application
Although car free, there are impacts on the public transport network and this should be noted under potential impacts	Impacts on the public transport network have been considered in the TA and this ES chapter
The construction traffic assessment should consider both vehicles bringing material/ equipment to/ from the Site, as well as construction staff i.e. the ES needs to consider how the workers will get to Site	Included in the TA and this ES chapter
Likely construction traffic routes should be established, so that receptors can be appropriately assessed	Routes are set out in the TA and this ES chapter
Consideration should also be given to LBTH's Local Plan with respect to acceptable parking levels	Car and cycle parking is provided in line with LBTH and GLA policy as set out in detail in the TA
The effect of the development should be assessed with regard to severance, delay, fear and intimidation, amenity, and accidents and safety, in accordance with IEMA guidance	Included in this ES chapter
The impacts of trip generation movements on the road network should be shown as a percentage increase in trips over the baseline, and the impact on junction capacity	Included in detail in the TA
The EIA Scoping Report does not include water transport as a mode. The ES should set out whether there is the potential for construction material to be moved by water, and/ or for Site users to utilise water transport to/ from the Site.	Water based transport is not being considered due to the Sites location. This is explained in this ES chapter
If water transport is not going to be utilised as a transport mode during either construction/ or operation, or the effects are not considered to be significant,	

Consultee Comment	Reference in this ES Chapter / Application Documentation
this should be clearly set out in the ES	
Transport for London	
All baseline conditions should be reviewed in detail including existing trip generation, highway, car parking, walking, cycling and public transport facilities near the Site. For walking, a pedestrian environment review system (PERS) audit should be undertaken	Included in detail in the TA. The PERS Assessment was scoped out in the TA Scoping Report (appended to the TA) and as such was not undertaken. A public realm walk round with TfL and LBTH was held which agreed the measures that are proposed as part of the scheme to improve the pedestrian environment.
Proposed level of car and cycle parking, servicing facilities must be detailed in the TA	Included in detail in the TA
Details of pedestrian and cycle access needs to be included	Included in detail in the TA
Travel plan and green travel measures should be included in the submission to promote sustainable travel	Framework Residential and Workplace Travel Plans have been prepared in accordance with best practice guidance
A commitment to produce a construction management plan (CMP) and construction logistics plan (CLP) to minimise highway impact should be clearly set out.	CLP included as appendix to the CLP. A commitment to producing a CMP is included in the TA.
The applicant shall also commit to minimise highway and traffic impact from servicing vehicle by committing to implement a Delivery & Servicing Plan (DSP)	DSP has been provided; appended to the TA
Network Rail	
The applicant will need to ensure that the operational railway will not be adversely affected by the Proposed Development both during construction and after it is completed	Construction impact has been considered in the TA and Framework CLP that sets out how construction impact will be minimised or mitigated. A detailed CMP will be produced prior to construction on Site. All neighbours will be engaged with about any construction related impacts.

- 8.52 Pre-application and scoping discussions were also held with the LBTH Highway's Officer and TfL as the Proposed Development was being developed. Correspondence relating to the scope of the TA is set out in **ES Volume III: Appendix C**.
- 8.53 The scope and extent of surveys as well as requirements for the assessment of junctions (Norton Folgate / Folgate Street and Fleur De Lis Street / Commercial Street) to assess the impact of the highway arrangement were agreed. All comments received from TfL and LBTH as part of the consultation, including a Scoping Note and response from TfL, were taken into account in producing the TA.

Assessment Methodology

Method to Establish the Baseline Conditions

Traffic Surveys

- 8.54 Traffic surveys were undertaken on Thursday 26th June 2014 to obtain baseline traffic flow data and assess the impact of altering the highway arrangement on Blossom Street and Fleur De Lis Street (between Elder Street and Blossom Street), from two-way to one-way operation. The surveys were undertaken between 0700 and 1900 hours, at the following junctions:
- Norton Folgate and Folgate Street;
 - Folgate Street and Blossom Street;
 - Commercial Street and Elder Street; and
 - Commercial Street and Fleur De Lis Street.

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- 8.55** These surveys were supplemented with Automatic Traffic Counter (ATC) surveys on Norton Folgate and Commercial Street, in order to obtain baseline traffic flow data required for the Noise and Air Quality assessments.
- 8.56** Growth factors from the 'Trip End Model Presentation Programme' (TEMPRO) for the borough of Tower Hamlets have been applied to the base traffic flow data collected (2014 observed traffic counts, hereafter referred as the '2014 baseline') to growth up the data to 2017 (hereafter referred as the '2017 baseline'), which is the year the Proposed Development is identified as becoming operational.
- 8.57** To forecast the 2017 baseline, the cumulative development schemes have been taken into account and are discussed further below.

Pedestrian Survey

- 8.58** A pedestrian flow survey was also undertaken to determine pedestrian movements on Shoreditch High Street adjacent to the Site. The reason for the survey is so that the impact of the proposals to alter the loading / parking bay on Shoreditch High Street could be assessed.
- 8.59** The forecast trip generation of the Proposed Development has been added to the baseline transport network and assessed to establish the effect of the Proposed Development on the existing and proposed transport infrastructure.

Forecasted Baseline - 2017

- 8.60** The forecasted baseline for the year 2017 takes account of cumulative development schemes from within the surrounding area, making the assumption that these schemes are built and operational, and represents a worst case scenario for predicting future traffic flows based on available information.
- 8.61** The cumulative development schemes accounted for within the forecasted baseline was agreed in advance with TfL and LBTH, including assessment of all impact of modes of travel. The agreed list of schemes are presented below (and within the 'Assessment of Cumulative Effect of the Proposed Development with Other Development Schemes' of this ES Chapter), with the remaining cumulative developments schemes considered within **Chapter 2: EIA Methodology**, as not likely to have an effect on public transport and pedestrian movement in the vicinity of the Site.
- 32-42 Bethnal Green Road ;
 - Silwex House ;
 - 86 Brick Lane ;
 - Principal Place;
 - Land within former Truman's Brewery Site;
 - London Fruit and Wool Exchange;
 - 30, 32 and 36 Brushfield Street;
 - 187-193 Shoreditch High Street and land bounded by Shoreditch High Street;
 - The Stage, Shoreditch ; and
 - Bishopsgate Goods Yard.

Demolition and Construction Traffic

- 8.62** For the purposes of this assessment, demolition and construction traffic movements have been assessed.
- 8.63** Forecasts of the number of HGV movements for the construction programme are based upon the indicative construction programme (see **Chapter 5: Demolition and Construction** of this ES), quantities of demolition and construction materials, and experience of similar schemes within London.
- 8.64** Demolition and Construction traffic flows have been distributed on to the local highway network based on the following assumptions:
- Each month comprises 22 working days;
 - Each day comprises 10 working hours;
 - The number of delivery vehicle movements would be minimised by using the largest vehicles practicable;

- No on-Site parking will be provided, however some provision may be made for personnel who need to bring heavy equipment or materials to the Site. Others will be required to use public transport; and
- Site hours are assumed to be from 08.00 to 18:00 Monday to Friday and 08.00 to 13:00 on Saturdays. The proposed working hours would be discussed and agreed with the appointed contractor and the LBTH Environment Health Officer. By exception, some activities may need to be undertaken outside these hours

Operational Trips

- 8.65** The Proposed Development will generate trips by a number of modes, including:
- Public transport (rail, underground, bus);
 - Walk;
 - Cycle;
 - Taxi; and
 - Car.
- 8.66** The means by which the all mode trip generation and distribution has been derived is set out in detail within the TA (see **ES Volume III: Appendix C**).
- 8.67** The methodology used in the extant permission's October 2009 TA and June 2011 TA Addendum as approved in 2011 have been applied to this assessment, as agreed with LBTH and TfL. The following methodology has been applied to this assessment:
- Office trips have been derived based on an employee density of 1 employee per 10 m² NIA, with proportional allowance for trips related to employer's business, personal business and visitors;
 - Staff trips for retail and restaurant uses have been based on employee densities of 1 per 8.28 m² and 7.53m² respectively, with peak hour visitor trips comprising linked and local trips only and therefore having no additional impact; and
 - Residential trips from the trip rates derived in the original TA for the Site.
- 8.68** The detailed modal split exercise (for the walk, cycle and public transport modes), was updated using the Census 2011 Journey to Work by mode data for the Spitalfields and Banglatown ward (Ref. 8-11). In addition, the National Rail, London Overground and Underground trips have been further split onto services, and by direction, based upon service provision.
- 8.69** In terms of the directional distribution of trips, separate assignments were carried out for all modes of transport. The forecast peak hour vehicular trips were assigned onto the local highway network based upon analysis of traffic weight and turning proportions.

Significance Criteria

Effect Significance Terminology Overview

- 8.70** The assessment of effect significance outlined within the below sections is consistent with the terminology and criteria outlined within **Chapter 2: EIA Methodology** of this ES and accords with the relevant British Standards and guidance. The terminology used to describe the sensitivity of resources / receptors and magnitude of the impact will be as follows:
- High;
 - Medium;
 - Low; and
 - Very Low.
- 8.71** The key terminology to be used to describe the classification of effects is as follows:
- Major;
 - Moderate;
 - Minor; and
 - Negligible.
- 8.72** The nature of the effects may be either adverse (negative) or beneficial (positive).

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8.73 A classification of effects matrix is provided within Table 8-6 below as an example of the criteria to be used to assess the significance of effects. The basis for determining effect significance will take into account the sensitivity of resource / receptor and magnitude of impact.

Table 8.6 Classification of Effects Significance Framework

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

8.74 Following the classification of an effect using this methodology, a clear statement is then made as to whether the effect is significant or not significant. As a general rule, the following criteria is applied:

- 'Moderate' or 'major' are deemed to be **'significant'**.
- 'Minor' are considered to be **'not significant'**, although they may be a matter of local concern; and
- 'Negligible' effects are considered to be **'not significant'** and not a matter of local concern.

Approach to Assessing Traffic and Transport Effects

8.75 Guidance provided by IEMA and Department for Transport (DfT) (Ref 8-12 and 8-13) has been consulted in order to identify significance criteria applicable to the assessment of walking, cycling, public transport and vehicle trips. For a number of effects there are no readily available thresholds of significance, in which case interpretation and judgement has been applied based on knowledge of the Site or quantitative data where available.

8.76 LBTH and TfL were consulted as part of the EIA and TA Scoping exercise. On-going consultation has occurred throughout the evolution of the design through pre-application meetings with both parties. The approach to the collation of baseline information and survey data was discussed and agreed as well as the approach to the assessment of highway, public transport, pedestrian and cycle impacts.

8.77 Baseline surveys for 2014 have established existing traffic flows. Local travel patterns of the office use, retail employees and residents have been derived from travel survey data and Census 2001 and Census 2011, Journey to Work data. Road traffic accident data has also been collated and analysed. The baseline surveys were agreed with LBTH and TfL.

8.78 The likelihood of significant effects arising from the construction impacts has been considered in terms of construction effects, i.e. temporary effects likely to arise from construction activities (for example the impact of construction vehicle movements on the local highway network).

8.79 The future baseline for assessment is 2017, the expected opening year of the Proposed Development. The effect of the Proposed Development on access by all modes has been assessed for this year. A 'worst case' assessment of the Proposed Development trips has been presented as the Proposed Development trips rather than the net difference in trips from the 2011 consented scheme.

8.80 The impact assessments for the London Underground, bus and rail modes have considered the impact on existing services for the development peak hours, which are 0800 to 0900 and 1700 to 1800. These are also the peak hours for the public transport network.

8.81 The person bus trips arriving to and departing from the Site have been equally assigned to the average number of buses per hour in the peak hour. The average bus passenger increase for the Proposed Development is then derived and the uplift is presented as a % of the current capacity of a bus to determine impact.

8.82 To calculate the impact of the increase in rail trips generated by the Proposed Development, trips have been assigned to the rail network. The person trips have been distributed between Liverpool Street and Shoreditch High Street stations in the same proportion as the frequency of train services available from both stations in the AM and PM peak hours. Person trips departing the Site have been evenly assigned to outbound rail services, and person trips arriving to the Site have been evenly assigned to the incoming rail services. The average rail passenger increase for the Proposed Development is then determined and the uplift is presented as a % of the current capacity of the trains operating on these services to determine impact.

