CITY AIRPORT DEVELOPMENT PROGRAMME
(CADP1) S73 APPLICATION

ENVIRONMENTAL STATEMENT

VOLUME 1: MAIN ES

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City Airport Development Programme (CADP1) S73 Application

Volume 1: Environmental Statement
Chapter 10: Surface Access

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10 Surface Access

10.1 Introduction

10.1.1 This chapter has been prepared by Steer and presents the assessment of the likely effects arising from the proposed development on the local surface access network. The proposals seek to allow for the following:

- An increase passenger throughput from 6.5mppa to 9mppa;
- An increase in the number of flights between 06:30 and 06:59 from 6 to 9;
- Consequential modifications to daily and other limits on flights; an extension of the operation hours on Saturday afternoons, from 12:30 to 18:30 (with an additional hour in the evenings for 12 arrivals only during the Summer); and
- Other consequential changes to conditions.

10.1.2 With the focus upon increasing the proportion of passengers using LCY for leisure (as opposed to business travel), a little more than half of the additional travel demand would occur outside the weekday AM and PM peak periods, making use of spare capacity in the surrounding networks. The proposed amendments include targets to achieve 80% of passengers and 55% of staff using sustainable travel modes (including London Taxis) by 2031 and as discussed later in this Chapter, it is also proposed to set up a Sustainable Transport Fund which will be used to contribute towards initiatives to encourage the use of sustainable modes and discourage the use of cars.

10.1.3 The analyses in this chapter assume that the 2031 mode share targets will be achieved. As concluded later in this chapter, the surrounding highway and public transport networks can accommodate the additional travel demand generated by the proposals.

10.1.4 No additional car parking is proposed over and above that already consented for CADP1 (1,251 spaces in total). This will assist in restraining car-borne trips as passenger and staff numbers grow towards 2031.

10.1.5 This chapter describes the current baseline transport and access conditions at London City Airport (the airport) and the surrounding area as well as those projected under the Do Minimum (DM) Scenario and the Development Case (DC) Scenario on all relevant modes of transport; the evaluation of the significance of such effects; the scope for additional mitigation; and the likely residual effects. The assessment included in this chapter will demonstrate that the impacts arising from the proposed development will range from negligible to minor to moderate in terms of magnitude of impact, as more than half the growth in surface access demand will occur outside of the weekday peak periods. The assessment also considers other development in the area to ensure cumulative effects are understood.

10.1.6 Where applicable, the assessment follows the methodology set out in the Institute of Environmental Management and Assessment (IEMA) Guidelines[1] for investigating highway impact. Otherwise, the methodology adopted has been clearly identified.

10.1.7 The Transport Assessment (TA), which comprises Volume 4 of the ES, sets out in detail the methodologies adopted for the assessment of the proposed development for all transport modes.

10.1.8 This chapter is accompanied by the following appendices included in ES Volume 2:

- Appendix 10.1: AADT, AAWT and Annual Average Weekday Traffic Technical Note
- Appendix 10.2: Tables of Data

[1] Institute of Environmental Management & Assessment (IEMA) (1993) Guidelines for the Environmental Assessment of Road Traffic.

10.2 Policy and Legislative Context

10.2.1 Chapter 5 of the ES provides a summary of the relevant national and aviation policy. This section focusses on the most relevant regional and local transport policies. It outlines the transport objectives that are relevant in terms of accessibility, transport effects, sustainability measures and design.

Regional policy

London Plan (2021)[2]

10.2.2 The following London Plan policies are considered relevant to this assessment:

- Policy T1 'Strategic approach to transport' states that development proposals and plans should aim to support the delivery of the Mayor of London's strategic target of 80% of all trips in London to be made by foot, cycle or public transport by 2041;
- Policy T4 Assessing and mitigating transport impacts, requires development proposals to provide mitigation against any adverse transport impacts of new development; and
- Policy T8 Aviation requires airport operators to work with TfL and other transport providers to increase the proportion of trips undertaken by sustainable modes. Specifically, Criteria D requires proposals that would impact on passenger movements through London to "*demonstrate how public transport and other surface access networks would accommodate resulting increases in demand alongside forecast background growth*" and that this should include "*credible plans by the airport for funding and delivery of the required infrastructure*." This is supported by the more general aims of National Planning Policy Framework paragraph 110, which seeks to prioritise the use of sustainable modes.

Mayors Transport Strategy (2018)[3]

10.2.3 The Mayor's Transport Strategy (MTS) was published in March 2018 and is a statutory document developed in conjunction with the London Plan as part of a strategic policy framework to support and shape the economic and social development of London over the next 20 years. The document outlines the Mayor's vision and how TfL and its partners plan to deliver that vision. The Mayor's transport vision states:

"Transport is fundamental to the lives of all Londoners and is at the heart of many of the city's present and future challenges. The success of London's future transport system relies upon reducing Londoners' dependency on cars in favour of increased walking, cycling and public transport use."

10.2.4 MTS Policy 1 seeks to reduce Londoner's dependency on cars in favour of active, efficient and sustainable modes with the central aim of 80% of all trips in London to be made on foot, by cycle or using public transport by 2041. Although not directly quoted in the policy, the Mayor sets a target of 83% of trips within Newham to be made on foot, by cycle or using public transport by 2041, with LBN required to provide annual reports on progress towards reaching this target.

Local policy

London Borough of Newham Local Plan (2018)[4]

10.2.5 The Newham Local Plan was adopted on 10 December 2018 and forms the basis for planning in Newham.

10.2.6 Newham Local Plan Policy INF1 (Strategic Transport) includes support for proposals which encourage the use of sustainable transport modes and optimise the use of existing airport capacity.

10.2.7 Newham Local Plan Policy INF2 (Sustainable Transport), supports enhancements to local public transport services and pedestrian and cycle networks and greater management of parking.

[2] Greater London Authority, March 2021, The Spatial Development Plan for Greater London,
[3] Greater London Authority, March 2018, Mayor's Transport Strategy,
[4] London Borough of Newham, December 2018, Newham Local Plan

10.2.8 The refresh of the local plan is underway with a draft local plan now prepared. This is looking to enhance the emphasis on the promotion of sustainable travel and greater focus on reducing car use and car dominance.

Newham Infrastructure Delivery Plan (2022)

10.2.9 The Newham Infrastructure Delivery Plan (July 2022) sets out LBN's priorities for new infrastructure to support growth in the Borough. Transport projects of relevance to LCY include:

- Platform Improvements at London City Airport DLR station;
- Longer-term provision of a new Elizabeth Line station at Silvertown adjacent to LCY; and
- Public realm improvements at Custom House station.

Other Guidance

Institute of Environmental Management and Assessment (IEMA): Guidelines for the Environmental Assessment of Road Traffic

10.2.10 Guidelines for the Environmental Assessment of Road Traffic (Guidance Note No. 1) were published in 1993 by the Institute of Environmental Assessment (IEA) (now the Institute of Environmental Management and Assessment IEMA).

10.2.11 The assessment of impacts of the proposed development on highways has been undertaken in accordance with these guidelines.

Design Manual for Roads and Bridges (DMRB) LA 104 Revision 1: Environmental Assessment and Monitoring

10.2.12 The Design Manual for Roads and Bridges (DMRB) is a series of technical documents produced by the Highways Agency (HA) (now National Highways, NH). Document LA 104 sets out the requirements for environmental assessment of projects, including reporting and monitoring of significant adverse environmental effects. This document is an update of the previous DMRB Volume 11.

10.3 Assessment Methodology

Consultation

10.3.1 Table 10.1 provides a summary of the issues raised by TfL, LBN and other statutory consultees during the EIA Scoping process. In addition to the EIA Scoping Report prepared, a separate TA Scoping Report was also submitted to TfL and LBN for their review in July 2022. TfL's response is provided at Appendix B of the TA.

Table 10.1 Consultation Responses Relevant to the Assessment of Surface Access

Consultee	Issues Raised	How/ Where Addressed
TfL	Suggestion of 2031 services for Public Transport	Adopted for TA and ES modelling.
LBN	Impact upon DLR services	Considered in ES and TA.
Port of London Authority (PLA)	The PLA recommends that the Surface Access Chapter of the ES considers the potential for passengers to be transported to site by water via Royal Wharf.	The TA has considered the pedestrian links between the airport and nearby river bus pier.
Greater London Authority (GLA)	The application should set out clearly the proposals for achievement of the public transport and active travel mode shares by passengers and those who work at the airport. There must also be suitable commitment to ensure their delivery. A similar point applies to delivery and servicing arrangements.	The TA has sets out the public transport enhancements that have recently come forward with the opening of the Elizabeth line and future planned enhancements to DLR infrastructure and bus services. A Sustainable Transport Fund is proposed to fund further enhancements to walking, cycling and public transport.
	Any increase in car parking including of valet parking or other off-site provision would not be supported as this would likely result in greater travel by private vehicle. Instead a reduction in provision would be supported with clear justification for the retention of spaces.	The proposed amendments to the CADP1 consent to not comprise any increase in car parking beyond what has been permitted.
	Effective measures to prevent parking or pick up/drop off in the surrounding streets to the south of the airport must also be put in place to contribute towards sustainable transport objectives and reduce disturbance to local residents.	The TA sets out details of ongoing commitment to manage parking and investigate a potential controlled parking zone.
TfL	TA should identify barriers that currently deter active travel to the airport and identify measures that can be secured to improve cycling and walking links.	Active Travel Zone assessment undertaken and included in TA.
	Sufficient cycle parking should be provided to support mode shift assumptions.	TA acknowledges future mode share targets will require additional cycle parking and such measures are dealt with under the Framework Travel Plan to 2031.
	The application must be supported by a full Healthy Streets transport assessment.	TA has been prepared with this in mind.
	Whilst transport models are focussed on weekday peaks, TfL want a Saturday demand profile for context.	TA includes Saturday demand figures and assessment.
	Travel Plan should be updated to reflect the emerging mode shift targets and opportunities based on what currently influences mode choice and potential demand particularly for walking, cycling and buses.	A Framework Travel Plan to 2031 accompanies the TA.

Scope of the Assessment

Technical Scope

10.3.2 The scope of the assessment focusses on the impact of additional highway traffic on the surrounding highway network and road users, and the impact of increased demand on the public transport network from additional airport passengers. The scope of the assessment accords with the IEMA Guidelines for investigating highway impact. Otherwise, the methodology adopted has been clearly identified

10.3.3 The scope and approach to surface access modelling for this assessment has been agreed with TfL and LBN through the TA scoping exercises and is detailed in the TA.

Study Area

10.3.4 The assessment area has been informed by an understanding of the current distribution of trips to and from the airport, the travel modes available and where these have the potential to give rise to significant effects. Specifically:

- Travel by public transport – the focus is on access to public transport nodes within the range of travel by foot and those services and destinations which are currently known to attract public transport travel to and from the airport;
- Travel by foot – the focus is on designated walk routes providing safe, direct and convenient access to and from the airport and the extent of routes assessed in detail are set out in the TA;
- Travel by cycle – the focus is on designated cycle routes providing safe, direct and convenient access to and from the airport; and the extent of routes assessed in detail are set out in the TA;
- Traffic flows – A methodical approach has been adopted as set out below to define the geographical extent of the assessment of traffic flows.

10.3.5 Details of current distribution of trips to and from the airport by available travel modes is detailed in the TA.

Assessment Scenarios

10.3.6 The following scenarios have been considered within the assessment:

- 2019 Baseline Year;
- 2025 Transitional Year – DM Scenario and DC Scenario;
- 2027 Transitional Year – DM Scenario and DC Scenario;
- 2029 Transitional Year - DM Scenario and DC Scenario; and
- 2031 Principal Year of Assessment - DM Scenario and DC Scenario

10.3.7 Traffic levels, as reported in the DfT's road traffic statistics, in LBN and London as a whole have been virtually unchanged for some 25 years, and the London Plan and LBN policies are aimed at encouraging sustainable modes of transport in place of private car usage.

10.3.8 Transport impacts will increase as passenger numbers grow and hence the greatest impact would arise when the airport reaches its operational limit. The transport chapter therefore only considers the impacts in 2031 as this is considered a worst-case year in which the difference in passenger numbers between the DM and DC Scenario would be at its greatest.

Sensitivity Tests

10.3.9 As set out in Chapters 3 and 4 of the ES, aviation and passenger forecasts have been developed for two alternative DC Scenarios: a 'Faster Growth' Scenario in which the airport would reach 9mppa two years earlier, in 2029; and a 'Slower Growth' Scenario in which the airport would reach 9mppa two years later, in 2033.

10.3.10 The detailed analysis undertaken as part of the TA has shown that applying a faster or slower growth rate in passenger numbers will make no discernible difference to the highway conditions and demand on public transport predicted for the core DC Scenario. In the Slower Growth Scenario, the impacts and residual effects, once the proposed development is complete and operational, would be the same but occur at a later date. In the faster growth scenario, peak traffic levels would be reached earlier, in 2029 rather than 2031, but with the same aggregate figures in 2031.

10.3.11 In light of this, the faster and slower growth scenarios would not give rise to any difference in the effects identified using the core DC Scenario, and accordingly are not considered further in this chapter.

Baseline Characterisation

10.3.12 This assessment uses 2019 as the baseline year, drawing on the most up to date and validated full calendar year data, and the last reliable full year of travel demand prior to the Covid-19 pandemic. Baseline conditions around the airport have been established by means of desktop research, site observations, a range of DfT traffic surveys and publicly available data. A summary of the tasks that have been undertaken to assess the baseline conditions are provided below and described in more detail in subsequent paragraphs.

