

# **Chapter 7: Traffic and Transport**

Traffic and Transport	
<b>AUTHOR</b>	Velocity Transport Planning
<b>SUPPORTING APPENDIX</b>	Whilst this chapter is an independent study, it is based upon and should be read in conjunction with the findings of the Transport Assessment (TA) produced by Velocity Transport Planning.
<b>KEY CONSIDERATIONS</b>	<p>This chapter of the Environmental Statement (ES) reports the likely significant effects of the Proposed Development on the surrounding transport networks. This chapter describes how the Proposed Development will affect existing and future patterns of travel. The effects are assessed during Demolition and Construction of the Proposed Development, and once the Proposed Development is completed and in full operation.</p> <p>The assessment has been undertaken in accordance with discussions with Transport for London (TfL) and the London Borough of Tower Hamlets (LBTH) in respect of the TA. The assessment presented within this chapter should be considered in context of the TA, which provides a comprehensive assessment of the traffic and transport effects.</p> <p>The assessment considers the potential for the Proposed Development to affect: Severance, Delay (bus and driver delay), Pedestrian and Cyclist Delay, Amenity, Fear and Intimidation, and Accidents and Safety in accordance with the Institute of Environmental Management and Assessment (IEMA) Guidelines for the Environmental Assessment of Road Traffic (1993).</p> <p>Where appropriate it also identifies proposed mitigation measures to prevent, minimise or control any negative effects arising from the Proposed Development during the Construction Phase and Operational Phase and the subsequent anticipated residual effects.</p>
<b>CONSULTATION</b>	<p>An EIA Scoping Report was prepared and submitted to the LBTH in August 2021, requesting a formal EIA Scoping Opinion on the scope of the EIA. A copy of the EIA Scoping Report is provided in <b>ES Volume 3, Appendix EIA Methodology: Annex 1</b>. The Scoping Opinion received from the LBTH is presented within <b>ES Volume 3, Appendix: EIA Methodology: Annex 2</b>. This chapter and associated transport related deliverables for this planning application adhere to the relevant sections of the Scoping Opinion.</p> <p>The Proposed Development is the subject of a planning application referable to the Mayor of London and pre-application discussions were undertaken in September-October 2020 with relevant officers of LBTH and TfL to agree the scope of the TA and supporting documents. LBTH requested / or confirmed the following items to be addressed in the assessments:</p> <ul style="list-style-type: none"> <li>• TA to be produced in line with TfL's TA guidance;</li> <li>• Trip generation methodology based on combination of TRICS survey sites and mode splits adjusted in line with the characteristics of the Proposed Development and include an assessment of delivery and servicing trips;</li> <li>• Manual assignment of public transport trips to each sub-mode (i.e. rail, London Underground, London Overground, Docklands Light Railways, bus, Elizabeth Line);</li> <li>• Active Travel Zone assessment;</li> <li>• A Car Parking Management Plan</li> <li>• A Framework Travel Plan; and</li> <li>• A Delivery and Servicing Plan.</li> </ul>

## ASSESSMENT METHODOLOGY

### Background

- 7.1 The data and analysis discussed in this chapter utilises the TA which has been submitted alongside the planning application
- 7.2 A summary of the proposed mitigation measures is included in this ES chapter. However, the detailed mitigation measures are presented in the **ES Volume 1, Chapter 17: Mitigation and Monitoring**.
- 7.3 This chapter has been prepared in full consideration of IEMA Guidelines<sup>1</sup>, and current national, regional, and local policies, as outlined in the TA.

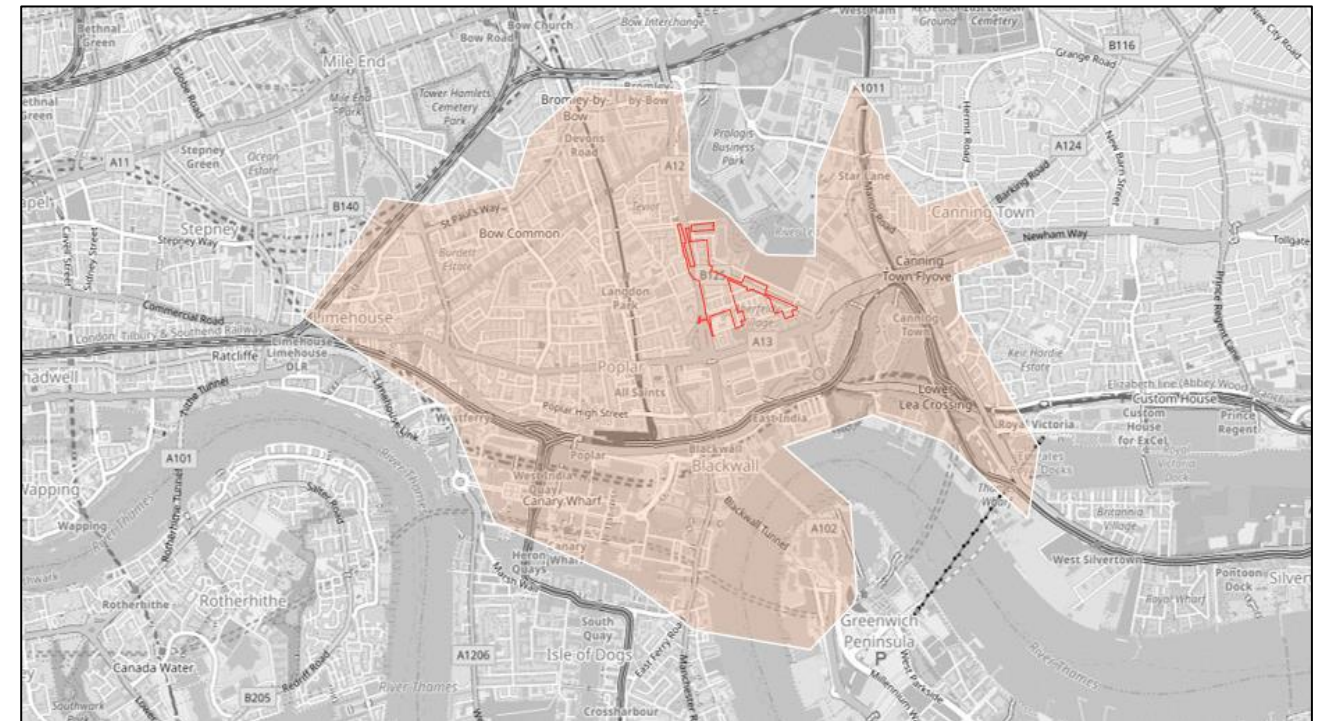
### Defining the Baseline

#### Study Area

- 7.4 In accordance with the IEMA Guidelines, the 'study area' has been defined by identifying any link or location where it is considered that significant highways or transport related effects may occur as a result of the

Proposed Development. To establish how the proposals would affect the highway links in the area, the area has been modelled using the TfL London Highway Assignment Model (LoHAM). The modelled study area is shown shaded in **Figure 7.1**.

**Figure 7.1 Traffic and Transport EIA Study Area**



- 7.5 During the assessment period between March 2020 and June 2021, travel had been significantly limited by restrictions that were implemented as part of the Government's response to the COVID-19 pandemic. Therefore, transport movements were not representative of baseline conditions and consequently no vehicle traffic surveys have been undertaken to inform this assessment. Instead, the baseline conditions have been collected and extracted from alternative sources as set out below.

### Existing Baseline Conditions

- 7.6 The baseline conditions have been characterised by means of desktop research, Geographic Information System analysis, site visits, and survey data undertaken for nearby sites. In particular:
  - The transport networks have been assessed based on a scope that was discussed and agreed with LBTH and TfL during the pre-application stage;
  - Traffic flow data for the local and strategic highway network has been largely based on TfL's LoHAM, as agreed at pre-application stage;
  - The use of trip generation data extracted from the TA submitted for the 2012 Outline Planning Permission (2012 OPP) (Ref: PA/11/02716) was agreed with LBTH and TfL during pre-application consultation;
  - An evaluation of the existing conditions for pedestrians and cyclists along the key journeys identified and agreed with LBTH and TfL during the pre-application stage is provided within the Active Travel Zone chapter of the TA;
  - Pedestrian survey data for the Lochnagar Street, Abbott Road and Dee Street subways has been obtained using pedestrian and cycle count surveys undertaken in July 2021;
  - A series of site visits undertaken in September 2020, October 2020, February 2021, and July 2021;

<sup>1</sup> IEMA, Guidelines for the Environmental Assessment of Road Traffic (1993)

- A Public Transport Accessibility Level (PTAL) assessment of the Site was undertaken using TfL’s Web-based Connectivity Assessment Toolkit (WebCAT)<sup>2</sup> as well as a manual assessment;
- The level of public transport accessibility surrounding the Site has been analysed within Chapter 5 of the TA, particularly the London Underground, Docklands Light Railway (DLR), rail and bus networks including timetable information;
- Forecast travel mode share data has been obtained from the TRICS database and is contained within the TA;
- Accident data for the local road network over a three year period has been analysed within the Active Travel Zone chapter of the TA; and
- An evaluation of the capacity of public transport network for buses, London Underground, London Overground and DLR services has been undertaken using data provided from TfL’s Rail Plan strategic model as well as publicly available public transport service frequency data.

### Future Baseline

**7.7** The year of opening for the completed Proposed Development is expected to be 2033. During scoping discussions with LBTH and TfL Spatial Planning, it was agreed that a Future Baseline scenario would be created using TfL’s LoHAM, which has a future modelling year of 2031. As the A12 is modelled to be at capacity in this year and would therefore continue to operate at capacity in 2033, it was agreed that this strategic modelling output would constitute an acceptable 2033 proxy for the Future Baseline Scenario. This has also been used in the air quality (**ES Volume 1, Chapter 8: Air Quality**) and noise (**ES Volume 1, Chapter 10: Noise and Vibration**) assessments.

**7.8** Changes in use of transport infrastructure have been considered in the future baseline, including the following planned improvements:

- The Silvertown Tunnel is due to open in 2025 which will make a significant change to the strategic road network resulting in traffic flow changes on the A12 and A13;
- Opening of the Elizabeth Line in late 2022, providing additional services;
- 2023 DLR rolling stock upgrades adding more capacity to the DLR and higher frequency trains;
- Introduction of an extension of bus route 488 to include Abbott Road; and
- Provision of new pedestrian and cycle bridges over the River Lea.

**7.9** In addition to the introduction of the Silvertown Tunnel and other infrastructure changes, significant residential and commercial development is proposed within the Site’s surrounding area (on the land between the A12, A13 and River Lea). Combined, the committed developments will provide over 4,200 new dwellings.

**7.10** To account for traffic growth associated with new development, traffic growth extracted from the TfL’s LoHAM has been applied to the baseline network traffic in order to create a Future Baseline for 2033 where the Proposed Development would not come forward. This approach has been agreed with LBTH and TfL Spatial Planning.

### Assessment Scenarios

**7.11** The assessment scenarios are consistent with those in the TA, and as set out in the EIA Scoping Report which include:

- **Future Baseline Scenario:** Future Baseline plus cumulative schemes (2033) – This uses traffic flow baseline data obtained from strategic LoHAM modelling, adding Leven Road and Lochnagar Street to the network, plus any changes which are committed to take place to existing conditions by the future design year(s), without the Proposed Development but with all cumulative schemes;
- **Construction Phase Scenario:** Future Baseline plus Construction Traffic (2026) – this includes the Future Baseline Scenario data plus the construction traffic movements associated with the construction of the Proposed Development during the construction peak; and

- **Operational Scenario:** Future Baseline plus the Proposed Development and cumulative schemes (2033) – this includes the Future Baseline Scenario data plus the Proposed Development in the future design year.

