

7A TRANSPORT AND ACCESSIBILITY

Introduction

- 7A.1A This chapter of the ES reports on the likely significant effects with respect to transport and accessibility to arise from the demolition and construction stage and from the completed development stage of the proposed development. It takes into account amendments made to proposed development following post-submission consultations (the 'amended proposed development'), as well as requests from TfL to undertake additional modelling of the Gillette Corner junction (A4 Great West Road/ Syon Lane).
- 7A.2A The demolition and construction stage of the amended proposed development is expected to generate direct and indirect social and economic impacts, with temporary effects.
- 7A.3 The chapter describes the wider policy context; the methods used to assess the potential impacts and likely effects; the baseline conditions at and surrounding the site; the likely transport and accessibility effects taking into consideration embedded mitigation; the need for additional mitigation and enhancement; the significance of residual effects; and inter-project cumulative effects.
- 7A.4A The chapter is supported by the following technical appendices in:
- ES Volume 3:
 - Appendix 7.1: Transport Assessment (TA); ~~and~~
 - Appendix 7.2: Scenario 3 Assessment;
 - ES Volume 4:
 - Appendix 7.1R: Replacement Transport Assessment;
 - Appendix 7.3A: Replacement Transport Assessment (Gillette Corner Design Option 2); and
 - Appendix 7.4A: Replacement Transport Assessment (Gillette Corner Design Option 3).

Methodology

- 7A.5A The assessment has been informed by the following legislation, policies and published guidance:
- National Legislation and Policy:
 - NPPF (2019)¹;
 - PPG (2019)²;
 - Regional Policy:
 - London Plan (2016)³ in particular policies '6.3 - Assessing the effects of development of transport capacity', '6.9 - Cycling', '6.10 - Walking' and '6.11 - Smoothing traffic flow and tackling congestion';
 - Intend to Publish London Plan (2019)⁴ in particular policies contained in Chapter 10 Transport;

- Publication London Plan (2020)⁵ in particular policies contained in Chapter 10 Transport;
- Healthy Streets for London (2017)⁶;
- The Mayor's Transport Strategy (2018)⁷;
- Local Policy:
 - Hounslow Local Plan 2015 to 2030 Volume One (2015)⁸ in particular policies 'EC1 - Strategic Transport Connections', 'EC2 - Developing a Sustainable Local Transport Network', 'IMP1 - Sustainable Development' and 'EQ2 -Sustainable Design and Construction';
 - Hounslow Transport Strategy - Third Local Implementation Plan (2019)⁹;
 - Hounslow Great Western Corridor Local Plan Review (ongoing)¹⁰;
- Guidance:
 - Transport for London (TfL) guidance on Transport Assessments (2020)¹¹;
 - The Design Manual for Roads and Bridges (DMRB) (2019)¹²; and
 - The Guidelines for the Environmental Assessment of Road Traffic, 1993 (GEART)¹³.

Consultation

- 7A.5 An EIA Scoping Report¹⁴ was submitted to the LBH on 31 July 2019 in support of a request for a formal EIA Scoping Opinion (provided in Technical Appendix 2.1, ES Volume 3). The LBH issued an EIA Scoping Opinion on 13 September 2019 (Technical Appendix 2.2, ES Volume 3). Two further Scoping update letters were issued to the LBH to confirm that subsequent design changes did not affect the originally proposed scope of the EIA and therefore that the EIA Scoping Report and the LBH EIA Scoping Opinion remained valid.
- 7A.6 In addition, a formal TA scoping process was undertaken in consultation with the LBH and Transport for London (TfL).
- 7A.7 Pre-application consultation with TfL and the LBH was undertaken in relation to the proposed development. The consultation was undertaken in parallel with consultation on redevelopment proposals for the Homebase development.
- 7A.8A Table 7A.1 summarises the pre-submission consultation that has been undertaken with respect to the assessment of transport and highways for the Tesco Osterley development.

Table 7.1: Summary of Consultation		
Consultee and Form/ Date of Consultation	Summary of Comments	Where in this Chapter Comments are addressed
Scoping Opinion (Appendix 2.1) received	The scoping is generally agreed; however, the assessment and supporting	The supporting TA has been developed in accordance with TfL's

¹Ministry of Housing, Communities and Local Government, 2019. National Planning Policy Framework. HMSO.

²Ministry of Housing, Communities and Local Government, 2019. Planning Practice Guidance [online]. Available at: <https://www.gov.uk/government/collections/planning-practice-guidance>.

³ Greater London Authority, 2016. The London Plan Spatial Development Strategy for London Consolidated with Alterations since 2011. London. Available at: <https://www.london.gov.uk/what-we-do/planning/london-plan/current-london-plan>

⁴Greater London Authority, 2019. Intend to Publish London Plan. London. GLA.

⁵Greater London Authority, 2020. Publication London Plan. London. GLA.

⁶Transport for London, 2017. Healthy Streets for London. Available at: <https://tfl.gov.uk/corporate/about-tfl/how-we-work/planning-for-the-future/healthy-streets>

⁷Greater London Authority, 2018. Mayor's Transport Strategy. London, GLA.

⁸London Borough of Hounslow, Local Plan (2015-2030), 2015, Available online: https://www.hounslow.gov.uk/info/20167/local_plan/1108/local_plan

⁹ London Borough of Hounslow, Local Implementation Plan (2019-2041), 2019, Available online: https://www.hounslow.gov.uk/downloads/file/2159/hounslow_local_implementation_plan_lip

¹⁰ London Borough of Hounslow, 2017. Great West Corridor Locals Plan Review. London. LBH.

¹¹ https://www.hounslow.gov.uk/info/20167/local_plan/1545/local_plan_reviews

¹¹ Transport for London, 2020, Transport Assessments, Available online: <https://tfl.gov.uk/info-for/urban-planning-and-construction/transport-assessment-guide/transport-assessments>

¹² Highways England, 2019. Design Manual for Roads and Bridges

¹³ Institute of Environmental Assessment, 1993. The Guidelines for the Environmental Assessment of Road Traffic.

¹⁴ Ramboll, 2019. Osterley Tesco, Syon Lane, Isleworth: Environmental Impact Assessment Scoping Report, July 2019.

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September 2019	information must address the issues below which reflect comments from TfL and LBTH's Transport section. It is noted that the ES shall include cross-referenced information provided in a separate Transport Assessment (TA).	Healthy Streets for London best practice guidance and is informed by pre-application discussions with LBH's Transport Department. The TA is now included as a technical appendix to this chapter.
	The car park beat surveys for the site should be undertaken on a 15-minute basis. Surveyors should identify the location and number of trips associated with Nishkam School as these will need to be deducted from the overall Tesco accumulation given the primary trip purpose is not a food store trip.	On-site and on-street parking stress surveys have been undertaken. The existing Tesco car parking accumulation surveys have been determined from 24-hour traffic counts site surveys, undertaken from 3-9 July 2019, inclusive. An additional Tesco parking accumulation survey was undertaken on Saturday 29 June, and supplementary surveys were undertaken in November 2018. On-street parking stress surveys were undertaken overnight on Wednesday 3 and Thursday 4 July 2019.
	A Road Safety Audit for the redesigned access is required.	A Stage 1 Road Safety Audit has been undertaken, which considers the site's proposed access arrangements. This is discussed in the TA.
	TfL is the responsible highway authority for part of the road network that immediately surrounds the site. It is understood that TfL has provided detailed pre-application advice in respect of local traffic modelling for the proposed development in their 'Planning Application Modelling Overview'.	Traffic modelling has been undertaken to the specification required by TfL and the LBH, and for an agreed study area. Traffic modelling has been undertaken in VISSIM, which includes an assessment of journey times for bus services. As agreed with TfL and the LBH, VISSIM modelling has been undertaken for the design year 2035 only, and considers the completed development stage.
	The TA must be prepared in accordance with latest TfL's TA best practice guidance https://www.tfl.gov.uk/info-for/urban-planning-and-construction/transportassessment-guidance and http://www.tfl.gov.uk/assets/downloads/transportassessment-best-practice-guidance.pdf	The TA has been prepared with specific reference to TfL's Healthy Streets approach including a 'Transport Planning for People' Section that presents an Active Travel Zone (ATZ) assessment in adherence TfL guidance. Furthermore, the proposed development has been designed in respect of the Healthy Streets principles and considers walking,

