

7. Transportation and Access

Introduction

- 7.1 This chapter, which was prepared by Transport Planning Practice (TPP), supersedes and replaces Chapter 7 of the December 2018 ES. This replacement chapter presents an assessment of the likely transport and access effects of the Development. Information on traffic flows and routes during the Works has been provided by Gardiner & Theobald.
- 7.2 This chapter provides a description of the assessment methodology; a description of the relevant baseline conditions of the Site and surrounding area; and an assessment of the likely significant effects of the Development, that could arise during demolition, deconstruction, refurbishment and construction, and once the Development is completed and operational. Where appropriate, mitigation measures are identified to avoid, reduce or offset adverse effects and / or enhance likely beneficial effects. Taking account of the mitigation measures, the nature and significance of the likely residual effects are described.
- 7.3 This chapter refers to the Transport Assessment and Travel Plan submitted to support the December 2018 Planning Application.

Assessment Methodology and Significance Criteria

Assessment Methodology

Consultation

- 7.4 Consultation has taken place with Southwark Council (SC) Highways over the last three years by means of pre-application meetings.
- 7.5 A formal pre-application meeting with Transport for London (TfL) took place on 14 August 2018.
- 7.6 An EIA Scoping Report was submitted to SC in July 2018 and an EIA Scoping Opinion was received from SC on 4 October 2018 (refer to **Appendix 2.1** and **2.2**). Relevant comments raised within the EIA Scoping Opinion have been summarised in **Table 7.1** below, along with an indication of where within this ES Chapter each issue is addressed.

Table 7.1 Consultation Feedback

Consultee	Comment	Where in the Chapter this is addressed
Southwark Council	In respect of the changes which will result from the new areas of public realm to be created at ground level within the Site along with a potential new access to London Bridge Underground Station, a description should be provided of the reasonable alternatives for ground level pedestrian routes studied by the developer. The alternative route options considered should be noted and the main reasons for selecting the chosen option should be set out together with the reasons for other route options being discounted so that the transport effects can be properly weighed.	The alternatives for ground level pedestrian routes are considered in Chapter 4: Alternatives and Design Evolution. A description of the new public realm created at ground level is included in Chapter 5: The Development. An assessment of the effects on pedestrians of the Development is included within this Chapter.
Southwark Council	Any mitigation measures proposed for inclusion in the outline Travel Plan, including any contingency measures identified, should be properly assessed and any effects and their significance identified.	The Travel Plan is included in Appendix 7.2 and a summary of the measures have been set out within the mitigation section of this

Consultee	Comment	Where in the Chapter this is addressed
		ES chapter.
TfL	It is noted that TfL has stated that it would like to see details of alternative servicing arrangements that have been considered. The rationale for selecting the chosen option and the reasons for other arrangements being discounted should accordingly be provided.	The alternatives considered for servicing arrangements are discussed in Chapter 4: Alternatives and Design Evolution.

Establishing Baseline Conditions

- 7.7 The baseline conditions have been identified using a combination of site observations, desktop studies, traffic surveys and reviews of available information such as the 2011 Census data. In particular, information on the following transport modes has been obtained:
- Public transport services by review of service routes and frequencies;
 - Review of pedestrian routes from the Site to local public transport nodes (bus stops, London Bridge Underground and National Rail stations) undertaken during a site visit;
 - Undertaking of a Pedestrian Environment Review System (PERS) audit in order to assess the level of provision and quality of the local pedestrian environment;
 - Accident data for the most recent three-year period, from 2015 to 2018, for roads surrounding the Site;
 - Information on the 2011 travel to work modal split data for the local area;
 - Review of the London Borough of Southwark (LBS) and TfL car and cycle parking standards;
 - The most up-to-date Rolling Origin and Destination Survey (RODS) data has been obtained for the Jubilee Line and the Northern Line from TfL;
 - Review of the frequencies of the River taxi services from the London Bridge City Pier;
 - Automatic Traffic Count (ATC) surveys have been undertaken in 2018 on Borough roads in the vicinity of the Site i.e. White Hart Yard, Marshalsea Road and Southwark Street;
 - Traffic data has been obtained from TfL for roads forming part of the Transport for London Road Network (TLRN) for 2017 in the vicinity of the Site i.e. London Bridge, Borough High Street, Southwark Bridge Road, St. Thomas Street and Tooley Street; and
 - Review of the Department for Transport (DfT) website for current and historical traffic data has been undertaken for the period from 2000 - 2017 for the surrounding roads.

Assessment Area

- 7.8 The assessment area has been established based on the likely areas of influence on the various travel modes available and where these are likely to give rise to significant effects as follows:
- Travel by foot - the focus is on access to amenities and facilities within 10 - 15 minutes' walk;
 - Travel by cycle - the focus is on access to amenities and facilities within 10 - 15 minutes' cycle;
 - Travel by public transport - the focus is on access to stops within the range of travel by foot and those destinations which can be reached within 40 minutes on public transport; and
 - Traffic flows – the broad rules set out by the Institute of Environmental Management and Assessment (IEMA)¹ guidance have been followed to define the geographical extent of the assessment of traffic flows:

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

Assessment Scenarios

7.9 The following scenarios have been considered within the assessment:

- Existing Baseline 2018;
- Assessment (Future) Baseline 2026: This scenario is set out in **Table 7.14** and comprises the Existing Baseline 2018 + committed developments which are currently under construction and are expected to be completed by the Development opening year. These developments are listed below:
 - Tower Bridge Magistrates Court and Police Station (15/AP/3303);
 - 175-179 Long Lane (15/AP/4072);
 - 25-29 Harper Road (15/AP/3886);
 - Isis House, 67-69 Southwark Street;
 - 1 Bank End (15/AP/3066); and
 - Fielden House (Shard Place) (17/AP/4008).
- Assessment (Future) Baseline 2026 + Development; and
- Assessment (Future) Baseline 2026 + Development + committed developments: This scenario comprises the Assessment Baseline 2026 + Development + the remaining committed developments. The remaining committed developments are identified in **Chapter 14 Cumulative Effects**. It is noted that since the submission of the planning application, additional committed developments have been identified and these have been considered as part of the assessment of the cumulative effects (in the updated ES Cumulative Effects Chapter – (**Appendix B**)).'

Assessment of Likely Significant Transport and Access Effects

7.10 This section outlines the methodologies applied to identify and assess the range of potential transport and access effects that may result from the Development. The assessment has been undertaken in line with TfL's Transport Assessment Best Practice guidelines² and IEMA Guidelines.

The Works

7.11 An assessment of the potential effects of demolition, deconstruction, refurbishment and construction (referred to as the 'Works') traffic from the Development has been undertaken based upon professional judgement and experience of such analysis at other comparable schemes within London and Southwark. Detailed consideration of the demolition and construction activities for the Development is set out within **Chapter 6: Development Programme, Demolition, Deconstruction, Refurbishment and Construction**. For the purposes of providing a robust, worst case assessment of the Works, the peak construction period has been used, and traffic control measures that would be developed post planning secured through a Construction Logistics Plan (CLP) and Site Environmental Management Plan (SEMP) have not been included within the main assessment (pre-mitigation).

- 7.12 Based on the review of the Works programme, the most intensive period for construction vehicle activity is predicted to be during piling, substructure works. The peak figure from these periods has been used in the assessment of effects of Works traffic.

Completed and Operational Development

- 7.13 A detailed multi-modal trip generation for the Development is set out in the Transport Assessment (TA) and summarised later in Table 7.19 and Table 7.20.

Employee and visitors travel

- 7.14 The morning and evening peak hour trip generation assessment has been undertaken based on an agreed methodology with SC and TfL. For both the existing and proposed office space (B1 use) at the Site, the total person trips during the AM and PM peak hour have been established based on a first principles assessment taking into consideration the expected occupancy levels in terms of the number of employees, supplemented by the TRICS database. This assessment has shown that the Development morning peak would be expected to occur between 08:30 – 09:30 which is typical for employment uses in central London. The evening peak is predicted to occur between 17:00 – 18:00.
- 7.15 The mode distribution of the trips has been derived from the 2011 Census method of travel to work data with adjustments made to take account of the limited car parking provision around the Site and the lack of parking at the Development (other than two disabled bays). On the basis of the above, a net change in trips on all modes of transport has been calculated which forms the basis of the assessment of potential effects.
- 7.16 With regard to the proposed A1/A3 uses, the trips are expected to be pass-by or linked trips and would not generate additional movements on the transport infrastructure. This is with the exception of staff travel and servicing trips which are considered later in the chapter. Staff travel is expected to be arranged in shift work arriving and leaving outside of the peak hours. It is noted that some customers might be arriving/departing using a taxi and an assessment of the likely taxi movements for the A1/A3 uses has been undertaken.

Servicing vehicle generation

- 7.17 For the proposed office element of the Development, servicing vehicle generation has been established based on a servicing survey undertaken in July 2016 at an existing office development in Southwark; this methodology has been agreed with SC and TfL during pre-application discussions. The expected number of servicing trips to the A1/A3 uses has been calculated based on data contained within the TRICS database.

Significance Criteria

- 7.18 Guidance provided by the Institute of Environmental Management and Assessment (IEMA)¹ and Department for Transport (DfT)³ has been consulted in order to identify significance criteria applicable to the assessment of walking, cycling, public transport and vehicle trips associated with the Development.
- 7.19 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.

Characterisation of Effects

7.20 All effects have been characterised as being either:

- **Beneficial:** meaning that the changes produce positive benefits in terms of transportation and access (such as reduction of traffic, travel time or patronage, or provision of a new service, access or facility);
- **Insignificant:** meaning that their bearing is too small to measure meaningfully (e.g. less than 10% change); or
- **Adverse:** meaning that changes produce negative effects in terms of transportation and access (such as increase of traffic, travel time, patronage or loss of service or facility).

7.21 Effects have been further characterised as:

- **Minor:** slight, very short or highly localised effect (where the data is available/applicable, 10% to 30% change);
- **Moderate:** limited effect (by extent, duration or magnitude) which may be considered significant, (where the data is available/applicable, 30% to 60% change); or
- **Major:** considerable effect (by extent, duration or magnitude) of more than local significance or breach of recognised acceptability, legislation, policy or standards (where the data is available/applicable greater than 60% change).