**7.12** The cumulative traffic effects i.e. the traffic levels as a result of the proposed scheme in combination with other nearby developments (along with natural traffic growth) have been assessed in the TA as part of the highways and public transport impact assessments.

**7.13** A list of local cumulative schemes relevant to the assessment of cumulative capacity effects has been prepared and is included in the TA. These cumulative schemes were chosen as they are expected to use the same local highway network links and accesses to the strategic road network (A12 and A13) as the Proposed Development. The list of cumulative schemes in **Table 7.1** was agreed with LBTH and is included in the Scoping Opinion submitted to The Aberfeldy New Village LLP (‘the Applicant’) by LBTH.

**7.14** The cumulative effects have been considered within the strategic traffic modelling undertaken using TfL’s LoHAM, which contain traffic flows resulting from cumulative development in the vicinity of the scheme as well as major infrastructure changes (e.g. Silvertown Tunnel). The flows also contain traffic generated by development outside the immediate area, as the LoHAM model considers strategic traffic movements.

**7.15** Traffic flows from cumulative developments (along with natural traffic growth) are included within the future baseline traffic data upon which the operational assessment has been based. Therefore, cumulative effects are considered inherently as part of the operational assessment.

**7.16** As LoHAM does not include specific construction flows, this ES contains a separate cumulative assessment for the peak Construction and Demolition scenario; using construction traffic flows generated by the cumulative development sites included in **Table 7.1** and the Proposed Development.

**Table 7.1 Summary of Cumulative Schemes**

Site	Residential Dwellings	Non-Residential Development	Parking
Ailsa Wharf (Ref PA/16/02692)	785	• 2,954 m <sup>2</sup> commercial (A1/A3/B1/D2)	• 210 spaces • 0.27 per dwelling
Islay Wharf (Ref PA/19/01760)	133	• 351 m <sup>2</sup> commercial (A1/A2/B1/D1/D2)	• 3 spaces • 0.02 per dwelling
Former Poplar Tram Depot (Ref PA/19/02148)	530	• 2,644 m <sup>2</sup> workspace (B1) • 508 m <sup>2</sup> flexible retail (A1-A4)	• 34 spaces • 0.1 spaces per dwelling
Leven Road Gasworks (Ref PA/18/02803)	2800	• 2,700 m <sup>2</sup> (B1) • 500 m <sup>2</sup> community (D1 & D2) • 2,000 m <sup>2</sup> leisure (D1 & D2) • 2,500 m <sup>2</sup> retail (A1-A4) • Secondary school (D1)	• 550 spaces • 0.20 spaces per dwelling

### Impact Assessment Methodology

**7.17** The ‘Guidelines for the Environmental Assessment of Road Traffic (GEART), IEMA, 1993’ set out several potential environmental effects relating to highways and transport considerations which potentially require assessment.

**7.18** At the EIA scoping stage, the potential for likely effects was considered; and scoped in and scoped out items are summarised within **Table 7.2**

**Table 7.2 Summary of Scoped In / Scoped Out Assessments**

Effect	Receptor	Demolition and Construction of the Proposed Development	Completed and Operational Development
Severance	Pedestrians, cyclists	Scoped In	Scoped In
Pedestrian and Cyclist Delay	Pedestrians, cyclists	Scoped In	Scoped In

<sup>2</sup> TfL (2010); *Measuring Public Transport Accessibility Levels*

Vehicle and Bus Delay	Car drivers and passengers, bus passengers	Scoped In	Scoped In
Rail Delay	Rail passengers	Scoped Out	Scoped Out
Rail and Bus capacity	Rail and bus passengers	Scoped In	Scoped In
Amenity, Fear and Intimidation	Pedestrians, cyclists	Scoped In	Scoped In
Accidents and Safety	All modes	Scoped In	Scoped In
Hazardous Loads	All modes	Scoped Out	Scoped Out

- 7.19** During scoping discussions and as part of their EIA Scoping Opinion, LBTH have requested that Rail Delay be included as part of the EIA in the Completed Development scenario. However, this was not deemed appropriate as there are no assessment criteria for rail delay in the IEMA guidance or Design Manual for Roads and Bridges (DMRB) guidance for EIA, and given that the Proposed Development will not make any changes to the rail network nor would the proposals have the ability to delay London Underground, DLR or mainline rail services, there is no way for the Proposed Development to affect rail delay.
- 7.20** Furthermore the TA shows that the trips generated by the Completed Development onto London Underground, DLR and mainline rail services would not materially impact on the gate line capacity for the nearest station (Canning Town) nor would it materially impact on the capacity of the busiest rail lines (DLR and Jubilee Line services). Therefore, there is no realistic scenario where the Completed Development would have a significant effect on rail delay.
- 7.21** The GEART document recommends the following rules-of-thumb are applied to determine the scale and extent of the assessment:
- Rule 1: Include highways links where traffic flows will increase by more than 30% (or the number of Heavy Goods Vehicles (HGVs) will increase by more than 30%); and,
  - Rule 2: Include any other sensitive areas where traffic flows have increased by 10% or more.
- 7.22** The thresholds provide a level for development flows to be assessed against to establish whether additional assessment is needed in order to determine the significance of the impact. It should be noted that development flows above the 10% and 30% levels do not automatically indicate the impacts are significant, and professional judgement should also be applied.
- 7.23** Traffic flow changes that are less than the thresholds are generally accepted as being similar in magnitude to daily variation in traffic flows and therefore are considered to have no discernible environmental impact.
- 7.24** **Table 7.3** sets out all highway links included in the LoHAM model output that recorded a change in Annual average daily traffic (AADT) traffic flow or AADT HGV flow greater than 10% in the Construction Phase or Operational Phase of the Proposed Development.

**Table 7.3 Summary of Traffic Flow Changes Greater Than 10% Within Study Area**

Link	Future Baseline Scenario		Construction Phase Scenario		Completed Development Scenario	
	AADT Traffic Flow	AADT HGV Flow	AADT HGV Total Flow	AADT HGV % Change	AADT Traffic Flow Change	AADT Traffic % Change
Abbott Road (east of Underpass)	7240	691	691	0%	-6749	-93%
Abbott Road (east of Oban Street)	8965	820	820	0%	-2484	-28%
Abbott Road Underpass	5539	490	490	0%	-5539	-100%
Abbott Road Slip to A12	1469	136	136	0%	481	33%
Leven Road	3744	88	88	0%	733	20%
Oban Street	3333	17	17	0%	1144	34%
Bromley Hall Road	1254	30	158	421%	874	70%
Lochnagar Street	2581	190	318	67%	468	18%
Zetland Street	2304	155	155	0%	-385	-17%
Devons Road	9536	411	411	0%	-1745	-18%

Link	Future Baseline Scenario		Construction Phase Scenario		Completed Development Scenario	
	AADT Traffic Flow	AADT HGV Flow	AADT HGV Total Flow	AADT HGV % Change	AADT Traffic Flow Change	AADT Traffic % Change
Devas Street (west of A12 Junction)	4974	723	723	0%	1896	38%
Burcham Street/St Leonard Road	4638	165	165	0%	900	19%

- 7.25** In line with GEART Rule 1, all highway links where traffic flows will increase by more than 30% (or the number of HGVs will increase by more than 30%) have been included in the Traffic and Transport EIA.
- 7.26** GEART Rule 2 states that any highway link where traffic flow has increased by 10% or more and is considered 'sensitive' should also be included. It is considered that any highway link that provides direct access to a school, London Underground or DLR station, nursery or healthcare facility would be considered 'sensitive' given the likely higher proportion of vulnerable road users (children, elderly, and people with a mobility impairment) at these locations.
- 7.27** In the Construction Phase, based on peak construction activity in 2026, no highway links experience an increase in HGV AADT above 10% apart from Bromley Hall Road and Lochnagar Street. In the Completed Development (operational) phase the following highway links with a projected change in AADT flow of more than 10% but less than 30% have been included in this Traffic and Transport EIA:
- Burcham Street / St Leonard Road – due to the proximity of Langdon Park School;
  - Devons Road – due to Devon's Road DLR Station; and
  - Abbott Road – due to the Natural Remedy Clinic.

**Demolition and Construction**

- 7.28** The effects of Demolition and Construction traffic have been determined by assessing the effects of the estimated worst case (i.e. peak daily construction traffic), which is expected to be 2026, against the Future Baseline Scenario, taking into consideration vehicle routing.
- 7.29** Traffic generation estimates for the Demolition and Construction of the Proposed Development has been provided by Blue Sky Building. An Outline Construction Logistics Plan (CLP) has been prepared and is included within the TA. Further details of the construction programme and phases, vehicle numbers and the proposed access route are discussed in detail in **ES Volume 1, Chapter 5: Demolition and Construction**.

**Phasing**

- 7.30** The Proposed Development is proposed to be constructed in phases, and is expected to take approximately 128 months (10 years 8 months). **ES Volume 1, Chapter 5: Demolition and Construction** provides an indicative construction timetable. A summary is set out in **Table 7.4** below.

**Table 7.4 Indicative Construction Programme**

Construction Phase	Application	Construction Start	Construction End
A	Detailed	Q3 2022	Q4 2024
B	Outline	Q3 2024	Q4 2027
C		Q2 2027	Q2 2032
D		Q1 2032	Q2 2033

- 7.31** Based on an anticipated year of commencement of 2022, the peak construction scenario as set out in this ES is based on a 2026 Future Year, during the construction of Phase B of the Outline Proposals. At this stage of the programme, the Detailed Proposals (Phase A) would already be constructed and occupied.
- 7.32** As the Proposed Development provides car parking spaces at a much lower ratio per unit than the existing Site, the operation of Phase A would not be expected to generate more vehicle trips than the Future Baseline scenario. Therefore, no specific assessment of the Phase A operational traffic has been undertaken in the Construction Phase scenario for traffic and transport.

Completed Development

- 7.33 The Completed Development has been assessed based on the transport trips generated by the Proposed Development as well as the re-routing of existing vehicle trips as a result of changes to infrastructure proposed as part of the Proposed Development.
- 7.34 The traffic and transport infrastructure proposals deemed most relevant to this assessment are:
  - Pedestrianisation of the Abbott Road vehicular underpass as a new walking and cycling route;
  - Proposed right-turn bus gate at a new A12 / Abbott Road junction;
  - Public realm improvements throughout the Site; and
  - Improvements to the existing Dee Street subway.
- 7.35 The operational assessments have been undertaken for a proxy 2033 year when it is predicted the completed Proposed Development will initially open (i.e. Opening Year). Cumulative schemes and associated growth are included in scenario assessments, as set out earlier in this chapter.
- 7.36 The trips generated by the Proposed Development have been calculated using a trip generation assessment for the entire development, including both Outline and Detailed Proposals. This was agreed with LBTH and TfL during pre-application discussions.

Assumptions and Limitations

- 7.37 Throughout 2020 and the first half of 2021, travel was significantly limited by restrictions that were implemented as part of the Government’s response to the COVID-19 pandemic as such, transport movements at the time of the assessment may not have been representative of baseline conditions; consequently, traffic flow data has been collected and extracted from alternative sources, as set out in **paragraph 7.6**.
- 7.38 As the pedestrian survey data was collected in July 2021, after all COVID-19 restrictions were lifted and so reflects a realistic representation of average pedestrian flows of the surveyed facilities.
- 7.39 Assessment of the impacts of construction of the Proposed Development is based on forecast construction vehicle trips and the indicative construction programme. The average number of construction vehicles during peak months has been used to assess construction impacts.

Methodology for Defining Effects

- 7.40 DMRB LA 104 ‘Environmental Assessment and Monitoring’ sets out the basis of environmental impact assessment; the sensitivity of the receptor and the magnitude of impact. Together, these determine the significance of the environmental impact.