- The existing local highway network within the immediate vicinity of the airport has been analysed;
- Existing traffic survey data from DfT has been obtained for roads throughout the study area;
- Historical accident data for the latest five-year period for all roads within the vicinity of the airport has been analysed;
- Existing public transport services and associated capacity for rail, coach and bus travel has been assessed where feasible by reference to the operator's published data;
- The ease of access to public transport facilities has been reviewed; and
- Existing travel patterns and mode share data for passengers and employees obtained from published Civil Aviation Authority (CAA)[5] and LCY employee surveys respectively, has been reviewed, as set out in the TA.

Baseline Traffic Data

10.3.13 Baseline traffic data was derived from traffic surveys obtained from DfT Traffic Counts[6].

10.3.14 All baseline data has been collated for the external highway network peak period, as set out below:

- AM Peak: 08:00-09:00; and
- PM Peak: 17:00-18:00.

10.3.15 Additionally, 24-hour Annual Average Daily Traffic (AADT), 18-hour Annual Average Weekday Traffic (AAWT), and 24-hour AAWT flows have been provided to support the noise, air quality, carbon and public health and wellbeing assessments. Details of the methodology used to produce these is provided in Appendix 10.1.

10.3.16 The peak hour analysis has been used for capacity assessments of the highway network and is reported in the TA. The environmental impact from transport has been assessed on the basis of the 24-hour AADT in accordance with IEMA guidelines.

Baseline Pedestrian, Cycle and Public Transport Data

10.3.17 For travel on foot and on cycle, desktop studies and site surveys have been undertaken to review accessibility to and from the airport using existing infrastructure, as set out in the TA.

[5] CAA Annual Departing Passenger Survey reports (https://www.caa.co.uk/data-and-analysis/uk-aviation-market/consumer-research/departing-passenger-survey/)
[6] https://roadtraffic.dft.gov.uk/#10/51.4899/-0.0886/basemap-localauthorities-countpoints

10.3.18 For travel by public transport modes, information on service capacities and frequencies has been obtained from a range of sources as follows:

- LCY Airport Annual Performance Report 2019;
- LCY Airport Employee Survey 2019;
- Civil Aviation Authority (CAA) Annual Passenger Survey 2019 – Detailed Data;
- DLR loadings from TfL Railplan modelling; and
- TfL published bus services Assessment Methodology: Highway Impacts.

10.3.19 The approach to traffic modelling is detailed in the technical note provided as Appendix 10.1.

10.3.20 In terms of the key environmental effects arising from changes in road traffic, the scale and extent of the assessment has been considered in accordance with the IEMA guidelines for assessing highway impacts. The assessment has involved identifying the affected parties or locations which may be sensitive to changes in traffic conditions and identifying the scale of potential impact.

10.3.21 The IEMA guidelines set out a range of potential additional environmental effects relating to road traffic that should be considered within an EIA, if such effects are deemed applicable to the project and/or likely to be significant, as set out in detail later in this section. Of these impacts, road traffic noise and vibration and air quality are most relevant to the proposed development and these are considered in Chapters 8 (Noise and Vibration) and 9 (Air Quality).

10.3.22 With respect to road traffic, the IEMA Guidelines recommend two rules to be considered when assessing the impact of development traffic on a highway link:

- Rule 1: Include highway links where the AADT traffic flows will increase by more than 30%; and
- Rule 2: Include any other specifically sensitive areas where AADT traffic flows have increased by 10% or more.

10.3.23 The IEMA guidelines provide guidance on the categorisation of receptors sensitive to traffic flow. Those with the greatest sensitivity to traffic flow are typically determined as: schools, colleges, playgrounds, hospitals, accident clusters and roads without footways that are used by pedestrians.

10.3.24 The guidance suggests traffic volume changes of less than 30% on all local and strategic roads that are deemed non-sensitive could be reasonably considered as not significant (referred to as the ‘Rule 1’ threshold). However, in this instance, a more conservative approach has been adopted in this assessment whereby consideration has been given to the potential environmental impact on all roads that experience a 10% or greater rise in traffic flows when comparing the DM Scenario with the DC Scenario in the principal assessment year (2031).

10.3.25 The guidance considers that projected changes in traffic flow of less than 10% at specifically sensitive links create no discernible environmental impact (referred to as the ‘Rule 2’ threshold). In such circumstances, detailed appraisal of the various environmental effects from this change is not required.

10.3.26 The predicted traffic generation from the proposed development has been assigned to the local highway network based on an understanding of trip origins and destinations for passengers and staff. Then, in the first instance, where the predicted change in traffic volume is less than 10% between the DM Scenario and DC Scenario, this is considered not to be significant and therefore those highway links screened out of any further analysis in the EIA.

10.3.27 For the purpose of this assessment the consideration of effects of the proposed development has been undertaken on the following links surrounding the site:

1. Royal Docks Road
2. Woolwich Manor Way (north of roundabout)
3. Royal Albert Way (east of Cyprus DLR)
4. Woolwich Manor Way (south of roundabout)
5. Pier Road
6. Connaught Road (east of Hartmann Road)
7. Hartmann Road (east of Connaught Road) – Western Airport Access
8. Hartmann Road (West of Albert Road) – Committed Eastern Airport Access
9. Connaught Road (east of roundabout)
10. Connaught Road (west of roundabout)
11. Connaught Bridge (south)
12. North Woolwich Road (east of roundabout)
13. North Woolwich Road (west of roundabout)
14. Connaught Bridge (north)
15. Royal Albert Way (west of Stanfield Road)
16. Victoria Dock Road
17. Lower Lea Crossing (East of East India Dock Road)
18. Aspen Way (West of Slip to Lower Lee Crossing)
19. A13 East of A102
20. Leamouth Road
21. Silvertown Way (Slip to Lower Lea Crossing)
22. Silvertown Way (Overpass)
23. Silvertown Way (Between Caxton Street and Hallsville Road)
24. Blackwall Tunnel Northern Approach A12 (South of Abbott Road)
25. Limehouse Tunnel
26. West India Dock Road (West of Caster Lane)
27. Aspen Way (East of Upper Bank Street)
28. Blackwall Tunnel Southern Approach A12 (South of Boord Street)
29. Blackwall Tunnel Southern Approach A12 (North of Peartree Way).

10.3.28 It is noted that Highway Links 1-16 are consistent with the Highway Links used in the assessment of the 2015 UES, with the exception of Link 9.

10.3.29 For those highway links identified above where predicted traffic flow increases exceed the 10% threshold, seven potential forms of environmental impacts have then been examined in accordance with the IEMA guidelines, as described in Table 10.2 below.

Table 10.2: IEMA Guidelines Identified Form of Environmental Impact

Effect	Description
Changes in Traffic Flows	Increase or decrease in road traffic flows resulting from the development, compared to baseline conditions.
Severance	The perceived division that can occur within a community when it becomes separated by a major traffic artery.
Driver Delay	Valuation of the delay (or benefit) to drivers resulting from a new development.
Pedestrian Delay (cyclists also considered)	The change in the ability of pedestrians to cross a given highway link due to changes in traffic flow, speed, composition, highway design.
Pedestrian Amenity	Influenced by traffic flow but also including consideration of the overall relationship between pedestrian and traffic (e.g., air quality and noise).
Fear and Intimidation	Linked to pedestrian amenity and influenced by factors including traffic flow, composition and pavement conditions.
Accidents and Safety	Increase or decrease in risk of road traffic collisions resulting from changes in traffic flows and highway layout.

Types of Effects and Significance Criteria

10.3.30 Guidance provided by IEMA and DfT has been followed where applicable to identify significance criteria applicable to assess walking, cycling and public transport and vehicle trips associated with the proposed development.

10.3.31 As further described below, for several effects there are no commonly adopted thresholds of significance, and hence interpretation and professional judgement has been applied based on precedents or quantitative data where available.

Magnitude of Impact

10.3.32 The approach to the assessment of magnitude of impact varies by impact type. The IEMA Guidelines set out thresholds that can be used to identify the magnitude of impact considering the sensitivity of potential receptors (as set out above).

10.3.33 The magnitude of impact criteria adopted in this assessment for each of the effects described below are summarised in Table 10.4.

Severance

10.3.34 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 DMRB Volume 11 Section 3, Part 8. This document suggests changes in AADT traffic flow of 30%, 60% and 90% are considered equivalent to 'minor', 'moderate' and 'major' changes in severance, respectively.

Driver Delay

10.3.35 Where roads affected by development are at or near capacity, the traffic associated with such development can cause or add to vehicle delays. The guidelines suggest other sources of delay for non-development traffic can include:

- At the proposed site access where there will be additional turning movements;
- On the roads passing the application site where there is likely to be additional traffic;
- At other key intersections along the road that might be affected by increased traffic; and
- At junctions where the ability to find gaps in the traffic may be reduced, thereby lengthening delays.

10.3.36 Driver delay can be established at key junctions using conventional modelling techniques identifying the average delay in seconds. However, the IEMA Guidelines identify that such delays are:

"…only likely to be significant when the traffic on the network surrounding the development is already at, or close to, the capacity of the system."

10.3.37 Where relevant, the effects on driver delay are considered within this chapter and the magnitude of impact identified using professional judgement and the advice provided in the above guidance document.

Pedestrian and Cycle Delay

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

Pedestrian Amenity

10.3.39 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 is based on professional judgement.

Pedestrian Fear and Intimidation

10.3.40 Pedestrian fear and intimidation is caused by a number of factors, including a combination of the 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 10.3. The significance is determined from the change of the classification of the degree of hazard for a particular road.

Table 10.3: 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

Accidents and Safety

10.3.41 The magnitude of impact and significance of the change to accidents and safety likely to be introduced by the proposed development is assessed by means of professional judgement based on the projected changes to daily vehicle flows and proposed development trips.

Table 10.4: Magnitude of Impact Matrix

Impact	Magnitude of Impact			
	Negligible	Minor	Moderate	Major
Changes in daily vehicle flows on local roads (links)	Increase or decrease of less than 10% on future baseline traffic flows	Increase or decrease of 10% to 30% on future baseline traffic flows	Increase or decrease of 30% to 60% on future baseline traffic flows	Increase or decrease of over 60% on future baseline traffic flows
Severance	Change in total traffic of less than 10%	Change in total traffic up to 30%	Change in total traffic up to 60%	Change in total traffic of more than 60%
Driver Delay	No change in driver delay	Slight improvement or worsening in driver delay- 30% increase in peak hour delays for congested junctions/links	Moderate improvement or worsening in driver delay between 30% - 60% increase in peak hour delays for congested junctions/links	Substantial improvement or worsening in driver delay between 60 -90% increase in peak hour delays for congested junctions/links
Pedestrian Delay	A judgement based on the routes with two-way traffic flow exceeding 1,400 vehicles per hour in context of individual characteristics and pedestrian activity			
Pedestrian Amenity	Change in total traffic of less than 100%		A judgement based on any links with change in total traffic of over 100% in the context of individual characteristics	
Accidents and Safety	A judgement based on existing accident patterns and the change in collision risk for links and junctions where traffic growth exceeds the 10% threshold			
Fear and Intimidation	Average daily traffic flow of less than 600 vehicles per hour and 18hr HGV flow of less than 1,000 vehicles	Average daily traffic flow of 600 to 1,200 vehicles per hour and 18hr HGV flow 1,000 to 2,000 vehicles	Average daily traffic flow of 1,200 to 1,800 vehicles per hour and 18hr HGV flow 2,000 to 3,000 vehicles	Average daily traffic flow of more than 1,800 vehicles per hour and 18hr HGV flow of more than 3,000 vehicles

Receptor Sensitivity / Value

10.3.42 As a general guide, the determination of receptor sensitivity is based on the criteria of value, adaptability and tolerance.

10.3.43 Given that all persons are deemed to be of equal value, sensitivity to changes in transport conditions is generally focussed on vulnerable user groups who are less able to tolerate, adapt to, or recover from changes. Table 10.5 summarises the broad criteria for identifying receptor sensitivity.

10.3.44 Road links with descriptions of high or medium sensitivity have been considered against the Rule 2 threshold (10% change in traffic flows) described above. Other links with descriptions of low or negligible sensitivity have been considered against the Rule 1 threshold (30% change in traffic flows). Where necessary, professional judgement has been applied in identifying the relevant category for each link.

Table 10.5: Receptor Sensitivities

Sensitivity	Typical Descriptors
Very High	Receptors of very high importance and rarity, international scale and very limited potential for substitution.
High	Receptors of greatest sensitivity to traffic flows: schools, colleges, playgrounds, accident clusters (with reference to accident data), retirement homes, urban/residential roads without footways that are used by pedestrians.
Medium	Traffic flow sensitive receptors, including congested junctions, doctors' surgeries, hospitals, shopping areas with roadside frontage, roads with narrow footways, unsegregated cycleways, community centres, parks, recreation facilities.
Low	Receptors with some sensitivity to traffic flow: places of worship, public open space, nature conservation areas, listed buildings, tourist attractions and residential areas with adequate footway provision.
Negligible	Receptors with low sensitivity to traffic flows and those sufficiently distant from affected roads and junctions.

Significance of Effects

10.3.45 Generic significance criteria are applied throughout this chapter with the degree of significance and Magnitude of Impact assigned in accordance with the DMRB guidelines LA 104 'Environmental Assessment and Monitoring'[7] and based on the criteria set out in Table 10.5 and Assessment Matrix in Table 10.6 below, extracted from the LA104 guidance.