8.83 To calculate the impact of the increase in London Underground trips generated by the Proposed Development, trips have been assigned to the stations and lines available from the stations. The person trips have been distributed between Liverpool Street and Aldgate East stations based on an 80:20 split. The derived trips per station have then been assigned to the Underground lines available at each station in the same proportion as the frequency of the services available on each line in the AM and PM peak hours. Person trips departing the Site have been evenly assigned to outbound services, and person trips arriving to the Site have been evenly assigned to the incoming services. The average increase in passengers per train for the Proposed Development is then determined and the uplift is presented as a % of the current planning capacity of the trains operating on each line to determine impact.

8.84 It is noted that the public transport network is expected to have significant additional capacity due to the Crossrail services operating from Liverpool Street and Moorgate in 2018, the year following the expected completion of the Proposed Development in addition to improvements across the London Underground network that will provide additional capacity at peak times.

8.85 An assessment of the impact of additional traffic generated by the Proposed Development on the highway network in the vicinity of the Site has been undertaken. The approach takes account of the proposals to alter the operation of Blossom Street and Fleur De Lis Street between Blossom Street and Elder Street from two-way to one-way. Therefore the traffic impact has been assessed for following scenarios:

- 2014 baseline traffic existing network;
- 2014 baseline traffic proposed network;
- 2017 future baseline proposed network; and
- 2017 future baseline with Proposed Development.

8.86 The percentage change for these scenarios has been considered for the following junctions:

- Norton Folgate and Folgate Street;
- Folgate Street and Blossom Street;
- Commercial Street and Elder Street; and
- Commercial Street and Fleur De Lis Street.

8.87 In addition, the operation (capacity and queuing) of the following two priority junctions has been analysed by undertaking a PICADY assessment:

- Junction of Norton Folgate with Folgate Street; and
- Junction of Commercial Street with Fleur De Lis Street.

8.88 Potential effects have therefore been assessed as follows:

- **Beneficial** – effects that produce benefits in terms of transportation and access;
- **Adverse** – effects that produce a negative impact in terms of transportation and access; and
- **Negligible** – effects that produce insignificant change (0% to 10% magnitude of change, compared to existing traffic flows, or less than 5% of public transport capacity). IEA guidance (1993) (Ref 8-13) indicates that increases in traffic flow of less than 30% generally result in imperceptible changes in the environmental effects of traffic and traffic flow changes of less than 10% create no discernible effect.

8.89 The significance of adverse or beneficial effects have been defined as either minor, moderate or major:

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- **Minor** – slight, very short or highly localised effect of no significant consequence, (10% to 30% magnitude of change compared to existing traffic or pedestrian flows, or 5% of peak hour public transport capacity, therefore the effect is considered to be 'insignificant');
- **Moderate** – limited effect, (by extent, duration or magnitude) which may be considered locally significant, (30% to 60% magnitude of change compared to existing traffic or pedestrian flows, or 10% of peak hour public transport capacity.); and
- **Major** – considerable effect, (by extent, duration and magnitude) of more than local significance or in breach of recognised acceptability, legislation, policy or standards, (greater than 60% magnitude of change compared to existing traffic or pedestrian flows, or 30% of peak hour public transport capacity.).

Pedestrian Severance

- 8.90** Severance can be described as the perceived divisions that can occur within a community when it becomes separated by a traffic route. Thresholds for assessing severance are based on changes in traffic flows as set out in the DMRB (Volume 11, Section 3, Part 8).
- 8.91** This document suggests changes in traffic flows of greater than 10%, 30%, 60% are considered as equivalent to 'minor', 'moderate' and 'major' changes in severance respectively.

Pedestrian Delay

- 8.92** Increases in traffic flows can lead to greater increases in delay to pedestrians seeking to cross roads. The IEMA Guidelines do not prescribe any quantitative significance criteria for the assessment of pedestrian delay. Instead, professional judgement has been used to determine whether pedestrian delays on the local footpaths, if any, would be significant.

Pedestrian Amenity

- 8.93** The IEMA Guidelines describe pedestrian amenity as the relative pleasantness of a journey. It is affected by traffic flow, traffic composition, footway width and separation from traffic, for which professional judgement is used in the assessment. The Guidelines suggest that the threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow is doubled.

Assessment Methodology and Significance Criteria - Update 2015

March 2015 ES Addendum

- 8.94** There are no changes to the assessment methodologies that were applied to identify and assess the range of potential traffic and transport effects in the December 2014 ES.

November 2015 Amendments

- 8.95** The future baseline has been altered from 2017 to 2019 and has been taken into consideration when assessing the Amended Proposed Development. Additionally, an updated list of cumulative schemes have been considered in this Replacement ES. The additional schemes that have been considered within the assessment of the Amended Proposed Development include:
- Bishopsgate Goods Yard (i.e. amendments to scheme);
 - Land bounded by 2-10 Bethnal Green Road, 1-5 Chance Street (Huntingdon Industrial Estate) and 30-32 Redchurch Street; and
 - 201-207 Shoreditch High Street and 1 Fairchild Street.
- 8.96** The remaining cumulative schemes that have come forward since the preparation of the March 2015 ES Addendum have been excluded from the assessment, in line with the criteria previously agreed with LBTH and TfL for the December 2014 ES and March 2015 ES Addendum. These are schemes that are not considered likely to have an effect on public transport and pedestrian movement in the vicinity of the Site due to their scale and location relative to the Amended Proposed Development.

- 8.97** With the exception of an updated baseline and additional schemes considered in the cumulative impact assessment, there have been no further changes made to the assessment methodology from that considered in the December 2014 ES or for the March 2015 ES Addendum.

Baseline Conditions

- 8.98** The following baseline environment is described for each of the key elements for the purpose of this assessment:
- Public Transport Services;
 - Local Road Network;
 - Cyclist Network and Facilities; and
 - Pedestrian Network Facilities.

Public Transport Services

Public Transport Accessibility Level

- 8.99** The Public Transport Accessibility Level (PTAL) is a measure of the accessibility of a location to the public transport network (e.g. buses, national rail, tube, etc.), taking into account walk access time and service availability.
- 8.100** PTAL is categorised in 6 levels, 1 to 6 where 6 represents a high level of public transport accessibility and 1 a low level of public transport accessibility. The current PTAL index for the Site and immediate surroundings is 6b or 'Excellent', this being the highest level achievable. The close proximity of the Site to public transport services is reflected in the high level of public transport accessibility, as described in the following sections.

Travel by Bus

- 8.101** The Site is well served by bus services. The nearest bus stops are located on Norton Folgate / Shoreditch High Street, which are served by routes 8, 26, 35, 42, 47, 48, 78, 135, 149, 242, 344 and 388. Numerous other services are available in the vicinity of the Site from Worship Street and Commercial Street bus stops.
- 8.102** Table 8-7 sets out the destination and peak hour frequencies of these routes.

Table 8.7 Existing Bus Routes

Bus Route	Route (origin – destination)	Nearest Stop	AM and PM Peak Hour Frequency – Both Directions (Buses per Hour)
8	Bow Church – Tottenham Court Road	Norton Folgate	10
26	Hackney Wick - Waterloo	Norton Folgate	7.5
35	Clapham Junction – Shoreditch	Norton Folgate	6
42	Appold Street – Denmark Hill	Bishopsgate	6
47	Bellingham – Shoreditch	Norton Folgate	6
48	London Bridge – Walthamstow	Norton Folgate	8
67	Aldgate – Wood Green	Commercial Street	6
78	Nunhead – Shoreditch	Norton Folgate	7
100	Elephant & Castle – Shadwell	Wormwood Street	8
135	Crossharbour – Old Street	Norton Folgate	6
149	Edmonton Green – London Bridge	Norton Folgate	12
205	Bow Church - Paddington	Norton Folgate	8

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Bus Route	Route (origin – destination)	Nearest Stop	AM and PM Peak Hour Frequency – Both Directions (Buses per Hour)
242	Homerton Hospital – Tottenham Court Road	Norton Folgate	10
344	Appold Street – Clapham Junction	Bishopsgate	10
388	Blackfriars – Stratford City Bus Station	Norton Folgate	6

Travel by National Rail

- 8.103** The Site is well situated for access to National Rail services at Liverpool Street Station, which is approximately 570m to the south of the Site.
- 8.104** Liverpool Street mainline station is the terminus for the West Anglia Main Line to Cambridge, the Great Eastern Main Line to Norwich as well as many local commuter services to parts of east London, Essex and Hertfordshire. It is also served by the Stansted Express.
- 8.105** Table 8-8 summarises the frequencies of these services.

Table 8.8 Existing National Rail Frequencies

Direction	Peak Frequency (Trains per Hour)	
	AM Peak	PM Peak
Inbound	28	42
Outbound	24	38

Travel by Underground

- 8.106** Liverpool Street London Underground station is also approximately 570m walk distance from the Site and is served by the Central, Circle, Metropolitan and Hammersmith & City Lines.
- 8.107** The Circle line operates between Hammersmith and Edgware Road, providing numerous connections around central London including King's Cross St Pancras, Blackfriars and Victoria.
- 8.108** The Central line provides connections to the east via Mile End, Stratford and Leytonstone towards Epping and to the west via Central London towards Ealing Broadway/West Ruislip.
- 8.109** The Metropolitan line provides connections to the west and northwest London via Central London towards Wembley Park and Harrow-on-the-Hill, where it then branches out towards Uxbridge, Amersham, Chesham or Watford.
- 8.110** The Hammersmith & City line provides connections to the west via Central London towards Hammersmith and to the east via Bow and West Ham towards Upminster.
- 8.111** Table 8-9 sets out the existing peak frequencies of these lines.

Table 8.9 Liverpool Street Station London Underground Peak Hour Frequencies

Line	Direction of Travel	Peak Frequency (Trains per Hour)	
		AM Peak	PM Peak
Central Line	Eastbound	11	30
	Westbound	24	27
Circle Line	Both directions	6	6
Metropolitan	Northbound	7	15

Line	Direction of Travel	Peak Frequency (Trains per Hour)	
		AM Peak	PM Peak
Line	Southbound	13	15
Hammersmith & City Line	Both Directions	6	6

- 8.112** Aldgate East Underground station is approximately 960m walk distance from the Site and is served by the District and Hammersmith & City Lines.
- 8.113** The District line operates between Ealing Broadway, Wimbledon and Richmond to the west and Upminster to the east via Whitechapel, Tower Hill, Victoria and Earl's Court.
- 8.114** The Hammersmith & City line provides connections to the west via Central London towards Hammersmith and to the east via Bow and West Ham towards Upminster
- 8.115** Table 8-10 sets out the existing peak frequencies of these lines.

Table 8.10 Aldgate East Station London Underground Peak Hour Frequencies

Line	Direction of Travel	Peak Frequency (Trains per Hour)	
		AM Peak	PM Peak
District Line	Eastbound	10	17
	Westbound	18	19
Hammersmith & City Line	Both Directions	6	6

Travel by London Overground

- 8.116** Shoreditch High Street London Overground station is approximately 320m distance from the Site and provides connections to West Croydon, Dalston, Highbury & Islington and Crystal Palace. Up to 16 trains per hour operate in the AM and PM peak hours to Dalston Junction, Whitechapel and Canada Water (see Table 8-11). Approximately 8 trains per hour continue to Highbury and Islington to the north, whilst to the south there are approximately 4 trains per hour to New Cross and 8 trains per hour on the common section to New Cross Gate and Sydenham.

Table 8.11 London Overground Peak Hour Frequencies

Direction	Peak Frequency (Trains per Hour)	
	AM Peak	PM Peak
Inbound	16	16
Outbound	16	16

Future Transport Proposals

London Underground

- 8.117** As part of TfL's on-going upgrade of the Underground network, a number of proposals are projected to lead to an increase in capacity of services on the Circle, Hammersmith and City, Metropolitan and District lines.
- 8.118** Following the extension of the Circle line to Hammersmith in December 2009, 53 new seven-car trains (the line previously operated with six-car trains) are currently being introduced.