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		cycling and public transport improvements to complement the 'low car' approach which has been adopted from the outset. The TA recognises the requirements of the adopted Transport Strategy and makes reference to the transport infrastructure proposed within the Transport Strategy to support the development of the wider Opportunity Area.
	Local junction impact - VISSIM micro-simulation for the Gillette corner junction is recommended to understand projected vehicle trip distribution.	A VISSIM model has been constructed to the specifications of TfL and the LBH. The model has been subject to TfL's Model Audit Process. The model has been developed in consultation with TfL and LBH officers and the methodology for assessment has been agreed. The methodology of assessment is discussed in detail within the TA.
	Micro-simulation modelling is required to support the highway impact analysis for the development proposals. Please refer to the advice of TfL dated June 2019 in respect of modelling requirements with the scope to also include the junction of Wood Lane/Northumberland Avenue. There is no need at this time to include the A315 junctions with Syon Lane, Wood lane, or Spur Road but it is noted that the A315 will form Cycle superhighway 9. Changes are proposed to Busch Corner and the Applicant needs to be aware of this, with modelling to be made available by LBH.	The scope of the VISSIM micro-simulation model has been discussed and agreed with TfL during the pre-application consultation process. The scope of the assessment is discussed in capacity modelling section of the TA and this Chapter.
	The assessment shall demonstrate how the Mayor of London's 'Healthy Streets Approach' has been addressed and its objectives met.	The multi-modal trip generation exercise which has been undertaken to inform the associated impact assessment presented in the TA, includes a review of pedestrian and cycle trip generation and provides peak hour bus and rail trip generation by bus service and by underground or mainline rail station.
	Car parking levels should accord with the Draft New London Plan.	The proposed residential provision of 0.24 spaces per unit is well within the maximum provision of

Table 7.1: Summary of Consultation		
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		0.5 spaces per unit as stipulated by the draft new London Plan.
TfL Initial Screening Option meeting, 7 March 2019; Pre-application meeting, 9 May 2019; and Pre-application meeting, 31 July 2019.	<p>Walking and Cycling Improvements: The scheme should be developed to incorporate improvements to walking and cycling infrastructure, due to the expected future increases in pedestrian and cyclist traffic.</p> <p>Vision Zero: The TA should consider mitigation measures as a means to eliminate serious and fatal collisions on the transport network, and should demonstrate how the scheme will contribute towards TfL's Vision Zero approach.</p> <p>Active Travel Zone Assessment (ATZ): Requirement for an ATZ assessment as part of the application submission - This assessment should cover key routes to the nearest rail stations, bus stops, parks and amenities and should identify deficiencies in the local pedestrian environment.</p> <p>Cycle Parking: All cycle parking is required to be designed and laid out in accordance with the guidance contained in Chapter 8 of the London Cycling Design Standards (LCDS).</p> <p>Public Transport Accessibility: TfL requires bus trip generation figures by time and by direction, with the peak hour indicated separately. TfL would use this information to assess the impact of the development on local bus services.</p> <p>Residential Car Parking Provision: A residential car parking ratio of 0.25 spaces per unit is deemed to be in accordance with the London Plan and Draft New London Plan.</p> <p>Servicing: The TA is required to present the trip generation analysis for servicing and delivery vehicles and demonstrate that the proposed loading bays are adequate to meet the needs of the development. A Delivery and Servicing Plan (DSP) is requested as part of the application.</p> <p>Construction: The application must be accompanied by a Construction and</p>	<p>All pre-application comments made by TfL Officers have been considered in the preparation of the planning application plans and documentation.</p> <ul style="list-style-type: none"> The proposed development would be permeable to pedestrian and cycle movements and an off-carriageway shared footway/ cycleway would be accommodated on the site's Syon Lane frontage. The personal injury collision record of the highway has been reviewed, in detail, and is discussed within the Chapter and within the TA. An ATZ assessment has been undertaken within the TA, in line with TfL's Healthy Streets TA guidance. Cycle parking is provided to meet the draft London Plan's minimum standards. Within the TA a multi-modal assessment of development related trip generation has been undertaken, including an assessment of bus trip generation, by direction of travel. The proposed development would promote a car parking ratio of 0.24 spaces per residential unit, in line with TfL's maximum standards, as defined in the draft new London Plan. A standalone Delivery and Servicing Plan (DSP) has been prepared and accompanies the planning application. A standalone Outline CLP has been prepared and this

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	<p>Logistics Plan (CLP) that details construction programme, routes for HGVs; frequency of deliveries and loading/unloading locations.</p> <p>Travel Planning: A framework travel plan covering all elements of the development, which sets out the targets and the measures to be implemented, will need to be submitted as part of the application. TfL expects that the full travel plan will be secured and monitored as part of a S106.</p>	<p>accompanies the planning application.</p> <ul style="list-style-type: none"> A Residential Travel Plan and a Framework Workplace Travel Plan has been prepared and accompany the planning application.

7A.9N1 Following submission of the application:

- [Comments were received from consultees in respect of the bus drop-off location off Grant Way, resulting in the development of a second option comprising a bus route through the site \(Bus Route Option 2\).](#)
- [TfL requested updated and additional traffic modelling in relating to journey time markers and to include the request for a new option for highway works to the Great West Road junction \(Gillette Corner\) to be delivered as part of the Homebase development \(but relied upon in the future baseline assessment for the proposed development\). The September 2020 TA \(Technical Appendix 7.1\) modelled three junction options with the bus and driver delay assessment based on Design Option 1. However, updated junction modelling in the TA Addendum now presents results for:](#)
 - [Design Option 1: No additional pedestrian/cyclist crossings;](#)
 - [Design Option 2: New north-south pedestrian/cyclist crossing on the eastern side of the junction \(providing an alternative to rather than replacing the existing underpass\) – in this option the surface level crossing would replace the underpass;](#)
 - [Design Option 3: New pedestrian/cyclist crossings on the northern, eastern and southern sides of the junction; and in this option the surface level crossing would replace the underpass; and](#)
 - [New Design Option 4: New north-south pedestrian crossing on the eastern side of the junction on the eastern side of the junction, and a new east-west crossing on the southern side of the junction \(to replace the existing staggered crossing by the existing access to the Homebase site\). This option will now seek to keep the underpass and provide a surface crossing.](#)
- [LBH requested updated Stage 1 RSAs for the various Design Options tested at Great West Road junction. This information will be provided outside of the TA Addendum.](#)

7A.9N2 The two bus route options provides flexibility to allow for alternative options for the incorporation of the bus stops and turnaround facility with the site, either at the northern end of Grant Way as proposed in September 2020 (Bus Route Option 1) or at an alternative location within the site (Bus Route Option 2), with the final location to be agreed as part of the reserved matters details;

- [Bus Route Option 1: Buses would enter the site via Grant Way, enter the bus turn facility adjacent to the mobility hub on the site's eastern boundary and exit again via Grant Way. Bus stop and bus stand facilities would be provided on the northbound carriage of Grant Way and within the bus turn; or](#)
- [Bus Route Option 2: Buses would enter the site via Syon Lane and the spine road, stop at a layover facility alongside Block G, travel clockwise along the east-west northern lane and exit via Grant Way.](#)

[For both options there would be nine buses per hour \(three for service H28 and six for service E1\). For Bus Option 2, passengers for both services would board and alight on-site and E1 buses would layover on-site, with the site acting at the terminus to this route. For Bus Route Option 2, there would be a 50 % reduction of public bus movements in Grant Way compared with Bus Route Option 1.](#)

[Buses would be stopped for approximately five to six minutes at the proposed layover facilities. No idling busses are anticipated.](#)

- [Introduction of flexibility for the location of the single storey mobility hub \(previously referred to as Block K\) to match Bus Route Options 1 or 2 with no change to nature or scale of this building.](#)

[7A.9N3 The two bus route options provide flexibility to allow for alternative options for the incorporation of the bus stops and turnaround facility with the site, either at the northern end of Grant Way as proposed in September 2020 \(Bus Option 1\) or at an alternative location within the site \(Bus Option 2\), with the final location to be agreed as part of the reserved matters details.](#)

[7.9AN4 The fully detailed updated and additional assessments are presented in the Replacement TA \(Technical Appendix 7.1A\), with summaries provided in this chapter as appropriate.](#)

Assessment Scope

7A.10 The scope of assessment was discussed with TfL and LBH during pre-application consultation. In the course of the consultation, a study area was agreed for the purposes of TA and traffic modelling. The agreed study area for the purpose of micro-simulation (VISSIM) traffic modelling is outlined in Figure 7.1 of this Chapter. This study area was agreed on the basis of the potential for development related transport impacts. Within this Chapter, the assessment of development related environmental impacts extends beyond the agreed study area, as defined in Figure 7.2, and includes additional links to the south of the A4 Great West Road in order to establish if the proposed development could have a significant effect on the operation of London Road (A315) and Twickenham Road (A310).