10.3.46 The significance of the effect is formulated as a function of the receptor or resource environmental value (or sensitivity) and the magnitude of impact and assigned a level of negligible, minor, moderate, and major.

Table 10.6: Significance of Effects Matrix

Magnitude of Impact (Degree of Change)						
Environmental Value (Receptor Sensitivity)		No Change	Negligible	Minor	Moderate	Major
	Very High	Neutral	Slight	Moderate or large	Large or very large	Very large
	High	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
	Medium	Neutral	Neutral or Slight	Slight	Moderate	Moderate or large
	Low	Neutral	Neutral or Slight	Neutral or slight	Slight	Slight or moderate
	Negligible	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight

[7] Highways England, 2008, LA 104 Environmental assessment and monitoring

10.3.47 All effects have been characterised as being either:

- **Positive:** meaning that the changes produce positive benefits in terms of surface access and transport (such as reduction of traffic, travel time or patronage, or provision of a new service, access or facility); or
- **Negative:** meaning that changes produce adverse effects in terms of surface access and transport (such as increase of traffic, travel time, patronage or loss of service or facility).

10.3.48 Positive and negative effects have been further characterised in terms of significance levels as outlined in Table 10.5 and defined as follows:

- **Neutral:** No effects or those that are beneath levels of perception with normal bounds of variation or within the margin of forecasting error;
- **Slight:** Effects at this level are not material in the decision-making process. A slight impact would see fewer movements of HGV's or traffic flows would be lower in terms of percentage increase than a moderate impact. There would also be suitable pedestrian facilities provided which includes wide footways and crossing facilities;
- **Moderate:** Effects at this level can be considered to be material decision-making factors. A moderate impact would see reduced vehicle movements and delay compared with the severe impact and the percentage increase in HGV movements would be lower in terms of percentage increase. Pedestrian facilities including footways and crossing facilities would be present but may require some improvement;
- **Large:** Effects at this level are likely to be material in the decision-making process. A large impact would see reduced vehicle movements and delay compared with the severe impact, although the percentage increase in HGV movements is still high. There would also be an impact on pedestrians as there would be limited footway provision and crossing facilities available. The impact on sensitive environments will be less; and
- **Very Large:** Effects at this level are material in the decision-making process. This level of impact would see a significant change in vehicle movements especially HGVs and the level of pedestrian provision would be very limited, i.e., no footway provision or crossing facilities available. The impact to drivers would also be affected through increased delay and increased delay for pedestrians crossing the road. The location of the impact will also affect local communities and sensitive environments such as schools, churches etc.

10.3.49 Where the matrix offers more than one significance option, professional judgement has been used to decide which effect is most appropriate.

10.3.50 Based on the above, it is considered the impact would be considered as 'significant' where the increase in traffic falls within the "Large" or "Very Large"' category in terms of significance, i.e., where the Magnitude of Impact is Major and the Environmental Value are Very High or High or where the Magnitude of Impact is Moderate and the Environmental Value is Very High. This approach to establishing the significance criteria adopted is consistent with that used in the 2015 UES.

10.3.51 Following their identification, it is proposed that significant effects are classified on the basis of their nature and duration as follows:

- **Temporary** – effects that persist for a limited period only (due for example, to particular activities taking place for a short period of time);
- **Permanent** – effects that result from an irreversible change to the baseline environment (e.g., land-take) or which persist for the foreseeable future (e.g., noise from regular or continuous operations or activities);
- **Direct** – effects that arise from the impact of activities that form an integral part of the scheme (e.g., direct employment and income generation);
- **Indirect** – effects that arise from the impact of activities that do not explicitly form part of the scheme (e.g., off-site infrastructure upgrades to accommodate the development);
- **Secondary** – effects that arise as a consequence of an initial effect of the scheme (e.g., induced employment elsewhere); and
- **Cumulative** – effects that can arise from a combination of different effects at a specific location or the interaction of different effects over different periods of time.

Assessment Methodology: Sustainable Travel Mode Effects

Public Transport

10.3.52 The effects on the capacity of public transport services have been assessed based on the increase in trips in relation to the capacity of the services as predicted for 2031 (obtained by use of TfL's Railplan model) and the significance criteria set out in Table 10.7 below applied.

10.3.53 The assessment focuses on the impact the proposed development would have on public transport travel demand. This includes Railplan modelling assessment of the impact on London Underground (Elizabeth Line), DLR, Rail and London Bus services, in addition to a quantitative review of the impact on future bus services.

10.3.54 TfL's 2031 Railplan model has been utilised to understand potential line loadings with the 6.5mppa DM and 9.0mppa DC scenarios. Total public transport demand forecasts have been adopted as alternative origin and destination figures, distributed in line with the Railplan model assumptions.

10.3.55 The model provides 3 hour AM and PM peak period results, a series of plots of crowding and line loadings.

10.3.56 For the purposes of the analyses in this ES, London Taxis (which are in the process of being converted to full zero- or low-emission vehicles) have been considered a sustainable transport mode, in accordance with the definition at Annex 2 of the National Planning Policy Framework.

Walking and Cycling

10.3.57 In addition to the effects of traffic flows on pedestrians, as outlined in the preceding section, the effects of the proposed development, including increased walking and cycling trips and the provision of pedestrian and cycle facilities, have also been assessed using the significance criteria set out in Table 10.7.

Table 10.7: Significance Criteria for Assessment of Sustainable Travel Modes

Impact	Significance of effect			
	Negligible	Minor	Moderate	Major
Change in Rail Demand to Capacity Ratio (based on total capacity including standing passengers)	No change in the demand to capacity ratio	Increase or decrease of the demand to capacity ratio on services below capacity	Increase or decrease of the demand to capacity ratio on services close to capacity	Increase or decrease of the demand to capacity ratio on services above capacity
Change in Bus/Coach Demand	No change in passenger demand	Increase or decrease in passenger demand on services below capacity	Increase or decrease in passenger demand on services close to capacity	Increase or decrease in passenger demand on services above capacity
Walking and Cycling	No change in convenience or quality of routes	Slight improvement or reduction in convenience or quality of routes	Moderate improvement or reduction in convenience or quality of routes	Significant improvement or reduction in convenience or quality of routes

Construction Effects

10.3.58 The traffic flows modelled for the assessment account for both the predicted number of construction vehicles and construction workers arriving by car (as summarised in Chapter 6 of the ES) and operational traffic in any given year between 2025 and 2031 in the DM and DC Scenarios. Accordingly, the impacts on the highway network associated with construction traffic are inherent to the assessment.

Assumptions and Limitations

10.3.59 The analyses in this chapter of the ES, take into account the following assumptions and limitations:

General Assumptions

- Airport Passenger Internal Transfers: These are passengers that transfer within the airport between arriving and departing flights and do not leave the airport. The airport has no facilities for flight transfer and these have not been accounted for in analysis.
- Employee Growth: Current and forecast airport employee totals are based on those provided in Chapter 7: Socio-Economics.

Future Mode of Travel Share Assumptions

- Passengers: The target mode shares are set out in the 2026-2031 Framework Travel Plan provided as Appendix E to the TA (80% of passengers using sustainable modes) and have been applied to the future assessment year (2031). It is expected that public transport share would continue to grow in accordance with historic trends and the continued emphasis of delivering sustainable growth at the airport through LCY's Sustainability Roadmap and travel plan initiatives.
- Employees: The 2026-2031 Framework Travel Plan mode share targets for staff (55% using sustainable modes) have been applied to the future assessment year (2031). It is expected that public transport share would continue to grow in accordance with ongoing travel plan initiatives, including the provision of more measures to encourage use of public transport and the potential introduction of measures to reduce the impacts of car use, including encouraging lift-sharing and parking charges for staff. Further details are provided in the 2026-2031 Framework Travel Plan contained at Appendix E of the TA (Volume 4 of the ES)
- Future Place of Origin. To facilitate use of the TfL models, it has been assumed that existing travel distributions remain valid for future years.
- Car Occupancy: To determine the number of vehicle trips per scenario, a car occupancy factor was applied to car passenger, taxi and rental vehicles. This was obtained from the 2019 UK CAA Passenger Survey, through the analysis of car/taxi/hire vehicle trips and group size. An average factor of 1.36 persons per vehicle was derived for 2019, with an average factor of 1.43 persons per vehicle predicted for 2031.

Direction of Travel Assumptions

- Passengers and Employees. Traffic has been assigned to the highway network by examining quickest highway routes for aggregated areas of trip origin and destination, using the TfL HAM models.
- Vehicle routeing: The highway assignment model adopted provides a robust test of the impact of additional traffic on the surrounding access roads to the airport.
- Peak Period Trips: Passenger trips are based on hourly profiles (arrivals/departures) provided by York Aviation Limited; employee public transport and vehicle trips have been derived by hourly increments supplied in the LCY Employee Survey 2019.

Docklands Light Railway

10.3.60 For the purposes of this assessment, the DLR service frequency has been based on 2031 assumptions within TfL's Railplan models.

10.3.61 There is some uncertainty around the delivery of new HIF funded trains, and accordingly to ensure a worst-case assessment, it is assumed that services remain at current frequencies (15tph peaks, 12tph off peaks, split half and half to Bank and Stratford International).

10.3.62 The deployment of new trains and B07s (type of DLR rolling stock) to given routes is not yet fixed and may involve a mix in practice, so to ensure a worst-case assessment, it is assumed that 3-car B07s will operate on both routes serving the airport.

10.4 Baseline Conditions

Existing Baseline

10.4.1 To assess the potential impacts and likely significant effects of the proposed development, it is necessary to determine the environmental conditions and sensitive receptors that currently exist at the airport and in the surrounding vicinity.

10.4.2 2019 has been agreed as the Baseline Year, as this represents the last full calendar year of 'normal' operations at the airport prior to the onset of the Covid-19 pandemic.

Highway Network

Strategic Highway Network

10.4.3 The main strategic road connections to the airport are the east-west A13 and the A406 North Circular that connects with the M11 and M25 motorways. The airport is approximately 1.5 kilometres from the A13 (Prince Regent's Lane junction), five kilometres from the A406 and 25 kilometres from the M25. In addition, the A102(M) crosses the Thames north-south via the Blackwall Tunnel approximately five kilometres from the airport. This is the nearest road river crossing point to the airport.

Airport Road Network

10.4.4 Vehicle access to the airport is provided from Hartmann Road. Hartmann Road is a private road with an east-west orientation. It forms a signalised junction with the A112 Connaught Road at its western end, which currently functions as the single point of access to the airport from the wider highway network. At its eastern end, Hartmann Road forms a signalised junction with the A117 Woolwich Manor Way, although this junction has, to date, not been operated for public access to the airport.

10.4.5 The A112 Connaught Road has an east-west orientation to the south of the airport, parallel with Hartmann Road. It continues to the A112 Albert Road, which links with the Woolwich Ferry river crossing via Pier Road.

10.4.6 The A1020 Royal Albert Way is a two-lane dual carriageway that links the airport, via the A1020 Connaught Bridge and A112 Connaught Road, to the A406 / A13 intersection, approximately five kilometres north-east of the airport.

Personal Injury Accident (PIA) Data

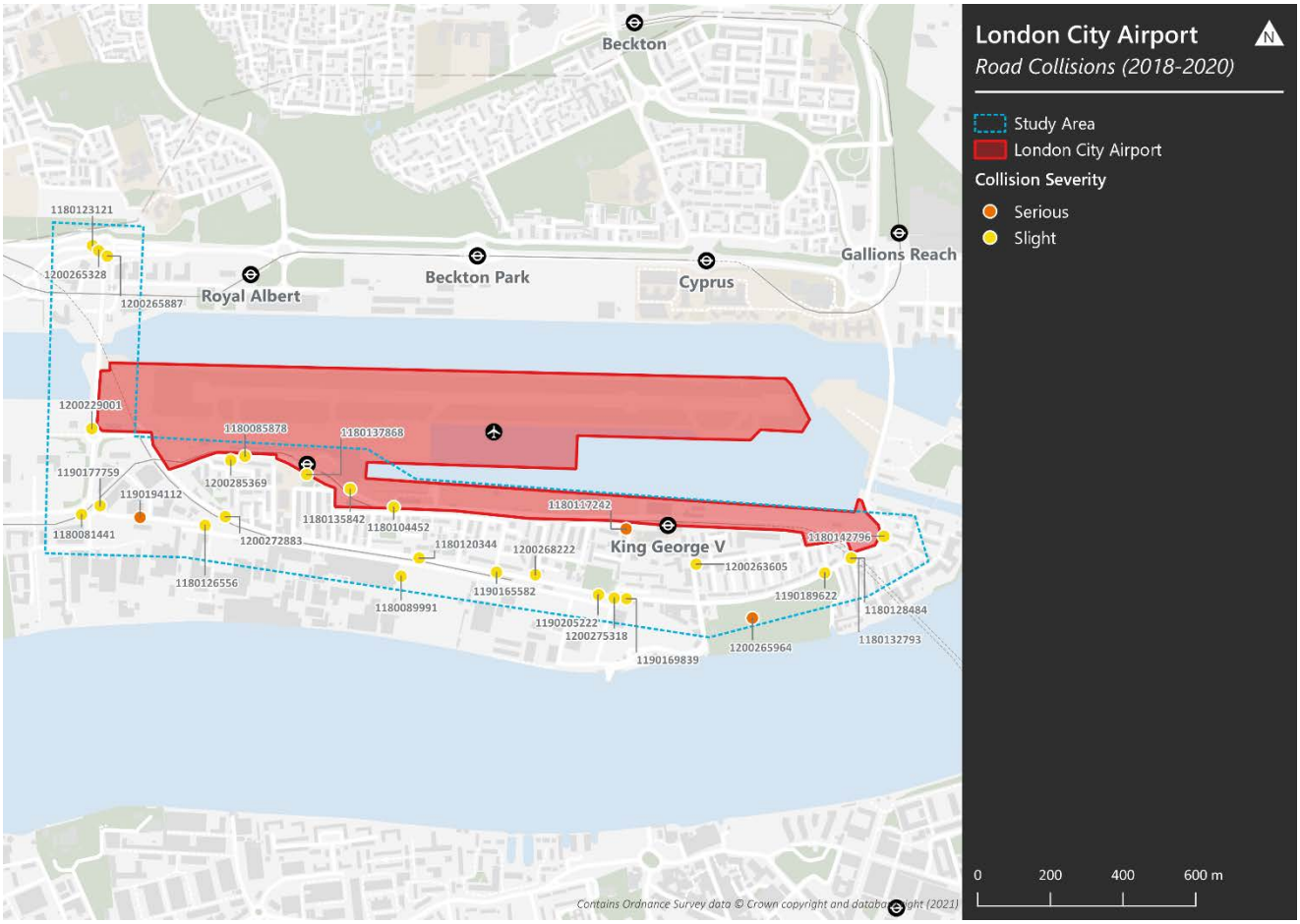
10.4.7 Figure 10.2 shows the collisions classified by severity for the roads identified as being subject to the greatest impact) see Table 10.11 and associated text). Serious collisions (which involve an overnight stay at hospital) are shown in orange and slight collisions (involving an outpatient visit) in yellow. There were no fatal collisions.