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- 8.119** A new signalling system will also be introduced and when this is in place in 2016, the line will see a 65% increase in capacity. Similar improvements will be realised on the Hammersmith and City line by 2016.
- 8.120** On the District line, 80 new trains, together with a new control centre and modern signalling system will result in more frequent services and improved accessibility. The trains, which have been introduced from 2013, will have the same features as those for the Circle and Hammersmith and City line trains. All trains will be in service by 2015. Once the new trains and the new signalling system are in place by 2018, the capacity on the line will have increased by 24%.
- 8.121** The replacement of trains on the Metropolitan line is now complete with 58 new trains on the line. In addition to this, a new and more modern signalling system is being installed so that the line can accommodate more trains with all trains running faster and with fewer delays. When the upgrade of the line is complete, the line capacity will increase by 27% meaning that an additional 9,500 passengers can be accommodated per hour.

Crossrail

- 8.122** Crossrail will provide a rail connection through central London linking Maidenhead and Heathrow Airport in the west to Shenfield and Abbey Wood in the east. An intermediate stop will be provided at Liverpool Street station. At peak times, up to 24 trains per hour will operate via the core section in each direction, tunnelled under central London. As well as at Liverpool Street station, stations will also be provided at Paddington, Bond Street, Tottenham Court Road, Farringdon and Whitechapel.
- 8.123** In 2018 Crossrail will start running through Liverpool Street, which will include a new interchange to and from Moorgate station. This high frequency east-west service will significantly increase capacity (a 10% increase to rail capacity in the capital) and reduce journey times to key destinations in the capital.

Local Road Network

Existing Road Network

- 8.124** The surrounding road network is comprised of the following:
- Both Norton Folgate / Shoreditch High Street (A10) and Commercial Street are part of the Transport for London Road Network (TLRN). Norton Folgate/Shoreditch High Street is located to the west of the Site. Commercial Street is located to the east of the Site.
 - Folgate Street, which runs along the southern boundary of S1, has a carriageway that is restricted by residents parking (permit holders only) facilities along the northern side of the carriageway. Folgate Street connects with Blossom Street to the east and with Norton Folgate / Shoreditch High Street to the west.
 - Blossom Street, located between S1, S1c and S1b and S3, is a two-way carriageway which narrows at its junction with Folgate Street. It connects with Folgate Street to the south and Fleur De Lis Street to the north.
 - Fleur de Lis Street runs between S2 and S3. At its western end, between Blossom Street and Norton Folgate, it is pedestrianised with bollards at both ends restricting access to vehicular traffic. The remainder of Fleur de Lis Street is a two-way cobbled street.
- 8.125** Fleur de Lis Street is designated as a heritage asset (statutorily Listed Grade II structure). In addition, both Folgate Street and Blossom Street are narrow two-way cobbled streets and together with Fleur de Lis Street, contribute to the character of the Elder Street Conservation Area within which they are located. The junction of Blossom Street and Folgate Street is further reduced, which restricts the size of vehicle that can be accommodated safely at this junction. A marked loading bay is provided on Blossom Street.
- 8.126** Gated barriers are present on Folgate Street and Elder Street and restrict the vehicular access routes to / from Blossom Street and the Site, to either Fleur de Lis Street via Commercial Street, and / or Folgate Street via Norton Folgate. Bollards are also located at the southern entrance to Blossom Street, at its junction with Folgate Street, and restrict access via that route to small vehicles only.

- 8.127** A marked loading and parking bay is provided on the eastern side of Norton Folgate / Shoreditch High Street, next to the Site's western edge and is approximately 33m in length. No stopping is permitted in this bay during the hours 0700 to 1900, on any day, except between the hours of 1000 and 1600 when the:
- Northern part may be used for loading to a maximum duration of 20 minutes, and by disabled badge holders for stays of up to 3 hours; and
 - Southern part may be used for parking of up to 1 hour duration with no return within 2 hours.
- 8.128** The streets surrounding the Site are subject to the LBTH Controlled Parking (Zone A6), which operates between the hours 0830 and 2200 Monday to Sunday for resident parking bays and between the hours 0830 and 1900 Monday to Friday and 0830 to 1400 on Sundays for business bays. Double yellow lines are provided where bays are not.

Traffic Flows

- 8.129** The baseline 2014 survey data for the local highway network is contained in Table 8-12.

Table 8.12 Baseline (2014) Highway Arrangement Traffic Flows

	Norton Folgate and Folgate Street		Folgate Street and Blossom Street		Commercial Street and Elder Street		Commercial Street and Fleur De Lis Street	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
2014 Baseline	1948	1560	102	95	1961	1814	2056	1855

Road Safety

- 8.130** Personal Injury Accident (PIA) data has been obtained from TfL for the main roads and junctions in the immediate vicinity of the Site for a three year period from April 2011 to March 2014. The locations for which data was collected were:
- Commercial Street, and junction with Elder Street (location A);
 - Commercial Street, and junction with Fleur De Lis Street (location B);
 - Norton Folgate, and junction with Folgate Street (location C); and
 - Blossom Street and junction with Fleur De Lis Street (location D).
- 8.131** A full summary schedule of accident data received from TfL has been included in the TA (refer **ES Volume III: Appendix C**).
- 8.132** The data collected to describe the accidents are based on the following classification:
- Slight Injury (an injury requiring a visit to hospital);
 - Serious Injury (an injury requiring an overnight stay in hospital); and
 - Fatal (the injured party died within 2 months of the accident).
- 8.133** The severity of an accident refers to the injured party so that, for example, if a car collides with a cyclist and the cyclist is slightly injured this would be classified as a cycle slight injury accident.
- 8.134** The data obtained identified that during the three year period, a total of 10 injuries were reported, of which 9 were recorded as slight injuries and 1 was recorded as a serious injury (involving a pedestrian on Commercial Street, and junction with Elder Street). The range of slight injuries involved pedestrians (x1 – location C); cycles (x3, locations A, B, C) and vehicles (cars and HGVs – x4, locations A, C, D).

Cyclist Network and Facilities

- 8.135** The Site is well served by designated cycle routes. Bishopsgate, Spital Square, Elder Street and the eastern end of Fleur de Lis Street all form part of the London Cycle Network. Elder Street and Fleur De Lis Street provide direct connections to the Site. Elder Street and the eastern end of Fleur de Lis Street are also signed as 'quiet routes' (routes with less traffic) by TfL for cyclists, together with Worship Street, Norton Folgate and Folgate Street.

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- 8.136** A raised cycle lane is provided along the eastern side of Norton Folgate, which starts just north of the zebra crossing and continues southbound. The western side of Norton Folgate has a bus lane which can also be used by cyclists.
- 8.137** There are several Barclays Cycle Hire docking stations within close proximity of the Site. These include:
- Commercial Street (15 spaces);
 - Norton Folgate (21 spaces); and
 - Appold Street (25 spaces).

Pedestrian Network and Facilities

- 8.138** The pedestrian network around the Site provides a good level of accessibility on foot to surrounding facilities, including public transport nodes and local amenities.
- 8.139** All roads near the Site have footways on both sides and are street-lit. This includes the pedestrianized section of Fleur De Lis Street.
- 8.140** A zebra crossing is provided adjacent to S1 on Norton Folgate / Shoreditch High Street. This provides a safe crossing point for pedestrians walking between the Site and the northbound bus stop as well as to / from Liverpool Street station located further south. Further south, at the junction of Norton Folgate and Primrose Street, a signalised crossing is provided. On Commercial Street a signalised crossing is provided, south of the junction with Fleur De Lis Street.
- 8.141** These provide key connections along the north-south pedestrian desire line between Liverpool Street Station, via Norton Folgate, and Aldgate East Station, via Commercial Street.
- 8.142** As agreed with LBTH and TfL, a survey was also undertaken to determine pedestrian movements on Shoreditch High Street adjacent to the Site (S1) in order to assess the impact of the proposals to alter the parking/loading bay on Shoreditch High Street. The results of the survey are presented in Table 8-13.
- 8.143** The results show that the peak hour for the baseline pedestrian flows is between 0800 and 0900, when 951 two way flows were recorded. The morning three hour peak (0700-1000) is the busiest period, with lower flows during the day, increasing again for the PM peak period.

Table 8.13 Pedestrian Count Survey Results

Time Period (hours)	Number of Two Way Pedestrian Movements
0700-0800	323
0800-0900	951
0900-1000	791
1000-1100	234
1100-1200	242
1200-1300	331
1300-1400	487
1400-1500	251
1500-1600	384
1600-1700	407
1700-1800	760
1800-1900	494

- 8.144** The existing footway capacity has been tested using TfL's Pedestrian Comfort Assessment. This is Table 8-14 below sets out the results of the assessment.
- 8.145** The results of the PCL assessment show that the existing footway provision achieves a service level of A. This exceeds the PCL requirement of B that is required by TfL at this location.

Table 8.14 Pedestrian Count Survey Results

Time Period (hours)	Existing		
	Pedestrians per Hour	Pedestrians per Metre of Clear Footway Width per Minute (PPMM)	Pedestrian Comfort Level (PCL)
0800-0900	951	5.9	A

Summary of Sensitivity of Resources / Receptors

- 8.146** From the review of the baseline conditions, the below Table 8-15 presents the resources / receptors likely to be affected by the Proposed Development and their sensitivity.

Table 8.15 Likely Resource / Receptor and Sensitivity

Resource / Receptor	Sensitivity of Resource / Receptor
Local Highway Network	Low
Pedestrian Network	Low
Cycle Network	Low
London Overground	Low
National Rail	Low
London Underground	Low
Bus Services	Low

Baseline Conditions - Update 2015

March 2015 ES Addendum

- 8.147** Since the submission of the original application, there have been no significant changes to the baseline conditions described in the December 2014 ES and therefore these remain valid.

November 2015 Amendments

- 8.148** It is considered that there have been no material changes to the baseline conditions since the submission of the December 2014 ES and March 2015 ES Addendum, and that the baseline prepared for the December 2014 ES remains valid for the consideration of the likely impacts arising from the Amended Proposed Development.

Environmental Design and Management

- 8.149** If applicable, the way that potential environmental impacts have been or will be avoided, prevented, reduced or off-set through design and / or management of the Proposed Development are outlined below and will be taken into account as part of the assessment of the potential effects. Proposed environmental enhancements are also described where relevant.
- 8.150** The measures accounted for both the demolition and construction, and operational phases, are outlined below.

Demolition and Construction

- 8.151** Construction traffic and activities associated with the development will be carefully managed to mitigate impacts on the local road network. The management plan for construction would include measures to deal

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with contractor's vehicles, especially to avoid construction vehicles parking or waiting on the public highway. Construction routes will be clearly designated and contractors instructed to use these routes.

- 8.152** There will be no on-Site parking provided for construction worker vehicles.
- 8.153** The roads in LBTH are within a Controlled Parking Zone and the only legal on-street parking is for permit holders or in pay-and-display bays. Strict parking controls and enforcement will ensure on-street parking by construction workers is prevented.
- 8.154** The Site is located in an area with excellent accessibility to public transport. As a result it is anticipated that the majority of construction workers will travel to the Site by public transport and will be given detailed information on travel options.
- 8.155** Measures will be considered to encourage car sharing and the use of public transport by construction personnel.
- 8.156** Local residents will be consulted and kept informed as to the construction and traffic management proposals.
- 8.157** The contractor will also sign up to the Considerate Constructors Scheme, a national organisation set up to improve the image of construction, with the emphasis on improving relationships with the local community, and to minimise any disturbance or negative effects (in terms of noise, dust and inconvenience) caused by construction Sites to the immediate neighbourhood.
- 8.158** A Framework Construction Logistics Plan has been submitted with the TA as part of this planning application. This sets out the likely measures to reduce the number of construction vehicles to the site, approach to engagement with neighbours, and a Construction Method Statement / Plan, which will include a comprehensive Traffic Management Plan will be submitted for approval prior to commencement of construction.