7A.11 It has been agreed that the study area reflects the extent of the transport network for which there is the potential for the proposed development to have a significant effect on highway capacity, bus service operations, and pedestrian and cyclist activity.

7A.12 Having defined a study area to only those links that have the potential to experience a significant effect, the significance of any effect was established. This was achieved ~~this~~ by examining the 'magnitude of impact' on the sensitive routes.

7A.13 A 'magnitude of impact' was established by applying the Guidelines for the Environmental Assessment of Road Traffic (GEART).

7A.14 The GEART provides guidelines for the assessment of the environmental impacts of road traffic associated with new developments, irrespective of whether the developments are to be subject to formal EIAs.

7A.15 The purpose of the guidelines is to provide the basis for systematic, consistent and comprehensive coverage for the assessment of traffic impacts arising from development projects.

7A.16 The GEART is the principal guidance that informs this assessment and the following sections of this chapter contain full details of how the guidance has been applied.

7A.17 The GEART sets out considerations and, in some cases, thresholds in respect of changes in the volume and composition of traffic to facilitate a subjective judgement of traffic effect and significance.

7A.18 Account has been taken of all applicable legislation, guidance and policy.

Technical Scope

7A.19 The assessment considers the impacts and effects of the proposed development in isolation and in

combination with cumulative schemes (including the Homebase development) in respect of the following:

- Demolition and construction transport and accessibility impacts on the highway network, public transport, pedestrians and cyclists, accidents and safety; and
- Completed development transport and accessibility impacts on the highway network, public transport, pedestrians and cyclists, accidents and safety.

7A.20 In respect of public transport it is noted that while the assessment considers the potential for delay to bus service operations that result from the proposed development, the impact of additional passenger demand on public transport services (overground rail, underground rail and bus services) has not been considered. Development related passenger impacts are established within the TA and based on this assessment, TfL will consider whether these impacts warrant mitigation. The approach has been agreed in consultation with TfL.

[7A.20N1 In respect of the two Bus Route Options, it is noted that bus movements to and from the site was considered as part of the wider road traffic impact assessment. The proposed development would now provide two design options for bus service provision. These proposals are made in the context that the site already acts as a bus terminus for service H28, which currently operates with a frequency of three buses an hour. The redevelopment of the site provides an opportunity to improve and future proof the bus stops and standing facilities so that they are provided to current standards and allow for the potential expansion of bus services in the future, should TfL see the need for this. Should the development not come forward then bus services would continue to operate within the exiting, using current bus stops and stands.](#)

[7A.20N2 The existing site bus stop and terminus are located adjacent to the site's access road, with buses able to turn to exit via an internal roundabout junction.](#)

[7A.20N3 While Syon Lane is an existing bus route, public bus services do not route onto Grant Way. However, Grant Way accommodates bus services run by Sky, with on-street bus stops provided for southbound movements at the northern end of Grant Way. Currently, Grant Way accommodates 18 two-way Sky bus movements in the weekday AM period \(07:45-08:00\) and 17 buses two-way in the PM peak hour \(17:00-18:00\).](#)

[7A.20N4 Bus Option 1 would route the H28 and an extended E1 service on Grant Way, where new bus stops and bus standing would be provided. A bus turning area would be provided within the site, at the northern end of Grant Way. These facilities would accommodate nine buses an hour, with bus access to Grant Way supported by some local carriageway widening. As a result of the proposals, an additional 18 buses services an hour \(two-way\) would route on Grant Way doubling the existing bus service demand. This is the equivalent of one bus every 3 minutes and 20 seconds.](#)

[7A.20N5 In comparison to Bus Option 1, Bus Option 2 would have a beneficial impact on Grant Way. Buses would route into the site from Syon Lane via a new priority site access junction. Buses would stop and lay-over within the site, such that no bus stops or standing would be incorporated within Grant Way. Bus services would however exit the site onto Grant Way, to navigate southbound back towards Syon Lane. Should Bus Option 2 be implemented, then an additional nine buses an hour would route on this link, at an average rate of one bus every 6 minutes and 40 seconds.](#)

[7A.20N6 Regardless of the final selected option, bus services would route on Syon Way, either to existing or proposed bus infrastructure and therefore the proposed development would not result in an adverse effect on the operation of Syon Lane. Accordingly, the introduction of Route Option 2 and the flexibility with regard to the mobility hub \(previously referred to as Block K\) would not alter the assessment presented in the Assessment of Effects Section.](#)

7A.21 As indicated in the Temporal Scope Section below, the main focus of the assessment has been the cumulative effect scenario where both the proposed development and the Homebase development are delivered.

7A.22 Assessments of the scenario where only the proposed development is delivered in isolation without the respective Homebase development has been included within this ES to ensure the effects of the development subject of the application has been assessed. However, as the results of this scenario assessment gives rise to unrealistic results that do not reflect the factual reality of the delivery of the two schemes, the results are presented in a technical appendix.

Spatial Scope

7A.23 The study area that was agreed with TfL and LBH for the purpose of micro-simulation modelling is presented in Figure 7.1.

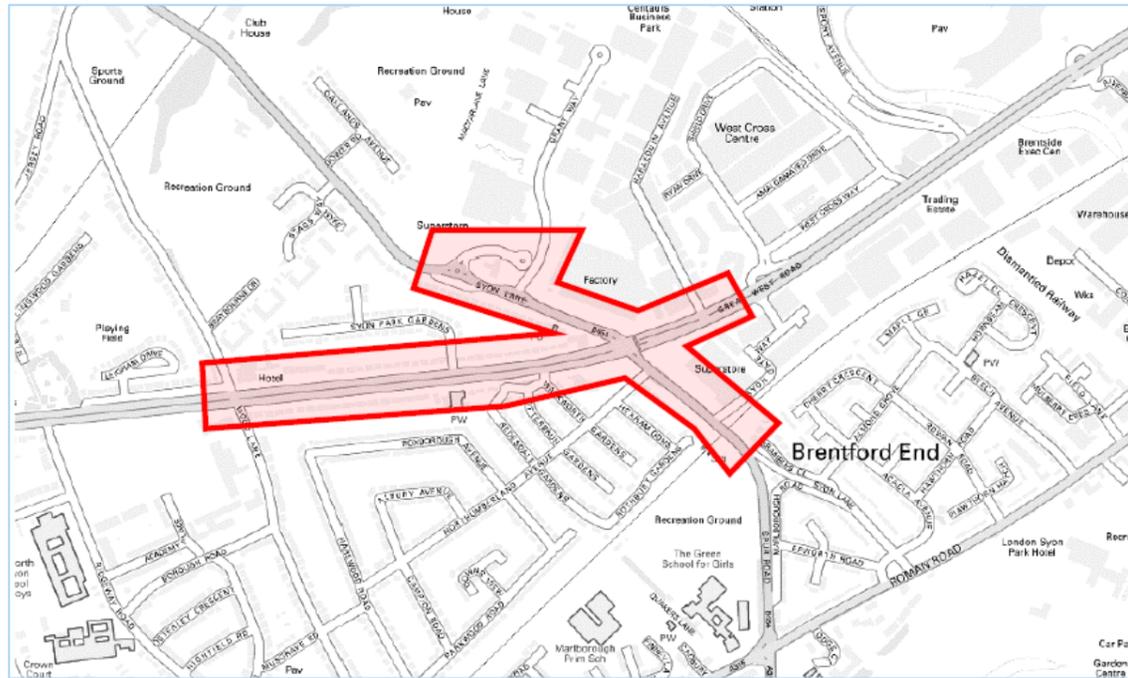


Figure 7.1: Study Area for Micro-Simulation Modelling

7A.24 Figure 7.2 identifies the location of receptor sites, relative to the site, within an extended study area for which traffic data has been obtained to support assessments contained within this chapter.