10.4.8 As shown in Figure 10.1, there are no killed or seriously injured (KSI) clusters along the key routes based on the most recent three-year period of collision (01/01/2018 – 31/12/2020) obtained from TfL. There are two clusters, which are related to collisions resulting in slight injuries, as follows:

- Cluster 1: Connaught Roundabout: Three slight collisions were recorded in this area, one in 2018 and the remaining in 2020. The first collision involved a bus in which a passenger was slightly injured. The second involved a car slightly injuring a cyclist and the final collision involved two cars.
- Cluster 2: Albert Road / Antwerp Way / Factory Road: A cluster of three slight collisions were recorded on this junction, the first taking place in 2019 and the remaining two collisions in 2020. The first collision involved a car driver hitting a kerb, causing a slight injury to a pedestrian. The two collisions that took place

in 2020 both involved cars approaching the junction, resulting in slight injuries. No physical interventions which might reduce the frequency and severity of collisions are recommended at this time.

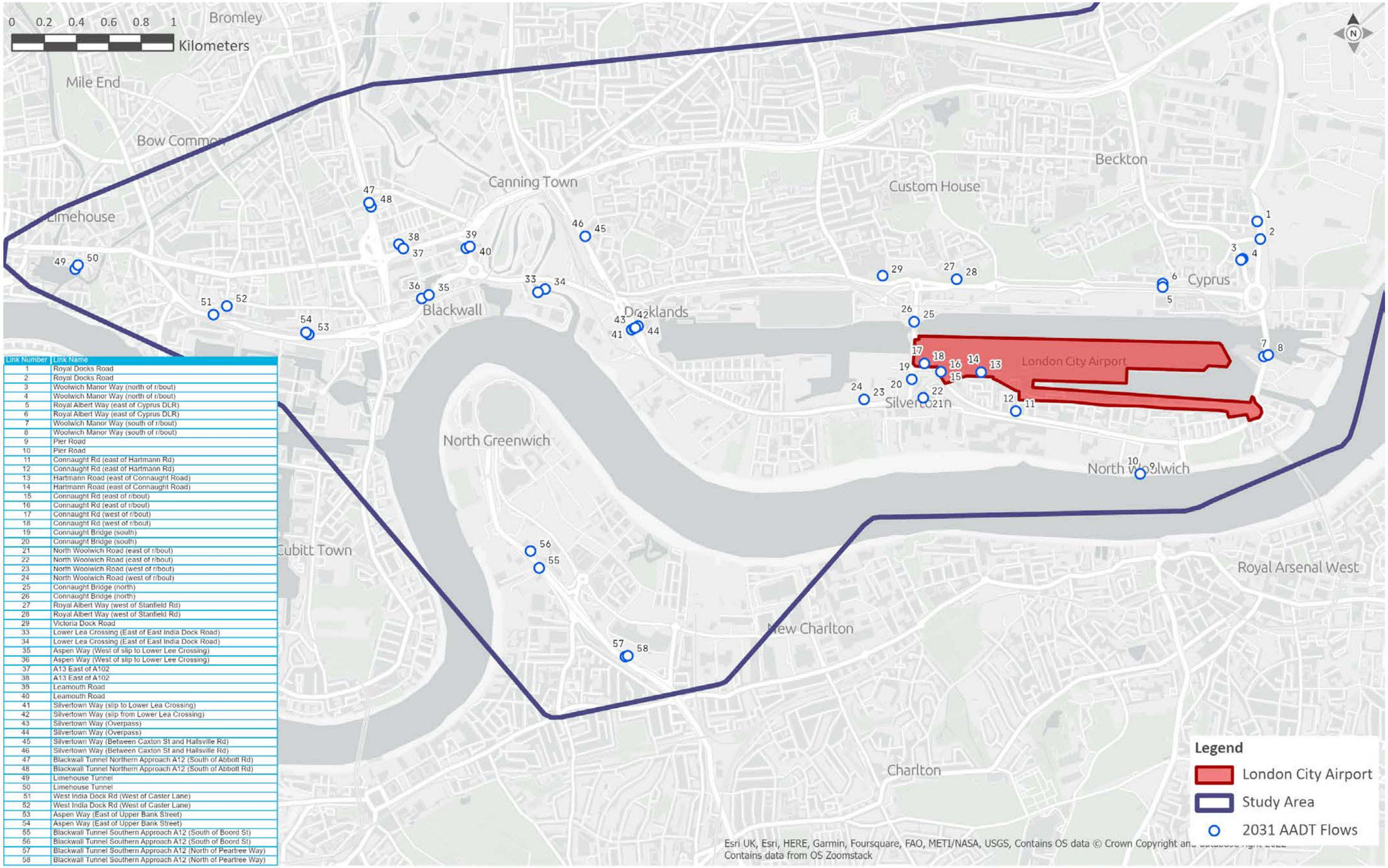
Figure 10.1: Personal Injury Accidents (2018-2020)



Baseline Traffic Flows

10.4.9 The links used to establish baseline daily traffic flows for the road network are presented in Figure 10.2.

Figure 10.2: Traffic Flow Link Locations



Link Number	Link Name
1	Royal Docks Road
2	Royal Docks Road
3	Woolwich Manor Way (north of r/bout)
4	Woolwich Manor Way (north of r/bout)
5	Royal Albert Way (east of Cyprus DLR)
6	Royal Albert Way (east of Cyprus DLR)
7	Woolwich Manor Way (south of r/bout)
8	Woolwich Manor Way (south of r/bout)
9	Pier Road
10	Pier Road
11	Connaught Rd (east of Hartmann Rd)
12	Connaught Rd (east of Hartmann Rd)
13	Hartmann Road (east of Connaught Road)
14	Hartmann Road (east of Connaught Road)
15	Connaught Rd (east of r/bout)
16	Connaught Rd (east of r/bout)
17	Connaught Rd (west of r/bout)
18	Connaught Rd (west of r/bout)
19	Connaught Bridge (south)
20	Connaught Bridge (south)
21	North Woolwich Road (east of r/bout)
22	North Woolwich Road (east of r/bout)
23	North Woolwich Road (west of r/bout)
24	North Woolwich Road (west of r/bout)
25	Connaught Bridge (north)
26	Connaught Bridge (north)
27	Royal Albert Way (west of Stanfield Rd)
28	Royal Albert Way (west of Stanfield Rd)
29	Victoria Dock Road
33	Lower Lea Crossing (East of East India Dock Road)
34	Lower Lea Crossing (East of East India Dock Road)
35	Aspen Way (West of slip to Lower Lee Crossing)
36	Aspen Way (West of slip to Lower Lee Crossing)
37	A13 East of A102
38	A13 East of A102
39	Leamouth Road
40	Leamouth Road
41	Silvertown Way (slip to Lower Lea Crossing)
42	Silvertown Way (slip from Lower Lea Crossing)
43	Silvertown Way (Overpass)
44	Silvertown Way (Overpass)
45	Silvertown Way (Between Caxton St and Hallsville Rd)
46	Silvertown Way (Between Caxton St and Hallsville Rd)
47	Blackwall Tunnel Northern Approach A12 (South of Abbott Rd)
48	Blackwall Tunnel Northern Approach A12 (South of Abbott Rd)
49	Limehouse Tunnel
50	Limehouse Tunnel
51	West India Dock Rd (West of Caster Lane)
52	West India Dock Rd (West of Caster Lane)
53	Aspen Way (East of Upper Bank Street)
54	Aspen Way (East of Upper Bank Street)
55	Blackwall Tunnel Southern Approach A12 (South of Boord St)
56	Blackwall Tunnel Southern Approach A12 (South of Boord St)
57	Blackwall Tunnel Southern Approach A12 (North of Peartree Way)
58	Blackwall Tunnel Southern Approach A12 (North of Peartree Way)

London City Airport

Link ID and Names

steer

Scale: 1:28,800
Date: 16/12/2022
Creator: TGoss

Path: \\sdgworld.net\Data\London\Projects\236\9\92\02\GIS\MAPPING\ARCGIS\Map_Documents\TATP Modeling\TATP Modeling.aprx

10.4.10 Table 10.1 of Appendix 10.2 sets out the AADT and AAWT flows for the road network immediately surrounding London City airport, inclusive of HGV flows. The traffic flows are provided in terms of 24-hour AADT figures and 18-hour AAWT.

Potential Sensitive Receptors

10.4.11 Based on the baseline traffic flows, Table 10.8 describes the sensitivity assessment for each receptor.

10.4.12 A full assessment of effects has been undertaken for the highway links against a threshold of 10% increase in traffic flow.

Table 10.8: Sensitivity Assessment by Road

Link ID	Receptor	Sensitivity	Sensitive to Change	Qualification
1	Royal Docks Road	Negligible	No	Commercial and residential buildings to the west and set back separated by vegetation. Footway to the east.
2	Woolwich Manor Way (north of roundabout)	Medium	No	Residential properties either side and set back separated by vegetation. Footway on both sides of the link. Unsegregated cycle lane on both sides of the link.
3	Royal Albert Way (east of Cyprus DLR)	Low	No	Residential properties to the north and commercial use to the south, both of which are set back and separated by vegetation. Footway on both sides of the link.
4	Woolwich Manor Way (south of roundabout)	Medium	No	Residential properties to the west and Porsche Centre Car Showroom to the east, both set back and separated by vegetation. Footway on both sides of the link. Unsegregated cycle lane on both sides of the link
5	Pier Road	Medium	No	Footway and residential buildings on both sides of the road. Entrance to Royal Victoria Gardens on the east side.
6	Connaught Road (east of Hartmann Road)	Medium	Yes	Hotel, residential properties, commercial uses to the north of the link with roadside frontage. Railway line to the south. Footway on both sides of the road. Close proximity to the site via Hartmann Road.
7	Hartmann Road (east of Connaught Road) – Western Airport Access	Medium	Yes	Residential properties to the south and set back by vegetation. Footway on south side of the link. The site directly accessed from link.
8	Hartmann Road (West of Albert Road) – Committed Eastern Airport Access	Medium	Yes	LCY uses and car parks accessed from north side of the link. Currently no footway provided on either side of the road.
9	Connaught Road (east of roundabout)	Medium	Yes	Footway located on both sides of the road. Close proximity to the site via Hartmann Road
10	Connaught Road (west of roundabout)	Medium	Yes	Footway on both sides of the road. Access provided on the south side to Travelodge Hotel. Close proximity to the site via Hartmann Road
11	Connaught Bridge (south)	Low	No	Industrial use to the west. Footway on both sides of the link.
12	North Woolwich Road (east of roundabout)	Low	No	Industrial uses to the north and residential and further industrial uses to the south. Footway located on both sides of the link.
13	North Woolwich Road (west of roundabout)	Low	No	Residential properties to the south, which are set back and separated by vegetation. Footway on both sides of the link.
14	Connaught Bridge (north)	Negligible	No	Bridge over Royal Albert Dock with no nearby receptors.
15	Royal Albert Way (west of Stanfield Road)	Low	No	Hotels located to the south and set back from the link by vegetation with adequate footway provision.
16	Victoria Dock Road	Medium	No	Prince Regent DLR Station located on south side of link and congested road junction with Prince Regent Lane.
17	Lower Lea Crossing (East of East India Dock Road)	Negligible	No	Bridge over River Lea with no nearby receptors.
18	Aspen Way (West of Slip to Lower Lee Crossing)	Low	No	Residential and commercial uses located on both sides of the link and set back. Link is an overpass over roundabout. No footway provision.
19	A13 East of A102	Low	No	Residential properties and footway located on both sides, which are set back and separated by vegetation. Adequate footway provision to residential properties.