7.22 The significance criteria apply to all assessments within this ES Chapter are summarised below in **Table 7.2:**

Table 7.2 Significance Criteria

	Effect	Insignificant	Minor	Moderate	Major
Highway Network	Change in traffic flow on highway network	Increase or decrease in flows of less than 10%	Increase or decrease in flows of 10-30%	Increase or decrease in flows of 30-60%	Increase or decrease in flows of more than 60%
Bus Network	Change in passenger numbers leading to a change in journey experience	Less than 10% change in passenger numbers leading to no change in journey experience	10%-30% change in passengers leading to a change in journey experience	30%-60% change in passenger numbers leading to a change in journey experience	More than 60% change in passenger numbers leading to a change in journey experience
Underground and Rail Network	Change in passenger numbers leading to a change in journey experience	Less than 10% change in passenger numbers leading to no change in journey experience	10%-30% change in passengers leading to a change in journey experience	30%-60% change in passenger numbers leading to a change in journey experience	More than 60% change in passenger numbers leading to a change in journey experience
Walk and Cycle Network: Severance	Change in perceived divisions within a community separated by a traffic route	Increase in traffic flows of less than 10%	Increase in traffic flows of 10-30%	Increase in traffic flows of 30-60%	Increase in traffic flows of more than 60%
Pedestrian Delay	A judgement based on the routes with two way traffic flow exceeding 1,400 vehicles per hour in context of their individual characteristics				

	Effect	Insignificant	Minor	Moderate	Major
Pedestrian Amenity	Change in perceived pleasantness of the journey/walking route	Change in total traffic or HGV flows < 100%	No change to pedestrian comfort level rating or a change that does not alter the description of the rating as per TfL's criteria.	Change in total traffic or HGV flows > 100%	A change in Pedestrian Comfort Level which alters the description of the rating criteria as per TfL's criteria.
Pedestrian Fear and Intimidation	Increase in traffic flows, HGV composition and narrow footways	Increases in traffic flow, HGV composition and narrow footways		As set out in Table 7.4.	
Accidents and Safety	A judgement based on change in collision numbers over a route under consideration				
Dust and Dirt on the road	A judgement taking into account baseline construction management processes				

Assessing Significance of Changes in Traffic Flows

Receptor Sensitivity

- 7.23 In order to help define the value and sensitivity of receptors, the following guidance has been obtained from the IEMA Guidelines as shown in Table 7.3.

Table 7.3 Guidelines for the Assessment of Receptor Value and Sensitivity

Receptor Type	Receptor Sensitivity	Sensitive Receptor
Receptors of greatest sensitivity to traffic flow: schools, colleges, playgrounds, accident clusters, retirement homes, roads without footways that are used by pedestrians.	High	Pedestrians and cyclists along White Hart Yard and King's Head Yard.
Traffic flow sensitive receptors: congested junctions/links, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, recreation facilities.	Medium	Guy's Hospital patients
Receptors with some sensitivity to traffic flow: places of worship, public open space, tourist attractions and residential areas with adequate footway provision.	Low	Future and existing surrounding residential occupants to the west, north and east of the Development including Bunch of Grapes Public House, 43 Borough High Street, Shard Place and 6 London Bridge Street.
		Future and existing surrounding residential occupants to the south of the Development including Nos. 51-55 Borough High Street, 22 Southwark Street.
		Residential students at Iris Brook House and Orchard Lisle House

- 7.24 It is noted that the Site is located in a busy central London setting in close proximity to roads that carry high traffic flows. The only receptors of high sensitivity are considered to be pedestrians and cyclists on White Hart Yard and King's Head Yard as these roads are shared between vehicles and pedestrians with limited footway provision.

Assessing Significance of Changes on Pedestrians, Cyclists and Public Transport Users

Pedestrian Severance

- 7.25 Pedestrian 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 Design Manual for Roads and Bridges (DMRB) Volume 11 Environmental Assessment, Section 3, Part 8⁴. This document suggests changes in traffic flow of 30%, 60% and 90% are considered equivalent to 'minor', 'moderate' and 'major' changes in severance respectively.

Pedestrian Delay

- 7.26 Increases in traffic flows can lead to increases in delay to pedestrians seeking to cross roads. IEMA guidance suggests a range of pedestrian crossing times of 10 seconds (lower threshold) to 40 seconds (higher threshold) which equate to a link with no crossing facilities and a two-way flow of approximately 1,400 vehicles in the peak periods. However, the guidance also recommends that assessments should be based on judgement rather than specific thresholds to determine whether or not there is significant pedestrian delay.

Pedestrian Amenity

- 7.27 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. The Guidelines suggest that the threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow is doubled. Significance of such an increase beyond that would be based on professional judgement. Additionally, the effect on pedestrian amenity has been assessed based on the changes in pedestrian comfort level on footways surrounding the Site with reference to the TfL's Pedestrian Comfort Level Guidance document (2010).⁵

Accidents and Safety

- 7.28 The significance of the change to accidents and safety likely to be introduced by the Development was assessed by means of professional judgement based on the projected changes to daily vehicle flows and Development trips.

Dust and Dirt on the Road

- 7.29 The significance of the change to dust and dirt likely to be introduced during the construction activities for the Development was assessed by means of professional judgement.

Pedestrian Footway Movement and Capacity

- 7.30 The significance of the change to pedestrian footway movement and capacity likely to be introduced by the Development was assessed by means of professional judgement.

Pedestrian Fear and Intimidation

- 7.31 Pedestrian fear and intimidation is caused by a number of factors, including a combination of volume of traffic, its Heavy Goods Vehicle (HGV) composition, its proximity to people and the lack of protection caused by such factors as narrow footway widths. The criteria for assessing fear and intimidation in the IEMA Guidelines are presented in **Table 7.4**. The significance is determined from the change of the classification of the degree of hazard for a particular road.

Table 7.4 IEMA Thresholds for Pedestrian Fear and Intimidation

Degree of Hazard	Average Traffic Flow over 18 Hour Day (vehicles/hour)	Total 18 Hour Goods Vehicle Flow	Average Speed over 18 Hour Day (miles/hour)
Extreme	1,800+	3,000+	20+
Great	1,200 – 1,800	2,000 – 3,000	15 – 20
Moderate	600 – 1,200	1,000 – 2,000	10 – 15

Public transport

- 7.32 The effects on the public transport users have been assessed based on the increase in trips in relation to the capacity of the services and the significance criteria.

Walking and cycling

- 7.33 In addition to the effects of traffic flows on pedestrians, the effects of the Development, including increase in walking and cycling trips and provision of pedestrian and cycle facilities, have also been assessed by means of professional judgement, using the significance criteria.

Limitations and Assumptions

- 7.34 The modal split of the trips undertaken by the existing and future staff have been derived from the 2011 Census Method of Travel to Work – Workday Population dataset for Southwark 002 Middle Layer Super Output Area, with adjustments made to reflect the limited car parking provision at the existing Site and the car-free nature of the Development (other than two disabled bays).
- 7.35 The Development lies within this area and therefore it is reasonable to assume that the travel characteristics of people travelling into this area would be representative of those which would be generated by the existing and the Development.
- 7.36 In order to determine the likely direction the employees would be travelling to and from the Development, the 2011 Census data: Special Workplace Statistics (SWS) has been used.

Baseline Conditions

- 7.37 In order to assess the potential effects of the Development, it is necessary to determine the environmental conditions, resources and sensitive receptors that currently exist on the Site and in the surrounding area.

Existing Land Uses

- 7.38 The Site comprises the offices of New City Court occupying the majority of ground level on the Site behind the buildings on St. Thomas Street and Borough High Street. The Site also includes the Georgian townhouses and Keats House which form most of the northern boundary of the Site fronting onto St. Thomas Street.
- 7.39 Vehicular and pedestrian access to the Site is currently from St. Thomas Street (A200) and King's Head Yard. King's Head Yard provides access to the Site's car parking/servicing area. Servicing to the existing buildings has also been observed to take place from St. Thomas Street.
- 7.40 There is currently no public open space or a route through the Site.

Pedestrian Network and Facilities

- 7.41 The Site is located in an area with an established network of footways and pedestrian facilities. Due to its central London location, numerous public transport services and amenities can be accessed on foot. Details of the existing pedestrian infrastructure on each of the roads surrounding the site are provided below.
- 7.42 The key pedestrian desire lines are expected to be the footways of St. Thomas Street and Borough High Street (see **Figure 1.2 Planning Application Boundary**) as they would provide access from the Site to the nearest facilities for public transport.

St. Thomas Street

- 7.43 St. Thomas Street provides footways on both sides of its carriageway. The width of the footways varies between 2m (western section of the road near the junction with Borough High Street) and 5m (in the vicinity of London Bridge Station and Weston Street).
- 7.44 A signalised pedestrian crossing facility is located on St. Thomas Street, near the junction with London Bridge Street and Bedale Street. The crossing is provided with tactile paving on the footways on both sides of the carriageway and zig-zag road markings.
- 7.45 Signalised pedestrian crossings are also located at the junction with Borough High Street and outside the entrance to London Bridge Underground Station. Both crossings are provided with tactile paving on the footways on both sides of the carriageway. The crossing outside the entrance to London Bridge Underground Station is provided with zig-zag road markings.
- 7.46 The footways of St. Thomas Street are well lit as they are provided with light columns at regular intervals.

Borough High Street

- 7.47 Borough High Street provides footways on both sides of the carriageway. The footways are generally wide and provide a minimum width of approximately 3m.
- 7.48 Signalised pedestrian crossings are located on each arm at the four-arm junction between Borough High Street, St. Thomas Street and Bedale Street. Signalised crossings are also provided at the junction between Borough High Street and Southwark Street, at the junction between Borough High Street and London Bridge Street and at the junction between Borough High Street and Duke Street Hill.
- 7.49 The footways of Borough High Street are well lit as they are provided with light columns at regular intervals.

King's Head Yard and White Hart Yard

- 7.50 King's Head Yard is accessible from the south-eastern side of Borough High Street and provides narrow footways (approximately 1.0-1.5m wide) on both sides of the carriageway. White Hart Yard is also accessible from the south-eastern side of Borough High Street and offers very limited footway provision. The road is very lightly trafficked and is effectively used as a shared surface with pedestrians utilising the whole width of the yard and having priority over vehicles.

Pedestrian Flows

- 7.51 Pedestrian counts have been undertaken in 2016 by Space Syntax to inform the baseline conditions at key locations surrounding the Site. These are summarised in **Table 7.5**.

Table 7.5 Existing baseline pedestrian flows (two-way, no. of people)

Link	AM Peak	Lunch-Time Peak	PM Peak
St Thomas Street north side	312	717	522
St Thomas Street south side	906	1,896	1,617
Borough High Street east side	2,562	3,357	3,444
Borough High Street west side	1,440	2,406	2,220
King's Head Yard	207	645	423
White Hart Yard	81	372	234

Pedestrian Comfort Level (PCL) Assessment

- 7.52 The pedestrian flows have been used to establish the pedestrian comfort level on the footways of St Thomas Street, Borough Street and King's Head Yard. This has been undertaken in line with TfL's Pedestrian Comfort Guidance (2010).
- 7.53 The Guidance outlines a benchmark for Pedestrian Comfort Level (PCL) for how footways should operate during peak hour pedestrian flows for different area types. The PCL ratings range from A to E with A indicating the highest footway capacity relative to pedestrian comfort. A rating of F indicates a location where the effective footway width is less than 1.5m i.e. below the recommended required width for a wheelchair use. **Figure 7.1** below shows how the ratings correspond to the different levels of comfort for an office/retail area type which is the most suitable area choice for footways in the vicinity of the site.
- 7.54 The footways around the Site vary in width due to the presence of street furniture etc and this has been taken into account with the assessment undertaken at various locations. These locations are illustrated in **Figure 7.2**.
- 7.55 The results of the PCL assessment for the existing situation and for the future baseline situation are set out in **Table 7.6**.