Operational

- 8.159** The pedestrian environment and connectivity is enhanced through the design of the Site through:
 - The provision of two new routes; one between S1, S1a and S1b and the other through S2.
 - The Blossom Yard space associated with S1 will provide a new publicly accessible space between buildings S1, S1a and S1b as well as a new pedestrian connection between Blossom Street and Norton Folgate. The new publically accessible space through S2 (Elder Court and Elder Passage) connects Blossom Street with Commercial Street.
 - It is also proposed that the western side of the Blossom Street footway is widened, where possible to provide additional space for pedestrians.
 - The provision of a new raised table is provided at the junction of Folgate Street and Norton Folgate.
 - Widening the western footway of Elder Street at its junction with Commercial Street to provide additional space for pedestrians. In addition the raised table will be reshaped and resurfaced.
- 8.160** The Proposed Development also includes alterations to the public highway network which:
 - Achieves traffic calming, public realm improvements and some footway widening, whilst reflect the prevailing vehicle directional flows (westbound) by altering the operation of Blossom Street and Fleur De Lis Street between Blossom Street and Elder Street from two-way to one-way operation; and
 - Rationalises the loading bay and parking provision on Shoreditch High Street / Norton Folgate so that the north section is designated as a loading facility and the south section is designated as two disabled parking bays. It is also increased in width so that it can accommodate larger vehicles.
- 8.161** These measures have been discussed and agreed in principle with TfL and LBTH.
- 8.162** 522 long stay cycle parking spaces and 54 short stay cycle parking spaces will be provided, including secure cycle parking for employees (long stay) and appropriately located cycle parking for visitors. This provides cycle parking in line with Further Alterations to the London Plan standards for the long stay and a level of visitor cycle parking that can be achieved within the constraints of the public realm. Access to the facilities has been designed to ensure that cycling is an attractive proposition and high quality facilities will be provided.

- 8.163** The Proposed Development is extremely well located in terms of public transport, local amenities and employment. The level of public transport provision in conjunction with the existing pedestrian and cycling facilities will encourage employees and visitors to use a variety of modes to access the Site other than the private car.
- 8.164** A Framework Travel Plan (Appended to the TA) has been produced and submitted for both the employees and residents, together with this Transport Assessment, as part of the planning application for the Site. This document includes overarching objectives aimed at promoting sustainable travel to, from and within the development. The strategic objectives will adhere to:
 - Encouraging walking and cycling;
 - Promoting public transport; and
 - Reducing private car use.
- 8.165** The implementation of the travel plans and target monitoring will encourage the use of sustainable travel options by residents, employees and visitors.
- 8.166** Servicing will be accommodated from various locations in the vicinity of the Site. The residual impact due to delivery, servicing and construction will be mitigated with the help of a Delivery and Servicing Plan.
- 8.167** A summary of the mitigation measures to be implemented during design, construction and operational phases is provided in Table 8-16.

Table 8.16 Mitigation Measures for Transport and Access

Category	Description
Design	<ul style="list-style-type: none"> • Facilities are provided for pedestrian and cyclists, including lighting, crossing facilities, traffic calming and cycle parking plus additional footway has been provided where possible • Use of private vehicles is restricted by limited car parking • Access to public transport services and alternative transport modes is provided.
Operational management	<ul style="list-style-type: none"> • There will be a management company for the Site. This will include management of the car park • All elements of the Site will come under the auspices of a Travel Plan and Delivery and Servicing Plan which is set out in greater detail within the TA

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- 8.168** No further environmental design and / or management measures were considered.

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- 8.169** Due to a combination of the uplift in office and A1 retail (GEA) floor space, and the decrease in A3 retail (GEA) floor space, four additional long stay cycle parking spaces will be provided. This increases the total number of cycle parking spaces provided from 522 to 526 long stay spaces.
- 8.170** No further environmental design and / or management measures have been considered.

Potential Effects and Mitigation Measures

- 8.171** This section assesses the effect of the Proposed Development on road traffic flows, public transport and pedestrian and cycle movements and facilities. Effects during the construction phase and the operational phase are considered to base the following analysis on.

Site Preparation, Demolition and Construction Effects

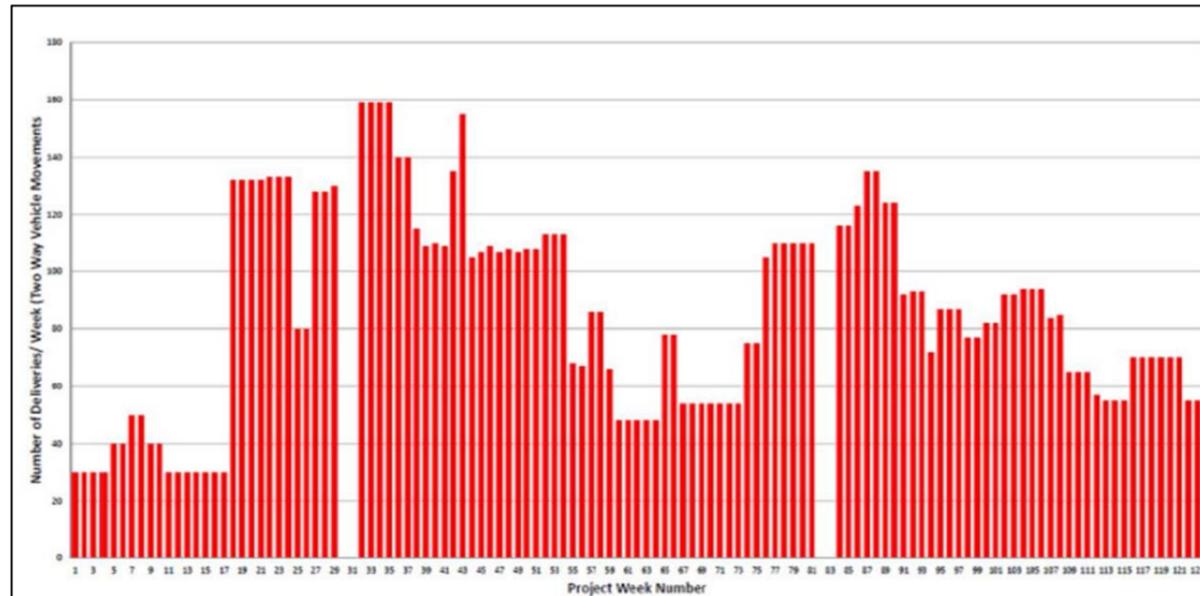
- 8.172** Chapter 5: Demolition and Construction of this ES includes an indicative construction programme, predicted construction traffic flows, vehicle routing and access locations.

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Construction Vehicle Movements

8.173 An assessment has been made of the number of HGV construction vehicle trips to and from the Site. The analysis is based on data provided by the pre-construction contractor advisor Blue Sky Building who have significant experience in undertaking development projects of this type and scale. Figure 8-1 summarises the estimated number of HGV construction vehicle trips to be generated by the Proposed Development.

Figure 8.1 Estimated Demolition and Construction Vehicles (Two-Way Heavy Goods Vehicle Movements Per Week)



8.174 Construction HGV traffic generation will be at its peak between weeks 32 to 36 of the indicative construction programme where 159 two way vehicle movements will occur to/from the Site. This equates to 80 vehicles per week. It is assumed that construction traffic for the Site will be evenly spread across the ten hour working day and that construction activity will occur for 5.5 days per week. This equates to 29 two way HGV movements a day, which equates to three two way vehicles movements per hour. This equates to an average of 15 HGV's per day during the peak period of construction.

8.175 Off-Site consolidation will be used, where possible, to reduce the number of deliveries to the Site.

8.176 Construction vehicles will be required to access the Site using specific routes. These routes will be selected to avoid minor / residential roads and to use Distributor Roads for the bulk of their journey through London. Construction routes will be agreed with LBTH prior to commencement of works.

8.177 The anticipated routes are:

- North West – vehicles from the M1/A1 will be instructed to approach the Site via A102, A501 and Commercial Street / Shoreditch High Street; and
- South East – vehicles from the A11 / A12 / A13 will be instructed to approach the Site via A11 and the A13 via Commercial Street.

8.178 Suppliers, contractors and subcontractors will be required to adhere to the agreed routes. This will be enforced by the Principal Contractor.

8.179 As detailed previously based on the 2014 baseline traffic flows there are 1,948 vehicles (two way) at the junction of Shoreditch High Street / Norton Folgate junction with Folgate Street in the AM peak hour and

1,560 vehicles (two way) in the PM peak hour. At the junction of Commercial Street with Fleur De Lis Street there are 2,056 vehicles (two way) in the AM peak hour and 1,855 vehicles in the PM peak hour.

8.180 A 'worst case' assessment has been undertaken that tests the uplift of 100% (3) of the predicted two-way peak hour HGV movements on both junctions. Therefore an uplift of 3 two way HGV vehicles in the AM and PM peak hours on Shoreditch High Street / Norton Folgate junction with Folgate Street equates to a percentage increase in traffic of 0.2% in the AM and PM peak hours. Therefore an uplift of 3 two way HGV vehicles in the AM and PM peak hours on the junction of Commercial Street with Fleur De Lis Street equates to a percentage increase in traffic of 0.2% in the AM and PM peak hours. This a **negligible** impact in terms of the effect during the temporary demolition and construction phase on the highway network capacity.

8.181 A Construction Traffic Management Plan will set out in detail the duration of the demolition and construction phases and will also identify methods and routes for delivery of construction materials prior to commencement of construction works. It will also set out the methods and routes which will be used to remove construction waste from the Site. Loading and unloading of materials and equipment will occur within the Site boundary wherever possible, minimising the likelihood of congestion on roads surrounding the Site.

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

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

8.183 Taking into account the negligible impact on the traffic flows combined with the mitigation measures, it is considered that the Proposed Development is likely to result in overall **negligible** effect during the temporary demolition and construction phase on highway network capacity.

Pedestrian Movement, Capacity, Severance, Delay, Fear and Intimidation, Amenity

8.184 From the 2014 baseline traffic flows there are 399 HGV's (two way) at the junction of Shoreditch High Street / Norton Folgate junction with Folgate Street in the AM peak hour and 322 HGV's (two way) in the PM peak hour. At the junction of Commercial Street with Fleur De Lis Street there are 466 vehicles (two way) in the AM peak hour and 296 vehicles in the PM peak hour

8.185 A 'worst case' assessment has been undertaken that tests the uplift of 100% (3) of the predicted two-way peak hour HGV movements on both junctions. Therefore an uplift of 3 two way HGV vehicles in the AM and PM peak hours on Shoreditch High Street / Norton Folgate junction with Folgate Street equates to a percentage increase in traffic of 0.8% in the AM peak hour and 0.9% in the PM peak hour. Therefore an uplift of 3 two way HGV vehicles in the AM and PM peak hours on the junction of Commercial Street with Fleur De Lis Street equates to a percentage increase in traffic of 0.6% in the AM peak hour and 1.0% in the PM peak hour. This is a **negligible** impact.

8.186 The detailed construction methodology, including details of any required road closures and/or footway diversions has not yet been determined. Such items can impact upon pedestrian and cyclist access to varying degrees. It is not envisaged that road closures or closures of pedestrian footways, with the exception of Fleur De Lis Passage (pedestrian and cycle route) will be necessary to enable to on-site construction, although some temporary lane closures may be required to facilitate highway repairs or improvements. Should road or footway closures and diversions be required these will be agreed with the LBTH to ensure that potential effects on other highway users are minimised as much as is reasonably practicable.

8.187 The effects of any road or footpath closures are considered to likely have a short-term **minor adverse** effect on pedestrian and cyclist access and movement.

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Cycling

- 8.188** The construction Site access points will be designed to accommodate the movement of all expected construction vehicle types and will take into account the need to ensure the safety cyclists.
- 8.189** Appropriate signage and wayfinding will be provided where necessary to ensure that cyclists are informed of safe routes. Routes will continue to be well-lit and the environment maintained.
- 8.190** The Principal Contractor will adhere to the CLOCS Standard for construction logistics operators and clients: Managing work related road risk (www.clocs.org.uk). This will reduce the likelihood of injury to cyclists.
- 8.191** As set out above the detailed construction methodology, including details of any required road closures and/or footway diversions has not yet been determined. It is not envisaged that road closures or closures of pedestrian footways, with the exception of Fleur De Lis Passage (pedestrian and cycle route) will be necessary to enable to on-site construction, although some temporary lane closures may be required to facilitate highway repairs or improvements. Should road or footway closures and diversions be required these will be agreed with the LBTH to ensure that potential effects on other highway users are minimised as much as is reasonably practicable.
- 8.192** The effects of any road or footpath closures are considered to likely have a short-term **minor adverse** effect on pedestrian and cyclist access and movement.

Public Transport (Rail, Underground, Bus Network).

- 8.193** There will be no on-Site parking provided for construction worker vehicles; however some provision may be made for personnel who need to bring heavy equipment or materials to the Site. Others will be required to use public transport.
- 8.194** The roads in LBTH are within a Controlled Parking Zone and the only legal on-street parking is for permit holders or in pay-and-display bays. Strict parking controls and enforcement will ensure on-street parking by construction workers is prevented.
- 8.195** The Site is located in an area with excellent accessibility to public transport. As a result it is anticipated that the majority of construction workers will travel to the Site by public transport and will be given detailed information on travel options. Therefore this is a **negligible** impact.