Link ID	Receptor	Sensitivity	Sensitive to Change	Qualification
20	Leamouth Road	Low	No	Commercial and hotel uses to the west and industrial to the east. Adequate footway provision.
21	Silvertown Way (Slip to Lower Lea Crossing)	Low	No	Link is an overpass with residential properties to the north set back. Adequate footway provision.
22	Silvertown Way (Overpass)	Low	No	City Hall located to the north and adequate footway provision on both sides of the link.
23	Silvertown Way (Between Caxton Street and Hallsville Road)	Low	No	Residential properties located to the west and Holiday Inn Express and commercial uses to the east, both of which with frontage onto the link. Adequate footway provision to the buildings.
24	Blackwall Tunnel Northern Approach A12 (South of Abbott Road)	Low	No	Residential properties located on both sides with adequate footway provision.
25	Limehouse Tunnel	Low	No	Underground tunnel with no nearby receptors.
26	West India Dock Road (West of Caster Lane)	Low	No	Residential properties located on both sides with adequate footway provision.
27	Aspen Way (East of Upper Bank Street)	Low	No	Industrial uses to the south and railway line to the north. No nearby sensitive receptors.
28	Blackwall Tunnel Southern Approach A12 (South of Boord Street)	Low	No	Industrial uses to west and east with adequate footway provision.
29	Blackwall Tunnel Southern Approach A12 (North of Peartree Way)	Low	No	Residential uses to the west set back from the link by vegetation with adequate footway provision.

Public Transport Network and Services

DLR Services

10.4.13 London City Airport Station is located on the Woolwich branch of the DLR and is situated adjacent to the main terminal building providing a direct connection between the station and main terminal building. London City Airport DLR Station is step free.

10.4.14 The DLR operates between 05:30 – 00:30 Monday to Saturdays and between 07:00 – 23:58 on Sundays. Trains arrive and depart from London City Airport DLR Station approximately every 5 minutes in both directions in the morning and evening peak periods. Outside of the peak period there is a frequency of every 6 minutes. Eastbound services continue to Woolwich Arsenal DLR. Meanwhile, westbound services run towards Bank and Stratford International. A number of London Underground, Overground and National Rail services are accessible from these stations.

10.4.15 Canning Town is the key interchange for and provides access to the Jubilee Line on the London Underground and for other DLR services to Tower Gateway and Beckton. To access services to Lewisham, it is possible to change service at Poplar DLR station on the Bank branch.

10.4.16 The DLR services provide direct connections to Woolwich in the south, Stratford to the north and Bank in Central London to the west. It provides a direct connection to Jubilee, Hammersmith & City and District Line London Underground services, and C2C national rail services.

10.4.17 The DLR services currently operate with spare capacity in the vicinity of the airport.

TfL Rail Services

10.4.18 The Elizabeth line opened for passenger services between Paddington and Abbey Wood on 24 May 2022 and on 6 November 2022 was integrated with services to Reading, Heathrow and Shenfield. The Elizabeth Line serves Custom House (for ExCeL), 2.2km to the north-west of the airport. This provides a direct, frequent rail service to Central London rail terminal such as Liverpool Street, Farringdon, and Paddington, and connect directly to London Underground services at Tottenham Court Road and Bond Street. Timetables for the Elizabeth line are still evolving but those applicable from 11 December 2022 are as shown in Table 10.9.

Table 10.9: Weekday Elizabeth Line First/Last Train Services

Elizabeth Line Service	First Train	Last Train
Abbey Wood-Heathrow	05:34	22:46
Heathrow-Abbey Wood	05:16	23:16
Shenfield-Liverpool Street	04:44	23:56
Liverpool Street-Shenfield	05:25	00:33

10.4.19 Custom House (for ExCeL), which is served by DLR services on the Beckton branch, can be accessed from the airport through interchanging from the DLR at Canning Town. TfL recently rerouted service 474 to provide a direct connection between Custom House station and London City Airport.

Bus Services

10.4.20 London Bus services which directly serve the airport include the 473 (Stratford – North Woolwich) and the 474 (Canning Town – Manor Park), frequencies of which are shown in Table 10.10.

10.4.21 Following the opening of the Silvertown Tunnel in 2025, there is the potential for further bus services between destinations south of the River Thames and London City Airport. The nature of these enhancements will be established in dialogue with TfL.

10.4.22 There are no coach services operating to London City Airport.

Table 10.10: Bus Frequencies

Time of Day	**Bus Route & Frequency per Hour**	
	473	**474**
AM Peak (08:00-09:00)	10-12	10-13
Off Peak (10:00-17:00)	10-12	10-13
PM (17:00-18:00)	10-12	10-13
Overnight	-	2-3

Riverboat Services

10.4.23 The nearest Thames Clipper pier is Royal Wharf which is wheelchair accessible and served by the RB1 service. The RB1 route is operated weekday mornings and evenings, with a service running approximately every 20 minutes. The pier is within short walking distances of nearby bus services that connect to London City Airport, thereby providing an opportunity for multi-modal travel to the airport.

Walking and Cycling

Pedestrian Infrastructure

10.4.24 The airport is accessible on foot from the surrounding residential and commercial areas. The footways on the surrounding highways are lit, well-maintained, of sufficient width for their intended purpose and free of surplus street furniture. There are defined routes for pedestrians to use in and around the airport and there are controlled pedestrian facilities at the traffic signal-controlled junction of Connaught Road and Hartmann Road.

10.4.25 These facilities enable local residents and visitors to the area to walk to the airport in order to board the bus services and the DLR.

Cycle Infrastructure

10.4.26 There are 30 sheltered cycle parking spaces (15 Sheffield stands) located beneath the DLR viaduct and adjacent to the motorcycle parking area which is opposite the passenger drop-off area on Hartmann Road.

10.4.27 There are a further 12 secure cycle parking spaces located next to CAH and a further 12 in the western car park next to the fuel area. These are for staff use only.

10.4.28 Sustrans, the national cycling charity, sets out a number of cycling routes within the vicinity of London City Airport. Route 13 travels to the north of the airport along the Royal Albert Dockside path. Route 13 connects to Tower Bridge in the west and travels further east adjacent to Albert Way.

Car Parking

10.4.29 Passenger car parking is currently provided in the airport's Main Stay car park, with provision for up to 30 one hour stay parking spaces and 521 long-stay spaces, including 50 spaces for car rentals, i.e., a total of 571 parking spaces. A further 64 spaces for car rentals are provided off Hartmann Road. Staff parking is currently provided in car parks to the west and east of Hartmann Road, totalling 341 spaces. Staff can also use the Main Stay car park if they have a medical exemption. Overall, current car parking provision is 976 spaces.

10.4.30 The approved CADP1 scheme provides for increasing the total number of car parking spaces to 1,251 (passengers, staff and car rental).

Future Baseline (DM Scenario)

10.4.31 The traffic flows for the highway network in the vicinity of the site have been predicted for intermediate transitional years of 2025, 2027 and 2029; and the principal assessment year of 2031 under the DM Scenario. These flows take into account both future committed development schemes as well as the consented CADP1 development and the opening of the Silvertown Tunnel (advised by TfL to open in 2025). The TfL public transport model also considers committed development.

10.4.32 The TfL models take into account the additional travel demand generated by all committed developments assumed in the London Plan, representing a much more comprehensive list of developments than those identified for detailed consideration in the cumulative effects assessment set out at paragraph 14.2.20 of the ES. As a result, the TfL models present a robust analysis of the transport impacts of the committed developments, particularly as the pace of development has been slower than anticipated for a number of factors including the Covid-19 emergency.

10.4.33 There are no material changes to walk and cycle conditions arising from other development.

10.4.34 The flows are summarised in Table 10.2 of Appendix 10.2 and are provided in terms of 24-hour AADT figures and 18-hour AAWT.

10.5 Embedded Mitigation and Existing Controls

10.5.1 This section accounts for any embedded mitigation including those required under extant and/or relevant planning conditions and any S106 Agreement obligations made under the existing CADP1 consent. These mitigation measures apply to both the DM and DC Scenario.

10.5.2 As part of the Section 106 Agreement associated with the 2016 CADP planning permission, financial contributions totalling over £5.5m have already been paid to TfL towards the purchase additional DLR rolling stock, enhance DLR services, enhance the management of London City Airport DLR station and improve local pedestrian and cycle routes.

10.5.3 The modelling of the future baseline takes account of extra train capacity funded by the airport and CADP1 permitted demand.

10.5.4 The following planning conditions are outlined due to their relevance to the proposed development and transport matters. These conditions provide embedded mitigation and controls which will reduce the transport impacts of the proposed development.

10.5.5 Condition 71 Travel Plan (TP) which was discharged on 6th December 2019 (ref: 19/02858/AOD), states the following:

"Prior to first occupation of the Development a Staff Travel Plan and a Passenger Travel Plan shall be submitted to and approved in writing by the local planning authority. Such Staff and Passenger Travel plans shall include targets for managing any impacts of the Airport's staff and passengers on the local road network; and monitoring procedures for sustainable travel initiatives such as encouraging greater use of the waterways such as the River Thames.

The Development shall be operated in accordance with both the approved Staff Travel Plan and Passenger Travel Plans thereafter."

10.5.6 The TP has been subsequently updated in line with undertakings of the S106 agreement, which requires a review every 3 years, and the latest version of the TP was submitted to LBN for approval in December 2022 (ref 22/02830/AOD). Measures set out in the revised TP will be taken forward in both the DM and DC scenarios.

10.5.7 Condition 72 Parking for Disabled People which is yet to be discharged, states the following:

"The car parking accommodation of the approved Development shall include at least 3% of passengers and 5% of staff spaces suitable for use by a disabled person (in accordance with the specifications within BS8300: Design for buildings and their approaches to meet the needs of disabled people: Code of Practice)."

10.5.8 Condition 73 Access Roads and Parking Areas which was discharged on 20th December 2019 (ref: 19/02621/NONMAT), states the following:

"No part of the Eastern Terminal Extension hereby approved shall be occupied until the Access Roads and Parking Areas have been constructed in accordance with details that shall be submitted to and approved in writing by the local planning authority and the Access Roads and Parking Areas shall be retained thereafter."

10.5.9 Condition 74 Use of Parking Spaces which is yet to be discharged, states the following:

"The car parking hereby approved shall be used by the staff and visitors associated with the Airport and for no other users."

10.5.10 Condition 75 Cycle Parking which was discharged on 4th December 2019 (ref: 19/02620/AOD), states the following:

"No part of the Eastern Terminal Extension shall be occupied until details of the type and location of a minimum 70 secure and covered cycle parking facilities have been submitted to and approved in writing by the local planning authority.

The secure and covered cycle parking facilities shall be installed and available for use prior to the first occupation of the Development.

Such cycle parking facilities shall be retained thereafter."

10.5.11 Condition 76 Delivery and Servicing Plan which was discharged on 4th December 2019 (ref: 19/02620/AOD), states the following:

"No part of the Development shall be occupied until a Delivery and Servicing Plan has been submitted to and approved in writing by the local planning authority. The submitted Delivery and Servicing Plan shall:

- *Show clear swept paths and be based on up-to-date information in relation to overall vehicle movements associated with all sites, and include servicing from new roads and servicing areas;*
- *Show service vehicle movements as indicated within the Transport Assessment, which shall be the optimum numbers, and any additional movements shall only be permitted with the approval in writing by the local planning authority; and*
- *Be prepared in accordance with Transport for London guidance, which encourages operates to be members of the Freight Operators Recognition Scheme or similar.*

The Development shall only be implemented in accordance with the approved Delivery and Servicing Plan, which shall be retained thereafter."

10.5.12 Condition 77 Traffic Management Plan which was discharged on 20th December 2019 (ref: 19/02559/AOD), states the following:

"No relevant Phase of the Development shall be Commenced until a Traffic Management Plan has been submitted to and approved in writing by the local planning authority in respect of the relevant Phase. Each submitted Traffic Management Plan shall:

- *Set out the proposed management arrangements for vehicle movement within the Phase, include the internal shared access;*
- *Include details of appropriate road markings and signage internal to the site to regulate the movement of traffic, cyclists and pedestrians; and*
- *Ensure that the internal road network is designated, operated and retained in line with current practice on highway design for all road users, including buses, cyclists and pedestrians.*

The relevant Phases shall be operated in accordance with the approved Traffic Management Plans for those Phases thereafter."

10.5.13 Condition 78 Taxi Management Plan which was discharged on 20th December 2019 (ref: 19/02559/AOD), states the following:

"No relevant Phase of the Development shall be commenced until a detailed Taxi Management Plan has been submitted to and approved in writing by the local planning authority in respect of that phase. The Taxi Management Plan shall be implemented as approved and retained thereafter."

10.5.14 Condition 79 Transport Management Strategy which was discharged on 4th December 2019 (ref: 19/02620/AOD), states the following:

"Prior to use of the Eastern Terminal Extension, a Transport Management Strategy shall be submitted to the local planning authority for approval in writing. The Transport Management Strategy shall include details regarding:

- *Stewardship arrangements;*
- *signage;*
- *measures to promote and provide for sustainable transport;*
- *times/locations notification arrangements; and*
- *how to encourage increased dwell time for vehicles, including hire vehicles, arriving to collect passengers.*

The Airport shall only be used in accordance with the approved Transport Management Strategy thereafter."

10.5.15 Condition 80 Bus Facilities which was discharged on 13th July 2018 (ref: 18/00741/AOD), states the following:

"No works to existing bus stops, stands, infrastructure or shelters or any works that affect bus operations shall be carried out until a Bus Facilities Programme has been submitted to and approved in writing by the local planning authority. The Works Programme shall include infrastructure specification, maintenance and transitional arrangements. The approved facilities shall thereafter be implemented in accordance with the approved arrangements."