Table 7.6 PCL Assessment

Link Ref	Existing PCL		Future Assessment Baseline PCL (Without the Development)	
	Average	AM Peak	Average	AM Peak
1a (St Thomas Street)	B+	A-	B	A-
1b (St Thomas Street)	F	F	F	F
1c (St Thomas Street)	B+	A-	B	A-
2a (St Thomas Street)	F	F	F	F
2b (St Thomas Street)	B-	B+	B-	B+
3a (St Thomas Street)	F	F	F	F
3b (St Thomas Street)	B	B+	B-	B+

4a (Borough High Street)	B-	B-	C+	C+
4b (Borough High Street)	B-	C+	C	C
5a (Borough High Street)	B-	C+	C	C
5b (Borough High Street)	C	C-	D	D
5c (Borough High Street)	B-	B-	C+	C+
6 (King's Head Yard)	A+	A+	A+	A+
7 (King's Head Yard)	A+	A+	A+	A+

- 7.56 The assessment shows that the footways around the Site generally provide comfortable to acceptable level of pedestrian comfort. However, it is noted that on Borough High Street the pedestrian comfort is described as being at risk and becoming 'uncomfortable' in the future baseline situation. Additionally, on St Thomas Street, there are localised areas of the footway width being less than 1.5m. Accordingly, this results in localised pinch points providing areas that are uncomfortable but these are localised only with the majority of the footway providing acceptable level of comfort.

PERS Audit

- 7.57 A PERS audit has been undertaken of the existing pedestrian network surrounding the Site including area immediately south of London Bridge and around London Bridge Station.
- 7.58 It is noted that the local pedestrian environment would be undergoing changes as a result of the proposed Development's public realm and also TfL's proposals for St. Thomas Street. Therefore, the pedestrian environment in the vicinity of the Site by the time the Development is completed and operational would be different to the one currently in place. Notwithstanding this, the PERS audit was requested by TfL and SC during pre-application discussions. The audit has been undertaken by Transport Research Laboratory (TRL) and is included in Appendix A of the Transport Assessment.
- 7.59 Crossing points were also assessed and all were given a good or acceptable score with the exception of the diagonal crossing on Borough High Street.
- 7.60 The audit shows that at present, a number of links achieved a red rating which indicates poor level of provision. These include on the southern side of St. Thomas Street, on the southern side of Borough High Street outside of the Site, on White Hart Yard and on King's Head Yard. The links have scored based on several parameters with worst scoring parameters being poor maintenance, user conflict, colour contrast, tactile information and permeability. It is noted that this is the existing situation and the Development includes proposals which would improve the existing situation. The new entrance to the London Bridge Underground Station means that pedestrian conditions on St. Thomas Street and Borough High Street are expected to improve as pedestrians divert through the Site:
- In respect of St. Thomas Street, this would be subject to improvements as part of TfL's proposals and would be expected to provide good level of pedestrian provision once implemented.
 - In respect of King's Head Yard, this would become a largely car-free pedestrian route and would be adjacent to the new public square as part of the Development proposals significantly enhancing this link.

- With regard to White Hart Yard, the Development is not expected to add any additional pedestrians onto the yard and the pedestrian enhancements and new connection through the site seek to encourage pedestrians to divert from this link. Additionally, the audit assumed that pedestrians are limited to the limited footway provision on the yards whereas in reality, pedestrians are observed utilising the whole width with the yards operating as informal shared surfaces.

Cycle Network and Facilities

- 7.61 The Site is located in close proximity to established cycle routes which provide access within the Borough and the wider area (see Figure 3 in the TA for the local cycle network in the context of the Site). The available network for cyclists and cycle facilities in the vicinity of the Site include:
- Cycle Superhighway 7 (CS7); and
 - National Cycle Network Route 4.
- 7.62 Additionally, Weston Street and Bermondsey Street are located to the east of the Site and are identified by TfL on their cycle maps as routes “signed or marked for use by cyclists on a mixture of quiet or busier roads”. Tooley Street (north to the site) has been labelled in the same way.
- 7.63 Newcomen Street, Snowfields and Crosby Row are local roads located to the west of the Site which feature on the TfL cycle map as ‘quieter roads recommended by other cyclists’.
- 7.64 Cycle parking facilities are provided along St. Thomas Street in the form of Sheffield Stands. A cycle hire docking station is located on Tooley Street, approximately 400m (4-5 minute walk) to the north of the Site. The docking station has a maximum provision of 20 bikes.
- 7.65 Southwark Bridge Road is located to the west of the Site and is part of Cycle Superhighway 7. The superhighway extends by approximately 13.7km (an approximate 45-minute cycle) and connects the City, Southwark, Lambeth, Wandsworth and Merton. Tooley Street is part of the National Cycle Network Route 4, a long distance route between London and Fishguard via Reading, Bath, Bristol, Haverfordwest and St. Davids.

Cycle Flows

- 7.66 Cycle counts have been undertaken in 2016 by Space Syntax to inform the baseline conditions at key locations surrounding the site. These are summarised below in **Table 7.7**.

Table 7.7 Existing baseline cycle flows (two-way, no. of cyclists)

Link	AM Peak	PM Peak
Borough High Street between St Thomas Street and King's Head Yard	1,008	750
St Thomas Street	138	132
White Hart Yard	6	3
King's Head Yard	6	3
Southwark Bridge Road	369	273

Cycling Level of Service (CLOs)

- 7.67 A Cycling Level of Service (CLOs) assessment has recently been undertaken for the cycle routes near the Site as part of the planning application submission for Capital House (planning reference: 18/AP/0900) which is available from SC's planning portal. The assessment shows that the

existing routes between the Site and CS7 / CS3 are considered to be suitable for cyclists, indicating that the site has good connections to the wider cycle network and is therefore in a favourable location to encourage cycling.

Public Transport Accessibility Level (PTAL)

- 7.68 The TfL Planning Information Database⁶ identifies the Site as having a PTAL of 6b, ('excellent') the highest obtainable.

Bus Network and Services

- 7.69 The local area is served by several bus routes. London Bridge Bus Station is located within a 200m walking distance (2-3 minute walk) to the north of the Site and provides access to bus stops 'B', 'C' and 'D'. Bus stop 'B' provides access to routes 521 and N343. Bus stop 'C' provides access to routes 43 and 141. Bus stop 'D' provides access to routes 149, N21 and N343.
- 7.70 Bus stops 'S' and 'R' are located on Duke Street Hill within a 300m walking distance (3-4 minute walk) to the north of the Site. Both bus stops are served by routes 47, 343, 381, N381 and RV1. Bus stop R is also served by route N199.
- 7.71 Bus stops 'M' and 'Y' are located on Borough high Street within a 320m walking distance (3-4 minute walk) to the north of the Site. Bus stop 'M' is served by routes 17, 21, 35, 40, 43, 47, 48, 133, 141, 149, 344 and N21. Bus stop 'Y' is served by routes 17, 21, 35, 40, 47, 48, 133, N21, N133 and N199.
- 7.72 There are two bus stops located outside of The Hop Exchange on Southwark Street within a 250m walking distance (2-3 minute walk) to the west of the Site. These bus stops are served by routes 344, 381, N343, N381 and RV1.
- 7.73 Bus Stop 'Southwark Street' is located on Borough High Street within a 280m walking distance (2-3 minute walk) to the south-west of the Site. The bus stop provides access to routes 21, 35, 40, 133, 343, N21, N133, and N343. Bus stop 'G' is located on Borough High Street within a 400m walking distance (4-5 minute walk) to the south-west of the Site and is served by the same bus routes as bus stop 'Southwark Street'.
- 7.74 Bus stop 'BD' is located on Southwark Bridge Road within a 580m walking distance (5-7 minute walk) to the west of the Site. The bus stop is served by route 344.
- 7.75 **Table 7.8** presents the bus services which are accessible from the Site.

Table 7.8 Summary of Local Bus Services

Bus Route	Stop Location	Destination	Monday - Friday		Saturday	Sunday
			AM Peak	PM Peak		
48	Y	London Bridge	6	6	6	5
	M	Walthamstow Bus Station	6	6	6	5
343	S / Southwark Street	New Cross / Jerningham Road	7	7	8	6
	R / G	City Hall	8	8	8	6
21	Y / Southwark Street	Molesworth Street	9	9	8	5
	M / G	Newington Green	9	9	8	5

Bus Route	Stop Location	Destination	Monday - Friday		Saturday	Sunday
			AM Peak	PM Peak		
17	Y	London Bridge	7	7	6	4
	M	Archway Station	8	8	6	4
40	M / G	Duke's Place	8	8	6	4
	Y / Southwark Street	Dulwich Library	7	7	6	4
35	M / G	Shoreditch	6	6	6	4
	Y / Southwark Street	Clapham Junction Station / Falcon Road	6	6	6	4
381	S / The Hop Exchange	County Hall	6	6	6	5
	R / The Hop Exchange	Peckham Bus Station	6	6	6	5
344	M / The Hop Exchange	Appold Street	8	8	6	7
	BD	Clapham Junction Station	8	8	7	7
RV1	R / The Hop Exchange	Tower Gateway Station	4	3	3	3
	S / The Hop Exchange	Covent Garden / Catherine Street	4	3	3	3
521	B	London Bridge Station	20	20	-	-
	B	Waterloo Station / Mephram Street	21	23	-	-
141	C	London Bridge Station	8	8	8	5
	C / M	Tottenham Road	8	8	7	6
149	London Bridge Station	London Bridge Station	11	9	8	7
	A / M	Edmonton Green Bus Station	11	9	7	7
43	C	London Bridge Station	11	11	9	7
	C / M	Halliwick Park or Archway Station	11	11	7	6
47	S / M	Shoreditch	6	6	5	3
	R / Y	Catford Garage	5	5	5	3
133	M / G	Great Winchester Street	11	11	7	4
	Y / Southwark Street	Streatham Station	11	11	8	4
Total			257	253	182	138

7.76 **Table 7.8** shows that during the AM peak there are approximately 128 bus services per direction and 257 bus services in both directions. Based on an average bus operational capacity of 63

persons and a weekday AM Peak frequency of 128 buses in each direction, the planning bus capacity has been calculated as 8,064 passengers per direction per hour.