Receptors and Receptor Sensitivity

- 7.41 The significance of the impact depends on the sensitivity of the receptor of that impact. For the purpose of this assessment the traffic and transport environmental sensitivity of receptors ranging from negligible to high can be categorised as set out below.

Table 7.5 Environmental Sensitivity and Descriptions

Sensitivity	Typical Description
High	Road and transport users that are more exposed and as a result are affected significantly by changes in traffic levels, the road network, public realm or road safety.
Medium	Road and transport users that feel moderate effects as a result of changes in traffic levels, the road network, public realm or road safety.
Low	Road and transport users that are more protected and as a result are not significantly affected by most changes in traffic levels, the road network, public realm or road safety.
Negligible	Road and transport users that feel little to no effect as a result of changes in traffic levels, the road network, public realm or road safety.

Magnitude of Impact

- 7.42 The magnitude of impact is the level of change caused by the Proposed Development. An overview of the different magnitudes of impact is set out in **Table 7.6**

Table 7.6 Magnitude of Impact

Impact	Source	Negligible	Low	Medium	High
Severance	IEMA 1993 GEART guidance	Change in total traffic or HGV flows of 10%-30%	Change in total traffic or HGV flows of 30% to 60%	Change in total traffic or HGV flows of 60% to 90%	Change in total traffic or HGV flows over 90%
Pedestrian Delay	Professional judgement	Changes which are unlikely to be perceptible (based on a judgement).	Changes which are likely to be perceptible but not to the extent that it would materially change conditions which would otherwise prevail.	Changes which are likely to be perceptible and which would materially change conditions which would otherwise prevail to the extent that it may affect travel behaviour to measurable degree.	Changes which are likely to be perceptible and which could change conditions which would otherwise prevail to the extent that it would significantly affect travel behaviour.
Cyclist Delay					
Vehicle and bus delay		Change in delay of <60sec	Change in delay of 60sec -120sec	Change in delay of 120sec -180sec	Change in delay of 180+ sec
Pedestrian amenity, fear and intimidation	IEMA 1993 GEART guidance	Change causes link to experience average traffic 18h flow per hour of circa 600 and a daily HGV flow of circa 1,000	Change causes link to experience average traffic 18h flow per hour of 600-1,200 or a daily HGV flow of 1,000-2,000 and an average speed of 10+ miles per hour (mph) where it did not in Future Baseline.	Change causes link to experience average traffic 18h flow per hour of 1,200-1,800 or a daily HGV flow of 2,000-3,000 and an average speed of 15+mph where it did not in Future Baseline.	Change causes link to experience average traffic 18h flow per hour of 1,800+ or a daily HGV flow of 3,000+ and an average speed of 20+mph where it did not in Future Baseline.
Accidents and Safety	Professional judgement	Magnitude of impact is based on professional judgement regarding the relative safety of users of the highway network.			

Defining the Effect

Effect Scale

- 7.43 The scale of the resulting effect is judged on the relationship between the magnitude of impact and the assessed sensitivity and / or importance of the receptor, **Table 7.7** .
- 7.44 The DMRB LA104 identifies the significance of adverse or beneficial effects as either negligible, slight, moderate or large. The scale of effects matrix set out in **Table 7.8** has been extracted from DMRB LA104 for ease of reference.

Table 7.7 DMRB LA104 Scale of Effects

Sensitivity of Receptor	Magnitude of change			
	Negligible	Minor	Moderate	Major
Negligible	Neutral	Neutral	Slight	Slight
Low	Neutral	Slight	Slight	Slight or Moderate
Medium	Slight	Slight	Moderate	Moderate or Large
High	Slight	Moderate	Large	Large

- 7.45 For the purposes of the EIA, the significance of adverse or beneficial effects have been defined as either negligible, minor, moderate or major corresponding to neutral, slight, moderate and large set out within the DMRB LA104.

Table 7.8 Significance Criteria Matrix

Sensitivity	Magnitude of Impact			
	Negligible	Low	Medium	High
Negligible	Negligible	Negligible	Minor	Minor
Low	Negligible	Minor	Minor	Minor / Moderate

Medium	Minor	Minor	Moderate	Moderate / Major
High	Minor	Minor / Moderate	Major	Major

**Effect Nature**

7.46 The nature of effects is described as either:

- **Beneficial** – effects that produce benefits in terms of transportation and access;
- **Adverse** – effects that produce a negative effect in terms of transportation and access; or
- **Neutral** – meaning that changes produce no benefits or disbenefits in terms of transport and access (such as no reduction / increase in traffic, travel time, patronage or no loss/provision of service or facility).

**Geographic Extent of Effect**

7.47 The spatial extent of the effects is considered based on the following thresholds:

- **'Site' or 'Local'** – affecting receptors in the Site and immediate surroundings;
- **'District' or 'Borough'** – affecting receptors in the LBTH and surrounding boroughs;
- **'Regional'** – affecting receptors in the Greater London area; or
- **'National'** – affecting receptors in different parts of the country, or England as a whole.

7.48 Direct effects result without any intervening factors, whilst indirect or 'secondary' effects are not directly caused by an action or trigger or result from something else.

**Effect Duration**

7.49 The duration of effects has been reviewed based on the following criteria:

- **Temporary: Short term** – less than 12 months;
- **Temporary: Medium term** – 12 months - 5 years;
- **Temporary: Long term** – more than 5 years; and
- **Permanent.** – effects that are considered to be extremely long lasting.

7.50 For the completed and operational Proposed Development, the effects are permanent whereas for the Demolition and Construction period the effects are expected to be temporary short to medium-term.

**Categorising Likely Significant Effects**

- 7.51 As set out in paragraph 7.39, effects that are identified as being moderate or major adverse / beneficial are classified as significant effects.
- 7.52 For construction and operation, where these effects are classed as short term or medium term, the significance or scale of effects is reduced by one level (e.g. major effects are reclassified as moderate, etc.).

**BASELINE CONDITIONS**

**Existing Mode Share**

7.53 The Site is currently occupied by 330 residential units, as well as retail units and public realm. As part of the 2012 OPP a mode split was established. This is set out in Table 7.9

Table 7.9 Existing Mode Split (2012 OPP)

Mode	Share (%)
Walk	13%
Cycle	2%
Tube / DLR / Rail	33%
Bus	23%

Motorcycle	0%
Taxi	0%
Car Driver	20%
Car Passenger	9%
Walk	13%
Total	100%

7.54 Table 7.9 shows that currently around 70 per cent of people travelling to and from the Site use sustainable modes of transport.

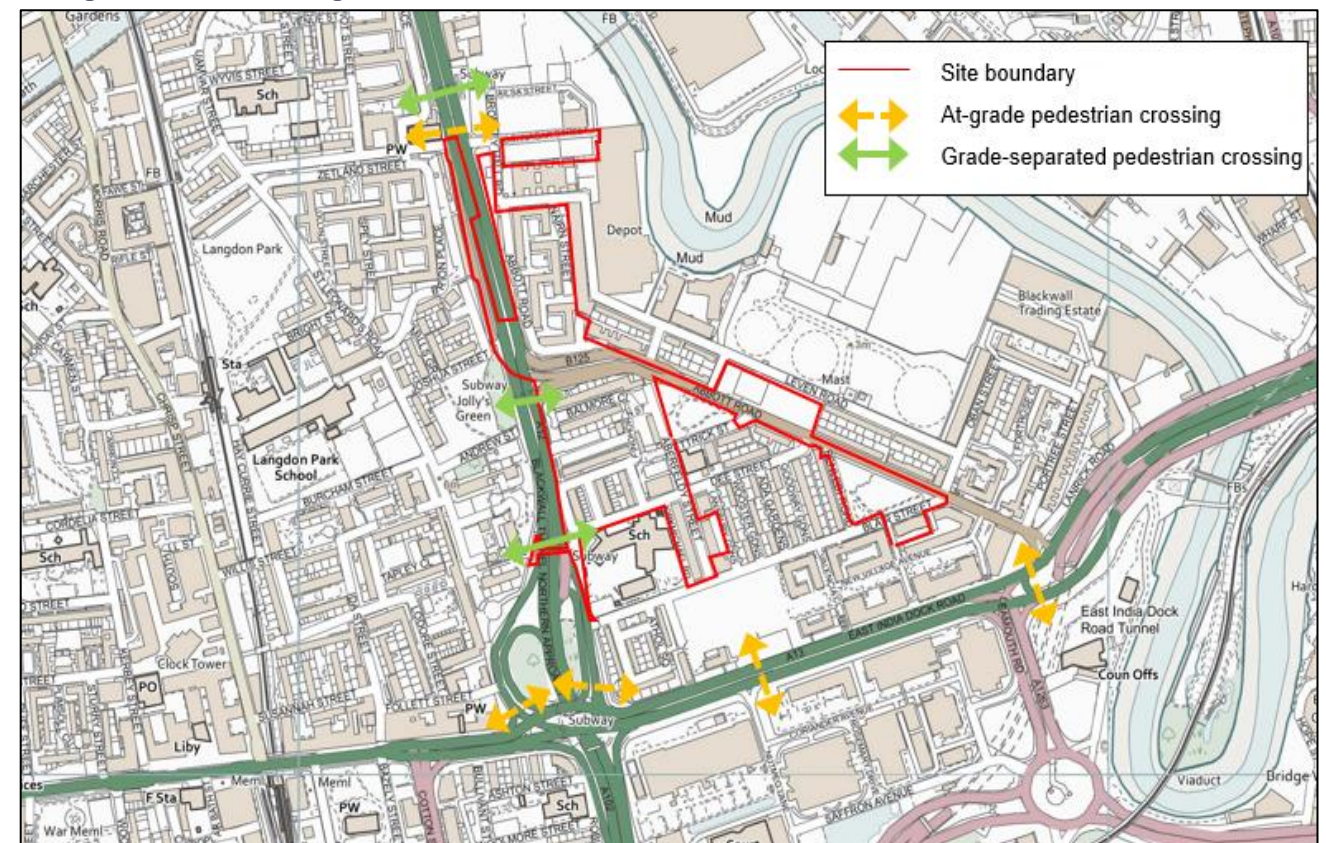
**Walking**

7.55 The existing Site includes footways provided along all streets, mostly of suitable width for people walking with a pram and wheelchair users. Dropped kerbs and tactile paving is provided along the main pedestrian desire lines and dedicated pedestrian crossing points are provided at Abbott Road to allow pedestrians to cross more easily and with priority.

7.56 However, the Site is bounded to the west by the A12 and to the south by the A13 East India Dock Road. These strategic traffic arteries cause material severance, by requiring pedestrians to either wait at traffic signals at grade or use one of several subways, which are often dark, damp, unattractive spaces with limited passive surveillance.

7.57 Figure 7.2 shows that in response to the severance created by the strategic infrastructure that bounds the Site to the south and west, some existing pedestrian connections are provided. However, in most instances, these connections are currently not of high quality. Their indirectness add delays to pedestrian journeys and the subways can be perceived as unsafe.