10.5.16 Condition 88 states the following:

"Prior to Commencement of Development a Construction Environmental Management Plan (CEMP) shall be submitted to and approved in writing by the local planning authority…"

10.5.17 The CEMP will include appropriate arrangements for the management of construction traffic.

10.6 Assessment of Effects

Construction Phase Effects

10.6.1 Construction traffic associated with the proposed development is not anticipated to be greater than predicted in the original 2015 UES, with the details set out at paragraph 6.6.3. This is because the physical structures permitted under the CADP1 consent have not materially changed with the proposed amendments and therefore predicted construction traffic flows remain the same. It should also be noted that the airside infrastructure including the area of the additional stands, parallel taxi-lane and plinth for the terminal structure have already been constructed. This represented a significant proportion of the construction traffic associated with the scheme, particularly heavy vehicles. The scale and volume of construction traffic to build out the remainder of the terminal infrastructure will be less than previously experienced.

10.6.2 Suitable conditions are already attached to the CADP1 permission to control construction vehicle traffic, and these are not proposed to be changed.

10.6.3 As noted at 14.3.13, no discrete assessment of construction traffic has been undertaken in the ES due to the overlap between the construction and operational phases. Instead, the predicted traffic flows that inform the transport, noise and air quality assessment include both construction and operational traffic.

Operational Phase Effects

Proposed Development Trips

10.6.4 Transitional years of 2025, 2027 and 2029 and a consistent future baseline of 2031 have been used in order to robustly assess the impact of the DC Scenario against the DM Scenario.

Air Passenger Trips

10.6.5 To forecast the quantum of passenger trips generated by each mode of transport in the DM Scenario and assigned to different modes of travel according to the target passenger mode split.

10.6.6 The following peak hours have been used to inform the assessment of the impact of the passenger capacity increase on surrounding transport networks:

- AM Peak: 08:00 – 09:00
- PM Peak: 17:00 – 18:00

10.6.7 In line with the methodology set out previously, predicted passenger mode shares (similarly applied to all scenarios) are presented in Table 10.3 of Appendix 10.2 and have been derived as follows:

- 2019 mode shares have been taken from the CAA data as supplied by York Aviation;
- 2025,2027, 2029 and 2031 travel mode shares have been adopted from the target mode shares, supported by the travel initiatives set out in the updated 2023-2025 Travel Plan and the 2026-2031 Framework Travel Plan, which addresses travel plan measures from 2026 to 2031. The latter document is included as Appendix E of the TA; and
- Mode shares for the intervening future years have been interpolated from the 2025 and 2031 data.

10.6.8 No additional car parking is proposed over and above that permitted under the approved CADP1 scheme (1,251 spaces in total). This will assist with encouraging passengers and staff to access by sustainable modes.

10.6.9 The annual passenger numbers for all modes of transport are presented in Tables 10.4-10.5 in Appendix 10.2 for the following:

- All years between 2019 and 2031 under the DM Scenario;
- All years between 2019 and 2031 under the DC Scenario; and

Airport Employee Trips

10.6.10 To forecast the quantum of employee trips generated by each mode of transport in the 2031 DM Scenario and the 2031 DC Scenario, the employee population forecasts have been applied to the staff mode split.

10.6.11 Predicted staff mode shares (similarly applied to all scenarios) are shown in Table 10.6 of Appendix 10.2 and have been derived, in line with the methodology set out previously as follows:

- 2019 mode shares have been taken from the 2019 staff survey;
- future year target mode shares have been established from the 2023-2025 Travel Plan and the 2026-2031 Framework Travel Plan; and
- Mode shares for intervening future years have been interpolated from the 2025 and 2031 data.

10.6.12 The annual staff trips for all modes of transport are presented in Tables 10.7-10.8 in Appendix 10.2 for the following:

- All years between 2019 and 2031 under the DM Scenario;
- All years between 2019 and 2031 under the DC Scenario; and

Highway Impact

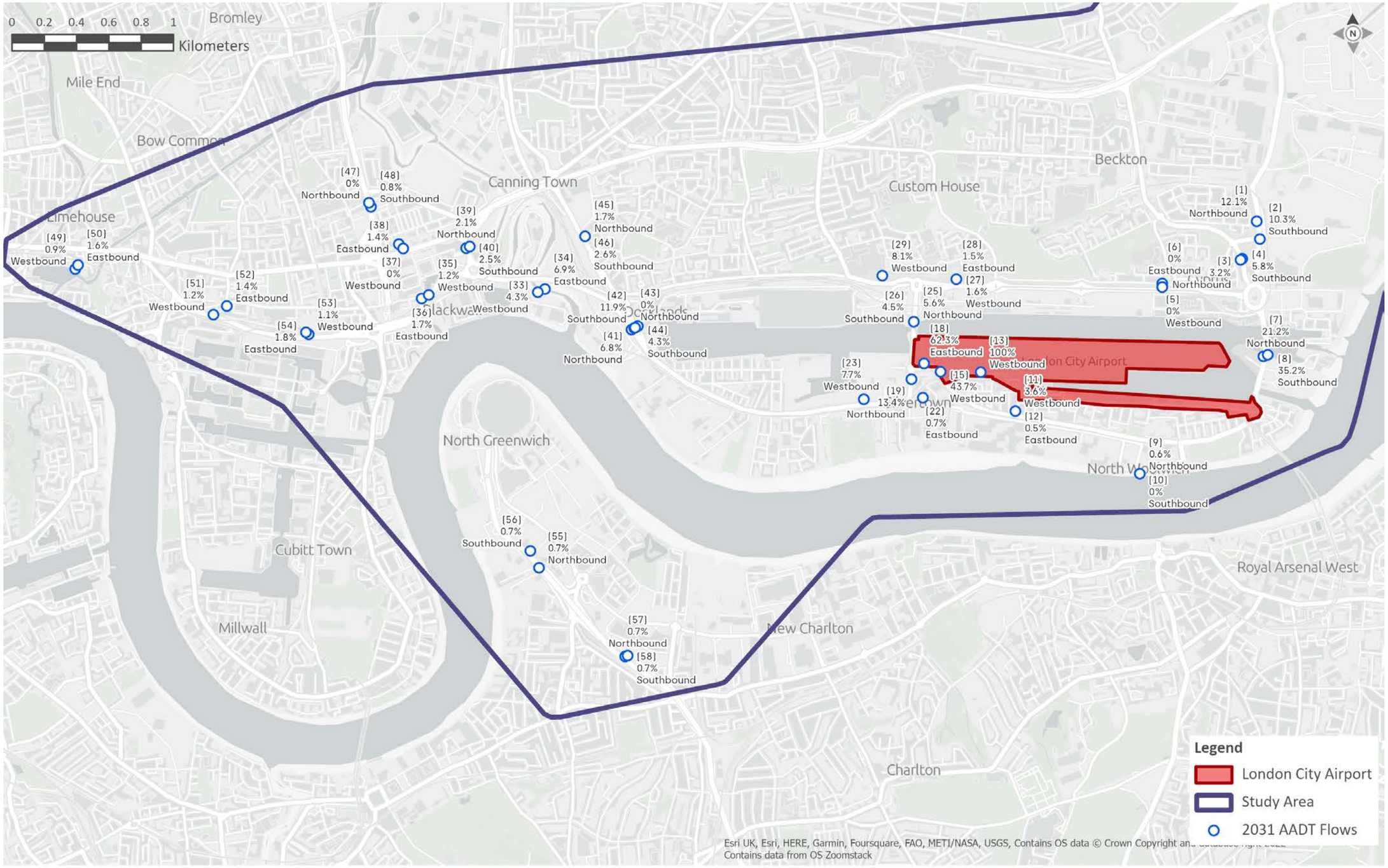
10.6.13 As previously set out, the future year baseline traffic conditions under the DM scenario were derived from the TfL HAM models with airport-related vehicle trips adjusted to reflect anticipated future mode shares, This modelling takes into account the opening of the Silvertown Tunnel in 2025 which will substantially change 2019 baseline traffic flows on roads in the vicinity of the airport, with full details provided in Appendix 10.2. For instance, on the Connaught Bridge, baseline AADT flows are expected to change from 24,234 vehicles in 2019 to 30,866 vehicles in 2025 as a result of the combined effects of the opening of the Silvertown Tunnel and committed developments becoming operational between 2019 and 2025.

10.6.14 The AADT and AAWT traffic flows in the principal assessment year of 2031 in the DM and DC Scenarios for the highway network in the vicinity of the site are shown in Tables 10.9-10.10 of Appendix 10.2 for the following.

10.6.15 The change in AADT flows associated with the airport were distributed to the surrounding future highway network in the AM and PM peak hour periods. As shown in Figures 10.3 and 10.4 below.

10.6.16 Figure 10.5 shows the overall percentage difference in traffic growth on the future highway network between the DM Scenario and the DC Scenario.

Figure 10.3: Percentage Difference Between DM and DC Traffic Distribution (AM Peak Hour) in 2031



London City Airport

2031 AADT Flows - Hartmann Road East Open - AM - % LCY Traffic Distribution

steer

Scale: 1:28,800
Date: 16/12/2022
Creator: TGoss

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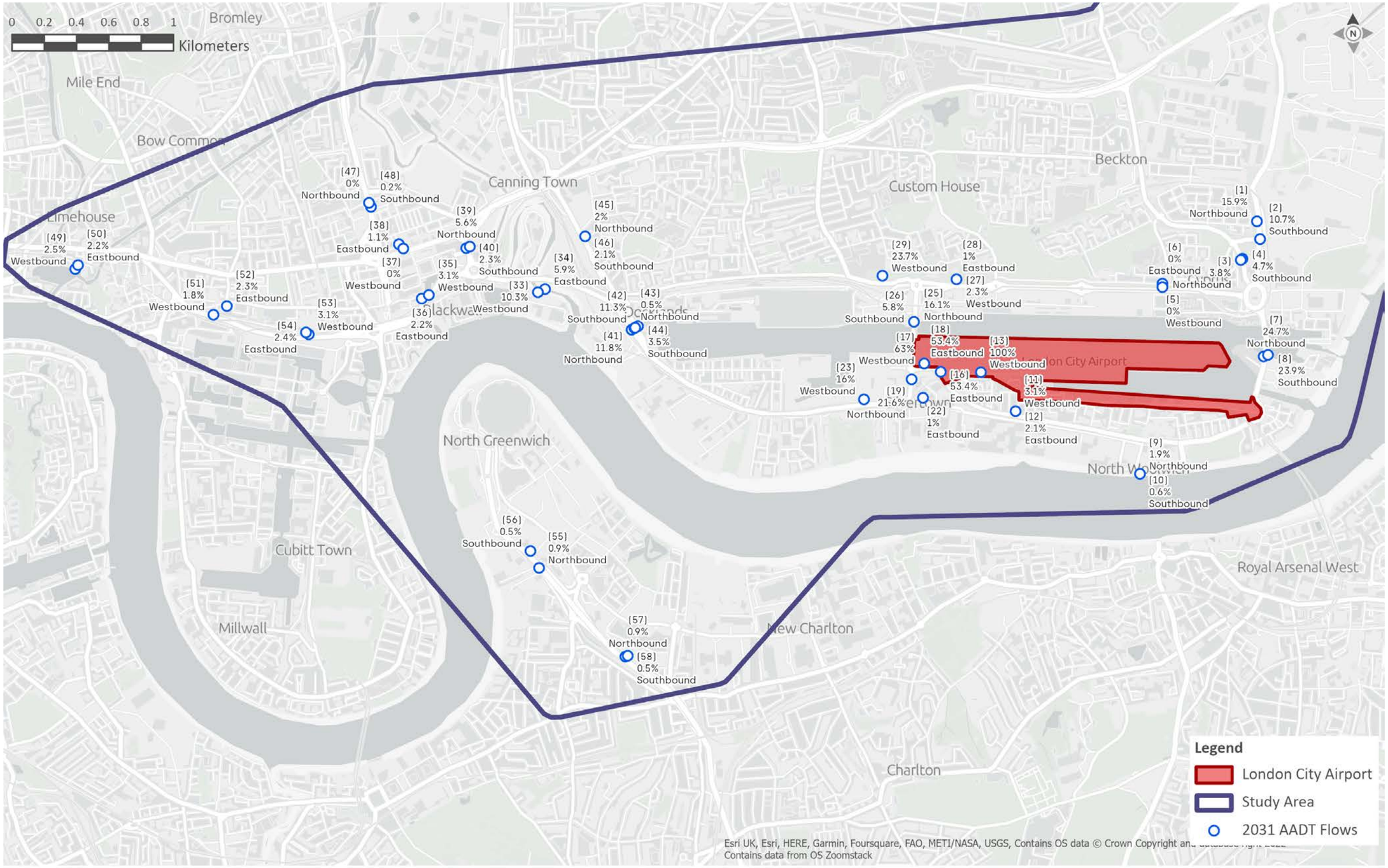
Figure 10.4: Percentage Difference Between DM and DC Scenarios for Traffic Distribution (PM Peak Hour) in 2031