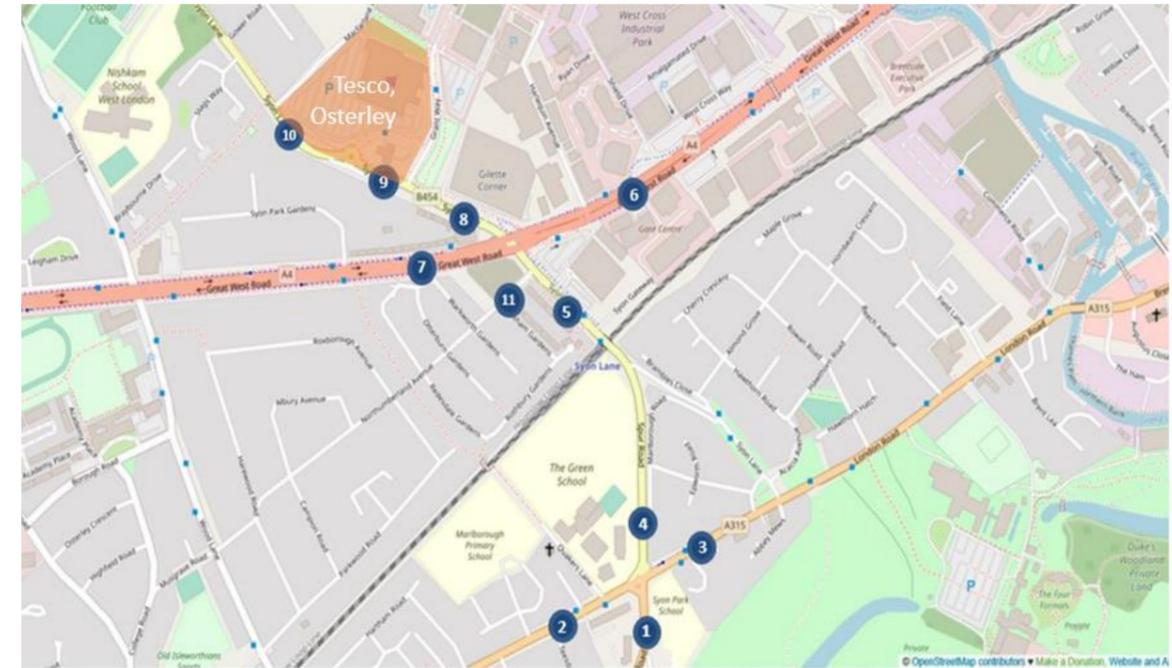


Figure 7.2: Extended Study Area with Receptor Link Locations 1 to 11

7A.25 The extended study area has been formulated by identifying the most likely routes for construction traffic during the demolition and construction stage, including routes to/from the nearest consolidation centre, and key routes/approaches relating to residential/customer traffic for the completed development stage.

7A.26 With particular reference to the completed development stage, the study area has in the first instance been defined in respect of the re-assignment of traffic resulting from the re-provision of the Tesco store to the Homebase site, with additional consideration given to likely traffic patterns for future residents at the site. Routes that extend outside the traffic study area are routes where the proposed development's traffic has dissipated and/ or include roads with negligible sensitive receptors.

7A.27 The extended study area has been divided into the following 11 separate highway sections, known as links, which are defined as sections of road with similar characteristics and traffic flows:

- 1) A310 Twickenham Road (south of A315, London Road);
- 2) A315, London Road (west of Syon Lane/ Twickenham Road junction);
- 3) A315, London Road (east of Syon Lane/ Twickenham Road junction);
- 4) Syon Lane - North of A315, London Road;
- 5) Syon Lane - South-east of Homebase site access;
- 6) A4 - East of Syon Lane;
- 7) A4 - West of Syon Lane;
- 8) Syon Lane, North of A4;
- 9) Syon Lane - South-east of site access (between Grant Way and site);
- 10) Syon Lane, North of site access; and
- 11) Northumberland Avenue.

7A.28A Figure 7.1 & 7.2 illustrates the location in each link from which the associated baseline traffic data was collected.

7A.29 The study area referred to in Figure 7.1 is representative of the area of assessment for public transport impact, personal injury; accident and collision data; and pedestrian and cycle movements.

Temporal Scope

- 7A.30 This assessment has considered impacts arising during the demolition and construction stage which would be expected to be temporary short term (0-5 years) and temporary and medium-term (5 - 10 years) in nature and from the completed development stage which would be expected to be permanent and long-term in nature (i.e. more than 10 years).
- 7A.31 The assessed impacts have been compared to the Existing Baseline (2019), adjusted to a neutral month, and Future Baselines during the peak construction year (2028) and completed development year (2035), in order to analyse future effects on the study area. Amendments to the construction schedule means that the forecast year of completion for assessment has been 2035, as opposed to 2030 as set out as part of the EIA Scoping Report.
- 7A.32 In respect of the vehicle movements, the following assessment scenarios have been considered:
- For demolition and construction, the worst-case construction traffic generation is likely to take place in 2028. The assessment has considered the impact of construction related traffic movements for the following scenarios:
 - Scenario 1: Existing Baseline (2019);
 - Scenario 2: Future Baseline (2028)¹⁴;
 - Scenario 3: Future Baseline¹⁴ + Proposed Development; and
 - Scenario 4: Future Baseline¹⁴ + Cumulative Development¹⁵ + Proposed Development.
 - For the completed development, the assessment has considered the following scenarios:
 - Scenario 1: Existing baseline (2019);
 - Scenario 2: Future baseline (2035)¹⁵;
 - Scenario 3: Future Baseline¹⁴ + Proposed Development; and
 - Scenario 4: Future Baseline¹⁴ + Cumulative Development¹⁶ + Proposed Development.
- 7A.33 As required by TfL and LBH, Scenario 2 accounts for the future baseline with background growth derived from TfL's London Highway Assignment (LoHAM) model¹⁷.
- 7A.34 LoHAM takes information on the number of trips and their expected origins and destinations from TfL's London Transportation Studies (LTS) model and calculates their routes through the highway network based on journey times and distance. It is used to provide an overall impression of the impact of major highway schemes or large residential or employment developments. TfL state that "LoHAM has been developed over the past decade to provide a consistent basis for highway modelling and the underpinning of planning across the Capital."
- 7A.35 In consideration of potential large residential or employment developments, the LoHAM model reflects the traffic impact of development within the Opportunity Area in which the site is located. This includes traffic demand that could arise from locally 'committed development sites' within the wider Opportunity Area. The LoHAM model 'committed development sites' are considered cumulative schemes/development in this assessment. For the purpose of this assessment, it is assumed that traffic associated with the redevelopment of the Homebase site is not included within the LoHAM traffic predictions, but that traffic associated with all of the cumulative schemes identified in ES Chapter 2, is incorporated within the LoHAM traffic growth predictions.
- 7A.36 Scenario 3 considers 'Future Baseline' traffic flows, based on the predictions of the LoHAM model (including cumulative schemes) and the proposed development related traffic in isolation. This scenario

assumes that the Homebase site, operates as existing and has not been the subject of future redevelopment. However, the scenario also assumes that other identified local cumulative schemes (those listed in Chapter 2 and in Table 7.25) have been developed and are operational. It should be noted that the cumulative schemes listed in Chapter 2 and in Table 7.25 are generally low car or car free schemes, that are likely to result in a negligible effect on the highway conditions. Therefore, there would be no significant highway effects associated with these schemes on which the assessment of impact on the proposed development would be dependent.