- 7.77 In the PM peak, the planning bus capacity is approximately 8,001 passengers per direction per hour based on there being approximately 127 buses per direction and thus 253 bus services in total.

Underground Services

- 7.78 Access to London Bridge Underground Station can be taken from St. Thomas Street, Borough High Street and Tooley Street. The station is served by the Jubilee Line, which provides services towards Stratford and Stanmore, and the Bank branch of the Northern Line, which provides services towards High Barnet, Mill Hill East, Edgware and Morden. **Table 7.9** shows the peak hour frequencies at London Bridge Underground Station.

Table 7.9 Services & Frequencies from London Bridge Underground Station

Service	Direction	Monday – Friday		Saturday	Sunday
		0800-0900	1700-1800		
Jubilee Line	Westbound	30	30	24	24
	Eastbound	30	30	24	24
Northern Line	Northbound	25	23	20	20
	Southbound	23	23	20	20

- 7.79 **Table 7.9** indicates that London Bridge Underground Station provides 30 Jubilee Line services and a minimum of 23 Northern Line services in both directions during the weekday AM and PM peak hours. Over Saturday and Sunday, the station provides 24 hourly Jubilee Line and 20 hourly Northern Line services in both directions throughout the day.
- 7.80 Planning capacity figures obtained from TfL indicate that each Jubilee Line train has a planning capacity of 960 passengers. With regard to the Northern Line, each train has a planning capacity of 800 passengers. A summary of the planning capacity expressed as the number of passengers per hour per direction (pphd) for the weekday AM and PM peak hour is set out in **Table 7.10**.

Table 7.10 Underground Planning Capacity Figures

Service	Direction	No. of Trains		Planning Capacity (pphd)	
		0800-0900	1700-1800	0800-0900	1700-1800
Jubilee Line	Westbound	30	30	28,800	28,800
	Eastbound	30	30	28,800	28,800
Northern Line	Northbound	25	23	20,000	18,400
	Southbound	23	23	18,400	18,400

National Rail Network and Services

- 7.81 London Bridge National Rail Station provides services operated by Southern, Southeastern Rail and Thameslink.

- 7.82 **Table 7.11** presents the peak hour frequencies of National Rail services departing from London Bridge National Rail Station. These include through trains heading north (Thameslink) or terminating / leaving London Charring Cross or Cannon Street as well as the services to the south, to destinations in Sussex, Kent and Surrey.

Table 7.5 Services & Frequencies from London Bridge National Rail Station

Destination	Monday – Friday		Saturday	Sunday
	0800-0900	1700-1800		
Bedford and northern destinations	11	13	6	4
Other London Terminating stations	53	29	29	15
Sussex, Kent and Surrey	57	71	21	9

River Taxi services

- 7.83 The London Bridge City Pier is located approximately within a 550m walking distance (5-7 minute walk) to the north-east of the Site. It is served by services RB1, RB1X, RB2 and RB6.
- 7.84 RB1 and RB1X provide services between Westminster and North Greenwich. RB1 operates daily whereas RB1X provides additional services on the weekend. RB2 operates daily and provides services between Battersea Power Station and London Bridge City. RB6 provides services between Blackfriars to Canary Wharf on weekday mornings and evenings only.
- 7.85 The river services during the AM, PM and weekend peak hours are summarised in **Table 7.12** below.

Table 7.12 River Taxi Services

Service	Destination	AM Peak	PM Peak	Saturday	Sunday
		0800–0900	1700-1800		
RB1	Westminster	3	1	2	2
	North Greenwich	2	3	2	2
RB1X	Westminster	-	-	2	2
	North Greenwich	-	-	2	2
RB2	Battersea Power Station	-	-	2	2
	London Bridge City	-	-	2	2
RB6	Blackfriars	2	3	-	-
	Canary Wharf	3	1	-	-

Highway Network

St. Thomas Street

- 7.86 St. Thomas Street is a TfL red route and is marked with double red lines on both sides of the carriageway which restrict stopping at all times. The road is approximately 8-9m wide near the junction with Borough High Street (at its western end) but narrows to approximately 5m to the east of the Shard.
- 7.87 The eastern section of the road only allows for one-way westbound traffic. The western section of the road allows for two-way traffic. The road allows for two-way traffic from the vicinity of the junction with Weston Street (approximately 80m to the west of the junction).
- 7.88 There are a number of parking facilities located on the western section of the road, near the Site's access and in the vicinity of the junction with Borough High Street. At this location, there are marked taxi and 'Pay and Display' bays located on the southern side of the carriageway. The 'Pay and Display' bays are in operation from Monday to Saturday between 08:00 and 18:30 and provide a maximum stay of four hours. There is also a loading bay located on the southern side of the carriageway which has a 'No stopping' restriction between 07:00 and 19:00 except between 10:00 and 16:00. During these times, loading is available for a maximum of 20 minutes. The northern side of the carriageway provides bays restricted to authorised vehicles only.

Borough High Street

- 7.89 Borough High Street provides a wide carriageway which ranges between 12m and 15m in width. The section of the road in the vicinity of the Site is a TfL red route and is marked with double red lines on both sides of the carriageway which restrict stopping at all times.
- 7.90 There are loading bays provided on Borough High Street, near the access junction with Talbot Yard and King's Head Yard / White Hart Yard. The loading bays have a 'No stopping' restriction between 07:00 and 19:00 except between 13:00 and 16:00 or between 10:00 and 13:00. During these times, loading is available for a maximum of 20 minutes and parking for disabled users is available for up to three hours.

King's Head Yard and White Hart Yard

- 7.91 King's Head Yard and White Hart Yard are marked with single yellow lines on both sides of the carriageway with restrictions from Monday to Saturday between 08:00 and 18:30. A disabled bay is provided at the south-eastern end of White Hart Yard and is available for use only by disabled badge holders. Both yards operate effectively as shared spaces with pedestrians utilising the full width of the roads given low traffic flows on the yards.

Baseline Traffic Flows

- 7.92 Traffic data has been obtained for roads and junctions surrounding the Site which are summarised in **Table 7.13** below.

Table 7.13 Baseline Traffic Flows

Link	AM Baseline Flows		PM Baseline Flows		Daily Flows	
	All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
London Bridge to the north of	1,294	276	1,108	236	25,388	4,663

Link	AM Baseline Flows		PM Baseline Flows		Daily Flows	
Tooley Street						
Borough High Street to the south of London Bridge	2,347	673	2,525	572	19,622	3,566
St. Thomas Street	258	7	213	4	6,104	567
White Hart Yard	4	1	2	1	26	5
Southwark Street to the east of Southwark Bridge Road	413	56	381	34	12,375	1,375
Southwark Street to the west of Southwark Bridge Road	890	87	741	72	14,825	1,447
Southwark Bridge Road	759	134	623	88	14,493	1,768
Marshalsea Road	763	160	755	107	14,311	2,044
Borough High Street to the north of Union Street	862	160	837	127	14,326	2,371
Long Lane	683	45	570	38	11,390	756
Tower Bridge Road to the south of Druid Lane	1,392	145	1,160	95	23,202	1,909
Tooley Street	537	116	460	100	8,949	1,932

Assessment Baseline Flows 2026

- 7.93 Given that the Development is not expected to be completed before 2026, the future baseline conditions which are expected to be in place at the year of opening are considered more applicable in terms of assessing of the Development effects. To this end, a future baseline scenario has been created incorporating those committed developments which are currently already under construction and would be expected to be operational by the Development opening year.
- 7.94 Based on the review of the transport reports for each of the committed developments under construction it has been found that they are reported to result in minor changes to traffic flows across the whole day with not changes in traffic during the AM and PM peak hours. The 2026 assessment baseline flows for the AM and PM peak hour as well as across the whole day are provided in **Table 7.14**.

Table 7.14 Assessment Baseline Traffic Flows

Link	AM Baseline Flows		PM Baseline Flows		Daily Flows	
	All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
London Bridge to the north of Tooley Street	1,294	276	1,108	236	25,427	4,664
Borough High Street to the south of London Bridge	2,347	673	2,525	572	19,661	3,567
St. Thomas Street	258	7	213	4	6,104	567
White Hart Yard	4	1	2	1	26	5
Southwark Street to the east of Southwark Bridge Road	413	56	381	34	12,429	1,375
Southwark Street to the west of	890	87	741	72	14,887	1,447

Link	AM Baseline Flows		PM Baseline Flows		Daily Flows	
Southwark Bridge Road						
Southwark Bridge Road	759	134	623	88	14,501	1,768
Marshalsea Road	763	160	755	107	14,319	2,044
Borough High Street to the north of Union Street	862	160	837	127	14,361	2,372
Long Lane	683	45	570	38	11,406	756
Tower Bridge Road to the south of Druid Lane	1,392	145	1,160	95	23,202	1,909
Tooley Street	537	116	460	100	8,965	1,934

Accident Data

- 7.95 Road traffic collision data has been provided by Transport for London (TfL) and provides an account of all incidents within the local area in the three year period between February 2015 and February 2018.
- 7.96 **Table 7.15** presents a summary of the collisions that occurred within the most recent three years.

Table 7.15 Road Collision Data for 2015 to 2018

Year	Collision severity			Total
	Slight	Serious	Fatal	
February 2015 – February 2016	12	1	0	13
February 2016 – February 2017	5	1	0	6
February 2017 – February 2018	17	2	0	19
Total	34	4	0	38

- 7.97 As shown in **Table 7.15**, there were a total of 38 collisions recorded over the three year period, the majority of which (90%) were classified as slight in severity. Of the casualties involved in the 38 collisions, 12 were pedestrians and 17 were cyclists with remainder being drivers or motorbike riders.
- 7.98 It is noted that no collisions were recorded on King's Head Yard and White Hart Yard.
- 7.99 The majority of collisions occurred at / near the junctions between Borough High Street and St. Thomas Street and between Borough High Street and Bedale Street. A total of 13 collisions took place at or near the junction of Borough High Street with St. Thomas Street all of which were slight. Of these collisions, three involved a pedestrian and five involved a cyclist.
- 7.100 Of the total number of collisions, 4 (10%) were serious and two of these occurred at the junction of Borough High Street with Southwark Street. The other two serious collisions took place on Borough High Street near its junction with Talbot Yard and near the junction of Union Street.
- 7.101 All of the collisions that occurred over the three-year period primarily occurred due to human error. "Failure to look properly", "reckless" behaviour and "poor manoeuvring" were among the main reasons for the collisions occurring. Only one collision was attributed to the conditions of the local highway network although this collision was also attributed to numerous human errors.
- 7.102 Overall, it can be concluded that the local area is relatively safe given the very few (4) serious injuries and no fatal collisions over the three year study period.