London City Airport

2031 AADT Flows - Hartmann Road East Open - PM - % LCY Traffic Distribution

steer

Scale: 1:28,800
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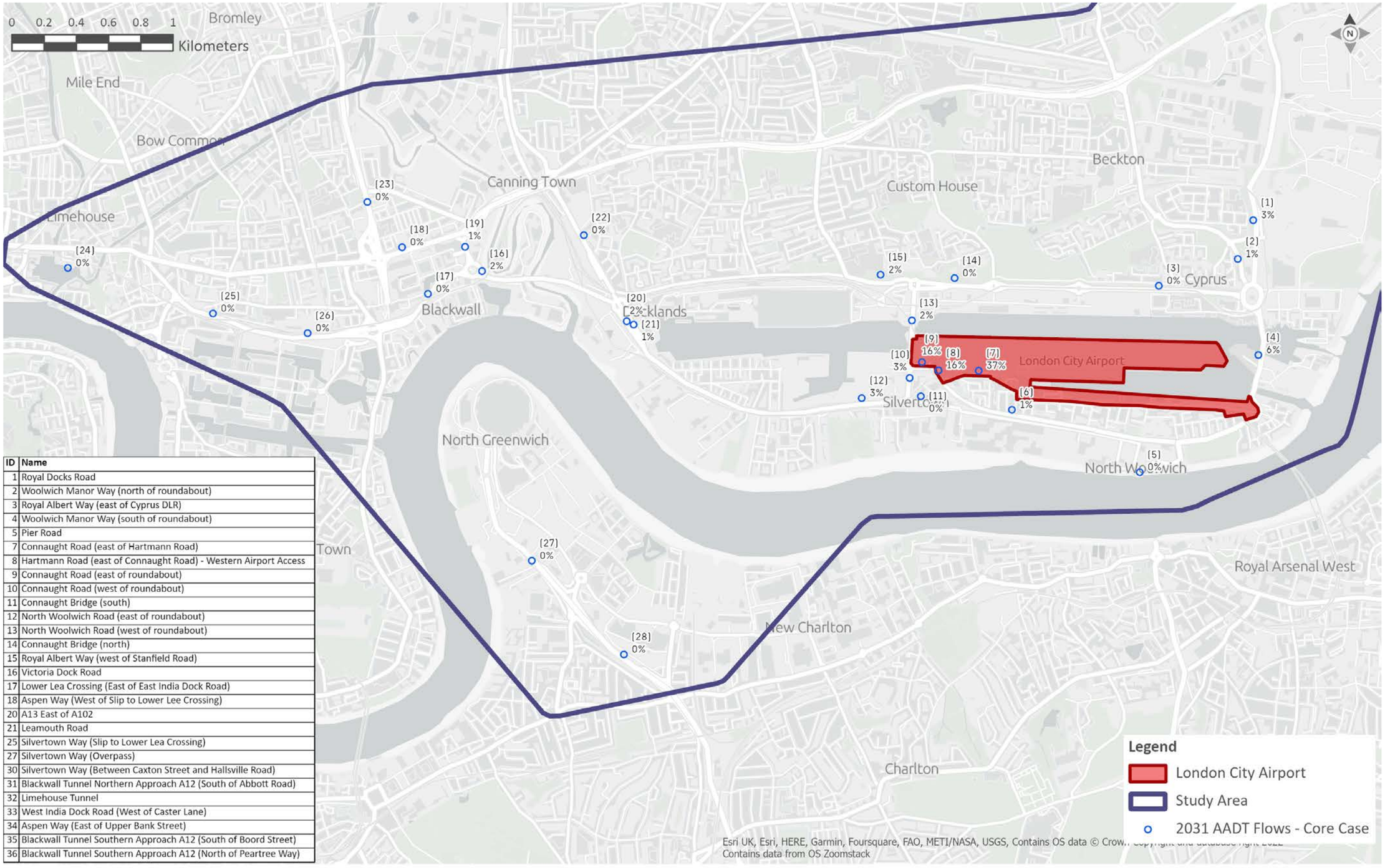
Figure 10.5: Percentage Difference Between DM and DC Scenarios for Traffic Distribution (AADT) in 2031



ID	Name
1	Royal Docks Road
2	Woolwich Manor Way (north of roundabout)
3	Royal Albert Way (east of Cyprus DLR)
4	Woolwich Manor Way (south of roundabout)
5	Pier Road
7	Connaught Road (east of Hartmann Road)
8	Hartmann Road (east of Connaught Road) - Western Airport Access
9	Connaught Road (east of roundabout)
10	Connaught Road (west of roundabout)
11	Connaught Bridge (south)
12	North Woolwich Road (east of roundabout)
13	North Woolwich Road (west of roundabout)
14	Connaught Bridge (north)
15	Royal Albert Way (west of Stanfield Road)
16	Victoria Dock Road
17	Lower Lea Crossing (East of East India Dock Road)
18	Aspen Way (West of Slip to Lower Lee Crossing)
20	A13 East of A102
21	Leamouth Road
25	Silvertown Way (Slip to Lower Lea Crossing)
27	Silvertown Way (Overpass)
30	Silvertown Way (Between Caxton Street and Hallsville Road)
31	Blackwall Tunnel Northern Approach A12 (South of Abbott Road)
32	Limehouse Tunnel
33	West India Dock Road (West of Caster Lane)
34	Aspen Way (East of Upper Bank Street)
35	Blackwall Tunnel Southern Approach A12 (South of Boord Street)
36	Blackwall Tunnel Southern Approach A12 (North of Peartree Way)

London City Airport

2031 AADT Flows - Core Case - Total Vehicles % Increase

steer

Scale: 1:28,800
Date: 16/12/2022
Creator: TGoss

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10.6.17 The predicted traffic flows show a percentage increase between the DM and DC Scenarios in total 24-Hour traffic of at least 10% at the following four links, as set out in Table 10.11 below:

- Link 7: Hartmann Road, East of Connaught Road – Western Airport Access;
- Link 8: Hartmann Road, West of Albert Road, Committed Eastern Airport Access;
- Link 9: Connaught Road, East of Roundabout; and
- Link 10: Connaught Road, West of Roundabout.

Table 10.11: Changes in Traffic Flows

Road Link	% Change in Traffic Flow between DM and DC Scenario	Significance
Link 7 (Hartmann Road, East of Connaught Road – Western Airport Access)	37%	Moderate Negative
Link 8 (Hartmann Road, West of Albert Road – Committed Eastern Airport Access)	37%	Moderate Negative
Link 9 (Connaught Road, East of Roundabout)	16%	Minor Negative
Link 10 (Connaught Road, West of Roundabout)	16%	Minor Negative

10.6.18 The remaining 25 links assessed had a percentage increase in total 24-Hour traffic of less than 10%.

10.6.19 In accordance with the IEMA guidelines, a detailed environmental assessment has therefore been undertaken for these four links only, to determine the significance of effects of the proposed development traffic flows on receptors along it/using it. This is set out in the subsequent sections.

10.6.20 Further analysis is provided by putting the results identified in the context of the findings of the 2015 UES for the same road links. It should however be noted that the 2015 UES did not include an assessment of Link 10 and accordingly a direct comparison of the effects at this Link is not possible.

Changes in Daily Vehicle Flows on Local Roads (Links)

10.6.21 The proposed development is expected to have a minor negative to moderate negative impact in terms of the change in daily vehicle flows on the assessed links. However, in absolute terms traffic flows remain around 60% of capacity, such that there is ample reserve capacity and hence no mitigation measures are proposed.

10.6.22 The sensitivity of Links 7 and 8 is assessed to be medium and the magnitude of change is moderate. Therefore, there is likely to be a direct, permanent, long-term residual effect on Highway Users of moderate negative significance (significant), but absolute flows remain such that no consequential delays are anticipated and hence no mitigation is suggested as being necessary as there will remain ample reserve capacity.

10.6.23 The sensitivity of Links 9 and 10 is assessed to be medium and the magnitude of change is minor. Therefore, there is likely to be a direct permanent, long-term residual effect on Highway Users of minor negative significance (not significant).

10.6.24 The 2015 UES identified a minor positive effect (not significant) at Link 7 because it was only considering the opening of the western junction of Hartmann Road in the development case and a negligible effect (not significant) at Link 9. Link 8 was not assumed as being open in the UES future baseline and as such no level of significance was prescribed. Therefore, though the scale of effect is slightly greater than that identified in the 2015 UES, the assessment did consider similar absolute conditions with no material difference in the absolute environmental conditions, in terms of traffic flows.

Severance

10.6.25 The assessment of any possible severance for the four road links is detailed below in Table 10.12 for the 2031 principal assessment year when the increase in flows is at its greatest.

10.6.26 The results show that whilst there will be an increase in traffic on the local highway network, the severance impacts are considered to be Minor or Moderate. The moderate impacts identified are due to the close proximity of Hartmann Road (Western Airport Access and Committed Eastern Airport Access) to the site.

Table 10.12: Assessment of Severance

Link Reference	Vehicle Flow (AAWT 18-Hour)						
	DM Scenario		DC Scenario		% Increase		Magnitude of Impact
	All Vehicles	HGVs	Total Vehicles	HGVs	Total Vehicles	HGVs	
Link 7: Hartmann Road (east of Connaught Road) – Western Airport Access	5452	569	7459	598	37%	5%	Moderate
Link 8: Hartmann Road (West of Albert Road) – Committed Eastern Airport Access	3695	386	5055	405	37%	5%	Moderate
Link 9: Connaught Road (east of roundabout)	10595	943	12283	967	16%	3%	Minor
Link 10: Connaught Road (west of roundabout)	10595	943	12283	967	16%	3%	Minor

10.6.27 The proposed development is expected to generate a minor to moderate magnitude of impact on the severance on the assessed links, however, the absolute level of severance remains low (as defined in the IEMA guidance) and with no directly impacted user groups identified. Accordingly, no mitigation measures are proposed above the range of S106 initiatives already planned under the existing CADP1 consent.

10.6.28 The sensitivity of Links 7 and 8 in terms of severance impacts is assessed to be medium and the magnitude of change is moderate. Therefore, there is likely to be a direct, permanent, long-term residual effect on Highway Users of moderate negative significance (significant).

10.6.29 The sensitivity of Links 9 and 10 is assessed to be medium and the magnitude of change is minor. Therefore, there is likely to be a direct permanent, long-term residual effect on Highway Users of slight negative significance (not significant).

10.6.30 The assessment contained within the 2015 UES predicted that Links 7 and 9 would have less than 30% overall increase in daily traffic flows resulting from the approved CADP1 scheme. Therefore, these links were assessed to have a negligible impact on severance. This effect was partially attributable to the fact that the Eastern Junction of Hartmann Road would be open in the 2015 UES development case, but not in the 2015 UES do nothing case. Under the current assessment, the Eastern Junction of Hartmann Road would be open under both the DM and DC Scenarios. As a result, the scale of effect on severance from the proposed development is not considered to be materially different from that identified in the 2015 UES.

Driver Delay

10.6.31 Driver delay occurs when traffic flows are high and roads are at or near capacity. This typically occurs when traffic flows are at their peak, during the weekday morning and evening peak hours. Detailed modelling set out in the TA indicates some increase in traffic flows, associated with the predicted increase in traffic generation at peak times (see figures D11 and D16 at Appendix D of TA). However, comparison of DM and DC Scenario runs of the model indicate virtually no reassignment of traffic on the wider road network, a good

indication that the free flow nature, or any future predicted delay, on these roads is not affected by the additional traffic associated with the proposed development. This has been confirmed through the detailed analysis undertaken in accordance with the agreed scope of the TA. The result of this analysis is best understood by comparison of the various plots of network operation for the DC and DM Scenarios set out in Section 9 of the TA.

10.6.32 In light of the above, the proposed development is expected to generate a negligible to minor magnitude of impact on the driver delay of the assessed links in the DC vs DM Scenario. No highway mitigation measures are proposed above those already in place as set out in Section 10.5 above.

10.6.33 The assessment contained within the 2015 UES predicted that the overall changes in traffic as a result of the approved CADP1 scheme would have a minor negative effect on driver delay on Links 7, 8 and 9. The scale of effect on driver delay from the proposed development is not considered to be materially different from that identified in the 2015 UES.

Pedestrian and Cycle Delay

10.6.34 The assessment of pedestrian and cycle delay considers the delay that is likely to occur to pedestrians as they cross the road and cyclists accessing the site. The approved CADP1 development has been designed to ensure the site is well connected and fully integrated within the surrounding area to maximise access on foot and by bike. Notably, cycle journey times are expected to materially reduce as a result of the opening up of Hartmann Road as part of the approved CADP1. In addition, the approved CADP1 development will provide pedestrian crossing facilities at Hartmann Road as part of the forecourt layout to improve pedestrian connections to the airport. These will tie in with the existing pedestrian infrastructure and footway on the southern side of Hartmann Road. No additional enhancements have been considered for the DM case

10.6.35 The number of cycle trips associated with the proposed development is forecast to be of the order of 100 two-way trips during the peak hours. This level of flow is unlikely to be perceptible on the local network and would not affect existing cyclists, nor would the changes to vehicle flow through the study area.

10.6.36 Existing formal signalised pedestrian crossing facilities are provided at the western extent of Hartmann Road at its junction with Connaught Road (A112), in addition to further signalised crossings on Connaught Road (A112) to the north and south of this junction. This allows for the safe crossing of pedestrians at this junction. The changes to vehicle flow would not increase the level of pedestrian delay at formal or informal pedestrian crossings located on road links 7-10.

10.6.37 The combined effect of the increased cycle and walking demand will be such as to have negligible impact on pedestrian and cyclist (who are sensitive receptors) on these routes. Therefore, there is likely to be a direct permanent, long-term residual effect on Highway Users of neutral to slight negative significance. No mitigation measures are proposed above those already in place as set out in Section 10.5 above.