Use of the River Thames

- 8.196** Consideration has been given to the potential use of the River Thames as a potential route for construction materials and waste, thereby reducing the construction traffic and its effects on the highway network.
- 8.197** It is noted that the Site, is not located close to the River Thames, therefore it would require construction materials and waste to still be transferred by road between the Site and any associated wharf identified as the loading/unloading point.
- 8.198** The transfer of goods between river transport and construction vehicles at both the source and destination Wharf, and then again at the Site, significantly increases the handling of materials and the potential for damage and waste. Therefore, for the above reasons, the assessment undertaken of construction related activities undertaken are robust in that all goods are assumed to be moved by road.

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- 8.199** The scheme changes will not result in a significant difference in the construction traffic flows identified for the December 2014 Scheme, and therefore the assessment for the demolition and construction phase presented in the December 2014 ES remains valid.

November 2015 Amendments

- 8.200** Taking into account the nature and scale of the proposed November 2015 Amendments, it is not considered that the Amended Proposed Development would result in a significant difference in the construction traffic

flows, and therefore unlikely to introduce any new or change to the likely effects and significance concluded within the December 2014 ES and March 2015 ES Addendum.

- 8.201** It is considered that the likely residual effects concluded in the December 2014 ES and March 2015 ES Addendum remain valid.

Effects Once the Site is Operational

- 8.202** The Proposed Development will generate trips by a number of modes. The means by which the all mode trip generation and distribution has been derived is set out in detail within the TA.
- 8.203** A detailed modal split exercise (for the walk, cycle, car, taxi and public transport modes), was undertaken. This is explained in detail in the TA. In addition, the public transport trips have been further split onto services, and by direction, based upon existing service levels.
- 8.204** In terms of the directional distribution of trips, separate assignments were carried out for all modes of transport. The forecast peak hour vehicular trips were assigned onto the local highway network based upon analysis of existing traffic movements in conjunction with the highway proposals.
- 8.205** The future baseline for assessment is 2017, the expected opening year of the Proposed Development. The effect of the Proposed Development on access by all modes has been assessed for this year. A 'worst case' assessment of the Proposed Development trips has been presented as the Proposed Development trips rather than the net difference in trips from the 2011 consented scheme has been assessed in this ES chapter.

The Proposed Development

Proposed Uses

- 8.206** The Proposed Development provides 49,505 m² Gross External Area (GEA) of mixed use development, comprising:
- 37,087 m² GEA office use (B1);
 - 1,163 m² GEA retail use (A1);
 - 3,827 m² GEA retail use (A3);
 - 595 m² GEA retail use (A4) and
 - 6,660 m² GEA residential, providing 40 units (C3).
- 8.207** The A4 retail is an existing use that is retained as part of the Proposed Development.

Proposed Car Parking

- 8.208** A total of seven car parking spaces are provided for the residential units in line with LBTH standards. Two of these spaces are provided for disabled users. Provision for electric vehicle charging facilities will be provided in accordance with the London Plan requirements. These spaces are provided in a basement car park.
- 8.209** Access to the car park is provided by a single car lift from Fleur De Lis Street. An assessment of the car lift capacity with the expected vehicle movements has been presented in the TA, and no queuing on public highway is expected based on the operating time of the car lift and the predicted volume of trips associated with its use. Moreover, the car lift will be controlled so that priority is given to inbound vehicles; a signal will be used to inform cars at basement level to wait for the inbound vehicle to access the car park.
- 8.210** Residents will be exempt from applying for a Controlled Parking Zone permit, which will prevent them from utilising existing on-street spaces. This will ensure that there is a negligible impact to existing residential parking capacity currently provided on-street.
- 8.211** No parking will be provided for the commercial uses, with the exception of two disabled spaces provided on Shoreditch High Street / Norton Folgate.
- 8.212** The impact of these proposals and the development trips is set out in the 'Effect on Traffic Flows' section of this report.

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Proposed Access and Servicing

- 8.213** It is proposed that the operation of Blossom Street and Fleur De Lis Street between Blossom Street and Elder Street is altered to one-way operation eastbound from two-way movement. The impact of this change to traffic volumes and the capacity local junctions is assessed in detail in the TA. This has been discussed and agreed in principle with LBTH and TfL.
- 8.214** It is also proposed that the existing loading and parking bay on Shoreditch High Street / Norton Folgate is altered as follows:
- Increased in width so that it can accommodate larger vehicles (note that the building line has been pushed back, providing a colonnade, which will provide additional footway capacity);
 - Slight reduction in length;
 - The north section is designated as a loading facility (currently loading and disabled parking); and
 - The south section is designated as two disabled parking bays (currently parking).
- 8.215** This has been discussed and agreed in principle with LBTH and TfL.
- 8.216** In addition it is proposed that the loading bay on Blossom Street is relocated south of its current location on Blossom Street. This has been discussed and agreed with LBTH.
- 8.217** It is also proposed that the western side of the Blossom Street footway is widened, where possible, to provide additional space for pedestrians.
- 8.218** Vehicular access will be from Commercial Street, via Fleur De Lis Street and Blossom Street, exiting onto Folgate Street and Norton Folgate.
- 8.219** Due to the existing constraints of the carriageway it is not possible to accommodate larger (7.5 ton Box Van or larger) servicing vehicles on Blossom Street and Fleur De Lis Street. Therefore only vehicles up to 4.6 ton panel van in size will be accommodated on Fleur De Lis Street and the Blossom Street loading bay with larger vehicles utilising the Shoreditch High Street / Norton Folgate loading bay.
- 8.220** It is therefore proposed that servicing will be undertaken from the following locations:
- The relocated loading bay on Blossom Street (4.6 ton Panel Vans or smaller);
 - Fleur De Lis Street (4.6 ton Panel Vans or smaller); and
 - The altered loading bay on Shoreditch High Street / Norton Folgate outside of the hours of 0700-1000 and 1600-1900 (7.5 ton Box Van / 10 metre Rigid Vehicles).
- 8.221** The A4 retail will continue to be serviced from Folgate Street.
- 8.222** In addition occasional deliveries undertaken by 7.5 ton Box Vans to S2 can be undertaken from Elder Street (adjacent to the Site), operating within the 20 minute loading/unloading requirement.
- 8.223** The impact of these proposals and the development trips are included in the traffic and junction capacity assessments undertaken and are set out in the 'Effect on Traffic Flows' section of this report.

Effect on Pedestrian Movement and Capacity

- 8.224** Access and circulation to, from and within the Site is significantly improved for pedestrians. The proposals have also created new routes through the Proposed Development. This is considered to be a **minor beneficial** effect on pedestrian movement.
- 8.225** The impact of the walk only and walk to and from public transport nodes trips with specific reference to the proposed changes in footway width associated with the proposed alteration to the Shoreditch High Street / Norton Folgate parking and loading bay has been assessed. The TA sets out the details of the pedestrian distribution analysis.
- 8.226** As a 'worst case' assessment all trips that are predicted to use Norton Folgate / Shoreditch High Street are assumed to remain on the east side of Shoreditch High Street / Norton Folgate.
- 8.227** The two way flows resulting from this distribution that are predicted to use the eastern footway of Shoreditch High Street / Norton Folgate are summarised in Table 8-17.

Table 8.17 Proposed AM and PM Peak Hour Walk Trips

Location	Total Development Trips		Net Difference Trips	
	AM Peak Hour (0800-0900)	PM Peak Hour (1700-1800)	AM Peak Hour (0800-0900)	PM Peak Hour (1700-1800)
Shoreditch High Street / Norton Folgate by loading / parking bay	598	540	403	380

- 8.228** The impact of this proposal has been tested using TfL's Pedestrian Comfort Assessment. This provides guidance and a tool to assess the impact of development proposals on footways.
- 8.229** As discussed previously, the peak hour for the baseline pedestrian flows is between 0800 and 0900, when 951 two way flows were recorded. The additional pedestrian flows from Proposed Development have been added to the peak hour (0800-0900) to assess the impact of the proposals. This assessment is presented in Table 8-18. This is a 'worst case' assessment as it assumes that all pedestrians generated by the Proposed Development that use Shoreditch High Street / Norton Folgate, will only use the eastbound footway and that Folgate Street isn't used to access the Site from Shoreditch High Street / Norton Folgate.
- 8.230** The existing width of Shoreditch High Street is 3.1 metres and it is proposed that this will increase to 5.1 metres; however this includes structure for the colonnade which has been taken account of in the assessment.

Table 8.18 Pedestrian Comfort Level (Shoreditch High Street Loading/Parking Bay Narrowest Point) – Worst Case Assessment

Time Period	Existing			Proposed		
	Pedestrians per Hour	PPMM	PCL	Pedestrians per Hour	PPMM	PCL
0800-0900	951	5.9	A	1,549	8.1	A-

- 8.231** Table 8-18 illustrates that the PCL assessment shows that the proposals are acceptable as they achieve a service level of A-. This exceeds the PCL requirement of B that is required at this location.
- 8.232** It is noted that the loading bay will not be in operation during the AM and PM three hour peak periods (0700-1000 and 1600-1900) and as such will be available for use by pedestrians. This increases footway capacity at these times. Consequently the assessments set out above are 'worst case' assessments as there will be additional footway capacity during periods of peak pedestrian flows.
- 8.233** Therefore the effect of the Proposed Development on the pedestrian network in the vicinity of the Site is expected to be long-term **negligible**.

Effect on Pedestrian Severance, Delay, Fear and Intimidation, Amenity

- 8.234** The changes in traffic flows are set out in Table 8-28, which illustrate that the impact on the junctions of Norton Folgate and Folgate Street, Commercial Street and Elder Street and Commercial Street and Fleur De Lis Street range from 0.0% to 2.8% increase, which is less than 30% of the future baseline. The impact on the junction of Folgate Street and Blossom Street is higher (47.7% – 54.2%) but this is due to the very low background vehicle flows through these junctions.
- 8.235** This assessment also takes a 'worst case' assessment of the cumulative traffic impact as TEMPRO for Tower Hamlets has been used to growth up the 2014 proposed arrangement flows. The application of TEMPRO is a 'worst case' assessment as the Proposed Development is located in central London where traffic flows are generally considered static; supported by Mayoral policy.

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- 8.236 The effect of the Proposed Development traffic flows on pedestrian severance is expected to be long-term **negligible**.
- 8.237 The pedestrian environment within the Site would be of high quality with the provision of an attractive open space, well maintained and legible pathways and lighting, thus providing natural surveillance.
- 8.238 The Proposed Development would contribute to the perception of pedestrian safety by enhancing the public realm and increasing natural surveillance of pedestrian routes within the Site. The Proposed Development would therefore offer attractive pedestrian facilities both for users of the Site and for through pedestrian traffic and visitors. The effects would therefore be:
 - **minor beneficial** effect on pedestrian severance given that the Proposed Development would facilitate improved pedestrian permeability in and around the Site;
 - **minor beneficial** effect on pedestrian delay due to increased permeability across the Site; and
 - **minor beneficial** effect on pedestrian amenity due to proposed improvements and additions to pedestrian facilities such as widened footways, enhanced public realm and improved streetscape.

Travel by Cycle

- 8.239 The additional cycle movements generated by the Proposed Development are expected to be accommodated on the existing road network without the need for additional infrastructure. The scheme delivers the following improvements and key facilities:
 - 522 long stay cycle parking spaces;
 - 54 short stay cycle parking spaces; and
 - Shower and locker facilities for the long stay cycle parking spaces.
- 8.240 The anticipated number of cyclists associated with the Proposed Development is largely associated with the intention to achieve an 8% cycling mode share within the office use. The proposed cycling trips have been distributed equally between Shoreditch High Street / Norton Folgate and Commercial Street, and then similarly distributed north and south. The overall predicted cycle trips for the Proposed Development, and the difference compared to the extant permission is shown in Table 8-19.