Assessment of Likely Significant Effects

The Works

- 7.103 Information related to the Works has been provided within **Chapter 6: Development Programme, Demolition, Deconstruction, Refurbishment and Construction** which includes an indicative construction programme, predicted construction traffic flows, vehicle routing and the proposed hours of working.

Vehicle Movements

- 7.104 The Works would generate short-term increases in vehicle movements on the highway in the vicinity of the Site. It should also be noted that these increases would not be constant throughout the construction period and consideration has only been given in the assessment to the highest peak frequency of vehicle movements as this gives a worst case assessment.
- 7.105 Based on the information provided within **Chapter 6: Development Programme, Demolition, Deconstruction, Refurbishment and Construction**, there is expected to be a maximum of 44 two-way Heavy Goods Vehicles (HGVs) movements a day during the most intense construction period (piling activities). Based on a ten-hour day, the peak hour two-way HGV traffic would be 4 movements (i.e. 2 in, 2 out). This represents a worst-case assessment as it looks at only the peak operational periods, at other times of construction traffic movements would be less.

Construction Vehicle Distribution

- 7.106 All construction vehicles would enter the Site via St. Thomas Street from the east. In order to depart, vehicles would travel in the westbound direction on St. Thomas Street and turn left onto Borough High Street which is a strategic route and enables connections with other major road links.

Impact of Construction Vehicles

- 7.107 The predicted increases in traffic flows during construction based on assessment baseline traffic are shown in **Tables 7.16, 7.17 and 7.18** for the AM peak, PM peak and 24 hours respectively.

Table 7.16 AM Peak Percentage on Local Roads Attributed to Construction Traffic

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	1,294	276	1,294	276	0.0%	0.0%
Borough High Street to the south of London Bridge	2,347	673	2,347	673	0.0%	0.0%
St. Thomas Street	258	7	262	11	1.7%	62.9%
White Hart Yard	4	1	4	1	0.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	413	56	414	57	0.1%	1.0%
Southwark Street to the west of Southwark Bridge Road	890	87	890	87	0.1%	1.3%

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Southwark Bridge Road	759	134	760	135	0.1%	0.8%
Marshalsea Road	763	160	764	161	0.1%	0.7%
Borough High Street to the north of Union Street	862	160	864	162	0.2%	1.0%
Long Lane	683	45	683	45	0.1%	1.2%
Tower Bridge Road	1,392	145	1,392	145	0.1%	0.8%
Tooley Street	537	116	537	116	0.0%	0.2%

Table 7.17 PM Peak Percentage on Local Roads Attributed to Construction Traffic

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	1,108	236	1,108	236	0.0%	0.0%
Borough High Street to the south of London Bridge	2,525	572	2,525	572	0.0%	0.0%
St. Thomas Street	213	4	217	8	2.1%	100.0%
White Hart Yard	2	1	2	1	0.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	381	34	382	35	0.1%	1.6%
Southwark Street to the west of Southwark Bridge Road	741	72	742	73	0.1%	1.5%
Southwark Bridge Road	623	88	624	89	0.2%	1.3%
Marshalsea Road	755	107	756	108	0.1%	1.0%
Borough High Street to the north of Union Street	837	127	839	129	0.2%	1.3%
Long Lane	570	38	571	39	0.1%	1.4%
Tower Bridge Road	1,160	95	1,161	96	0.1%	1.2%
Tooley Street	460	100	460	100	0.0%	0.0%

Table 7.18 Daily Percentage on Local Roads Attributed to Construction Traffic

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	25,427	4,664	25,429	4,666	0.0%	0.0%
Borough High Street to the south of London Bridge	19,661	3,567	19,661	3,567	0.0%	0.0%

Link	Assessment Baseline Flows		Assessment Baseline Flows + Construction Traffic		Percentage Increase	
St. Thomas Street	6,104	567	6,148	611	0.7%	7.8%
White Hart Yard	26	5	26	5	0.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	12,429	1,375	12,435	1,381	0.0%	0.4%
Southwark Street to the west of Southwark Bridge Road	14,887	1,447	14,898	1,458	0.1%	0.8%
Southwark Bridge Road	14,501	1,768	14,512	1,779	0.1%	0.6%
Marshalsea Road	14,319	2,044	14,330	2,055	0.1%	0.5%
Borough High Street to the north of Union Street	14,361	2,372	14,378	2,389	0.1%	0.7%
Long Lane	11,406	756	11,412	762	0.0%	0.7%
Tower Bridge Road	23,202	1,909	23,213	1,920	0.0%	0.6%
Tooley Street	8,965	1,934	8,965	1,934	0.0%	0.0%

- 7.108 From the above analysis, it can be seen that construction vehicle activity would have a negligible effect on the majority of the surrounding roads (i.e. resulting in an increase or reduction of less than 10%). The greatest changes in traffic would occur on St. Thomas Street which has existing low HGV flows in the AM and PM peak hour. The increase in HGVs would be up to 100% for St. Thomas Street in the PM peak. This equates to a major adverse effect, but this is only as a result of the low baseline HGV movements on this road. In real terms, there would only be an increase of 4 HGV movements (which is the equivalent of 2 HGVs) in the AM and PM peak hour which averages an additional 1 HGV vehicle every 15 minutes; this level of increase is not considered significant. It is also noted that St. Thomas Street has been closed to through traffic since 2012 as part of the London Bridge Station redevelopment project resulting in a lower amount of HGV traffic that would otherwise be expected to occur on this road. It is also noted that in respect of the overall traffic flows, the increase in vehicle movements would be less than 10% on all road links and therefore **insignificant**.
- 7.109 On the basis of the above, the overall effects of construction traffic on the road users on local highway network are assessed as being **insignificant** for all links but a **temporary adverse** effect of **major** significance as a result of HGV flows only on the road users on St. Thomas Street during the AM and PM peak hour.

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

- 7.110 Potential traffic and transportation related effects could arise causing temporary disruption to road users and pedestrians from vehicles (particularly HGVs) entering and leaving the Site. These include footway closure on the southern side of St. Thomas Street outside the Site with pedestrians being diverted onto the opposite side of the road.
- 7.111 Based on the proposed number of construction vehicles, the maximum addition of HGV movements in a single hour would be 4 HGVs on St Thomas Street i.e. 2 arrivals and 2 departures. Given the low number of construction vehicles associated with the Site, the effects on pedestrian movement would be **insignificant**.
- 7.112 Pedestrian capacity, severance, delay, amenity, fear and intimidation effects are considered to be **local** to immediately outside the Site, and **temporary adverse** effects of **moderate significance**

in the absence of mitigation, based on professional judgement and the traffic flow changes predicted.

- 7.113 It is noted that pedestrians on King's Head Yard and White Hart Yard are considered sensitive receptors to changes in HGV flows. However, construction vehicles would not enter the yards and therefore no further assessment is necessary.

Dust and Dirt on the Road

- 7.114 Another potential effect as a result of construction would be mud and dirt on road surfaces. This effect is considered to be **temporary adverse** effect of **minor significance** on pedestrians and cyclists in the absence of mitigation.

Cyclists

- 7.115 The existing cycle flow data set out within the baseline conditions in this Chapter shows that St Thomas Street and Borough High Street are well used by cyclists during the peak periods. However, cyclists already share road space with traffic in those locations. The addition of the development construction traffic onto those roads result in negligible increases in traffic and the roads are not sensitive to such a small increase in flows i.e. extra 4 movements on St Thomas Street and an extra 2 movements on Borough High Street.
- 7.116 Given the low number of construction vehicles associated with the Development (a maximum of 4 vehicle movements an hour), the effects on cyclists as a result of construction activities would be **insignificant**.
- 7.117 It is noted that cyclists on King's Head Yard and White Hart Yard are considered sensitive receptors to any changes in HGV flows. However, construction vehicles would not enter the yards and no further assessment is necessary.

Public Transport Users

- 7.118 During the Works there would be an increased number of workers in the local area who would use the public transport network. However, based on the proposed working hours which would be from 8am – 6pm, the majority of the construction workers would be travelling outside of the peak periods. Therefore, the significance of effects on the bus, rail and underground network users would be **insignificant**.

Completed and Operational Development

Land Uses within the Development

- 7.119 The proposals are to provide a total of 46,374 sqm Gross Internal Area (GIA) of B1 office within the Development. The majority of this space would be provided within the proposed Tower (44,906 sqm GIA) with 1,468 sqm GIA accommodated within Keats House and the Georgian Terraces fronting St. Thomas Street.
- 7.120 It is also proposed to provide 1,904 sqm GIA of flexible retail/restaurant Use Class (A1-A3) space, 719 sqm GIA of hub space (Class B1/D2) and an elevated public garden of 825 sqm GIA.
- 7.121 There would also be a 615 sqm GIA gym (Use Class D2) at basement level B1 of the Tower, open to both building users and the public.

Public Realm Improvements

- 7.122 The proposed public spaces include a public garden of 825 sqm GIA located on the 5th and 6th floors of the Tower. In addition, public realm is proposed on ground level outside the Tower and this is intended to be fully accessible and used by both the office workers and the wider general public. Hours of operation are intended to be extensive and the area could double up as a ‘classroom’ as part of an educational outreach programme. The area is split into five different sections (See Chapter 5: The Development):
- Main Courtyard – 730 sqm
 - New Yard – 140 sqm
 - St. Thomas Street Entrance – 250 sqm
 - East Courtyard – 160 sqm
 - East Passage – 70 sqm
- 7.123 A 719 sqm GIA hub provides a multi-level communal space linked via a fixed seat auditorium. Connected with the mid-high rise lift transfer, this provides quick and easy access for all office tenants. These levels also enjoy external terraces and balconies with a sheltered environment.
- 7.124 Additionally, as part of the planning application, it is proposed to open up the rear of the London Underground Limited (LUL) station building at ground level to provide a new exit directly onto the Site’s public realm and the enhanced connectivity it affords. TFL / LUL support the proposal and the Applicant is to enter into a developer agreement with London Underground Limited (LUL) to undertake the works.

Proposed Parking Provision

- 7.125 The Development would be car-free with the exception of two bays at basement level for the use of blue badge holders only.
- 7.126 Cycle parking at the Development would meet the provision requirements set out in the currently adopted London Plan, the Draft New London Plan, the currently adopted SC’s standards as well as SC’s emerging requirements in their Draft Local Plan. In total, the Development would provide 1,322 cycle spaces. Of these, 1,031 spaces would be long stay spaces located at basement level B1 of the Tower and within the pavement vaults underneath St. Thomas Street. 291 spaces would be for short-stay use (visitors and customers) of which 187 would be provided within the Tower with 104 located within the public realm at ground level.