Figure 7.2 Existing Pedestrian Access Points



7.58 The Site also contains one crossing of the A12 used solely by motorised transport – the Abbott Road underpass. This underpass allows vehicles to turn right onto the northbound A12 from the Site. This underpass is shown in Figure 7.3

Figure 7.3 Existing Underpass



### Cycling

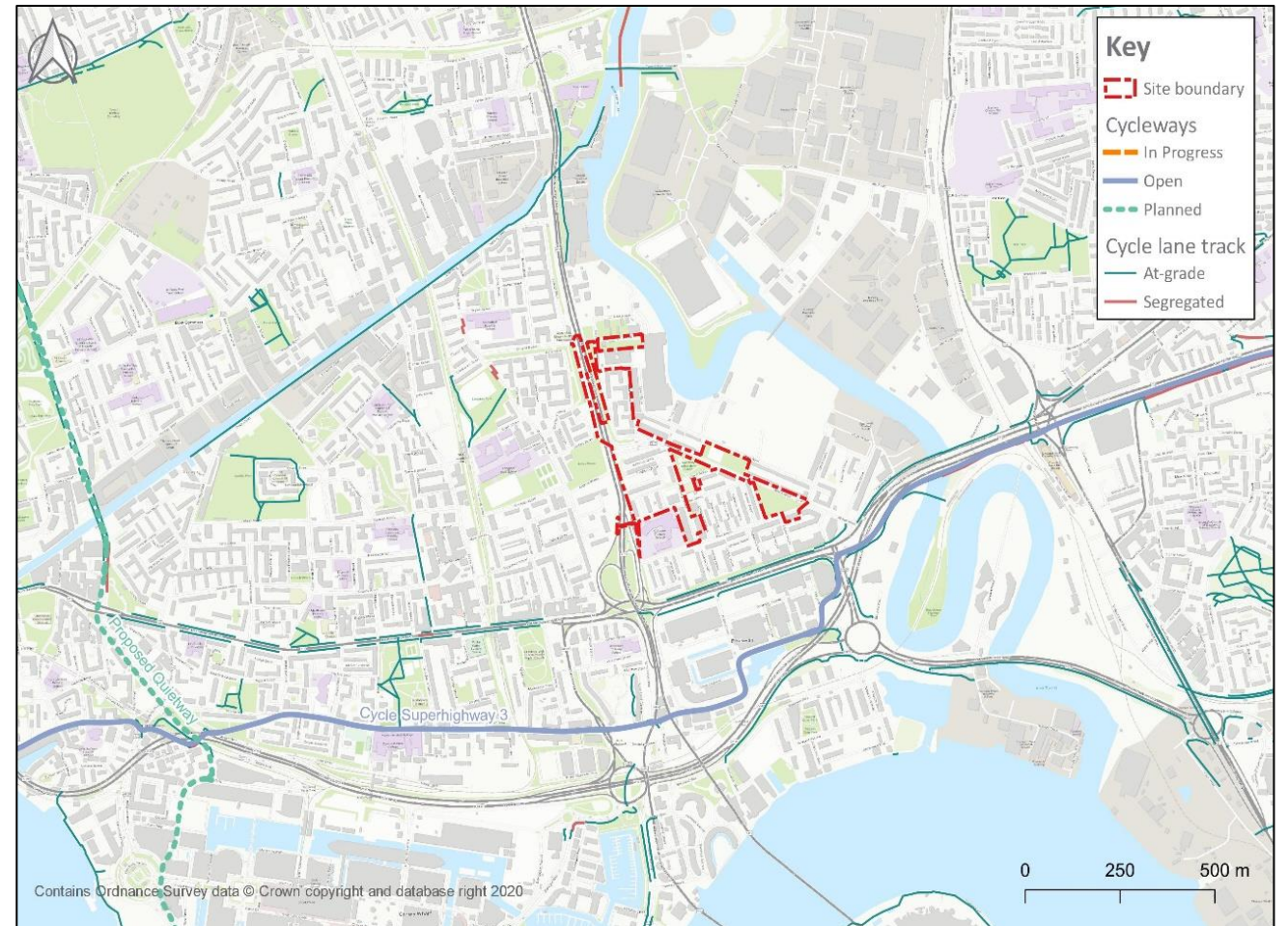
7.59 As previously noted, the A12 and A13 are strategic routes that carry high levels of vehicular traffic and form barriers to cycling movements. As a result there are currently limited options to access the Site by cycling, including:

- A subway underneath the A12 directly north of Lochnagar Street;
- An at grade signalised crossing of the A12 at Lochnagar Street;
- A subway underneath the A12 adjacent to the Abbott Road underpass;
- A subway underneath the A12 which connects to Dee Street;
- A multiple-stage at-grade signalised crossing of the A13 / A102 junction using shared-use paths;
- A multiple-stage at-grade signalised crossing of the A13 East India Dock Road directly east of Nutmeg Lane; and
- A multiple-stage at-grade signalised crossing of the A13 at the A1 / A1020 / Abbott Road junction using shared-use paths.

7.60 As previously noted, the existing subway crossings of the A12 are unattractive for people walking or cycling. The ramps are narrow and make sharp turns, which increases the potential for pedestrian-cycle conflict, the subways experience littering and users feel insecure due to the lack of surveillance.

7.61 The existing cycle route network for the LBTH is shown in **Figure 7.3** . Cycle Superhighway 3 forms the main strategic cycle route in the vicinity of the Site and provides a connection into Central London.

Figure 7.4 Local Cycle Routes



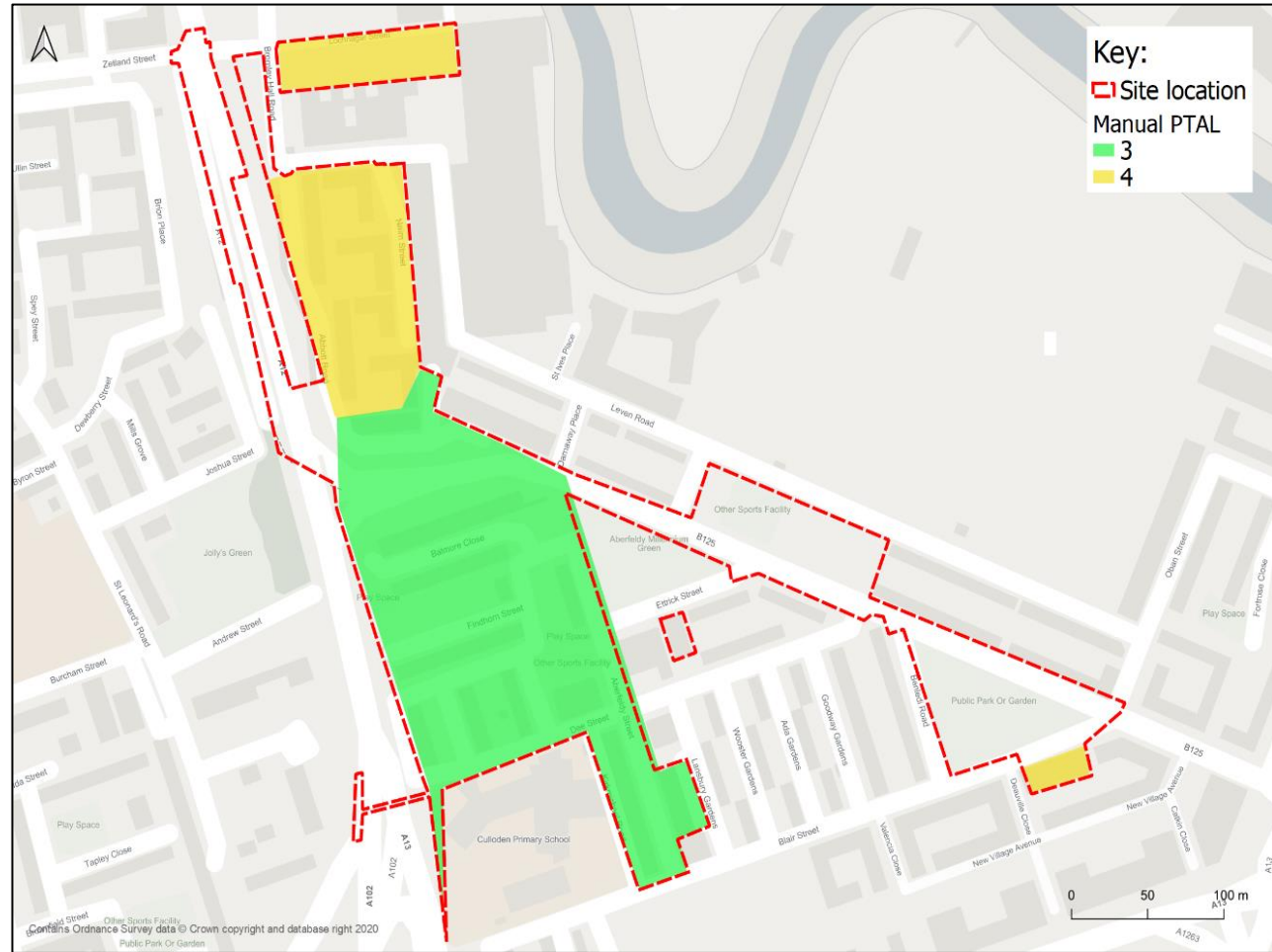
### Public Transport

#### Public Transport Accessibility

7.62 A PTAL rating is used to demonstrate the Site's existing connectivity to the public transport network, accounting for access (i.e., walk) time and frequency of services. It considers rail and underground stations within a 12-minute walk (i.e., 960m) of the Site and bus stops within an eight-minute walk (640m) and is undertaken using the morning peak hour operating patterns of public transport services.

7.63 A manual PTAL calculation was undertaken for three different locations within the Site (north / centre / south) in order to capture the accessibility of the Site by public transport. This is set out in **Figure 7.5** .

Figure 7.5 PTAL – Manual Calculation



Local Bus Network

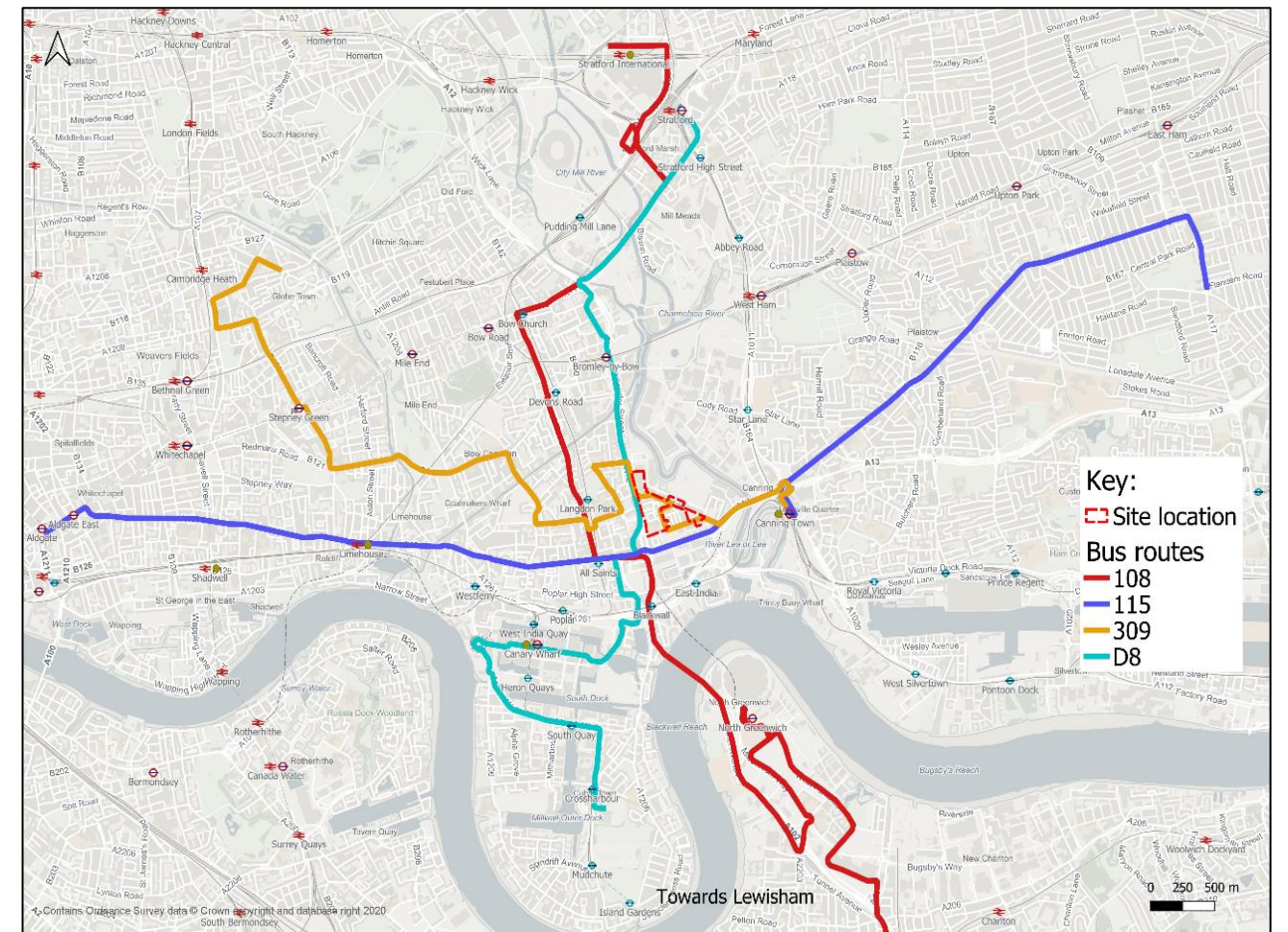
7.64 The Site is in proximity to various bus services, which can be accessed from several bus stops (summarised in Table 7.10). Bus route 309 serves the Aberfeldy Village Masterplan neighbourhood. The northbound route uses the Abbott Road / A12 vehicle underpass to turn right onto the A12.