Table 8.19 Proposed AM and PM Peak Hour Cycle Trips

Mode	Total Development Trips			
	AM Peak		PM Peak	
	In	Out	In	Out
Cycle	91	7	13	77

- 8.241 The distribution outlined above results in 49 additional trips two way AM peak hour trips on both Shoreditch High Street / Norton Folgate and Commercial Street. Given the high volume of cyclists already using Norton Folgate in the peak periods (~870 in the AM peak), the proposed increase in the AM peak is equivalent to an increase of 5% and is expected to have a low impact. While the impact is marginally greater on Commercial Street (~10%), this is also considered to be a **low** magnitude of impact. The impact of these cyclists was included in the PICADY assessments undertaken for the two priority junctions; Norton Folgate junction with Folgate Street and the junction of Commercial Street with Fleur De Lis Street. As discussed in the 'Effect on Junction Capacity' section these junctions operate within capacity for all scenarios tested, including the 2017 future baseline with development flows.
- 8.242 In addition, the Site has good connectivity to cycle routes, therefore the Proposed Development is accessible by cyclists. It is also considered that the provision of good quality on-Site cycle parking facilities for all users of the development would promote cycling to meet modern day demand and help to decrease the reliance on public transport. Therefore the effect of the Proposed Development on the cycle network in the vicinity of the Site is expected to be long-term **negligible**.

Travel by National Rail Services

- 8.243 The travel demand assessment and distribution identifies that the Proposed Development will generate an estimated two way flow of 370 passengers in the AM peak and 394 passengers in the PM peak on the rail services provided at Liverpool Street station (see Table 8-20).

Table 8.20 Proposed AM and PM Peak Hour Liverpool Street Station Rail Trips

Mode	Total Development Trips			
	AM Peak		PM Peak	
	In	Out	In	Out
Liverpool Street Station - Rail	324	46	86	309

- 8.244 Table 8-21 provides a summary of the increase in number of passengers per train generated by the Proposed Development.

Table 8.21 Proposed AM and PM Peak Hour Liverpool Street Station Rail Services Impact

Mode	Total Development Trips			
	AM Peak		PM Peak	
	In	Out	In	Out
Increase in passengers per train	11.6	1.9	2.0	8.1

- 8.245 Table 8-21 shows that the number of trips when distributed across the high rail service frequencies at Liverpool Street Station results in a **low** magnitude of impact on existing rail services.
- 8.246 Taking an average capacity (800 passengers) of a commuter train operating out of Liverpool Street Station, the addition of an 11.6 passengers per train generated by the Proposed Development in the AM peak hour is equivalent to less than 2% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on rail travel would be **negligible**.
- 8.247 It is not expected that the Proposed Development should cause capacity concerns for existing rail services at Liverpool Street; moreover the situation is expected to improve when Crossrail services open in Liverpool Street and Moorgate in 2018, the year following the expected completion of the Proposed Development.
- 8.248 The overall effect of the Proposed Development on journeys by rail is therefore a long-term **negligible** effect.

Travel by London Overground Services

- 8.249 The travel demand assessment and distribution identifies that the Proposed Development will generate an estimated two way flow of 228 passengers in the AM peak and 158 passengers in the PM peak on the rail services provided at Shoreditch High Street station (see Table 8-22).

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Table 8.22 Proposed AM and PM Peak Hour Liverpool Street Station Rail Trips

Mode	Total Development Trips			
	AM Peak		PM Peak	
	In	Out	In	Out
Shoreditch High Street - Rail	200	28	34	123

8.250 Table 8-23 provides a summary of the increase in number of passengers per train generated by the Proposed Development.

Table 8.23 Proposed AM and PM Peak Hour Liverpool Street Station Rail Services Impact

Mode	Total Development Trips			
	AM Peak		PM Peak	
	In	Out	In	Out
Increase in passengers per train	12.5	1.8	2.1	7.7

8.251 Table 8-23 shows that the number of trips when distributed across the high rail service frequencies at Shoreditch High Street Station results in a low magnitude of impact on existing rail services.

8.252 Taking the capacity (443 passengers) of a London Overground train, the addition of an additional 12.5 passengers per train generated by the Proposed Development in the AM peak hour is equivalent to less than 3% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on rail travel would be **negligible**.

8.253 It is not expected that the Proposed Development will cause capacity concerns for existing rail services at Shoreditch High Street Station.

8.254 The overall effect of the Proposed Development on journeys by rail is therefore a long-term **negligible** effect.

Travel by Underground Rail Services

8.255 The travel demand assessment and distribution identifies that the Proposed Development will generate an estimated two way flow of 386 passengers in the AM peak and 357 passengers in the PM peak on the underground services provided at Liverpool Street and Aldgate East stations (see Table 8-24).

Table 8.24 Proposed AM and PM Peak Hour Underground Trips

Station	Line	Total Development Trips			
		AM Peak		PM Peak	
		In	Out	In	Out
Liverpool Street	Central	113	23	38	108
	Circle	39	8	8	4
	Metropolitan	65	13	20	0
	Hammersmith	39	8	8	6

Station	Line	Total Development Trips			
		AM Peak		PM Peak	
		In	Out	In	Out
& City	Total	256	53	74	211
	District	45	9	14	40
Aldgate East	Hammersmith & City	19	4	5	0
	Total	64	13	19	53

8.256 Table 8-25 provides a summary of the increase in number of passengers per train generated by the Proposed Development.

Table 8.25 Underground Services Impact (AM and PM Peak Hours)

Description	Station	Line	Total Development Trips			
			AM Peak		PM Peak	
			In	Out	In	Out
Increase in Passengers per Train	Liverpool Street	Central	3.2	0.7	0.7	1.9
		Circle	3.2	0.7	0.7	0.4
		Metropolitan	3.2	0.7	0.7	0.0
		Hammersmith & City	3.2	0.7	0.7	0.5
	Aldgate East	District	1.6	0.3	0.4	1.1
		Hammersmith & City	1.6	0.3	0.4	0.0

8.257 Table 8-25 shows that the number of trips when distributed across the high Underground service frequencies at results in a low magnitude of impact on existing underground services.

8.258 Taking the planning capacity (758 passengers) of a Central line train, the addition of an additional 3.2 passengers per train generated by the Proposed Development in the AM peak hour is equivalent to less than 1% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on underground travel would be **negligible**.

8.259 Taking the planning capacity (735 passengers) of a Circle, Metropolitan and Hammersmith & City line train, the addition of an additional 3.2 passengers per train generated by the Proposed Development in the AM peak hour is equivalent to less than 1% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on underground travel would be **negligible**.

8.260 It is not expected that the Proposed Development will cause capacity concerns for existing underground services; moreover the situation is expected to improve when Crossrail services open in Liverpool Street and Moorgate in 2018, the year following the expected completion of the Proposed Development in addition to improvements across the London Underground network that will provide additional capacity at peak times.

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8.261 The overall effect of the Proposed Development on journeys by underground is therefore a long-term **negligible** effect.

Travel by Bus Services

8.262 The travel demand assessment and distribution identifies that the Proposed Development will generate an estimated two way flow of 135 passengers in the AM peak and 125 passengers in the PM peak on local bus services (see Table 8-26).

Table 8.26 Proposed AM and PM Peak Hour Bus Trips

Mode	Total Development Trips			
	AM Peak		PM Peak	
	In	Out	In	Out
Bus	117	18	28	97

8.263 Table 8-27 provides a summary of the increase in number of passengers per train generated by the Proposed Development.

Table 8.27 Proposed AM and PM Peak Hour Bus Services Impact

Mode	Total Development Trips			
	AM Peak		PM Peak	
	In	Out	In	Out
Increase in passengers per bus	1.0	0.2	0.2	0.8

8.264 Table 8-27 shows that the number of trips when distributed across the high bus service frequencies results in a low magnitude of impact on existing bus services.

8.265 Taking the typical capacity of a double decker bus as an example, which is commonly 70 passengers, the addition of an average of 1.0 passengers per bus generated by the Proposed Development is equivalent to less than 2% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on bus travel would be **negligible**.

Effect on Traffic Flows

8.266 Table 8-28 summarises the impact of the vehicle trips generated by the Proposed Development on the junctions of:

- Norton Folgate and Folgate Street;
- Folgate Street and Blossom Street;
- Commercial Street and Elder Street; and
- Commercial Street and Fleur De Lis Street.

Table 8.28 Baseline, Future and Proposed Highway Arrangement Traffic Flows

	Norton Folgate and Folgate Street		Folgate Street and Blossom Street		Commercial Street and Elder Street		Commercial Street and Fleur De Lis Street	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
2014 Existing	1,948	1,560	102	95	1,961	1,814	2,056	1,855
2014 Proposed Arrangement	1,952	1,574	97	82	1,961	1,814	2,057	1,854
% Change	0.2%	0.9%	-4.9%	-13.7%	0.0%	0.0%	0.0%	-0.1%
2017 Flows Proposed Arrangement	2,119	1,687	105	88	2,129	1,944	2,233	1,987
Development Flows	59	11	57	42	0	0	55	9
2017 & Development Flows	2,178	1,698	162	130	2,129	1,944	2,288	1,996
% Increase	2.8%	0.7%	54.2%	47.7%	0.0%	0.0%	2.5%	0.5%

8.267 The impact on the junctions of Norton Folgate and Folgate Street, Commercial Street and Elder Street and Commercial Street and Fleur De Lis Street range from 0.0% to 2.8% increase, which is less than 10% of the future baseline and represents a low magnitude of change. The impact magnitude on the junction of Folgate Street and Blossom Street is higher (47.7% – 54.2%) but this is due to the very low background vehicle flows through these junctions.

8.268 This assessment also takes a 'worst case' assessment of the cumulative traffic impact as TEMPRO for Tower Hamlets has been used to growth up the 2014 proposed arrangement flows. The application of TEMPRO is a 'worst case' assessment as the Site is located in central London where traffic flows are generally considered static; supported by Mayoral policy.

8.269 The effect of the Proposed Development traffic flows on the roads in the vicinity of the Site is expected to be long-term **negligible**.

Effects on Junction Capacity

8.270 As agreed with LBTH and TfL through the TA Scoping and pre-application consultation, The existing and proposed operation of the following two priority junctions have been assessed in order to ensure that the proposals to alter the operation of Blossom Street and Fleur De Lis Street between Blossom Street and Elder Street from one to two-way operation is acceptable:

- Junction of Norton Folgate with Folgate Street; and
- Junction of Commercial Street with Fleur De Lis Street.

8.271 The following scenarios have been tested using PICADY to assess junction capacity and queuing:

- 2014 baseline traffic existing network;
- 2014 baseline traffic proposed network;
- 2017 future baseline proposed network; and
- 2017 with development.

8.272 The AM (0800-0900) and PM (1700-1800) peak hours have been assessed for each of these scenarios for each junction. Full details of the assessments are presented in the TA.

Junction of Norton Folgate with Folgate Street

8.273 The assessment of the junction of Norton Folgate with Folgate Street demonstrated the Folgate Street to Norton Folgate movement currently operates at 18% (equivalent to 18% of available capacity) and 13% saturation in the AM and PM peak hours, which increases slightly to 19% and 16% with the proposed

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alteration to the highway network. The 2017 flows with the future baseline proposed network operate at 22% and 17% saturation in the AM and PM peak hour, which increases to 35% and 19% with the addition of the development flows.

- 8.274 Queuing is shown at less than half a vehicle in any scenario, and therefore is considered to be **negligible**.
- 8.275 Overall, the vehicle traffic impact of the proposed changes to the highway arrangement with the Proposed Development on the operation of the junction of Folgate Street with Norton Folgate is considered to be low magnitude of impact.

Junction of Commercial Street with Folgate Street

- 8.276 The junction of Commercial Street and Fleur De Lis Street assessment identifies a maximum saturation flow of 5% in the 2017 with development scenario, which is equivalent to operation at 5% of available capacity.
- 8.277 Queuing is shown at less than half a vehicle in any scenario, and therefore is considered to be **negligible**.
- 8.278 Overall, the vehicle traffic impact of the proposed changes to the highway arrangement with the Proposed Development on the operation of the junction of Commercial Street with Fleur De Lis Street is considered to be negligible.
- 8.279 The effect of the Proposed Development traffic flows on the capacity of these two junctions in the vicinity of the Site is expected to be long-term **negligible**.

Effects Once the Site is Operational – Update 2015

March 2015 ES Addendum

- 8.280 The B1 office GEA has increased marginally and A3 retail GEA have decreased marginally as part of the proposals for the Revised Scheme. The B1 office net area, which was used to calculate the trip generation, has however reduced marginally. The changes as part of the revised scheme are expected to result in a decrease of 31 trips per day across all modes of transport. These changes are considered negligible. Therefore, there are no changes to the assessment of effects of the operational trips on each of the different transport modes presented in the December 2014 ES, which remains valid.