Proposed Access and Servicing

- 7.127 Deliveries and servicing carried out by cars and LGVs would utilise White Hart Yard to access the vehicle lifts to the service yard (where three loading bays are proposed) on basement level B2. Two vehicle lifts have been provided, one for entering and the other for exiting vehicles.
- 7.128 Deliveries to the proposed office accommodation within Keats House and the Georgian Terrace are envisaged to stop on St. Thomas Street within the on-street loading bay or the pay & display bays if they are not being used for parking. Motorcycle couriers would also stop on St. Thomas Street to deliver / collect packages from the Development. It is also proposed that the on-street loading bay would be used by HGVs, given the existing access constraints on White Hart Yard and King’s Head Yard.
- 7.129 With regard to refuse, the strategy is that waste would be stored in 19 x 1,280l Eurobins at basement level with separate containers provided for the various waste streams

(general/recyclables). On-site management would transport the relevant waste stream to a ground level storage room via a bin lift on collection day. The storage room would be located at ground level fronting St. Thomas Street where an on-street loading bay is located allowing a refuse vehicle to stop within 10m of the waste storage room.

- 7.130 A Stage 1 Road Safety Audit (RSA) has been carried out for the proposed access and Servicing arrangements proposals. Comments and recommendations made by the Safety auditors have been reviewed and responded to. A copy of the RSA and the Designer's Response are provided within the Delivery, Servicing and Waste Management Plan.

Development Trips

- 7.131 **Table 7.19** provides the multi-modal trip generation for the Development for the weekday AM and PM peak hour with servicing vehicle generation shown in **Table 7.20**. Trip generation figures for the individual land uses along with the trip generation methodology are set out in greater detail within the Transport Assessment.

Table 7.19 Development Trips (Net Change)

Mode	AM Peak (08:30-09:30)			PM Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
Underground	298	18	316	30	270	300
Underground (having used train as main mode)	133	8	141	13	121	134
Train	512	30	542	51	464	515
Bus	108	6	114	11	98	109
Bicycle	59	4	63	6	53	59
On foot	53	4	57	5	49	54
Car	-5	0	-5	0	-5	-5
Taxi (Person)	2	0	2	0	2	2
Motorcycle	16	1	17	1	15	16
Passenger in a car	4	0	4	1	3	4
Other (River Taxi)	3	0	3	0	3	3
Total	1,183	71	1,254	118	1,073	1,191

Table 7.20 Servicing Trips – Net Change

Mode	AM Peak (08:30-09:30)			PM Peak (17:00-18:00)			Daily		
	In	Out	Total	In	Out	Total	In	Out	Total
Cars + LGVs	2	2	4	2	2	4	76	76	152
HGVs	0	0	0	0	0	0	20	20	40
Taxi Vehicles	2	2	4	3	3	6	28	28	56

Effect on Pedestrian Movement and Capacity

- 7.132 The total two-way pedestrian trips to and from the Development are calculated to be 1,032 and 981 in the AM and PM peak hours respectively. These include walking trips between the Development and transport access points such as to/from the local bus stops and

Underground/train station with the remainder being undertaken solely on foot. The breakdown of the pedestrian trips associated with the Development is set out below in Table 7.21:

Table 7.21 Breakdown of Development Walking Trips

Mode	AM Peak (08:30-09:30)			PM Peak (17:00-18:00)		
	In	Out	Total	In	Out	Total
Walking to/from Underground	298	18	316	30	270	300
Walking to/from Underground (having used train as main mode)	133	8	141	13	121	134
Walking to/from London Bridge Train Station *	379	22	401	38	343	381
Walking to from Buses	108	6	114	11	98	109
Walking to from Other (River Taxi)	3	0	3	0	3	3
Solely on Foot	53	4	57	5	49	54
Total	974	58	1,032	97	884	981

*Note: Trips to/from railway stations other than London Bridge excluded from walking trips as they would use the Underground to get to/from the area and are already accounted for in the table.

- 7.133 The walking trips would be dissipated across the existing network and the main pedestrian desire lines are anticipated to be to/from the London Bridge Underground Station and National Rail Mainline Station and to local bus stops on Borough High Street and St. Thomas Street. Nearly 45% of the walking trips are predicted to be between the Site and the underground station. The nearest entrance to London Bridge Underground Station is adjacent to the Site on Borough High Street and as such these trips would be contained within the immediate vicinity of the Development minimising impacts on the local highway network. Furthermore, as part of the Development, there are proposals to provide a new entrance to the Underground station directly from the Development's public square. With the new entrance in place, the Development walking trips associated with the Underground access would be contained within the Site's boundary and would have no impact on the pedestrian network.
- 7.134 It is noted that approximately 39% of walking trips would be between the Site and London Bridge National Rail station. The Development would have a pedestrian entrance directly off St. Thomas Street approximately 100m to the west of London Bridge Street which provides access to the station either via the retail arcade or the escalators adjacent to the Shard. The pedestrian provision between the Development's entrance and London Bridge station is of high quality with some recently improved sections especially in the vicinity of the Shard. The only walking trips that would be expected to be undertaken over a wider pedestrian network are those being made solely on foot which only account for approximately 6% of all walking trips. Pedestrian trips to and from the bus stops would be on the local pedestrian network.
- 7.135 As shown in Space Syntax's Pedestrian Forecast and Landscape Assessment the new routes proposed by the Development create more permeability, adding circulation choices and alternative routes, which helps to evenly disseminate movement at the busy Borough High Street and St. Thomas Street junction, and therefore takes pressure off Borough High Street and St. Thomas Street. For example the new route through the Site would reduce flows by 16% along the Borough High Street eastern footway compared with a do-nothing scenario. The additional permeability and the improved public realm of the Development results in a significant improvement of Pedestrian Comfort Levels (PCL) around the Site. All locations within the Development are comfortable and well above the minimum PCL recommended."

- 7.136 The existing and proposed infrastructure is therefore considered sufficient to meet the additional pedestrian and cyclists demand and bring benefits to the local area. Hence the Development would have a **permanent beneficial** effect of **moderate significance** on pedestrian movement and available pedestrian facility capacity in the local area.
- 7.137 It is noted that the Development would increase traffic flows on White Hart Yard which is considered to be a sensitive receptor as it is a road shared between vehicles and pedestrians with limited footway provision. It will be shown later in the chapter that the addition of the Development traffic would technically result in a major adverse effect on White Hart Yard due to very low baseline traffic flows on this road. It should be noted, however, that during the AM and PM peak hour, the flows are set to increase to 8 and 6 two-way movements respectively and this level of increase is considered insignificant. The resultant traffic flows would continue to be well within the 'low traffic volumes' threshold for when pedestrians treat a street as a space to be occupied and not a road based on advice provided within the Manual for Streets. Therefore, the effect of the Development on pedestrian movement and capacity on White Hart Yard could be classed as an **adverse** effect of **major significance**. However, due to the very low baseline traffic levels on the yard, in real terms, the effect on pedestrian movement and capacity has been assessed as an **adverse** effect of **moderate significance** on White Hart Yard before mitigation.

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

- 7.138 The pedestrian environment within the Site would be of high quality with the provision of fully accessible public realm, providing enhanced connectivity through new public routes and a public square. The public areas would be well maintained and would benefit from natural natural/passive surveillance provided by the office lobby and entrances to the retail/restaurant units. The Development would also contribute to the perception of pedestrian safety on Site by significantly enhancing the public realm.
- 7.139 The Development would enhance permeability by providing a pedestrian route through the Site linking King's Head Yard with St. Thomas Street. At present, no such connection is possible.
- 7.140 The proposed new connections and enhanced permeability are expected to alter pedestrian movement in the vicinity of the Site, this in turn affecting pedestrian comfort on the adjacent footways. **Table 7.22** shows how the pedestrian comfort levels are forecast to change as a result of the Development.

Table 7.22 PCL Assessment

Link Ref	Future Assessment Baseline PCL (Without the Development)		Future Assessment Baseline PCL (With the Development)	
	Average	AM Peak	Average	AM Peak
1a (St Thomas Street)	B	B	B	B+
1b (St Thomas Street)	F	F	F	F
1c (St Thomas Street)	B	B	B	A-
2a (St Thomas Street)	F	F	B-	B
2b (St Thomas Street)	B-	B-	B+	A+

3a (St Thomas Street)	F	F	B-	B+
3b (St Thomas Street)	B-	B-	B-	B+
4a (Borough High Street)	C+	C+	B	B
4b (Borough High Street)	C	C	B-	B-
5a (Borough High Street)	C	C	B	B-
5b (Borough High Street)	D	D	C	C
5c (Borough High Street)	C+	C+	B-	B-
6 (King's Head Yard)	A+	A+	A	A
7 (King's Head Yard)	A+	A+	A+	A+

7.141 The highlighted cells indicate where a significant change in pedestrian comfort is predicted as a result of the improved connections and the associated changes to pedestrian movement. This shows that many locations are predicted to operate in accordance with the recommended level of comfort as a result of the Development where otherwise they would be expected to operate with below the recommended level of comfort.

7.142 With the above in mind, the effects local to the Site would be:

- **permanent beneficial** effect of **moderate significance** on pedestrian severance given that the Development would open up the existing Site to pedestrians and potentially offer a new connection to the London Bridge Underground Station in future;
- **permanent beneficial** effect of **moderate significance** on pedestrian delay due to increased connectivity and permeability. This is with the exception of pedestrians on White Hart Yard where the effects are being assessed as **minor adverse** in respect of pedestrian delay;
- **permanent beneficial** effect of **minor significance** on pedestrian fear and intimidation due to provision of active frontages and improvements to and creation of public amenity spaces which is considered significant. The Development would allow for natural surveillance, provision of lighting and CCTV to provide security coverage within public and private areas; and
- **permanent beneficial** effect of **major significance** on pedestrian amenity due to public realm enhancements, provision of active frontages, seating, landscaping and improvements to open spaces and improvement to pedestrian comfort level as a result of the Development.

Effect on Cycle Network

7.143 As shown on **Table 7.19**, the Development is expected to generate 63 and 59 cycle trips in the AM and PM peak respectively. The proposed long-stay cycle parking at the Site would more than meet the operational demand. Additionally, cycle stands would be provided within the public realm for the use of the visitors/customers and the general public.

7.144 With the above in mind, the Development is expected to have an **insignificant** effect on cyclists on the local cycle network.

Effect on Bus Services

- 7.145 As shown on **Table 7.19**, the Development is predicted to generate 114 two-way bus trips during the AM peak and 109 two-way bus trips during the PM peak.
- 7.146 Based on an average bus operational capacity of 63 persons and a weekday AM and PM peak bus frequency of 128 buses in each direction, the planning bus capacity was calculated as 8,064 passengers per direction per hour. On this basis, the effect of the additional bus trips associated with the Development on the bus network is set out in **Table 7.23**.