Table 7.10 Local Bus Routes and Frequencies

Service No	Bus Stop	Route	Frequency (services per hour)	
			AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
108	Blackwall Tunnel/ East India Dock Road	Stratford International Station – Bow Church Station – Devons Road Station – Langdon Park Station – Chrisp Street Market – Blackwall Tunnel - Tower Bridge/ City Hall – Bermondsey Station – Greenwich Town Centre/ Lewisham Station	6	6
115	Brunswick Road (Stop E)	Aldgate Station - Aldgate East Station - Limehouse Station - Brunswick Road - Canning Town Bus Station - East Ham/ Central Park	7	7
309	Leven Road (Stop W)	Canning Town Bus Station – Leven Road – Stepney Green Station – Bethnal Green Station – Bonner Road	5	5
D8	Abbott Road	Stratford Bus Station – Bromley By Bow Station – Abbott Road – Canary Wharf Station – Heron Quays – Isle of Dogs Asda	4	4
Total			22	22

7.65 There are 22 bus services available in the morning (AM) peak and afternoon (PM) network peak periods, respectively. Figure 7.3 shows the local bus routes which operate within proximity of the Site.

Figure 7.6 Local Bus Routes



Docklands Light Railway

7.66 The DLR connects the east with Central London. The nearest stations to the Site are Langdon Park to the northwest, All Saints to the southwest and Canning Town to the southeast. These stations are accessible within a 10-minute, nine-minute, and 10-minute walk, respectively.

7.67 From these stations, several destinations that will be important to future residents of the Proposed Development can be reached, including Central London, Stratford, and Canary Wharf.

7.68 Table 7.11 provides details of the DLR service frequency at Langdon Park station and All Saints. 0 provides DLR service frequency at East India station, and Table 7.13 provides DLR service frequency at Canning Town station.

Table 7.11 DLR frequencies at Langdon Park Station and All Saints Station

Direction	Peak Hour Frequency (services per hour)	
	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
To Canary Wharf	9	10
To Stratford	10	10
Total	19	20



Table 7.12 DLR frequencies at East India

Direction	Peak Hour Frequency (services per hour)	
	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
To Woolwich Arsenal	8	8
To Beckton	7	7
Total	15	15

Table 7.13 DLR frequencies at Canning Town

Direction	Peak Hour Frequency (services per hour)	
	AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
To Stratford International	6	7
To Woolwich Arsenal	15	14
To Tower Gateway	7	7
To Bank	8	7
To Beckton	7	7
Total	43	42

7.69 All stations provide multiple services to several different locations across London, providing interchange opportunities to connect further afield.

London Underground

7.70 The nearest stations are Bromley-by-Bow and Canning Town, which provide access to the District and Hammersmith & City lines and the Jubilee Line, respectively. The service provision is summarised in Table 7.14

Table 7.14 Local Bus Routes and Frequencies

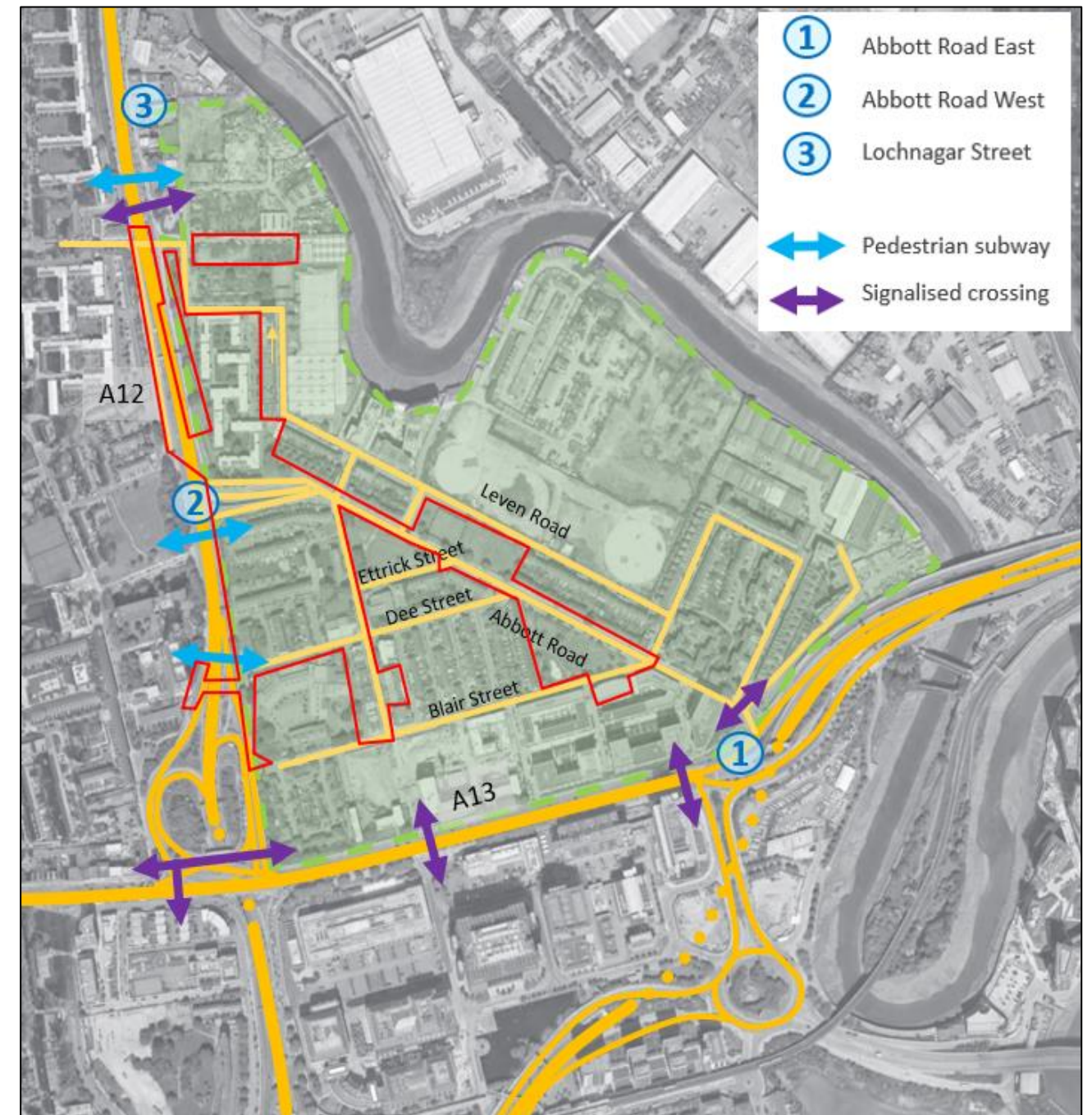
Station	Line	Direction	Frequency (services per hour)	
			AM Peak (08:00-09:00)	PM Peak (17:00-18:00)
Bromley-by-Bow	District and Hammersmith and City	Westbound – Central London	24	24
		Eastbound – towards Barking	24	24
Canning Town	Jubilee	Westbound – Central London	24	24
		Eastbound – towards Stratford	24	24
Total			96	96

Vehicle Access

7.71 The Site is located adjacent to the A12, which is part of the Transport for London Road Network and carries over 100,000 vehicles per day. At the southwest of the Site the A12 forms a grade separated junction with the A13 (East India Dock Road) which carries over 50,000 vehicles per day. With the River Lea to the northeast, the Site is located within a contained area (for ease this is referred to as the 'Aberfeldy Island') with three points of access, shown within Figure 7.7 :

- Lochnagar Street, which forms a signalised junction with the A12 at the north of the Site.
- Abbott Road passes through the Site and connects the A12 and A13. At its western end Abbott Road forms a junction with the A12 via a grade separated right turn onto the northbound A12 in the form of a vehicle underpass and a left-in left-out for southbound A12 traffic.
- At its eastern end Abbott Road forms a signalised junction with the A13. The access operates as left-in, left-out with the right turn entry movement being restricted to bus only.

Figure 7.7 Existing Street Network and Key Accesses



7.72 Descriptions of each of the roads within the Site most relevant to this ES are set out below.

Abbott Road

7.73 Abbott Road is predominately a residential road which allows two-way movement in a northwest and southeast direction between the A13 to the south and the A12 in the north. The road has footways on both sides of the network and has pedestrian crossing facilities (Zebra crossings and informal pedestrian crossings).

7.74 The road has on-street parking for residents permit holders (Zone B3). The permit allows parking on-street, Monday to Friday between 08:30 – 17:30. The road is subject to a 30mph speed limit and has double yellow line restrictions in areas.

7.75 The road is a part of a bus route (service 309), which runs through the Abbott Road underpass. Traffic surveys undertaken in March 2014 and May 2015 indicate that the underpass is used by around 200 vehicles in the AM peak and around 110 vehicles in the PM peak. On average, only around 100 vehicles per hour use the

underpass outside of the peak hours. This means that in the AM peak, traffic from the underpass constitutes 4% of A12 traffic at this location. The traffic that uses the existing underpass to access the A12 is therefore considered to be negligible in the context of total traffic using the A12, and therefore from a strategic level, closure of the underpass would not be expected to result in a material effect on the operation of the strategic road network.

### Lochnagar Street

**7.76** Lochnagar Street runs along the northern boundary of the Site and is a two-way single carriageway road that historically serviced an area that had an industrial character. Lochnagar Street provides the most northern access from the Site to the A12 via an at grade signalised junction.

### Bromley Hall Road

**7.77** Bromley Hall Road is a two way, single carriageway road that runs in a generally north to south direction, parallel to the A12, between Ailsa Street and Leven Road, crossing Lochnagar Street.

**7.78** Footways are provided on both sides of the carriageway, however the public realm is of relatively low quality. A green space separates Bromley Hall Road from the A12, however this space is not inviting and during the October 2020 site visit, no pedestrians were seen using the green space.

**7.79** Single yellow line markings are present along the length of Bromley Hall Road between Lochnagar Street and Leven Road, preventing parking during the hours of control (Monday to Friday 08:30 -17:30).

### Aberfeldy Street

**7.80** Aberfeldy Street is a two-way single carriageway road that runs generally north to south between Abbott Road and Blair Street. Of all roads within the Site, Aberfeldy Street is the most commercial in character; it provides a local high street with convenience stores, a pharmacy and a local community centre. Footways, which are generally of good width, are provided on either side of the carriageway. Several mature trees line Aberfeldy Street.