- 7A.37 Scenario 4 considers the proposed development's impacts in the context ('in combination with') of all background growth and cumulative schemes, as well as the Homebase development, as required by the LBH's Scoping Opinion. This scenario assumes the Homebase development is granted planning permission concurrently with the proposed development and that controls are imposed through the grant of planning permission that the existing on-site Tesco store will be relocated to the Homebase site and that the existing on-site Tesco store is only demolished once the new store becomes operational at the Homebase site. Therefore, at any point in time there will only ever be one Tesco store in operation between the two sites.
- 7A.38 Scenario 4 is considered to be the most realistic scenario. Accordingly, the impacts and effects of this scenario have been reported in this chapter. The impacts and effects for Scenario 3 are presented in Appendix 7.2 for completeness.

[7A.38N1 For the driver and bus delay assessments, Design Option 4 is considered to represent the reasonable worst-case and has been assessed within this chapter. The assessment results for Design Option 1 are presented in the September 2020 ES and for Design Options 2 and 3 are presented in Appendices 7.3A and 7.4A of this volume.](#)

Baseline Characterisation Method Desk Study

- 7A.39 In order to establish baseline traffic and travel patterns in the study area, relevant data was reviewed and assessed. Data was obtained from the following sources:
- Personal Injury Collision (PIC) data for the roads within the study area based on the most recent available data for a five-year period (i.e. 5 years up to 31 December 2018). The PIC assessment determines whether there are any significant highways safety issues that could be exacerbated by the proposed development;
 - Local 'Travel to Work' Census Data (2011)¹⁸ was reviewed to ascertain the mode people use to travel to work in the study area.
 - Department for Transport (DfT) Annual Average Daily Traffic (AADT) data was reviewed for counter sites located on the A4, to the east and west of Syon Lane;
 - Data from TfL's London Highway Assignment Model (LoHAM) was used to inform traffic growth estimates; and
 - Information relating to public transport services was obtained from TfL's online resources¹⁹, which set out London Underground services and bus routes, whilst the National Rail website²⁰ provided details of local mainline rail services²¹.

¹⁵ This includes LoHAM cumulative development, excluding the Homebase development.

¹⁶ This is the Homebase development.

¹⁷ <http://content.tfl.gov.uk/londons-strategic-transport-models.pdf>

¹⁸ 2011 Travel to Work Census Data – Hounslow 006E, Hounslow 009B, Hounslow 009C and Hounslow 014D

¹⁹ Transport for London, 2020. Public transport information [online]. Available at: <https://tfl.gov.uk/maps/bus>. <https://tfl.gov.uk/modes/tube/>.

²⁰ <https://www.nationalrail.co.uk/>

²¹ National Rail Enquiries, 2020. National Rail information [online]. Available at: https://www.nationalrail.co.uk/stations_destinations/default.aspx

Field Study

- 7A.40 Existing baseline conditions were established from a series of detailed site visits, a review of the site's existing and previous uses, a review of the local transport network and the results of a number of traffic surveys undertaken within the study area.
- 7A.41 Characterisation of the existing environment has been informed by the following:
- Automatic Traffic Counters (ATCs) counts were commissioned. These sites were installed to capture existing 24-hour traffic flows and speed data for the links referred to above, between 3 and 9 July 2019, inclusive; and 30 September 2019 and 6 October 2019, inclusive;
 - Automatic Number Plate Recognition (ANPR) video surveys commissioned by RHDHV to identify origin-destination counts for trips into and out of the Homebase site and the site. The ANPR surveys were undertaken to inform how traffic movements would be expected to re-assign within the local highway network, following the removal of the Homebase store and relocation of the Tesco Osterley store. These counts were undertaken on Saturday 29 June 2019 and Tuesday 9 July 2019;
 - Manually Classified Turning Counts (MCTC) commissioned by RHDHV were undertaken to survey all traffic movements at the intersections of the links identified above. The MCTC surveys were undertaken on Saturday 29th June 2019 and Tuesday 9th July 2019;
 - On-site car parking utilisation surveys for the Site and the existing Tesco Osterley site were undertaken from the 3rd July to 9th July 2019, inclusive. An additional Tesco parking accumulation survey was undertaken on Saturday 29 June, and surveys were also undertaken in November 2018 at the existing Tesco store;
 - On-street car parking stress surveys undertaken overnight on Wednesday 3 and Thursday 4 July 2019;
 - Identification of 'Park and Stride' trips associated with the Nishkam School, that utilise the existing Tesco car park;
 - Surveys of pedestrian and cycle demand to the existing Tesco site and along Syon Lane;
 - Journey time surveys (including bus journey time surveys) and junction saturation flow calculations to support VISSIM modelling.
- 7A.42 The times and dates of all traffic surveys undertaken to support the assessment of development related impacts have been agreed with the LBH and TfL as part of pre-application consultations.
- 7A.43 For the purpose of analysing the results yielded from the ATC and MCTC surveys, the data was adjusted to reflect a 'neutral month'. This is presented in all 'baseline' surveyed flows within this chapter.

Assessment Method

Methodology

- 7A.44 This section describes the assessment methodology, including data collection, impacts and impact assessment criteria used in the assessment. The adopted methodology has been informed by policy documents discussed above, specific guidelines for the preparation of an ES and relevant pre-application scoping opinions/ consultations provided by TfL and the LBH.
- 7A.45 As stated previously, GEART is the principal guidance that has informed the assessment and the following sections of this chapter contain full details of how the guidance has been applied.
- 7A.46 The sensitivity of a road (link) can be defined by the type of user groups who may use it. A sensitive area may, for example, be a village environment or where pedestrian or cyclist activity may be high, for example near a school. Broad definitions of different sensitivity levels (derived from GEART) that informed the assessment are discussed as part of the next section.
- 7A.47 The application of the GEART methodology has been supported by VISSIM micro-simulation modelling, the scope of which was agreed with TfL and LBH. The VISSIM microsimulation model was developed to

understand the impact of traffic movements associated with the development proposals on the local highway network, including traffic movements associated with the redevelopment of Homebase, Syon Lane on which the new Tesco store will be located. The VISSIM model has allowed journey time comparison assessments to be undertaken to support the design of mitigation measures to reduce potential delay to bus journey times. The VISSIM Model Audit Process (VMAP) has been followed in liaison with TfL and LBH.

- 7A.48 The VISSIM model results are presented in full within the TA. The assessment results are presented in the form of journey time assessments, both for general traffic and for bus services.

Screening Process

- 7A.49 The following rules, taken from the GEART, have informed a screening process and thereby defined the extent and scope of the assessment:
- Rule 1: Include highway links where traffic flows are predicted to increase by more than 30 % (or where the number of heavy goods vehicles (HGVs) is predicted to increase by more than 30 %); and
 - Rule 2: Include any other specifically sensitive areas where traffic flows (or HGV component) are predicted to increase by 10 % or more.
- 7A.50 Changes in traffic flow below the GEART Rules (thresholds) are, therefore, assumed to result in no discernible or significant environmental effects and have therefore not been assessed further as part of this assessment.
- 7A.51 For the purpose of this assessment, GEART Rule 2 is deemed to apply to high sensitivity links and Rule 1 is deemed to apply to moderate and low sensitivity links.
- 7A.52 The GEART state that any increases in traffic flows of less than 10 % are generally accepted as having no discernible environmental impact as daily variance in traffic flows can be of equal magnitude.
- 7A.53 The 30 % threshold relates to the level at which humans may perceive change and there may therefore be an effect. Effects above this level therefore do not necessarily suggest that there is a significant impact, only that further consideration is required to assess the significance of the effect.
- 7A.54 The assessment has applied the GEART Rule 1 and Rule 2 to the following transport related effects (described in Table 7.2):
- severance;
 - pedestrian and cyclist delay;
 - pedestrian amenity;
 - fear and intimidation; and
 - accidents and safety.
- 7A.55 Driver delay (and bus delay) has been considered in the context of the microsimulation (VISSIM) traffic model outputs, prepared to assess peak hour traffic impacts on the adjacent road network. It should be noted that in consultation with TfL and LBH the assessment of driver delay within a VISSIM model has only been considered for the completed development stage. An assessment of driver delay (and bus delay) has therefore been scoped out of the assessment of the demolition and construction stage. Therefore, the VISSIM model only considers Scenario 4 for the weekday AM (07:45-08:45) Weekday PM (17:00-18:00) and Saturday peak traffic periods.