10.6.38 The assessment contained within the 2015 UES predicted that the overall changes in traffic as a result of the approved CADP1 scheme would have a negligible effect on pedestrian delay on Links 7, 8 and 9. The scale of effect on pedestrian and cycle delay from the proposed development is slightly greater with that identified in the 2015 UES, however the effect remains as not significant.

Pedestrian Amenity

10.6.39 As set out in the methodology section, the IEMA guidelines suggest that the threshold for judging the significance of changes in pedestrian amenity would be where the traffic flow is doubled. The increase in traffic flow reaches a maximum increase at Links 7 and 8 of 37% for the DC vs DM Scenario. Accordingly, this threshold is not met and the magnitude of impact on pedestrian amenity is considered to be negligible. No mitigation measures are therefore proposed.

10.6.40 Taking into account that the sensitivity of the links is assessed to be medium and the magnitude of change is assumed to be negligible, it is considered that there is likely to be a direct permanent, long-term residual effect on pedestrians of neutral to slight negative significance for the DC Scenario.

10.6.41 In comparison to the assessment contained within the 2015 UES, the overall changes in traffic as a result of CADP1 are prescribed to have a minor positive impact on pedestrian amenity on Links 7, 8 and 9, arising from the opening of the eastern junction to Hartmann Road. Therefore, the scale of impact on pedestrian amenity from the proposed development is slightly above with that identified in the 2015 UES.

Accidents and Safety

10.6.42 Whilst there will be a level of additional traffic associated from the proposed development along road links 7-10, it is not expected that it would have a material adverse effect on accidents and safety, due to the improvements in the highway and pedestrian / cycle infrastructure as outlined in paragraph 10.5 of this chapter. Hence it is considered that the proposed development would not significantly alter the injury accident rate. No mitigation measures are therefore proposed.

10.6.43 Taking into account that the sensitivity of the links is assessed to be medium and the magnitude of change is assumed to be negligible, it is considered that there would likely be a direct permanent, long-term residual effect on Highway Users of neutral to slight negative significance for the DC vs DM Scenario.

10.6.44 The assessment contained within the 2015 UES predicted that the overall changes in traffic as a result of the approved CADP1 scheme would have a negligible effect on accidents and safety on Links 7, 8 and 9. The scale of effect on accidents and safety from the proposed development is not considered to be materially different from that identified in the 2015 UES.

Pedestrian Fear and Intimidation

Link 7: Hartmann Road (East of Connaught Road) – Western Airport Access

10.6.45 For the principal assessment year of 2031, the average 18-hour weekday traffic flow along Link 7 is 5,452 (303 average hourly flows) vehicle movements under the DM Scenario, increasing to 7,459 (414 average hourly flows) vehicle movements under the DC Scenario. This equates to a 'negligible' impact using the thresholds set out in the IEMA Guidelines (and summarised in Table 10.6 above). The proposed development would generate a nominal increase in HGV movements, and these would remain in the 'negligible' threshold category.

Link 8: Hartmann Road (West of Albert Road) – Committed Eastern Airport Access

10.6.46 For the principal assessment year of 2031, the average 18-hour weekday traffic flow along Link 8 is 3,695 (205 average hourly flows) vehicle movements under the DM Scenario, increasing to 5,055 (280 average hourly flows) vehicle movements under the DC Scenario. This equates to a 'negligible' impact. The proposed development would generate a nominal increase in HGV movements, and these would remain in the 'negligible' threshold category.

Link 9: Connaught Road (East of Roundabout)

10.6.47 For the principal assessment year of 2031, the average 18-hour weekday traffic flow along Link 9 is 10,595 (589 average hourly flows) vehicle movements under the DM Scenario, increasing to 12,283 (682 average hourly flows) vehicle movements under the DC Scenario. This equates to an increase from a negligible to a 'minor' impact. The proposed development would generate a nominal increase in HGV movements, and these would remain in the 'minor' threshold category.

Link 10: Connaught Road (West of Roundabout)

10.6.48 For the principal assessment year of 2031, the average 18-hour weekday traffic flow along Line 10 is 10,595 (589 average hourly flows) vehicle movements under the DM Scenario, increasing to 12,283 (682 average hourly flows) vehicle movements under the DC Scenario. This equates to an increase from a negligible to a 'minor' impact. The proposed development would generate a nominal increase in HGV movements, and these would remain in the 'minor' threshold category.

10.6.49 As the proposed development is expected to have no significant adverse effect on the pedestrian fear and intimidation on the assessed links, no mitigation measures are proposed above those already associated with the CADP1 consent (as summarised in paragraph 10.5 of this chapter).

10.6.50 Taking these impacts as a combined whole, using professional judgement and taking into account that the sensitivity of the links is assessed to be medium and the magnitude of change is assumed to be negligible to minor. Therefore, there is likely to be a direct permanent, long-term residual effect on Highway Users of neutral to slight negative significance.

10.6.51 The assessment contained within the 2015 UES predicted that the overall changes in traffic as a result of the approved CADP1 scheme would have a minor positive effect on pedestrian fear and intimidation on Links 7, 8 and 9 due primarily to the fact that the Eastern Junction of Hartmann Road would be open in the development case, but not in the do nothing case. Under this current assessment, the Eastern Junction of Hartmann Road would be open under both the DM and DC Scenarios. The scale of effect on pedestrian fear and intimidation from the proposed development is not considered to be materially different from that identified in the 2015 UES.

Highway Links Impact Summary

10.6.52 A detailed environmental assessment has been undertaken above for Links 7-10, to determine the significance of effects of the development traffic flows on receptors along it/using it. A summary of the significance of effects is provided below in Table 10.13.

Table 10.13: Summary of Significance at Highway Links 7-10

Receptor	Highway Links			
	Link 7 (Hartmann Road, East of Connaught Road – Western Airport Access)	**Link 8 (Hartmann Road, West of Albert Road, Committed Eastern Airport Access)**	**Link 9 (Connaught Road, East of Roundabout)**	**Link 10 (Connaught Road, West of Roundabout)**
Changes in daily vehicle flows on local roads (links)	Moderate Negative	Moderate Negative	Slight Negative	Slight Negative
Severance	Moderate Negative	Moderate Negative	Slight Negative	Slight Negative
Driver Delay	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative
Pedestrian and Cycle Delay	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative
Pedestrian Amenity	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative
Accidents and Safety	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative
Fear and Intimidation	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative	Neutral to Slight Negative

Impacts on Sustainable Transport Modes

10.6.53 Detailed analysis of the public transport impact assessment is included in Chapter 8 of the TA and summarised below.

10.6.54 The net effect of the additional demand is minimal across the whole public transport network for the weekday AM and PM peak periods as the bulk of the assumed growth in passenger activity will occur during the weekday off-peak and Saturday periods. The greatest impact is observed on the DLR, which serves the airport directly, as discussed in more detail below.

DLR Services

10.6.55 For the purposes of this assessment, the DLR service frequency has been based on 2031 assumptions within TfL's Railplan models.

10.6.56 The modelling of the future baseline takes account of extra train capacity funded by the airport and CADP1 permitted demand for both the DM and DC scenarios. The upgraded service has reserve capacity and the assessment determines a marginal difference due to changes proposed in demand.

10.6.57 TfL's guidance on capacity is that 3 or more standees per square metre should be considered as crowded. The Railplan modelling crowding diagrams, indicate that with the proposed development, during both the AM and PM peak period, as is the baseline case, there will be some standing required on the DLR trains west of the airport in either direction, but only to the extent of 0 to 1 customer per square metre. The modelling indicates no standing required east of the airport.

10.6.58 The modelling shows that irrespective of the timing of upgrades to the DLR fleet, there is ample spare capacity on the network in the vicinity of the airport to accommodate the proposed development and that the impact on the wider public transport network is minimal. It should also be recognised that the passenger growth above the CADP1 threshold of 6.5 mppa will be focused outside of the peak hour periods and on Saturdays, where there is greater capacity on the DLR. The overall level of significance is slight, consistent with the 2015 UES.

Bus Services

10.6.59 TfL have suggested that it is reasonable, in addition to existing services, to assume a new, 5 bus per hour route that they will introduce after the opening of the Silvertown Link and would be operational by 2031 from the south end of the Greenwich peninsula via Silvertown Tunnel and North Woolwich Road to London City Airport and then on to Beckton via Connaught Bridge, Stansfeld Road and Tollgate Road.

10.6.60 Accordingly, in total there could be a total of at least 15 buses both arriving and departing per hour, serving the future airport demand. The anticipated busiest hour total bus demand, as set out in Tables 7.21 and 7.22 of the TA, is 120 inbound between 07:00 and 08:00 and 102 outbound between 17:00 and 18:00. These equate to a peak demand of around 7-8 customers per bus, or an average increase of 2 customers per bus and hence negligible impact.

Elizabeth Line

10.6.61 The airport indirectly benefits from the opening of the Elizabeth Line in two ways. Some passengers and staff can be expected to use the bus connection to and from Custom House to pick up Elizabeth Line services. At just over 2 km away its also within cycling distance[8], but less walkable especially for those with luggage despite the segregated dock side route. Also, rail passengers who used to cross the Thames using the DLR airport branch could be anticipated to switch to the Elizabeth Line, freeing up space for airport demand.

10.6.62 The impact of additional demand for the services arising from the DC vs DM case is negligible.

Summary

10.6.63 Overall, it is demonstrated that the airport is well served by existing and proposed future public transport associated with the DLR, bus and Elizabeth Line with capacity to absorb additional demand associated with the proposed development. The majority of the additional demand is expected to occur during the weekday off-peak and Saturday periods, when there is substantial unused public transport capacity.

10.7 Further Mitigation and Monitoring

10.7.1 The effects of the additional travel demand arising from the proposed development is predicted to require no mitigation. A summary table of potential impacts is provided at Table 10.14.

10.7.2 A Framework Travel Plan (FTP) is included as an Appendix to the TA. attached at Appendix E sets out the range of measures which LCY seek to implement between 2026 and 2031 to help achieve the desired mode share targets.

[8] Non-folding bikes are only accepted between 09.30 and 16.00.

10.7.3 The airport does, however, recognise the importance of policies prioritising non car travel and to promote sustainable transport choices and reduce carbon. It has set a target of 80% sustainable mode share for passengers and 55% for staff by 2031. To help achieve this is proposing a new Sustainable Transport Fund (STF).

10.7.4 The fund has the potential to be subsidised by a levy on car users, e.g., from a proportion of car parking revenue or forecourt charges, and can be used to contribute to surface access projects which contribute to the airport achieving its mode share targets. The STF would operate for a minimum of 7 years and would be managed by the airport in consultation with the Airport Transport Forum, which includes local authorities, transport providers, neighbouring landowners and community representatives.

10.7.5 A flexible approach is important to ensure that initiatives can respond to how modal share targets are being achieved and can adapt to working with transport providers and others (whose priorities and investment decisions typically change). A fund of at least £2 million per annum could fund a range of projects, such as, subsidising earlier DLR services, provide better connectivity between the airport and Elizabeth line station at Custom House and other initiatives to encourage staff and passengers to use public transport.

10.8 Residual Effects and Conclusions

10.8.1 Cumulative impact has been considered in the form of reliance upon TfL HAM and Railplan modelling that incorporates future predicted travel demand across London. The TfL models consider a much more comprehensive range of cumulative schemes than those addressed in detail in Chapter 14 of the ES and therefore represent a robust means of assessing the cumulative impacts of development in the vicinity, including construction traffic associated with those schemes noted at paragraphs 14.2.20 and 14.2.21.

10.8.2 Any local additional traffic or public transport demand associated with the construction of schemes locally would not be noticeable in eth volume of background traffic flows or public transport loadings within these models.

10.8.3 The residual effect from all of the proposed mitigation measures being implemented is set out in Table 10.14. The table shows that all the minor negative impacts associated with the proposed amendments can be accommodated without further mitigation with all remaining effects being of negligible significance. Nevertheless, as already mentioned in section 10.7, the airport is targeting an increase in the proportion of trips undertaken by sustainable modes and is proposing a new Sustainable Transport Fund which will convert levies on car users into additional measures to encourage use of sustainable modes.

Table 10.14: Summary of Residual Environmental Effects

Receptor	Sensitivity of receptor	Description of impact	Short / medium / long term	Magnitude of impact	Significance of effect	Significant / Not significant	Notes
Operational phase							
Highway Network	Medium	Localised increase in traffic	Permanent, long-term residual effect on Highway Users	Minor to moderate	Slight to moderate negative impacts due to increased traffic	Not significant	
Severance	Medium	Localised traffic flow increases		Minor to moderate	Slight to moderate negative impacts due to increased traffic	Not significant	
Driver Delay	Medium	No significant effect identified		Negligible			
Pedestrian and Cycle Delay	Medium	No significant effect identified		Negligible	Neutral to slight negative impacts	Not significant	
Pedestrian Amenity	Medium	No significant effect identified		Negligible	Neutral to slight negative impacts	Not significant	
Pedestrian Fear and Intimidation	Medium	No significant effect identified		Negligible to minor	Neutral to slight negative impacts	Not significant	
Public Transport – Rail	Low	Localised passenger flow increases	Permanent, long-term residual effect on Public Transport Users	Negligible	Neutral to slight negative impacts	Not significant	
Public Transport – DLR	Low	Localised passenger flow increases		Negligible	Neutral to slight negative impacts	Not significant	
Public Transport – Bus	Low	Localised passenger flow increases		Negligible	Neutral to slight negative impacts	Not significant	
Public Transport – Riverboat	Low	Localised passenger flow increases		Negligible	Neutral to slight negative impacts	Not significant	