Table 7.23 Bus Network Impact Assessment

Time and direction		Bus Trips	Bus network capacity (hr)	% of bus network capacity
AM Peak	In	108	8,064	1.34%
	Out	6	8,064	0.07%
PM Peak	In	11	8,001	0.14%
	Out	98	8,001	1.22%

- 7.147 **Table 7.23** shows that the greatest impact on the bus network as a result of the Development would be 1.34% which would occur as a result of the arrival trips in the AM peak and equates to approximately on average one additional person per bus. This level of increase in passengers is considered **insignificant** on the existing bus users.

Effect on Underground Services

Planning Capacity

- 7.148 As shown on **Table 7.19**, the Development is predicted to generate 316 and 300 two-way London Underground person trips during the AM and PM peak hour respectively. Additionally, some of the Development rail trips are expected to use the underground to get to London Bridge having used one of the other railway stations in London as their main mode. Based on the analysis of the 2011 Census "*Location of usual residence and place of work by method of travel to work*" it has been found that about 26% of rail trips would terminate at stations other than London Bridge and therefore, 26% of these rail trips have been added onto the number of Underground trips (141 and 134 in the AM and PM peak hour respectively). As a result, the total number of Underground trips is 457 and 434 two-way trips in the AM and PM peak hour respectively.
- 7.149 London Bridge Underground station is served by the Jubilee Line and the Bank branch of the Northern Line and thus the Underground trips would be split between the various services. The 2011 Census data: Special Workplace Statistics (SWS), which provides travel to work data, has been used to determine the direction employees would be travelling to and from and then which Underground services is most appropriate. The split of the main mode underground trips is set out in **Table 7.24**.

Table 7.24 Split of Underground Trips

Underground Line	Direction	Arrivals	Departures
Jubilee Line Westbound	From Bermondsey to London Bridge	22.7%	0%
	To Southwark from London Bridge	0%	22.7%
Jubilee Line Eastbound	From Southwark to London Bridge	20.3%	0%
	To Bermondsey from London Bridge	0%	20.3%

Underground Line	Direction	Arrivals	Departures
Northern Line Northbound	From Borough to London Bridge	16.1%	0%
	To Bank from London Bridge	0%	16.1%
Northern Line Southbound	From Bank to London Bridge	40.9%	0%
	To Borough from London Bridge	0%	40.9%

7.150 In respect of the rail trips that have been added on the underground as a secondary mode, the expected split is as follows based on the location of the railways stations relative to London Bridge and available underground connections:

- Jubilee Line to/from Southwark 44.4%; and
- Northern Line to/from Bank 55.6%.

Planning Capacity

7.151 Planning capacity figures obtained from TfL indicate that each Jubilee Line train has a planning capacity of 960 passengers. Based on the AM Peak frequency of 30 trains per hour per direction there is a planning capacity of 28,800 passenger per hour per direction (pphd) on the Jubilee Line. With regard to the Northern Line, each train has a planning capacity of 800 passengers and therefore capacity of 20,000 pphd in the northbound direction in the AM peak and 18,400 in the southbound direction. In the PM peak the capacity is 15,295 per each direction. The assessment of the Development underground trips on the Jubilee Line and the Northern Line planning capacity is set out in **Table 7.25** and **Table 7.26** respectively.

Table 7.25 Assessment of Development Jubilee Line trips on Jubilee Line Planning Capacity

Time	Direction	Jubilee Line person trips	Jubilee Line planning capacity (pphd)	% of Jubilee Line network capacity
AM Peak	Westbound To Southwark	75	28,800	0.26%
	Eastbound To Bermondsey	124	28,800	0.43%
PM Peak	Westbound To Southwark	115	28,800	0.40%
	Eastbound To Bermondsey	73	28,800	0.25%

7.152 The largest impact on the Jubilee Line network would be 0.43% of the planning capacity, due to AM peak arrivals from the west. The likely effect of the Development on the users of the Jubilee Line network is therefore assessed as **insignificant**.

Table 7.26 Assessment of Development Northern Line trips on Northern Line Planning Capacity

Time	Direction	Northern Line person trips	Northern Line planning capacity (pphd)	% of Northern Line network capacity
AM Peak	Northbound to Bank	60	20,000	0.30%
	Southbound to Borough	199	18,400	1.08%
PM Peak	Northbound to Bank	183	18,400	0.99%
	Southbound to Borough	63	18,400	0.34%

7.153 It can be seen that the largest impact on the Jubilee Line network would be 1.08% of the planning capacity, due to AM peak arrivals from the north. The likely effect of the Development on the users of the Northern Line network is therefore assessed as **insignificant**.

Demand Capacity

- 7.154 The passenger numbers on the Jubilee Line and the Northern Line have been obtained from TfL in order to establish the effects of the Development on the assessment baseline line flows. The assessment baseline flows have been created by applying predicted growth in passenger numbers to the existing baseline flows, supplied by TfL. This has been undertaken for the AM peak hour when the impact of the Development on the underground network is predicted to be greater than the PM peak.

Table 7.27 Development (Demand Capacity) Underground Person Trips AM Peak

Direction		Baseline Planning Capacity (pphd)	Assessment Baseline Demand Capacity	Ratio of Demand to Capacity	Development Trips	Assessment Baseline + Development	Ratio of Demand to Capacity	% Change
Jubilee Line	From Bermondsey	28,800	24,828	86.21%	68	24,896	86.4%	0.23%
	To Southwark	28,800	24,688	85.72%	7	24,695	85.7%	0.03%
	From Southwark	28,800	20,313	70.53%	120	20,433	70.9%	0.42%
	To Bermondsey	28,800	21,214	73.66%	4	21,218	73.7%	0.01%
Northern Line	From Borough	20,000	15,402	77.01%	48	15,450	77.3%	0.24%
	To Bank	20,000	18,094	90.47%	12	18,106	90.5%	0.06%
	From Bank	18,400	12,243	66.54%	196	12,439	67.6%	1.06%
	To Borough	18,400	6,353	34.53%	3	6,356	34.5%	0.01%

- 7.155 **Table 7.27** shows that in respect of the Jubilee Line services, the greatest increase of ratio to flow capacity is 0.42% on inbound services from the west. Regarding the Northern Line, the highest increase of ratio to flow capacity is 1.06 % for inbound services from the North. Therefore, the effect of the Development on the users of the Jubilee Line and the Northern Line network is assessed as **insignificant**.

Effect on Rail Services

- 7.156 As shown in Table 7.19, the Development is predicted to generate 542 two-way rail trips during the AM peak and 515 two-way rail trips during the PM peak. As mentioned previously, based on the SWS Census data, approximately 74% of rail trips would be expected to use London Bridge Station with 26% of trips using other railways stations within London and then using the underground. The number of total trips expected to use London Bridge Station is therefore calculated as 401 and 381 trips in the AM and PM peak respectively.
- 7.157 London Bridge Station is currently served by 121 trains arriving and departing in the AM Peak with 113 services arriving and departing in the PM peak hour including South-eastern, Southern and Thameslink services. Based on the information provided on each of the train operators' websites, the average capacity of each train has been taken as 980 passengers. This equates to a capacity of 118,588 passengers in each direction in the AM Peak and 115,200 passengers in the PM peak hour. Therefore, based on the Development rail trips, the impact of on the rail network has been calculated in **Table 7.28**.

Table 7.28 Rail Network Impact Assessment

Time and direction		Rail Trips	Rail network capacity (hr)	% of rail network capacity
AM Peak	In	379	118,588	0.32%
	Out	22	118,588	0.02%
PM Peak	In	38	115,200	0.03%
	Out	343	115,200	0.30%

- 7.158 The above shows that the largest impact on the current rail network is expected to be 0.32 % which would occur in the weekday AM peak hour as a result of the additional 379 inbound trips. This represents an **insignificant** effect on rail users.

Effect on Traffic Flows

- 7.159 The Development is predicted to generate 8 two-way vehicle trips during both the AM and PM peak hour and 258 two-way vehicle trips across the whole day. **Table 7.29, Table 7.30 and Table 7.31** show the predicted effect these trips would have on the local highway network during the AM, PM peak and across the whole day.

Table 7.29 Effect of Development Trips on Traffic Flows – AM Peak

Link	Assessment Baseline Flows		Assessment Baseline Flows + Development		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	1,294	276	1,296	276	0.1%	0.0%
Borough High Street to the south of London Bridge	2,347	673	2,349	673	0.1%	0.0%
St. Thomas Street	258	7	263	7	1.7%	0.0%
White Hart Yard	4	1	8	1	100.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	413	56	415	56	0.5%	0.0%
Southwark Street to the west of Southwark Bridge Road	890	87	892	87	0.2%	0.0%
Southwark Bridge Road	759	134	762	134	0.3%	0.0%
Marshalsea Road	763	160	766	160	0.3%	0.0%
Borough High Street to the north of Union Street	862	160	867	160	0.6%	0.0%
Long Lane	683	45	684	45	0.1%	0.0%
Tower Bridge Road to the south of Druid Lane	1,392	145	1,392	145	0.0%	0.0%
Tooley Street	537	116	537	116	0.0%	0.0%

Table 7.30 Effect of Development Trips on Traffic Flows – PM Peak

Link	Assessment Baseline Flows		Assessment Baseline Flows + Development		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	1,108	236	1,110	236	0.2%	0.0%
Borough High Street to the south of London Bridge	2,525	572	2,527	572	0.1%	0.0%
St. Thomas Street	213	4	220	4	3.1%	0.0%
White Hart Yard	2	1	6	1	200.0%	0.0%
Southwark Street to the east of Southwark Bridge Road	381	34	384	34	0.7%	0.0%
Southwark Street to the west of Southwark Bridge Road	741	72	744	72	0.3%	0.0%
Southwark Bridge Road	623	88	626	88	0.4%	0.0%
Marshalsea Road	755	107	758	107	0.3%	0.0%
Borough High Street to the north of Union Street	837	127	843	127	0.7%	0.0%
Long Lane	570	38	571	38	0.1%	0.0%
Tower Bridge Road to the south of Druid Lane	1,160	95	1,160	95	0.0%	0.0%
Tooley Street	460	100	460	100	0.0%	0.0%

Table 7.31 Effect of Development Trips on Traffic Flows – Daily

Link	Assessment Baseline Flows		Assessment Baseline Flows + Development		Percentage Increase	
	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
London Bridge to the north of Tooley Street	25,427	4,664	25,462	4,666	0.1%	0.0%
Borough High Street to the south of London Bridge	19,661	3,567	19,694	3,567	0.2%	0.0%
St. Thomas Street	6,104	567	6,214	608	1.8%	7.2%
White Hart Yard	26	5	178	5	584.6%	0.0%
Southwark Street to the east of Southwark Bridge Road	12,429	1,375	12,485	1,380	0.5%	0.4%
Southwark Street to the west of Southwark Bridge Road	14,887	1,447	14,948	1,457	0.4%	0.7%
Southwark Bridge Road	14,501	1,768	14,605	1,778	0.7%	0.6%
Marshalsea Road	14,319	2,044	14,423	2,054	0.7%	0.5%
Borough High Street to the north of Union Street	14,361	2,372	14,540	2,387	1.2%	0.6%
Long Lane	11,406	756	11,429	761	0.2%	0.7%
Tower Bridge Road to the south of Druid Lane	23,202	1,909	23,211	1,919	0.0%	0.5%

Link	Assessment Baseline Flows		Assessment Baseline Flows + Development		Percentage Increase	
Tooley Street	8,965	1,934	8,967	1,936	0.0%	0.1%
London Bridge to the north of Tooley Street	25,427	4,664	25,462	4,666	0.1%	0.0%

- 7.160 The above tables show that all of the road links would experience change in traffic flows of less than 10% with traffic flows predicted to increase by negligible amounts. This is with the exception of White Hart Yard where the increase in traffic would technically result in a major adverse effect. However, this is only as a result of very low baseline traffic flows on this road at present. The resultant traffic flows would remain within the environmental capacity thresholds for when pedestrians treat a street as a space to be occupied and not a road. With the above in mind, the Development traffic would have an **insignificant** effect on the road users in respect of all road links other than White Hart Yard where the effect is being assessed as being **adverse** and of **major significance** although this would result in an **insignificant** level of traffic flow.