Assessment of Effects

- 7A.56 Having applied the screening exercise to focus the traffic study area to only those links that have the potential to experience a significant effect, the significance of any effect was established. The adopted methodology achieves this by examining the magnitude of impact on the sensitive receptors.
- 7A.57 With reference to the GEART guidelines, Table 7.2 sets out the environmental effects that are susceptible

to changes in traffic flow and which are appropriate to gauge the impacts within the traffic study area.

Table 7.2: Transport Related Effects	
Effect	Description
Severance	Severance is the perceived division that can occur within a community when it becomes separated by a major traffic artery. The term is used to describe a complex series of factors that separate people from places and other people. Severance may result from the difficulty of crossing heavily trafficked road or a physical barrier created by the road itself. It can also relate to quite minor traffic flows if they impede pedestrian access to essential facilities. Severance effects could equally be applied to residents, motorists, cyclists or pedestrians. The GEART suggests that changes in the total traffic flow of 30 %, 60 % and 90 % are considered to be slight, moderate and substantial respectively.
Driver Delay (Bus Service Delay)	The GEART recommends the use of proprietary software packages to model junction delay and therefore estimate increased vehicle delays. However, it is noted that vehicle delays are only likely to be significant when the surrounding highway network is at, or close to, capacity. Delay on the highway network can impact the operation of public transport services and bus journey times have been considered within the VISSIM traffic models. In this case the adjacent highway A4/Syon operates at or close to capacity at peak times of traffic demand and it is for this reason that TfL and the LBH have requested that the traffic impact of the proposed development is modelled using micro-simulation software.
Pedestrian/Cyclist Delay	Pedestrians and cyclists can experience delays and difficulties crossing roads related to changes in traffic, volume, composition and speed. The GEART advises that in general, increases in traffic will lead to increases in delay, but also notes that delays will also be dependent upon the level of pedestrian activity, visibility and Site conditions. The research was undertaken by the Transport and Roads Research Laboratory in supplementary report 356 (TRRL 356) ²² developed formulas for calculating the potential for increases in pedestrian delay related to the volume of traffic at different types of crossings.
Pedestrian Amenity	Pedestrian amenity is broadly defined as the relative pleasantness of a journey and is considered to be affected by traffic flow, traffic composition and pavement width and separation from traffic. GEART suggests that a threshold of a doubling of total traffic flow or the HGV component may lead to a negative impact upon pedestrian amenity.
Fear and Intimidation	Pedestrians can experience fear and intimidation related to traffic, whereby the volume, speed, HGV composition and the proximity to people can increase the levels of fear and intimidation experienced. Whilst GEART recognises that there is an absence of commonly agreed thresholds, it does suggest that average traffic flows over 18 hours of 600 – 1,200, 1,200 – 1,800 and 1,800 + could result in moderate, great and extreme impacts, although noting other factors such as the proximity to traffic, speed and pavement width need to be considered.
Accidents and safety	The salient GEART guidance on accidents and safety is as follows: "Where development is expected to produce a change in the character of traffic (e.g. HGV movements on rural roads), then data on existing accidents levels may not be sufficient. Professional judgement will be needed to assess the

²² Transport and Road Research Laboratory, 1977, Pedestrian Delay and Traffic Management Supplementary Report 356

Table 7.2: Transport Related Effects	
Effect	Description
	implications of local circumstances or factors which may elevate or lessen the risk of accidents, e.g. junction conflicts." In accordance with the guidance, an examination of the existing collisions within the traffic study area has been undertaken to identify any collision clusters with an emerging pattern of collision types.

- 7A.58 Whilst the GEART definitions refer specifically to 'driver' and 'pedestrian' movements, the criteria defined also indirectly refers to the proposed development's environmental effects for car passengers, cyclists, motorcyclists and those travelling by bus.
- 7A.59 At the request of TfL development related impacts on public transport services has been considered within the microsimulation (VISSIM) traffic models prepared for the study area defined in Figure 7.1. These impacts are assessed based on journey times through the network with the assessment undertaken at times when the highway network is operating at its peak; this being:
- Weekday AM Peak Hour (07:45-08:45);
 - Weekday PM Peak Hour (17:00-18:00); and
 - Saturday Peak Hour (13:00-14:00).
- 7A.60 Bus journey times through the study area have been considered in this assessment alongside driver delay.
- 7A.61 At the request of TfL, development related bus service demand has been considered within the TA with respect to development impacts on specific bus services. TfL, who manage all local bus operations, have agreed to review the impact assessment in order to determine the impact on the ability of the services to accommodate demand. TfL will propose mitigation, if required, in the form of s106 financial contributions towards service enhancements. This aspect of public transport operation is therefore not considered further in this chapter.
- ### Demolition and Construction Stage
- 7A.62 Typically, the most effective estimates of construction traffic data are generated by the appointed contractor. These are often presented within a CEMP, a Method Statement and / or a CLP. Such documents can contain estimates of workforce movements to/from the site, deliveries to the site, removal of material from the site and trips made by associated trades.
- 7A.63 However, as a contractor has not yet been appointed the assessment has considered the TRICS 'Construction Traffic – Research Report' (February 2008)⁴ document, which provides guidance on the numbers (and types) of construction vehicles that could be expected in association with new build development.
- 7A.64 Based on the TRICS report, it is estimated that the proposed development would attract 132,300 one-way construction vehicle trips over the duration of the construction period. Of these, 71.56 % would take the form of a heavy goods vehicle (HGV).
- 7A.65 The traffic forecast presented herein assumes that demolition and construction work would be restricted to the following times:
- Monday to Friday, 08:00 – 18:00;
 - Saturday, 08:00 – 13:00; and
 - No activity to take place on a Sunday, or Bank Holidays.

- 7A.66 Should planning consent be granted, it is envisaged that the earliest that demolition and construction would commence is in the second quarter of 2025, with work being completed in the third quarter of 2035. The first year of full occupation, considered in the assessment effects would be 2035. It is therefore anticipated that demolition and construction would take an estimated ten years.
- 7A.67 Construction traffic numbers have been divided between development blocks and proportioned based on the scale of each individual block development. Constructed traffic numbers for each block was then related to the construction programme in order to establish when peak construction traffic movements would occur.
- 7A.68 Peak construction activity is anticipated to take place from April 2028 to September 2028, at which time Blocks A, B and H are under construction, the Tesco petrol station is being decommissioned and temporary residential car parking is being erected. At this time up to 97 vehicle arrivals are anticipated to arrive at the site over the course of the day. Of these, it is estimated that 71.6 % (69) would be HGVs.
- 7A.69 The assessment of demolition and construction traffic in the year of peak construction activity (2028) has been considered with respect to background traffic flows based on the data provided through TfL's LoHAM model. The model incorporates traffic growth that could be experienced as a result of the list of cumulative schemes in Chapter 2, and traffic that could be generated by other future development within the Opportunity Area.

Completed Development Stage

- 7A.70 The impact of the operational development has been undertaken with reference to the methodology agreed with TfL and the LBH in pre-application consultation.
- 7A.71 The proposed development's traffic generation has been assessed based on trip rate per car parking space. The proposed development would provide up to 400 on-site car parking spaces and at the request of TfL a peak hour trip rate of 0.33 trips per car parking space has been applied. It is noted that the trip rate applied is higher than experienced at other comparable residential-led development sites²³.
- 7A.72 From peak hour data, development related traffic generation over the course of a day has been derived from a 'typical' daily profile of traffic. A 10 % contingency has thereafter been added to the data set to ensure that development related impacts are within the bounds of this assessment.
- 7A.73 As required by TfL, development related traffic has been distributed on the highway network with reference to LoHAM.
- 7A.74 The assessment of 'operational' traffic in the year of full occupation (2035) has been considered with respect to background traffic flows based on the data provided through TfL's LoHAM model. The model incorporates traffic growth that could be experienced as a result of the list of cumulative schemes in Chapter 2, and traffic that could be generated by other future development within the Opportunity Area.
- 7A.75 The LoHAM model provides traffic growth to the design year 2031. TfL has agreed that no further additional growth should be applied to background traffic flows from 2031 to the design year 2035.