November 2015 Amendments

- 8.281 The Amended Proposed Development is anticipated to be operational in 2019, which has been updated from the initial indicative opening year 2017.
- 8.282 The November 2015 amendments has increased the B1 office floor space marginally (GEA, +203 m²); however, the B1 office net floor area (which is used to calculate the trip generation) has reduced marginally from 24,342 m² to 23,947 m², resulting in a reduction in the estimated number of employees and therefore trips throughout the day. The Amended Proposed Development is expected to result in a decrease of 137 trips per day across all modes of transport. There will also be a reduction of 31 trips in the AM peak hour and a reduction of 27 trips in the PM peak hour across all modes of transport.
- 8.283 When considering across all transport modes, the predicted reductions in trips is likely to result in a negligible reduction in the number of trips by mode. For example, the number of inbound bus trips in the AM peak hour will reduce by 2 trips (from 117 to 115) and the number of outbound bus trips in the AM peak hour will reduce by 1 trip (from 28 to 27 trips). Distributing the trips across the bus services available in the AM peak hour will subsequently result in a negligible change in terms of the number of additional passengers per bus. For example, the inbound AM peak hour changes from 1.02 to 0.98 and the outbound AM peak hour changes from 0.2 to 0.1 additional passengers per bus. Taking into account the typical capacity of a double decker bus, which is commonly 70 passengers, the addition of an average of 1.0 passenger per bus generated by the Amended Proposed Development remains equivalent to less than 2% of capacity as per the December 2014 ES and the March 2015 ES Addendum.
- 8.284 Overall, the predicted changes arising from the November 2015 amendments in terms of the Amended Proposed Development are considered negligible. In terms of the assessment of effects of the operational trips on each of the different transport modes, it is considered that the likely residual effects concluded in the December 2014 ES and March 2015 ES Addendum remain valid.

Mitigation and Monitoring Measures

- 8.285 There are no measures required over-and-above the environmental design and management measures covered previously.

Mitigation and Monitoring Measures - Update 2015

March 2015 ES Addendum

- 8.286 No additional mitigation measures or changes to those measures identified previously are assessed as being required to alleviate the impacts associated with the proposed changes.

November 2015 Amendments

- 8.287 No additional mitigation measures or changes to those measures identified previously are assessed as being required to alleviate the impacts associated with the November 2015 Amendments.

Residual Effects and Conclusions

Residual Effects – Update 2015

- 8.288 Table 8-29 summarises the potential residual effects of the Proposed Development on traffic and transport below presents the residual effects following the assessment of revised scheme as a result of the design changes to the Proposed Development considered as part of the December 2014 ES.

Table 8.29 Summary of residual effects in Transport and Access

Resource / Receptor	Effect (incorp. environmental design & management)	Mitigation and Monitoring	Residual Effect (incorp. mitigation & monitoring)	Significance Conclusion
Demolition and Construction				
Local Highway Network	Negligible	Construction Method Statement, including a Construction Traffic Management Plan, Use of Consolidation where possible, collaboration with other construction sites, retiming deliveries.	Negligible	Not Significant
Pedestrian Network	Minor Adverse	Signage, wayfinding and communication with local residents and businesses	Minor Adverse	Not Significant
Cycle Network	Minor Adverse	Signage, wayfinding and communication with local residents and businesses	Minor Adverse	Not Significant
Completed and Operational				
Local Highway Network	Negligible	Travel Plan and Delivery and Servicing Plan, Car park management	Negligible	Not Significant
Pedestrian Network	Minor Beneficial	Enhanced permeability and improved facilities	Minor Beneficial	Not Significant
Cycle Network	Negligible	High quality facilities and high level of parking provision	Negligible	Not Significant

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Resource / Receptor	Effect (incorp. environmental design & management)	Mitigation and Monitoring	Residual Effect (incorp. mitigation & monitoring)	Significance Conclusion
London Overground services	Negligible	Additional capacity will be available at peak times when Crossrail services open in Liverpool Street and Moorgate in 2018, the year following the expected completion of the Proposed Development in addition to improvements across the London Underground network will also provide additional capacity at peak times. Travel Plan	Negligible	Not Significant
National Rail services	Negligible	Additional capacity will be available at peak times when Crossrail services open in Liverpool Street and Moorgate in 2018, the year following the expected completion of the Proposed Development in addition to improvements across the London Underground network will also provide additional capacity at peak times. Travel Plan	Negligible	Not Significant
London Underground services	Negligible	Additional capacity will be available at peak times when Crossrail services open in Liverpool Street and Moorgate in 2018, the year following the expected completion of the Proposed Development in addition to improvements across the London Underground network will also provide additional capacity at peak times. Travel Plan	Negligible	Not Significant
Bus services	Negligible	Travel Plan	Negligible	Not Significant

Conclusion – Update 2015

- 8.289** The November 2015 amendments result in changes to B1 office floor space (GEA), A1 and A3 retail floor space (GEA). The Amended Proposed Development is predicted to result in a decrease of 137 trips per day across all modes of transport.
- 8.290** Overall, the predicted changes arising from the November 2015 amendments in terms of the Amended Proposed Development are considered negligible. In terms of the assessment on each of the different transport modes, it is considered that the likely residual effects concluded in the December 2014 ES and March 2015 ES Addendum remain valid.

Effect Interactions and Cumulative Effect Assessment

Assessment of Combined Effect of Individual Effects on a Single Receptor

- 8.291** The combined effect of individual effects occurs when a single receptor is affected by more than one effect at any point in time. An exercise which tabulates the residual effects identified within the ES against relevant receptors, and so identifies the potential for combined cumulative effects, has been undertaken.
- 8.292** Reference should be made to **Chapter 16: Effect Interactions** for this ES for further details.

Assessment of Cumulative Effect of the Proposed Development with Other Development Schemes

- 8.293** This section of the chapter assesses the potential effects of the Proposed Development in combination with the potential effects of other development schemes within the surrounding area, as listed within **Chapter 2: EIA Methodology** of this ES.
- 8.294** It was agreed with TfL and LBTH that the below listed cumulative developments be included within the public transport and pedestrian impact assessment. Of the remaining cumulative developments considered within **Chapter 2: EIA Methodology**, it is considered that they would not have an effect on pedestrian movement in the vicinity of the Site.
- 32-42 Bethnal Green Road;
 - Silwex House;
 - 86 Brick Lane;
 - Principal Place;
 - Land within former Truman's Brewery Site;
 - London Fruit and Wool Exchange;
 - 30, 32 and 36 Brushfield Street;
 - 187-193 Shoreditch High Street and land bounded by Shoreditch High Street;
 - The Stage, Shoreditch; and
 - Bishopsgate Goods Yard.

Cumulative Effects during Demolition and Construction

- 8.295** There are a number of planned development schemes which have been identified as part of the pre-application scoping process. The appointed construction contractor will meet with relevant developers and LBTH at an appropriate point prior to works being undertaken on Site to discuss potential overlap with other construction Sites in the area and to mitigate the impact, if necessary. The appointed construction contractor and the Applicant will consult neighbouring developments on the programme and local impacts of the construction such as pedestrian routes, for example. In addition, collaboration will around the scheduling of vehicle movements will be undertaken so that if works coincide with other construction activity already taken place within the immediate vicinity of the Site, the cumulative effect of construction traffic can be minimised.
- 8.296** It is not possible to undertake any cumulative assessment beyond this as identifying and estimating the construction programmes / start-dates and trip generation of other Sites would lead to a number of potential inaccuracies. This is particularly the case where no or limited demolition or construction data is available.

Cumulative Effects Once the Proposed Development is Completed and Operational

Effect on Pedestrian Movement and Capacity

- 8.297** Access and circulation to, from and within the Site as a result of the Proposed Development is **minor beneficial** for pedestrians. The proposals have also created new routes through the Proposed Development. This is considered to be a **minor beneficial** effect on pedestrian movement.
- 8.298** The cumulative impact of the walk only and walk to and from public transport nodes trips with specific reference to the proposed changes in footway width associated with the proposed alteration to the Shoreditch High Street parking and loading bay has been assessed. The TA sets out the details of the pedestrian distribution analysis.
- 8.299** As a 'worst case' assessment all trips that are predicted to use Shoreditch High Street are assumed to remain on the east side of Shoreditch High Street.
- 8.300** The two way cumulative flows resulting from this distribution that are predicted to use the eastern footway of Shoreditch High Street are summarised in Table 8-30.

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Table 8.30 Proposed AM and PM Peak Hour Proposed Development and Cumulative Walk Trips

Shoreditch High Street / Norton Folgate by loading / parking bay	Total Development Trips		Net Difference Trips	
	AM Peak Hour (0800-0900)	PM Peak Hour (1700-1800)	AM Peak Hour (0800-0900)	PM Peak Hour (1700-1800)
Proposed Development	598	540	403	380
Cumulative Schemes	600	723	600	723
Total	1,198	1,263	1,003	1,103

- 8.301 The impact of this proposal has been tested using TfL’s Pedestrian Comfort Assessment. This provides guidance and a tool to assess the impact of development proposals on footways. This tool has been used to assess the impact of the widening of the loading bay in conjunction with the development proposals.
- 8.302 This assessment is presented in Table 8-31. This is a ‘worst case’ assessment as it assumes that all pedestrians generated by the Proposed Development that use Shoreditch High Street, will only use the eastbound footway and that Folgate Street isn’t used to access the development from Shoreditch High Street / Norton Folgate.
- 8.303 The existing width of Shoreditch High Street is 3.1 metres and it is proposed that this will increase to 5.1 metres; however this includes the structure for the colonnade which has been taken account of in the assessment.

Table 8.31 Pedestrian Comfort Level (Shoreditch High Street Loading/Parking Bay Narrowest Point) – Worst Case Assessment

Time Period	Existing			Proposed		
	Pedestrians per Hour	PPMM	PCL	Pedestrians per Hour	PPMM	PCL
0800-0900	951	5.9	A	2,149	9.7	B+

- 8.304 Table 8-31 illustrates that the PCL assessment shows that the proposals are acceptable as they achieve a service level of B+. This exceeds the PCL requirement of B that is required at this location.
- 8.305 It is noted that the loading bay will not be in operation during the AM and PM three hour peak periods (0700-1000 and 1600-1900) and as such will be available for use by pedestrians. This increases footway capacity at these times. Considering an additional 1.0 metre of footway (there is 2.5 metres in total) would result in a PCL of A-. Consequently the assessments set out above are ‘worst case’ assessments as there will be additional footway capacity during periods of peak pedestrian flows.
- 8.306 Therefore the cumulative effect of the Proposed Development with the other identified schemes on the pedestrian network in the vicinity of the Site is expected to be long-term **negligible**.

Effect on Pedestrian Severance, Delay, Fear and Intimidation, Amenity

- 8.307 The changes in traffic flows are set out in Table 8-28, which illustrate that the impact on the junctions of Norton Folgate and Folgate Street, Commercial Street and Elder Street and Commercial Street and Fleur De Lis Street range from 0.0% to 2.8% increase, which is less than 30% of the future baseline. The impact on the junction of Folgate Street and Blossom Street is higher (47.7% – 54.2%) but this is due to the very low background vehicle flows through these junctions.
- 8.308 This assessment also takes a ‘worst case’ assessment of the cumulative traffic impact as TEMPRO for Tower Hamlets has been used to growth up the 2014 proposed arrangement flows. The application of

TEMPRO is a ‘worst case’ assessment as the Proposed Development is located in central London where traffic flows are generally considered static; supported by Mayoral policy.

- 8.309 The cumulative effect of the Proposed Development and other identified schemes traffic flows on pedestrian severance is expected to be long-term **negligible**.
- 8.310 As discussed previously, the pedestrian environment within the Site would be of high quality with the provision of an attractive open space, well maintained and legible pathways and lighting, thus providing natural surveillance.
- 8.311 The Proposed Development would contribute to the perception of pedestrian safety by enhancing the public realm and increasing natural surveillance of pedestrian routes within the Site. The Proposed Development would therefore offer attractive pedestrian facilities both for users of the Site and for through pedestrian traffic and visitors. The effects would therefore be:
 - **minor beneficial** effect on pedestrian severance given that the Proposed Development would facilitate improved pedestrian permeability in and around the Site;
 - **minor beneficial** effect on pedestrian delay due to increased permeability across the Site; and
 - **minor beneficial** effect on pedestrian amenity due to proposed improvements and additions to pedestrian facilities such as widened footways, enhanced public realm and improved streetscape.