**7.81** Parking is provided along both sides of the Aberfeldy Street carriageway, including immediately outside of the high street shops. Aberfeldy Street also provides the highest concentration of cycle parking of any road within the Site, including a Cycle Hire docking station.

### Leven Road

**7.82** Leven Road is predominately a residential road, which restricts southbound movement along the eastern part of the road. The road is subject to a 30mph speed limit and has on-street permit parking (B3) (indicated by the white demarcated bays). The road has no waiting restrictions, indicated by the single and double yellow lines, and forms part of a bus route. The road provides wide footways on both sides of the road.

## RECEPTORS AND RECEPTOR SENSITIVITY

**7.83** The receptors which are considered within the assessment are those people making journeys within the study area and include:

- Pedestrians – High Sensitivity;
- Cyclists – High Sensitivity;
- Bus passengers – Medium Sensitivity;
- Rail / Underground / DLR passengers – Medium Sensitivity; and
- Car drivers / passengers – Low Sensitivity.

**7.84** The Proposed Development will provide similar land uses to the existing Site uses; as such, no additional types of receptors will be introduced.

## POTENTIAL EFFECTS

### Demolition and Construction

**7.85 ES Volume 1, Chapter 5: Demolition and Construction** includes an indicative construction programme. It is currently anticipated that peak construction will be in 2026.

**7.86** It is anticipated that the typical working hours for the construction works will be as set out below:

- 08:00 – 19:00 hours Monday to Friday; and
- 08:00 – 13:00 hours Saturday and Sunday.

**7.87** Construction vehicle impacts are dependent upon vehicle size and volume of trips. Generally, the larger the vehicle used, the fewer trips made. Therefore, provided that strict health and safety and environmental arrangements are in place it is best to use larger vehicles if possible, to limit the total number of vehicular movements.

**7.88** Peak Demolition and Construction vehicle numbers have been forecast, based on the proposed Demolition and Construction works and associated programme including construction phasing and are discussed in **ES Volume 1, Chapter 5: Demolition and Construction**.

**7.89** Peak construction in 2026 encompasses construction of Phase B of the Proposed Development. In this phase, the Detailed Proposals (Phase A) of the Proposed Development would be in occupation. However, as the Proposed Development will re-provide parking at a lower level than existing Site no increase in traffic is expected as a result of Phase A operation and therefore this has not been explicitly assessed as part of this scenario. For Phase B construction, construction vehicles will access and egress the Site via the A12 / Lochnagar Street junction.

### Severance

**7.90** Based on the criteria set out in **Table 7.5** to **Table 7.8** and the changes to HGV flows during the Construction Phase (taking into account the operation of the Detailed Proposals) as set out in **Table 7.3**, the effects of severance are set out in **Table 7.15**.

**Table 7.15 Significance of Severance Effect – Construction Phase**

Highway Link	Change in HGV AADT	Magnitude of Impact	Sensitivity of Receptor			
			Pedestrians	Cyclists	Bus Passengers	Car Drivers/ Passengers
			High	High	Medium	Low
Bromley Hall Road	421%	Medium Adverse	Major	Major	Negligible	Minor
Lochnagar Street	67%	Low Adverse	Moderate	Moderate	Neutral	Negligible

**7.91** In line with the IEMA and DMRB LA104 guidance, the magnitude of change in HGVs on Bromley Hall Road would be classed as major adverse and the change on Lochnagar Street as moderate adverse. However, given the very low existing HGV flows on Bromley Hall Road, it is considered that the percentage increase in flow at this location is less relevant than the actual increase. During construction Bromley Hall Road would experience an increase of 16 HGV movements an hour or one HGV movement every four minutes. While this is significant, the total traffic flow on Bromley Hall Road equates to approximately one vehicle per 30 seconds.

**7.92** In addition to this, the peak construction impact of the Proposed Development will be short term to medium term and local. It's therefore considered, based on professional judgement, that the effect on severance on Bromley Hall Road for people walking and cycling is **Moderate Adverse (Significant)** and the effect on Lochnagar Street for people walking and cycling is **Minor adverse (Not Significant)**.

**7.93** As no buses use Lochnagar Street or Bromley Hall Road, the significance of the effect of severance on bus passengers here is considered **Negligible (Not Significant)**.

### Pedestrian and Cyclist Delay

**7.94** As set out in the scoping report, pedestrian and cyclist delay has been assessed based on professional judgment.

**7.95** GEART states that pedestrian delay is mostly related to traffic volumes and that a 10 second delay in pedestrian's ability to cross a road (uncontrolled) equates to a two-way flow of around 1,400 vehicles per hour. As none of the highway links scoped into EIA for the Construction Phase comes close to experiencing a change in flow of 1,400 vehicles per hour, it is considered that any change in flow associated with the Proposed Development will result in no change in terms of pedestrian and cycle delay and therefore the significance of the effect would be **Negligible (Not Significant)**.

## Vehicle and Bus Delay

- 7.96 For vehicle and bus delay, roads scoped into this assessment in line with Rule 1 and Rule 2 of GEART have been assessed where they have junctions with the strategic highway network. For the Demolition and Construction phase the A12 / Lochnagar Street junction meets this threshold.
- 7.97 The IEMA guidance states that vehicle delays are only likely to be significant when the traffic surrounding the Site is already at, or close to, capacity of the system. It's therefore considered that delay could only be significant during the AM and PM peak.
- 7.98 As no buses use Lochnagar Street it is concluded the construction peak of the Proposed Development would result in no change to bus delay.
- 7.99 At the Lochnagar Street junction, the number of additional HGV movements per day generated by the peak period of construction of the Proposed Development is 128 per weekday and equivalent. Assuming construction hours would be 08:00-18:00 on weekdays, 08:00-13:00 Saturday and Sunday, this constitutes an average HGV flow of 13 additional HGV movements per hour on Lochnagar Street.
- 7.100 It is considered that 13 vehicles per hour on average would not have any noticeable impact on vehicle delay at this junction. Therefore, the resultant effect of the Demolition and Construction works on vehicle and bus delay is therefore **Negligible (Not Significant)**.

## Pedestrian Amenity, Fear and Intimidation

- 7.101 Pedestrian amenity and fear and intimidation are considered together for the purpose of this ES. The IEMA guidance sets out clear thresholds for fear and intimidation in terms of vehicles speed and flow. These are set out in **Table 7.5** as part of the methodology section of this chapter.
- 7.102 A highway link is considered to meet a fear and intimidation threshold when at least two of the three thresholds are met. For the purpose of this assessment, it has been assumed that all highway links achieve an average speed of 10mph or more.
- 7.103 The construction peak of the Proposed Development would not generate nearly enough general traffic or HGV traffic through Bromley Hall Road or Lochnagar Street to reach the thresholds for fear and intimidation set out in IEMA guidance. It is therefore concluded that the Demolition and Construction works would result in no change for fear and intimidation on either road.
- 7.104 In terms of pedestrian amenity, IEMA guidance states that a significant change in amenity would constitute a halving or doubling of traffic (or HGV) flow as a result of the Proposed Development. Bromley Hall Road meets this threshold, but as overall traffic on this road would only increase by 13% compared to the 'Do Nothing' baseline scenario and the construction impacts are local and temporary. It is considered that the magnitude of change to pedestrian amenity is low, resulting in a **Minor Adverse (Not Significant)** effect on pedestrian amenity.

## Accidents and Safety

- 7.105 In terms of traffic safety for peak construction, the only locations on the network to experience any environmentally potentially significant change in traffic flow for the Demolition and Construction phase are the A12 / Lochnagar Street junction, Lochnagar Street and Bromley Hall Road.
- 7.106 The increase in average hourly flow during peak construction on these roads is expected to be around 12-14 HGVs per hour or one vehicle every four to five minutes. While a noticeable increase, it is not expected that this level of temporary increase would result in any significant traffic safety issue.
- 7.107 Pedestrian surveys at the A12 / Lochnagar Street junction shows that in the AM peak hour, only 18 pedestrians cross the A12 at this location using the at grade crossing, with even fewer people doing so in the inter- and PM peak hours. It is therefore considered that this location (including Lochnagar Street and the connecting Bromley Hall Road) does not experience very high levels of walking and cycling currently, minimising the potential for HGV-pedestrian or HGV-cycle conflict. Additionally, due to the restricted width at Lochnagar Street and Bromley Hall Road, vehicles would be travelling at slow speeds, further limiting traffic safety impacts.
- 7.108 Overall, it is considered the peak construction phase would result in a **Negligible (Not Significant)** effect to the highway links scoped in as part of this EIA in terms of effects on accident and safety.
- 7.109 The CLP will also include measures to manage road during the construction phase. These measures are expected to include restricting hours of delivery to the construction site to outside of the AM and PM peak hours, as well as using vehicles that comply with the Direct Vision Standard and HGV Safety Permit set by TfL.

## Completed Development

- 7.110 The assessment of impacts during the operational phase of the Proposed Development has been undertaken for a proxy 2033 opening year of the completed Proposed Development.
- 7.111 The TA submitted as part of the planning application for the Proposed Development sets out the transport-related development proposals in detail. This ES chapter sets out the environmental impact of those completed proposals.
- 7.112 The proposals have been developed in line with the Healthy Streets Approach which has been adopted by the Mayor of London and LBTH. This approach prioritises active travel and sustainable travel modes over motorised transport in order to encourage active lifestyles, reduce air and noise pollution, and create a safe, attractive public realm where people will want to spend time.
- 7.113 In addition to on-site public realm improvements, the development will provide a new Aberfeldy Active Travel Connector (AATC) using the existing Abbott Road underpass to provide people walking and cycling with a new high-quality way to cross the A12. Additionally, the Balfron Subway access will be upgraded to become DDA compliant and will feature added landscaping.
- 7.114 Car and cycle parking for the Proposed Development will be in line with local plan and London Plan standards and will include charging facilities for Electric Vehicles (EVs), car club bays and Blue Badge parking.
- 7.115 North of the repurposed underpass a new A12 / Abbott Road junction will be created to provide a new vehicular link between the A12 and the Site. This junction will feature a bus gate that will allow buses to continue to travel northbound from the Site onto the A12.
- 7.116 Additional detail on the development proposals is included in the TA.

## Severance

- 7.117 The significance of severance in the Completed Development scenario is set out in **Table 7.16**.

**Table 7.16 Significance of Severance – Completed Development**

Highway Link	Change in HGV AADT	Magnitude of Impact	Sensitivity of Receptor			
			Pedestrians	Cyclists	Bus Passengers	Car Drivers/ Passengers
			High	High	Medium	Low
Abbott Road (east of Underpass)	-93%	High Beneficial	Major	Major	Moderate	Minor
Abbott Road (east of Oban Street)	-28%	Low Beneficial	Moderate	Moderate	Minor	Minor / Negligible
Abbott Road Underpass	-100%	High Beneficial	Major	Major	Negligible	Negligible
Abbott Road Slip to A12	33%	Low Adverse	Minor	Minor	Minor	Minor / Negligible I
Oban Street	34%	Low Adverse	Minor	Minor	Minor	Minor / Negligible
Bromley Hall Road	70%	Medium Adverse	Moderate	Moderate	Negligible	Minor
Devons Road	-18%	Negligible Beneficial	Minor	Minor	Negligible	Negligible
Devas Street (west of A12 Junction)	38%	Low Adverse	Minor	Minor	Minor	Minor / Negligible
Burcham Street/St Leonard Road	19%	Negligible Adverse	Minor	Minor	Negligible	Negligible

- 7.118 The severance assessment shows the operation of the Proposed Development is expected to result in significant environmental effects on severance on the following highway links:
  - Abbott Road (east of the underpass) – Long term, local **Major Beneficial (Significant)** effect on pedestrians and cyclists and **Moderate Beneficial (Significant)** to bus passengers.