Cumulative Stage

- 7A.76 The site is being developed in parallel with redevelopment proposals for the Homebase site, in order to facilitate the relocation of the Tesco store. The implications of the two developments on traffic movements locally would be as follows:
- Traffic associated with the existing Homebase store would be removed from the local highway as a result of the store's demolition;

- Some petrol filling station (PFS) traffic movements would be removed from the local highway as a result of the demolition of the Tesco PFS;
- Tesco traffic that currently routes to and from Syon Lane north of the A4 would be redistributed as a result of the two developments, with future Tesco traffic gravitating to Syon Lane south of the A4;
- Traffic to the new Tesco store would reduce in comparison to existing, due to the constraint imposed by a reduction in car parking numbers at the new Tesco store (approximately 625 existing spaces down to 400); and
- Residential traffic would be generated by the two developments that doesn't currently exist locally.

7A.77 While the Homebase development does not have planning consent, this development is considered in Scenario 4 of this assessment, with the Homebase development considered to be a cumulative scheme.

Assessment Criteria

7A.78 The criteria used to assess if an effect is significant or not, is set out in subsequent sub-sections. This is determined by consideration of the sensitivity of the receptor, magnitude of impact and scale of the effect. In considering the significance of an effect, consideration has been given to the duration of the effect, the geographical extent of the effect and the application of professional judgement.

Receptor Sensitivity/Value Criteria

- 7A.79 The sensitivity of a road (link) can be defined by the type of user groups who may use it. A sensitive area may, for example, be a village environment or where pedestrian or cyclist activity may be high, for example near a school. Table 7.3 provides broad definitions of the different sensitivity levels (derived from GEART) that have informed the assignment of link sensitivity.
- 7A.80 The sensitivity of receptors has been classified as low, medium or high, in accordance with the criteria set out in Table 7.3.

Sensitivity	Criteria
High	High concentrations of sensitive receptors (e.g. hospitals, schools, areas with high tourist footfall) and limited separation provided by the highway environment. Identified collision (accident) cluster sites.
Medium	A lower concentration of sensitive receptors (e.g. residential dwellings, pedestrian desire lines) and limited separation from traffic provided by the highway environment.
Low	Few sensitive receptors and/or highway environment can accommodate changes in volumes of traffic.

7A.81 In addition to the consideration of the sensitivity of highway links, areas with existing road safety issues and congested junctions have been assigned a high degree of sensitivity.

Impact Magnitude Criteria

- 7A.82 A magnitude of the impact has been established by applying the GEART, which sets out considerations and, in some cases, thresholds in respect of changes in the volume and composition of traffic to facilitate a subjective judgement of traffic effect and significance.
- 7A.83 The magnitude of impact has been classified as negligible, low, medium or high, in accordance with the criteria set out in Table 7.4.

²³ TRICS Database

Likely Effect	Magnitude of Impact			
	Negligible	Low	Medium	High
Severance	Change in the total traffic flow of less than 30 %	Change in total traffic flows of 30-60 %	Change in total traffic flows of 60-90 %	Changes in the total traffic flow of over 90 %
Pedestrian amenity (including cyclists)	Changes in traffic flow (or HGV component) less than 100%		Greater than 100 % increase in traffic (or HGV component) and a review based upon the quantum of vehicles, vehicle speed and pedestrian/cycle demand	
Fear and intimidation**	Average traffic flows over 18 hours of less than 600 vehicles/hour or 1,000 HGVs over 18 hours		Average traffic flows over 18 hours between 600 -1,200 vehicle/hour or more than 1,000 - 2,000 HGVs over 18 hours	Average traffic flows over 18 hours of more than 1,200 vehicles/hour or more than 2,000 HGVs over 18 hours
	Potential vehicle speeds and pedestrian provision are also a consideration			
Pedestrian/Cyclist delay	A review of existing crossing facilities, pedestrian demand and calculated delays.			
Accidents and Safety	Analysis of Personal Injury Collision records to identify clusters and/or trends.			
Driver Delay (inc. bus service delay)	Vehicle delay and queues as forecast using junction modelling software (VISSIM). This assessment considers the magnitude of impact in relation to the potential increase in journey times resulting from the micro-simulation modelling, as detailed below. The assessment recognises the sensitivity around delay to bus service operations, which TfL has identified as having a high priority.			
	Journey time increase to general traffic of up to 60 seconds Journey time increase to bus services in excess of 30 seconds	Journey time increase to general traffic in excess of 60 seconds Journey time increase to bus services in excess of 30 seconds	Journey time increase to general traffic in excess of 90 seconds Journey time increase to bus services in excess of 45 seconds	Journey time increase to general traffic in excess of 120 seconds Journey time increase to bus services in excess of 60 seconds
Notes: ** Crompton 1981, uses the terminology moderate, great and extreme to describe the magnitude of impact. Impacts of less than moderate have been interpreted to be negligible to minor and impacts of moderate remain as moderate and great to extreme as substantial.				

7A.84 These thresholds are guidance only and provide a starting point for assessment. Additional evidence (e.g. detailed traffic analysis and site observations), and professional judgement, have informed analysis of the magnitude of the impact.

Scale of Effect Criteria

7A.85 The scale of likely effects has been assessed on the basis of the value/sensitivity of receptors against the magnitude of impact to determine the scale of effect as presented in Table 7.5.

Magnitude of Impact	Sensitivity of Receptors		
	High	Medium	Low
High	Major	Moderate to Major	Minor to Moderate
Medium	Moderate to Major	Minor to Moderate	Minor
Low	Minor to Moderate	Minor	Negligible
Negligible	Negligible to Minor	Negligible	Negligible

7A.86 The GEART state that any increases in traffic flows of less than 10 % are generally accepted as having no discernible environmental impact as daily variance in traffic flows can be of equal magnitude.

7A.87 The 30 % threshold relates to the level at which humans may perceive change and there may, therefore, be an effect. Effects above this level, therefore, do not necessarily suggest that there is a significant effect, only that further consideration is required to assess the significance.

7A.88 Based on professional judgement, moderate and major effects are considered 'significant' in EIA terms. Where ranges are identified, professional judgement has been applied.

7A.89 In determining the significance of reported effects, consideration has been given to the type of effect i.e. direct, indirect or secondary, the geographical extent of the effect and the duration of the effect i.e. temporary which is considered to be either short term (0 to 5 years) medium term (5 to 10 years), long term (more than 10 years).

7A.90 Duration of effect has been described as short, medium or long-term, in accordance with the criteria set out in Table 7.6.

Duration	Criteria
Short	0-5 years: this includes periods of high-intensity demolition and construction activity
Medium	5 - 10 years: these effects take place during demolition and construction activity
Long	10 years or more: those that would remain to post completion and occupation of the proposed development (i.e. the completed development stage)

Nature of Effect Criteria

7A.91 The nature of the effect has been described as either adverse, neutral or beneficial as follows:

- Beneficial – An advantageous effect to a receptor;
- Neutral – An effect that on balance, is neither beneficial nor adverse to a receptor; or
- Adverse – A detrimental effect on a receptor.

Assumptions and Limitations

7A.92 The EIA traffic data calculations have been based on development with 400 residential car parking spaces on-site. An additional 10 % contingency has also been applied to residential traffic generation numbers.

7A.93 At the request of TfL, residential traffic distribution has been informed by TfL's LoHAM traffic model.

7A.94 This assessment has been prepared in advance of the appointment of a building contractor. Assumptions have therefore been made in relation to vehicle routing and these are outlined in detail within the applications' Outline CLP and ES Chapter 5. It is assumed that all HGV movements would arrive via the A4-Great West Road. No HGV traffic would route to the site along minor roads.