Mitigation Measures and Likely Residual Effects

- 7.161 As part of the Applicant's commitment to ensure an appropriate development response, the Applicant and the design team have developed a number of measures within the Development proposals to ensure that the potential for adverse effects are avoided. These are discussed in the following paragraphs.

The Works

Construction Traffic Vehicular Movements

- 7.162 Consideration has been given to the likely numbers of construction vehicles and the routes to and from the Site. The construction vehicles would be managed in accordance with a CLP and a SEMP. These documents would be agreed with the SC prior to the commencement of works and are expected to be secured by planning conditions.
- 7.163 Other potential effects as a result of construction would be on road surfaces from mud and dirt, as well as temporary footway closure on the southern side of St. Thomas Street which would be actively managed in accordance with measures set out in the SEMP and the CLP. These measures would be expected to be incorporated as planning conditions / Section 106 measures and are therefore considered as mitigation measures rather than part of the scheme design, hence their consideration as such within this assessment. These measures are summarised as follows:
- restricted hours of work;
 - demolition and construction method statements;
 - Considerate Constructors Scheme;
 - management of deliveries and trade contractors;
 - management of noise, vibration and dust; and
 - management of construction waste.
- 7.164 With the implementation of a SEMP and CLP, the residual effects of the Works traffic are considered to be **insignificant** on the road users.

Dust and Dirt on the Road

- 7.165 In respect of dust and dirt mitigation, this would be undertaken as per details provided within SEMP which would be agreed with SC and TfL. This includes washing down vehicles before leaving the Site.

Pedestrian and Cyclist Movement and Amenity

- 7.166 Details on the management of footway closures and routing would be agreed with the SC through the SEMP post-planning and prior to commencement of the Development as part of discharging the expected planning conditions / Section 106 Obligations for the CLP and SEMP.
- 7.167 Given the predicted level of hourly volumes of construction vehicles associated with Works activities on the Site and the control measures within the CLP and SEMP that would be implemented, the residual effects of construction traffic on pedestrian movement and capacity would be **insignificant**.
- 7.168 Details on the management of road closures and routing would be agreed with SC through the CLP and SEMP post-planning. The residual effects of construction traffic on cyclists would be **insignificant**.

Public Transport (DLR, LUL, Bus Network)

- 7.169 During the construction period there would be an increased number of workers in the local area that would use the public transport network. As the majority of the construction workers would be travelling outside of the peak periods due to their normal working hours, the residual effect on public transport users would therefore be **insignificant**.

Completed and Operational Development

Pedestrian and Cyclist Facilities and Conditions

- 7.170 The pedestrian and cyclist environment within the Site would be enhanced by the Development and therefore no mitigation is required.
- 7.171 The Development would create an attractive pedestrian route using King's Head Yard which would be largely car-free. This in combination with the management of vehicle servicing trips through the Delivery, Servicing and Waste Management Plan (DSWMP) for the Development would to a degree mitigate the major adverse effect of increased traffic flow on the Yard. The residual effects on pedestrians and cyclists using White Hart Yard are therefore assessed as **permanent adverse** effects of **minor significance**. It is noted that the level of traffic expected on White Hart Yard would continue to be insignificant.
- 7.172 Outside of White Hart Yard, the residual effects are assessed as follows:
- Pedestrian movement and capacity – **beneficial** effect of **moderate significance**.
 - Pedestrian severance – **beneficial** effect of **moderate significance**.
 - Pedestrian delay – **beneficial** effect of **moderate significance**.
 - Pedestrian fear and intimidation – **beneficial** effect of **minor significance**.
 - Pedestrian amenity – **beneficial** effect of **major significance**.
 - Cyclists – **insignificant** effect.
- 7.173 As shown above, there would be **beneficial residual** effects of **major, moderate and minor significance** on pedestrians and cyclists within the study area.

Public Transport Network and Accessibility

- 7.174 The completed Development is predicted to have a negligible effect on bus, London Underground and rail service capacities. It is noted that TfL might require contributions towards improving bus service frequencies as part of the Development to accommodate the additional patronage predicted. This would be secured through a financial contribution to bus services, if required. As this would increase service frequencies or the number of services provided it would also benefit the wider public within the area.
- 7.175 The residual effect on bus, London Underground and rail services would be **insignificant**.

Traffic Flows and Highways

- 7.176 The increase in traffic on White Hart Yard compared to the very low baseline flows is within the threshold of environmental capacity of the road and no mitigation is required.
- 7.177 The effects on the wider highway network are considered to be **insignificant** and therefore no mitigation is required in respect of traffic flows on the surrounding highway network.
- 7.178 The completed Development would be subject to a Travel Plan, and a DSWMP. Each of these would be subject to planning conditions or Section 106 Obligations within any planning consent for discharge post-planning.
- Travel Plan – The Development would be subject to a Workplace Travel Plan which would be expected to be subject to planning condition or Section 106 Obligation for discharge post-planning, prior to first occupation. As the Development is car-free and has a central London location with excellent public transport accessibility, it is already sustainable and staff and visitors would already be influenced towards sustainable modes. Therefore, the proposed measures would be focused on provision of information to staff to make them aware of all travel options available to them to encourage employees to move up within the sustainable transport hierarchy (e.g. from public transport to walking or cycling where practical). Other measures would include provision of high quality cycle parking, lockers and shower facilities which form part of the design of the Development, to make cycling a viable alternative as a transport mode. With the above in mind, it is considered that no other measures would be necessary as part of the Travel Plan as staff would be expected to select sustainable and active modes for travel to and from the Development.
 - DSWMP – this would manage the arrival and departure of delivery and servicing vehicles and their activities when on-site.
- 7.179 The residual effect on traffic flows and highway capacity is **insignificant** except for White Hart Yard where there would be an **adverse** effect of **minor significance**.
- 7.180 **Table 7.32** summarises the likely significant effects, mitigation measures and likely residual effects identified within this Chapter.

Table 7.32: Summary of Likely Significant Effects, Mitigation Measures and Likely Residual Effects

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
The Works			
Effects of traffic flows from construction vehicle movements upon the local highway network users.	Adverse effect of major significance on St. Thomas Street (HGVs only), insignificant on all other links.	Site Environmental Management Plan (SEMP) and Construction Logistics Plan (CLP) prior to commencement	Insignificant
Effects of construction activities on pedestrians in terms of movement and capacity, severance, delay, fear and intimidation, amenity.	Adverse effect of moderate significance to Insignificant	Management of walkways, any temporary closures and routing would be agreed with the SC through the CLP and SEMP post-planning and prior to commencement.	Insignificant
Dust and dirt	Insignificant	Dust and dirt to be prevented and managed as set out in SEMP.	Insignificant
Effects of construction on cyclists.	Insignificant	Management of road closures and routing would be agreed with the SC through the CLP and SEMP post-planning and prior to commencement.	Insignificant
Effects of increased number of public transport trips as a result of construction workers' travel on public transport users.	Insignificant	None required	Insignificant
Completed and Operational Development			
Effects of the Development on pedestrians in respect of pedestrian movement and capacity.	Beneficial effect of moderate significance. adverse effect of moderate significance on White Hart Yard only.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard. Delivery, Servicing and Waste Management Plan (DSWMP) minimising servicing vehicles on White Hart Yard during peak periods.	beneficial effect of moderate significance. adverse effect of minor significance on White Hart Yard.
Effects of the Development on pedestrian severance.	Beneficial effect of moderate significance. Insignificant on White Hart Yard	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard	Beneficial effect of moderate significance. Insignificant on White Hart Yard

Issue	Likely Significant Effect	Mitigation Measures	Likely Residual Effect
		from White Hart Yard.	
Effects of the Development on pedestrian delay.	Beneficial effect of moderate significance. Adverse effect of minor significance on White Hart Yard.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard. DSWMP minimising servicing vehicles on White Hart Yard during peak periods.	Beneficial effect of moderate significance. adverse effect of minor significance on White Hart Yard.
Effects of the Development on pedestrian fear and intimidation.	Beneficial effect of minor significance. Insignificant on White Hart Yard.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard.	Beneficial effect of minor significance. Insignificant on White Hart Yard
Effects of the Development on pedestrian amenity.	Beneficial effect of major significance. Insignificant on White Hart Yard.	New pedestrian connection through the Site and public realm enhancements to encourage diversion of pedestrian movements onto King's Head Yard from White Hart Yard.	Beneficial effect of major significance. Insignificant on White Hart Yard.
Effects of the Development cycle trips on cyclists using the local cycle network	Insignificant	None required	Insignificant
Effects of the Development bus services on bus users.	Insignificant	None required	Insignificant
Effects of the Development underground trips on Underground passengers.	Insignificant	None required	Insignificant
Effects of the Development Rail trips on train passengers.	Insignificant	None required	Insignificant
Effects of the Development Traffic Flows on road users on the local highway network.	Adverse effect of major significance on White Hart Yard. Insignificant on all other links.	DSWMP minimising servicing vehicles on White Hart Yard during peak periods.	Adverse effect of minor significance on White Hart Yard. Insignificant on all other links.

References

- 1 Institute of Environmental Management and Assessment (1993); Guideline for the Environmental Assessment of Road Traffic
- 2 <https://tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guidance>
- 3 Department for Transport (2007): Guidance on Transport Assessment.
- 4 Department for Transport (1993); Design Manual for Roads and Bridges – Volume 11, Section 3, Part 8: Pedestrians, Cyclists, Equestrians and Community Effects.
- 5 Transport for London (2010): Pedestrian Comfort Guidance for London.
- 6 <https://tfl.gov.uk/info-for/urban-planning-and-construction>