- Abbott Road (east of Oban Street) – Long term, local **Moderate Beneficial (Significant)** effect on pedestrians and cyclists.
- Abbott Road underpass – Long term, district **Major Beneficial (Significant)** effect on pedestrians and cyclists.
- Bromley Hall Road – Long term, local **Moderate Adverse (Significant)** effect on pedestrians and cyclists.

7.119 The environmental effect on pedestrians and people cycling on Abbott Road is considered to be moderate beneficial due to the improved landscaping along this road as well as the added priority crossing facilities provided for pedestrians and people cycling in the form of tiger crossings.

7.120 The potential moderate adverse severance effect on pedestrians and cyclists on Bromley Hall Road are addressed through embedded mitigation in the design of the Proposed Development. This includes significant public realm landscaping improvement along the road itself and improved footways, as well as the AATC. Therefore, this impact can be considered a long term, local **Minor Adverse** effect and **Not Significant**.

*Pedestrian and Cycle Delay*

7.121 Effects on pedestrian and cyclist delay are assessed based on professional judgment.

7.122 As previously stated, GEART guidance states that pedestrian delay at (uncontrolled) crossings equates to a two way flow of around 1,400 vehicles per hour. None of the highway links scoped into EIA comes close to experiencing a change in flow of 1,400 vehicles per hour and therefore, the change in flow associated with the Proposed Development will result in no change in terms of pedestrian and cycle delay.

7.123 The Proposed Development includes a new pedestrian and cyclist crossing facility across the A12 by using the existing underpass. While there is an existing subway adjacent to the underpass, this existing subway is not very attractive and feels unsafe and some people may therefore prefer to use the Lochnagar Street at-grade crossing instead, adding to their journey time. Additionally, the enhanced pedestrian and cycle connection will be more direct, allowing people to walk and cycle directly in, compared to the existing subway which has indirect ramps and stairs.

7.124 The AATC will have a beneficial effect in terms of pedestrian and cycle delay. However, as there is already a subway in approximately the same location, the effect is considered to be **Not Significant**.

*Vehicle and Bus Delay*

7.125 For vehicle and bus delay, roads scoped into the assessment in line with Rule 1 and Rule 2 of GEART have been assessed where they have junctions with the strategic highway network. These include:

- Proposed A12 / Abbott Road junction;
- A12 / Devas Street junction;
- A12 / Lochnagar Street junction; and
- A13 / Abbott Road / Lanrick Road junction.

7.126 Vehicle and bus delay has been assessed using strategic modelling outputs from LoHAM. In line with the criteria in **Table 7.6**, the change in delay at each junction has been assessed. As the Proposed A12 / Abbott Road / Bus Gate junction is a new junction and no change in delay is modelled. Therefore, this junction will be assessed based on professional judgement.

**Table 7.17 Vehicle and Bus Delay – Completed Development**

Highway Link	AM Peak (delay in seconds)			PM Peak (delay in seconds)		
	Future Baseline	Completed Development	Change in Delay	Future Baseline	Completed Development	Change in Delay
<b>Proposed A12 / Abbott Road / Bus Gate Junction</b>						
A12 Southbound (N)	N/A	4	N/A	N/A	66	N/A
Abbott Road Bus Gate	N/A	232	N/A	N/A	232	N/A
A12 Northbound (S)	N/A	2	N/A	N/A	2	N/A
<b>A12/Lochnagar Street / Zetland Street</b>						

Highway Link	AM Peak (delay in seconds)			PM Peak (delay in seconds)		
	Future Baseline	Completed Development	Change in Delay	Future Baseline	Completed Development	Change in Delay
A12 Southbound (N)	15	15	0	252	244	-8
Lochnagar Street	143	282	139	85	193	108
A12 Northbound (S)	12	5	-7	14	8	-6
Zetland Street	121	157	36	140	208	68
<b>A13 / Abbott Road</b>						
A13 Eastbound (W)	17	20	3	19	24	5
Abbott Road	56	57	1	86	109	23
A13 Left turn into Abbott Road	5	3	-2	8	4	-4
<b>A12 / Devas Street</b>						
A12 Southbound (N)	1	1	0	1	1	0
Devas Street	0	0	0	0	0	0
A12 Northbound (S)	9	8	-1	9	7	-2

7.127 **Table 7.17** shows that only the A12 / Lochnagar Street / Zetland Street junction meets the thresholds for changes in delay set out in **Table 7.6**, all other junctions are therefore considered to experience no change in terms of environmental effects.

7.128 Due to the closure of the Abbott Road Underpass, as well as introduction of new streets in the masterplan and the pedestrianisation of sections of the local road network as part of the proposals, the existing bus stops within the Site will be moved; this is set out in **Figure 7.8** This proposal is not expected to add any delay to the bus routes that will run through the Site.

**Figure 7.8 Bus Re-Routing Proposal**



7.129 Instead of the existing Abbott Road / A12 underpass, in the Future Completed Development Scenario, buses turning right onto the A12 would use the signalised bus gate provided as part of the proposed A12 / Abbott Road / Bus Gate junction, the Abbott Road Bus Gate shows a delay of 232 seconds in both peaks. However, this modelled delay is due to the fact that the LoHAM model does not incorporate the proposed signal linkage between the bus gate and the Lochnagar Street Junction. Therefore, buses would not be expected to wait more than 60 seconds at the bus gate, which would constitute a low adverse effect on bus passengers compared to the existing situation where buses use the Abbott Road underpass to cross the A12. Therefore, the overall significance of delay on bus passengers is considered to be **Negligible (Not Significant)**.

**7.130** As the proposed arrangement for other traffic at this junction is similar to the existing A12 / Abbott Road junction, no change is expected for car traffic compared to the existing situation and therefore the significance of the effect on car and bus passengers is classed as **Negligible – Minor Adverse (Not Significant)**.

**7.131 Table 7.18** sets out the assessment of effects of the operational Proposed Development on vehicle and bus delay.

**Table 7.18 Significance of Vehicle and Bus Delay – Completed Development**

Highway Link	Change in Delay (s)	Magnitude of Impact	Sensitivity of Receptor	
			Bus Passengers	Car Drivers / Passengers
			Medium	Low
<b>Proposed A12 / Abbott Road / Bus Gate Junction</b>				
A12 Southbound (N)	N/A	No Change	No Change	No Change
Abbott Road Bus Gate	N/A	Minor	Negligible	N/A
A12 Northbound (S)	N/A	No Change	No Change	No Change
<b>A12 / Lochnagar Street / Zetland Street</b>				
A12 Southbound (N)	-8	Negligible	Minor	Negligible
Lochnagar Street	139	Medium	N/A	Minor
A12 Northbound (S)	-7	Negligible	Minor	Negligible
Zetland Street	68	Minor	Minor	Minor

### Amenity, Fear and Intimidation

**7.132** Consistent with the Construction Phase assessment, IEMA guidance thresholds for fear and intimidation as shown in **Error! Reference source not found** have been applied to all highway links scoped into EIA assessment for the Operational Phase of the Proposed Development. The full assessment is set out in **Table 7.19** below.

**7.133** A highway link is considered to meet a fear and intimidation threshold when at least two of the three thresholds are met. For the purpose of this assessment, it has been assumed that all highway links achieve an average speed of 10mph or more.

**Table 7.19 Fear and Intimidation Assessment – Completed Development**

Highway Link	Fear and Intimidation Threshold Met?		
	18H Average Hourly Flow	HGV AADT Flow	Average Speed
Abbott Road (east of Underpass)	No	No	Yes
Abbott Road (east of Oban Street)	No	No	Yes
Abbott Road Underpass	No	No	Yes
Abbott Road Slip to A12	No	No	Yes
Oban Street	No	No	Yes
Bromley Hall Road	No	No	Yes
Devons Road	No	No	Yes
Devas Street (west of A12 Junction)	No	No	Yes
Burcham Street/St Leonard Road	No	No	Yes

**7.134** None of the highway links assessed reach the threshold for a significant fear and intimidation effect. It is therefore concluded that the Proposed Development would result in no change for fear and intimidation.

**7.135** In terms of pedestrian amenity, the Proposed Development will provide significant benefits. Of the highway links scoped into the assessment, the following are expected to experience beneficial environmental effects as a result of the Proposed Development:

- Abbott Road (east of underpass) – Long term, local **Moderate Beneficial (Significant)** effect due to landscaping improvements along Abbott Road as well as traffic calming and permeability improvements in the form of raised tables, wider pavements and tiger crossings.
- Abbott Road underpass – Long term, district **Major Beneficial (Significant)** effect as this provides a new traffic free pedestrian and cycle connection from the Site to the west of the A12.
- Bromley Hall Road – Long term, local **Moderate Beneficial (Significant)** effect due to landscaping on the west side of the street.

### Accidents and Safety

**7.136** In terms of traffic safety, the Proposed Development will provide benefits within the Site by ensuring that all designs are in line with Manual for Streets<sup>3</sup> guidance. Additionally, traffic calming in the form of raised tables and crossings that provide priority to pedestrians and people cycling, as well as lowering vehicle speed will provide additional safety to active travel users.

**7.137** Furthermore, by providing a new traffic free connection under the A12, the Proposed Development encourages the reduction of collisions at existing at-grade crossing points nearby where pedestrians and cyclists may be tempted to jump a red light due to long waiting times. Moreover, improvements to the existing Dee Street subway will improve the feeling of safety at this A12 crossing.

**7.138** Overall, it is considered the Proposed Development would have a **Moderate Beneficial (Significant)** effect on pedestrian and cyclist safety in the area.

## MITIGATION, MONITORING AND RESIDUAL EFFECTS

### Demolition and Construction Mitigation

**7.139** The assessment presented in this ES chapter has shown that the effects of the peak Demolition and Construction programmed works on the study area for vehicle and bus delay, pedestrian and cycle delay, amenity, fear and intimidation, and accidents and safety will be **Not Significant**.

**7.140** The assessment contained within this chapter has shown that the impact of the increased HGV movements at Lochnagar Street and Bromley Hall Road will result in the following significant effects:

- Temporary short to medium term Moderate adverse severance effect at Bromley Hall Road on pedestrians and cyclists; and
- Temporary short to medium term Minor adverse severance effect at Lochnagar Street on pedestrians and cyclists.

**7.141** Notwithstanding, the hybrid planning application is accompanied by an Outline CLP. The Applicant will work in partnership with the LBTH, and their supply chain, to reduce, and in some cases and where possible eliminate, statutory nuisance of fumes, noise and dust arising from vehicular movements, and this will be secured via the provision of a CLP. The implementation of a CLP will be important to avoid, minimise and mitigate any construction effects on the environment, existing communities and residents.

### Construction Logistics Plan

**7.142** An Outline CLP has been submitted with this planning application as part of the TA. A detailed CLP will be secured by planning condition and will minimise adverse impacts resulting from the Demolition and Construction phases of the Proposed Development.

**7.143** The CLP will include information relating to operational hours, on-site mitigation measures such as wheel washing, monitoring and reviewing the construction programme, the hoarding position and how it affects pedestrian comfort levels and any other potential issues raised during the Demolition and Construction period.

**7.144** The Outline CLP will incorporate the following measures:

<sup>3</sup> Department for Transport, [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/341513/pdfmanforstreets.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/341513/pdfmanforstreets.pdf), 2007

- Safety and environmental standards and programmes;
- Adherence to designated routes;
- Delivery scheduling;
- Re-timing for out of peak deliveries;
- Re-use of material on site;
- Smart procurement;
- Collaboration with other sites in the area; and
- Implement a staff travel plan.

7.145 Given the low pedestrian flows at the A12 / Lochnagar Street pedestrian crossing it's considered that overall pedestrian flow here is limited and by limiting deliveries to be outside of the peak hours and having banksmen on-site to help reduce conflict between pedestrians and cyclists and construction vehicles, the likely residual effect for Bromley Hall Road and Lochnagar Street would be 'Minor Adverse' and therefore **not significant**.