Travel by Cycle

- 8.312 The impact of cyclists was included in the PICADY assessments undertaken for the two priority junctions; Norton Folgate junction with Folgate Street and the junction of Commercial Street with Fleur De Lis Street. As discussed in the ‘Effect on Junction Capacity’ these junctions operate within capacity for all scenarios tested, including the future baseline with development flows, which was calculated with TEMPRO and therefore takes account of cumulative growth.
- 8.313 Given the Sites good connectivity to cycle routes, the Proposed Development. It is also considered that that the provision of good quality on-Site cycle parking facilities for all users of the development would promote cycling to meet modern day demand and help to decrease the reliance on public transport.
- 8.314 Therefore the effect of the increases arising from cumulative scheme on the cycle network in the vicinity of the Site is expected to be long-term **negligible**.

Travel by National Rail and London Overground Services

- 8.315 The cumulative effect of the development proposals has been assessed with consideration to predicted rail trip generation for the identified cumulative development schemes. The TA’s of individual developments have been reviewed whenever available.

Table 8.32 Rail Impact: Proposed Development Trips and Cumulative Schemes Trips (AM and PM Peak Hours)

Mode	Total Trips (Two Way)	
	AM Peak Hour (0800-0900)	PM Peak Hour (1700-1800)
Increase in Passengers per Train – Liverpool Street Station	25.7	18.0
Increase in Passengers per Train – Shoreditch High Street Station	25.7	18.0

- 8.316 As demonstrated in Table 8-32, the cumulative schemes in conjunction with the Proposed Development trips considered account for up an additional 25.7 passengers per train in the AM peak hour.

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- 8.317** Taking an average capacity (800 passengers) of a commuter train operating out of Liverpool Street Station, the addition of an additional 25.7 passengers per train generated by the Proposed Development and three cumulative schemes in the AM peak hour is equivalent to less than 4% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on rail travel would be **negligible**.
- 8.318** Taking the capacity (443 passengers) of a London Overground train, the addition of an additional 25.7 passengers per train generated by the Proposed Development and the cumulative schemes in the AM peak hour is equivalent to less than 6% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on rail travel would be a **minor adverse** impact. However the size of the Proposed Development's contribution to the capacity is considered relatively **negligible** in terms of the size of the likely effect.
- 8.319** It is not expected that the Proposed Development with the other identified schemes should cause capacity concerns for existing rail services at Liverpool Street; moreover the situation is expected to improve when Crossrail services open in Liverpool Street and Moorgate in 2018, the year following the expected completion of the Proposed Development.
- 8.320** The cumulative effect of the Proposed Development and other identified schemes on rail travel is expected to be long-term **negligible**.

Travel by Underground Rail Services

- 8.321** The cumulative effect of the development proposals has been assessed with consideration to predicted LUL trip generation for the identified cumulative development schemes. The TA's of individual developments have been reviewed whenever available.

Table 8.33 Underground Services Impact: Proposed Development Trips and Cumulative Schemes Trips (AM and PM Peak Hours)

Description	Station	Line	Total Trips (Two-Way)	
			AM Peak Hour (0800-0900)	PM Peak Hour (1700-1800)
Increase in Passengers per Train	Liverpool Street	Central	26.8	19.9
		Circle	26.8	19.9
		Metropolitan	26.8	19.9
		Hammersmith & City	26.8	19.9
	Aldgate East	District	13.3	11.5
		Hammersmith & City	13.3	11.5

- 8.322** As demonstrated in Table 8-33, the cumulative schemes in conjunction with the Proposed Development trips considered account for up an additional 28.8 passengers per train in the AM peak hour.
- 8.323** Taking the planning capacity (758 passengers) of a Central line train, the addition of an additional 26.8 passengers per train generated by the Proposed Development and the cumulative schemes in the AM peak hour is equivalent to less than 4% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on underground travel would be **negligible**.
- 8.324** Taking the planning capacity (735 passengers) of a Circle, Metropolitan and Hammersmith & City line train, the addition of an additional 26.8 passengers per train generated by the Proposed Development and the cumulative schemes in the AM peak hour is equivalent to less than 4% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on underground travel would be **negligible**.

- 8.325** It is not expected that the Proposed Development should cause capacity concerns for existing underground services; moreover the situation is expected to improve when Crossrail services open in Liverpool Street and Moorgate in 2018, the year following the expected completion of the Proposed Development in addition to improvements across the London Underground network that will provide additional capacity at peak times.
- 8.326** The cumulative effect of the Proposed Development and other identified schemes on rail travel is expected to be long-term **negligible**.

Travel by Bus Services

- 8.327** The predicted increase in bus trips as a result of the operation of the Proposed Development is approximately 1 passenger per bus, which is considered low.
- 8.328** Taken together, the cumulative schemes considered are predicted to result in an increase in bus trips of approximately 473 and 576 trips in the AM and PM peaks. Combined with the Proposed Development trips and spread over the high number of bus services in the area, this equates to approximately 3 passengers per bus.
- 8.329** Taking the typical capacity of a double decker bus as an example, which is commonly 70 passengers, the addition of an average of 3 passengers per bus generated by the Proposed Development with the cumulative schemes is equivalent to less than 4% of capacity. Although, a degree of loading variation would be expected, at this stage it is considered that the likely effect on bus travel would be **negligible** effect on the bus network.

Effect on Traffic Flows

- 8.330** The cumulative effect has been assessed with consideration to predicted traffic flows. The cumulative impact has been assessed through the use of TEMPRO to growth up the baseline traffic flows.
- 8.331** Table 8-34 demonstrates the percentage change in two-way total vehicular flows on the surrounding highway network as a result of the future baseline / cumulative schemes, for the AM and PM peaks respectively.

Table 8.34 Baseline, Future and Proposed Highway Arrangement Traffic Flows

Description	Norton Folgate and Folgate Street		Folgate Street and Blossom Street		Commercial Street and Elder Street		Commercial Street and Fleur De Lis Street	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
2014 Existing	1,948	1,560	102	95	1,961	1,814	2,056	1,855
2014 Proposed Arrangement	1,952	1,574	97	82	1,961	1,814	2,057	1,854
% Change	0.2%	0.9%	-4.9%	-13.7%	0.0%	0.0%	0.0%	-0.1%
2017 Flows Proposed Arrangement	2,119	1,687	105	88	2,129	1,944	2,233	1,987
Development Flows	59	11	57	42	0	0	55	9
2017 & Development Flows	2,178	1,698	162	130	2,129	1,944	2,288	1,996
% Increase	2.8%	0.7%	54.2%	47.7%	0.0%	0.0%	2.5%	0.5%

- 8.332** The impact on the junctions of Norton Folgate and Folgate Street, Commercial Street and Elder Street and Commercial Street and Fleur De Lis Street range from 0.0% to 2.8% increase, which is less than 10% of the

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future baseline. The impact on the junction of Folgate Street and Blossom Street is higher (47.7% – 54.2%) but this is due to the very low background vehicle flows through these junctions.

8.333 This assessment also takes a 'worst case' assessment of the cumulative traffic impact as TEMPRO for Tower Hamlets has been used to growth up the 2014 proposed arrangement flows. The application of TEMPRO is a 'worst case' assessment as the Site is located in central London where traffic flows are generally considered static; supported by Mayoral policy.

8.334 As demonstrated by Table 8-34, the increases arising from the cumulative schemes would be considered to have a permanent **negligible** effect on the highway network. The contribution of the Proposed Development is considered **negligible**.

Assessment of Cumulative Effect of the Site with Other Development Schemes - Update 2015

March 2015 ES Addendum

8.335 A review of the changes to the committed developments since the December 2014 submission has shown that these would not have a significant effect on the cumulative effects assessment included in the December 2014 ES.

November 2015 Amendments

8.336 From a review of the updated committed developments that have come forward since the preparation of the March 2015 ES Addendum, it is considered that the additional committed schemes would not change or result in new significant effects from the assessment and conclusions presented in the December 2014 ES or March 2015 ES Addendum in terms of the transport modes assessed.

8.337 For example, in terms of the highway network, the future cumulative impact on the junction of Norton Folgate and Folgate Street would reduce by 0.1% from 2.8% to 2.7% in the AM peak hour, and would remain at 0.7% in the PM peak hour. Similarly, the cumulative impact on the junction of Folgate Street and Blossom Street would reduce from 54.2% to 51.6% in the AM peak hour and from 47.7% to 45.8% in the PM peak hour, while the predicted cumulative impact on the junction of Commercial Street and Fleur De Lis Street would by 0.2% from 2.5% to 2.3% in the AM peak hour and would remain at 0.5% in the PM peak hour. It is therefore considered that the magnitude of impact at the different junctions is likely to have a negligible effect and would not alter the conclusion presented in the December 2014 ES and March 2015 ES Addendum.

8.338 Overall, the conclusions set out within the March 2015 ES Addendum and the December 2014 ES remain valid.

Summary of the 2011 Consent

8.339 A Transport Assessment (TA) was produced (dated October 2010) and comprised of a quantitative assessment of the potential traffic and transport impacts arising from the 2011 Consented Scheme. The TA examined the impact of a mixed use development, which included office (Use B1), restaurant / retail units (Use A1/A3), additional public house space (Use A4), and 8 private residential apartments (later removed from the final scheme that was approved).

8.340 The scope of the report had been discussed and agreed in principle with the London Borough of Tower Hamlets (LBTH) and Transport for London (TfL).

8.341 The LBTH Public Transport Accessibility Level (PTAL) Assessment showed that the Site was located in an area with very good public transport accessibility. The Site had good pedestrian and cycle accessibility with good links provided between the Site, nearby Liverpool Street station, and the local bus stops.

8.342 A Framework Travel Plan and individual occupiers' bespoke travel plans was proposed, to manage the travel needs of employees and visitors with a view to further promoting public transport and other sustainable modes of travel to and from the Site.

8.343 No car parking spaces, except for one space for disabled badge holders were proposed for the development. On the basis that the Site had excellent public transport accessibility, employees and visitors were expected to use alternative means of travel to that of the car.

8.344 Cycle parking facilities for 142 cycles were initially proposed at the development. Final provision depended on users and lease agreements but would have been in accordance with LBTH and TfL's cycle parking standard.

8.345 Service vehicles to/from the Site were restricted to access to/from the north along Blossom Street and Fleur de Lis Street. Servicing and loading for the Site would have been managed by the operation of a Delivery and Servicing Plan. It was proposed to take place at three locations: (i) within the Site at Blossom Place; (ii) at a loading bay proposed on Blossom Street; and (iii) at an existing loading bay by the Site on Shoreditch High Street. The Site was designed to accommodate vehicles up to maximum 7.5 Ton Box Van and City of London refuse vehicles which could access/egress the Site in forward gear. The leasing agreements associated with the proposed office/retail developments would have imposed a servicing restriction based on a maximum size vehicle.

8.346 Vehicular traffic associated with the scheme was shown to be low and is considered to have an insignificant impact on the local highway network.

8.347 The high level of existing public transport services near the Site were expected to have adequate capacity to cater for the estimated increase in pedestrian movements as a result of the proposed development.

8.348 The subsequent amendments resulting in the final scheme (i.e. removal of the residential provision and reallocate additional floor space to office (Use B1) concluded that the changes were relatively low / insignificant, and not change the overall findings of the initial TA.

References

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- Ref. 8-7 LBTH, (2010); Local Development Framework - Core Strategy 2025 DPD.
- Ref. 8-8 LBTH, (2013); Managing Development Document, (MDD): Development Plan Document, (DPD).
- Ref. 8-9 LBTH (2006) Code of Construction Practice, 2006.
- Ref. 8-10 TfL, (2010); Transport Assessment Best Practice - Guidance document.
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- Ref. 8-13 Institute of Environmental Assessment (1993); Guidelines for the Environmental Assessment of Road Traffic
- Ref. 8-14 Greater London Authority, (2015); The London Plan: Spatial Proposed Development Strategy for Greater London (Consolidated with Alterations since 2011)
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