7.146 In addition to a CLP, Construction Environmental Management Plans (CEMPs) will be submitted alongside of the application. A detailed CEMPs which would include details on monitoring of vehicle movements and cover each phase of construction will be secured via planning condition.

**Completed Development Mitigation**

7.147 The assessment presented in this ES chapter has shown that the effects of the completed development on the study area for **severance**, for pedestrians and cyclists and bus passengers **amenity, fear and intimidation** for pedestrians and cyclists and **accidents and safety** for cyclists will be **Significant**. All other potential effects are considered **Not Significant**.

7.148 No significant adverse highways and transport related effects have been identified in this assessment. As additional mitigation to maximise the environmental benefits and mitigate any adverse not significant effects, the following mitigation is proposed to be implemented for the completed development:

- A Travel Plan to encourage the uptake of sustainable travel for residents and employees of the Proposed Development; and
- A Delivery and Servicing Plan to encourage the uptake of sustainable delivery and servicing practices for the residential and commercial elements of the Proposed Development.

7.149 With the implementation of these mitigation measures, all effects remain as assessed above.

**Residual Effects**

7.150 The residual effects resulting from the Demolition and Construction of the Proposed Development and the completed Proposed Development following mitigation measures are summarised in **Table 7.20** .

**Table 7.20 Residual Effects**

Receptor & Sensitivity	Description of the Residual Effect	Scale and Nature	Significant / Not Significant	Geo	D I	P T	St Mt Lt
<b>Demolition and Construction</b>							
Pedestrians (High)	Pedestrian Severance	Minor Adverse	Not Significant	L	D	T	Mt
	Pedestrian delay	Negligible	Not Significant	L	D	T	Mt
	Pedestrian amenity, fear and intimidation	Negligible	Not Significant	L	D	T	Mt
	Pedestrian accidents and safety	Negligible	Not Significant	L	D	T	Mt
Cyclists (High)	Cyclist Severance	Minor Adverse	Not Significant	L	D	T	Mt
	Cyclist delay	Negligible	Not Significant	L	D	T	Mt
	Cyclist amenity, fear and intimidation	Negligible	Not Significant	L	D	T	Mt
	Cyclists accidents and Safety	Negligible	Not Significant	L	D	T	Mt

Receptor & Sensitivity	Description of the Residual Effect	Scale and Nature	Significant / Not Significant	Geo	D I	P T	St Mt Lt
Bus Passengers (Medium)	Bus severance	Negligible	Not Significant	L	D	T	Mt
	Bus delay	Negligible	Not Significant	L	D	T	Mt
Vehicle passengers (Low)	Vehicle severance	Minor Adverse	Not Significant	L	D	T	Mt
	Vehicle delay	Negligible	Not Significant	L	D	T	Mt
<b>Completed Development</b>							
Pedestrians (High)	Pedestrian Severance	Major Beneficial	<b>Significant</b>	L	D	P	Lt
	Pedestrian Delay	Minor Beneficial	Not Significant	L	D	P	Lt
	Pedestrian Amenity, Fear and Intimidation	Major Beneficial	<b>Significant</b>	L	D	P	Lt
	Pedestrian Accidents and Safety	Moderate Beneficial	<b>Significant</b>	L	D	P	Lt
Cyclists (High)	Cyclist Severance	Major Beneficial	<b>Significant</b>	L	D	P	Lt
	Cyclist Delay	Minor Beneficial	Not Significant	L	D	P	Lt
	Cyclist Amenity, Fear and Intimidation	Major Beneficial	<b>Significant</b>	L	D	P	Lt
	Cyclists Accidents and Safety	Moderate Beneficial	<b>Significant</b>	L	D	P	Lt
Bus passengers (Medium)	Bus Passenger Severance	Moderate Beneficial	<b>Significant</b>	L	D	P	Lt
	Bus Passenger Delay	Negligible - Minor Adverse	Not Significant	L	D	P	Lt
Vehicle passengers (Low)	Vehicle Severance	Minor Adverse - Minor Beneficial	Not Significant	L	D	P	Lt
	Vehicle Delay	Negligible - Minor Adverse	Not Significant	L	D	P	Lt
<b>Notes:</b>							
Residual Effect							
- Scale = Negligible / Minor / Moderate / Major							
- Nature = Beneficial or Adverse							
Geo (Geographic Extent) = Local (L), Borough (B), Regional (R), National (N)							
D = Direct / I = Indirect							
P = Permanent / T = Temporary							
St = Short Term / Mt = Medium Term / Lt = Long Term							
N/A = not applicable / not assessed							

**ASSESSMENT OF THE FUTURE ENVIRONMENT**

**Evolution of the Baseline Scenario**

7.151 When considering the likely evolution of the baseline conditions, other nearby cumulative schemes have been accounted for as a part of the Future Baseline (without Proposed Development) Scenario as set out in the Assessment Methodology section of this chapter.

7.152 The local highway network and public transport infrastructure is expected to operate as per the future baseline scenario if the Proposed Development were not to come forward.

**Cumulative Effects**

**Demolition and Construction**

7.153 This section identifies the effects of the Proposed Development in combination with the effects of other cumulative schemes within the surrounding area (as set out in the Assessment Methodology).

**7.154** The purpose of this assessment is to identify the effects of the Proposed Development in conjunction with the effects of other surrounding development schemes on the receptors identified within the assessment above that could potentially be impacted by the Proposed Development.

**7.155** Demolition and Construction traffic is invariably an important component of traffic flow on the strategic road network. This includes both through traffic and traffic with local destinations and will vary to some degree depending on where development is focussed at any time. The nature of such traffic is constantly changing with some construction activities ending or reducing and others starting or become more intense. This is a matter which is best considered strategically at a policy level and is difficult to consider in any detail on a scheme-by-scheme basis.

**7.156** Once vehicles are present on the strategic highway network, they are served by routes designed for HGVs and carry a volume of traffic where the demolition/construction traffic associated with the Proposed Development will create a negligible increase.

**7.157** As highlighted earlier in this ES chapter, it is anticipated that construction traffic routing for the Proposed Development during peak construction will be via the strategic road network, before accessing the Site via Lochnagar Street. In the preparation of the detailed CLP, which will be secured via a planning condition, it will be necessary for the appointed construction contractor to liaise with other schemes locally, such as those which a planning application has been submitted for and yet to be determined, and liaise with local stakeholders where it is necessary to do so to mitigate any potential impacts of multiple construction events occurring simultaneously in proximity to the Site.

**7.158** The appointed construction contractor will monitor and review the CLP for the Proposed Development on an on-going basis to reflect the changing needs of the project and / or any changes to the local road network.

**7.159** While a number of developments are permitted or subject to planning permission in the surrounding area, it is considered that only – the Ailsa Wharf development, Islay Wharf development, Former Poplar Tram Depot development, and Leven Road Gasworks development sites will use the same local highway network as the construction vehicles generated by the Proposed Development. It is reasonable to assume that there could be an overlap with their construction period when the Proposed Development is under construction (**Table 7.21**):

**Table 7.21 Cumulative Scheme Construction Flows**

Site	Residential Dwellings	Daily Construction HGV Flows (two-way)	Data Source
Ailsa Wharf	785	71*	Ailsa Wharf Construction Environmental Management Plan
Islay Wharf	133	119	Poplar Tram Depot ES Cumulative Construction Assessment
Poplar Tram Depot	530		
Leven Road Gasworks	2,800	22	Leven Road Gasworks ES Traffic & Transport Chapter
Aberfeldy Village Masterplan	1,628 (max)	128	Development assessed in this ES. Blue Skye Building Pre-Construction Assessment.
Cumulative	5876	341	-

\*The percentage HGVs out of total construction vehicle flow was not included in the CEMP. Therefore a proportion of 89.6% was applied, as this was quoted within the Poplar Bus Depot Cumulative Assessment.

**7.160** The distribution of construction trips for the cumulative schemes (excl. the Proposed Development) has been extracted from the Poplar Tram Depot Cumulative Construction Assessment as this distribution was previously accepted by LBTH and TfL and the cumulative schemes are accessed using the same general local highway network links.

**7.161** To see what highway links are affected by the cumulative development in the area, construction traffic HGV AADT flows have been distributed on the local highway network (**Table 7.22**).

**Table 7.22 Construction HGV AADT Change – Cumulative Assessment**

Highway Link	Committed Development Construction HGV AADT	Proposed Development Construction HGV AADT	Cumulative Construction HGV AADT Change	Change in HGV AADT (%)	Magnitude of Impact
Abbott Road Slip to A12	70	0	70	52%	Minor Adverse
Leven Road	165	0	165	187%	Major Adverse
Bromley Hall Road	176	128	330	1085%	Major Adverse
Lochnagar Street	176	128	330	173%	Major Adverse

**7.162** As shown above, the Abbott Road Slip to the A12, Leven Road, Bromley Hall Road, and Lochnagar Street are expected to experience a change in HGV AADT above the IEMA guidance threshold of 30%. However, as set out in the table above, the peak construction flows for the Proposed Development is not expected to materially add to the Abbott Road Slip to the A12 and Leven Road and therefore the Proposed Development will not add a significant impact on a cumulative basis.

**7.163** For Lochnagar Street and Bromley Hall Road, the change in HGV AADT is significant. However, as set out earlier in this ES, this is mostly due to the relatively low existing HGV flows on these links, as the hourly additional flow for these links is around 30 vehicle movement per hour (one vehicle every two minutes).

**7.164** The ES documentation for the cumulative developments set out a range of construction mitigation including CLPs and construction environmental management measures. In these documents, the residual environmental construction effects are described as no significant. As set out in this Chapter, the construction impacts of the Demolition and Construction phase of the Proposed Development will be mitigated through a CLP and construction management plans leaving no significant residual adverse effects.

**7.165** It is therefore considered that though the overall number of construction HGVs doubles in the Cumulative Assessment compared to scenario that assesses the proposals in isolation, the anticipated cumulative effects on the network are expected to be direct, temporary, medium-term, and **minor adverse (not significant)**.

### Completed Development

**7.166** During the pre-application scoping process, a number of cumulative schemes were identified. As noted in **paragraph 7.12 to 7.15**, cumulative effects are considered inherently as part of the operational assessment of the Proposed Development. Therefore no additional Cumulative Impact Assessment is required for the Completed Development scenario.

**7.167** The cumulative schemes are expected to increase pedestrian and cycle flows immediately within the study area. As the proposals include a new pedestrian-cycle link under the A12 which will help accommodate these flows, the cumulative effect on pedestrians and cyclists is expected to be beneficial.

## LIKELY SIGNIFICANT EFFECTS

**7.168** No significant residual adverse effects relating to traffic and transport have been identified as part of the assessment of the Demolition and Construction phase of the Proposed Development.

**7.169** The CLP will be monitored and reviewed by the Contractor at regular intervals during the construction phase. The number and frequency of construction vehicles travelling to and from the construction site will be strictly monitored and controlled where necessary.

**7.170** No residual adverse significant effects relating to traffic and transport have been identified as part of the assessment of the operational phase of the Proposed Development. However, the proposals are expected to generate some significant beneficial effects related to traffic and transport. These include:

- **Major Beneficial (Significant)** effects to pedestrian and cyclist severance;
- **Major Beneficial (Significant)** effects to pedestrian and cyclists amenity, fear and intimidation;
- **Moderate Beneficial (Significant)** effects to pedestrian and cyclist accidents and safety; and
- **Moderate Beneficial (Significant)** effect to bus passenger severance.

**7.171** The Delivery and Servicing Plan and Travel Plan will be regularly monitored to ensure that the identified mitigation measures are being correctly implemented which will limit any adverse effects and maximise the beneficial effects associated with the Proposed Development.

**7.172** No residual significant cumulative effects are anticipated.