- 7A.95 To ensure that numbers are not underestimated, it has been assumed that 75 % of HGV vehicle movements could arrive from the east and 75 % of vehicle movements could arrive for the west, meaning that the assessment includes traffic on the A4 equivalent to 150 % of total movements.
- 7A.96 The assessment assumes that cars and light goods vehicles (LGVs) would also be required to route to and from the site via the A4 Great West Road, however, the EIA traffic data does include an allowance of some of these vehicles to route to from the site via Syon Lane, both north and south of the A4. The assumption is that 50 % of non-HGV traffic would route to/from the site via Syon Lane.
- 7A.97 All efforts have been made to ensure that the information used as a basis for the assessment is accurate and up-to-date. The team is not aware of any limitations of the underlying information or of any constraints that would materially affect the evaluations.
- 7A.98 This ES has been based on the best available information at the time of publication, including feedback from consultations. However, further information may become available during the later design phases that will be used to inform the project if relevant.
- 7A.99 The EIA has been undertaken during the outline design phase of the proposed development and therefore some of the technical aspects of the demolition, construction and operation have yet to be determined.
- 7A.100 Also, the EIA has taken a precautionary approach to adopt conservatism in the assumptions made and any scenarios assumed so that in general a reasonable 'worst-case' scenario was assessed. In that way, inherent uncertainties are accounted for and subsequent modifications to the project during the later design phases are less likely to fall outside of the assumed envelope of the assessment parameters.

Baseline Conditions

Existing Baseline

Local Highway Context

7A.101 The site boundaries are defined to the:

- north-west by MacFarlane Lane, beyond which is Goals Gillette Corner Sportfields (including Goals Gillette Corner Football Academy football pitches and Sky's football area), the site of the proposed Bolder Academy and Wyke Green Golf Course;
- north-east by the Sky Isleworth Campus comprising 11 large scale headquarter, studio and playout centre buildings;
- east by Grant Way, beyond which are a small area of amenity space, the Sky Isleworth Campus and the West Cross Industrial Estate, including the Gillette Building;
- south by Syon Lane (B454), beyond which are two storey semi-detached houses (nearest approximately 20 m south) and a two storey apartment block; and
- west by MacFarlane Lane, beyond which are two storey semi-detached houses (nearest approximately 25 m west).

Syon Lane

- 7A.102 Syon Lane is a local distributor road, which in the vicinity of the site has a north-west/ south-east alignment. Syon Lane is a single carriageway two-way road which extends between Osterley Park in the north and the A315 London Road at its southern extent.
- 7A.103 In the vicinity of the site, a 20 miles per hour (mph) speed restriction operates on Syon Lane. The southern section of Syon Lane, from the railway station to Grant Way, Syon Lane operates under a 30 mph speed limit.
- 7A.104 The site is currently afforded a single point of vehicular access from Syon Lane, in the form of a mini-roundabout.

- 7A.105 In the vicinity of the site access, Syon Lane carriageway widens to around 11 m in width. A mini-roundabout for traffic turning into the site from Syon Lane is provided, and there is an internal site roundabout allowing vehicles to enter the car park or PFS. North and southbound bus stops are provided in the vicinity of the access, adjacent to the PFS.
- 7A.106 The site access is located 250 m north of the Gillette Corner/A4 junction, with Syon Lane Station 550 m located south of the site.
- 7A.107 In the section of Syon Lane carriageway south of the A4, two traffic signal-controlled pedestrian crossings are provided. A direct crossing is provided directly to the north of Syon Lane Station, approximately 450 m from the site and a staggered signalised pedestrian crossing is provided some 30 m north of the Homebase site access junction.
- 7A.108 Further crossings zebra crossing facilities are located north of the A4, adjacent to Grant Way, as well as adjacent to Gower Road 150 m to the north of the site.
- 7A.109 A Controlled Parking Zone (CPZ) is also enforced at the Wyke Estate, serving the residential area between the site and Nishkam School. The hours of operation are Monday to Friday, 09:30-17:30.

Great West Road

- 7A.110 The A4 Great West Road is a two-way dual carriageway road, which lies on the TfL Red Route Road Network (TLRN). The A4 Great West Road connects with the M4 at Brentford on route to Central London to the east and with Heathrow Airport to the west.
- 7A.111 There are wide, level footways provided on Great West Road. Both flanks of the A4 are provided with adequate street lighting. There is also a segregated cycleway which connects the site to Osterley station, situated approximately 1.8 km to the west of the site. The cycleway terminates at the junction of Syon Lane/Great West Road.
- 7A.112 The closest crossing facilities are on the Gillette corner, where an underpass is provided to allow pedestrians safe crossing from south to north. Furthermore, pelican crossings are provided at the junction on both eastern and western flanks of Syon Lane. These crossings are equipped with tactile paving and dropped kerbs.
- 7A.113 A staggered toucan crossing is provided at the western arm of the junction which facilitates north-south crossing of the A4 for pedestrians and cyclists.
- 7A.114 At the junction of the Great West Road (A4) and Harlequin Avenue, a traffic signal junction is provided that incorporates a staggered traffic signal controlled Toucan crossing across the A4. This junction also incorporates a signalised pedestrian crossing for east-west movements at the northern side of the junction, across Harlequin Avenue.
- 7A.115 A pedestrian footbridge is provided approximately 400m to the east of the site, providing a pedestrian crossing over the A4. Transport Avenue, the location at which Golden Mile station is proposed, is a further 150 m to the east.
- 7A.116 Segregated cycle lanes are provided in areas of kerbed pavement flanking the A4 carriageway at stretches to the east and west of Gillette Corner.
- 7A.117 A 40 mph speed limit operates at the A4, within the study area.
- #### Grant Way
- 7A.118 Grant Way is a two-way single carriageway road which junctions with Syon Lane on the eastern side. Grant Way is adjacent to the site, bordering the site's eastern flank, and can be accessed via a mini-roundabout and operates under a 20 mph speed limit.
- 7A.119 The site can currently be accessed by pedestrians via the frontage on Grant Way, with a designated entrance 50 m north of the junction with Syon Lane. Grant Way is also the main access point for the Sky Campus, which sits on the adjoining land, north of the site.

7A.120 Both flanks of Grant Way are marked with double yellow lines, with no loading permitted at any time. Bus stops, which are served by Sky's dedicated bus service, sit along the eastern edge of road.

7A.121 The footways are wide and level along Grant Way, both sides of the carriageway are provided with street lighting. A footway can be accessed adjacent to the entrance to the Sky Campus, which allows pedestrians to cross over to Macfarlane Lane to the north west.

7A.122 A 40 mph (miles per hour) speed limit operates at the A4 in the vicinity of the site.

Macfarlane Lane

7A.123 Macfarlane Lane is a two-way, single carriageway road which junctions with Syon Lane on its eastern side. It operates under a 10 mph speed limit and is approximately 4.5 m in width. There is a narrow footway lining both flanks of the road.

7A.124 Macfarlane Lane currently serves as the main access for Gillette Soccer Centres, as well as an additional access point for the Sky Campus. The proposed Bolder Academy will occupy the plot of land to the north of Gillette Soccer Centres.

7A.125 A footway, which connects Macfarlane Lane and Grant Way, can be found on the northern border adjoining the site and the Sky Campus.

Northumberland Avenue

7A.126 Northumberland Avenue is a two-way single carriageway which adjoins with Syon Lane approximately 20 m to the south of the A4 junction. This section of highway operates under a 20 mph zone and provides an alternative connection from Syon Lane to Wood Lane in the west.

7A.127 There are wide, level footways provided on Northumberland Avenue. Both flanks are also provided with adequate street lighting.

7A.128 There is resident permit holder parking Monday - Friday 9am-6pm. This is part of the CPZ zone SLS.

London Road (A315)

7A.129 The A315 London Road is an arterial road that operates to an approximate east-west alignment approximately 900 m south of the site. To the east, it connects to the A205 at Kew Bridge and provides connectivity with the M4 and A406 North Circular Road at Chiswick Roundabout. To the east, the A315 extends approximately 14 km to Staines-upon-Thames and facilitates connectivity to the A30 and A308.

Twickenham Road (A310)

7A.130 The A310 operates at a broadly north-south orientation to the south of the site. At its northern extent, the A310 forms a signalised intersection with Spur Road and London Road (A315), approximately 500 m south of the site.

7A.131 The A310 extends southbound through Twickenham and broadly follows the alignment of the River Thames providing connectivity to the A316 Chertsey Road, A305 Heath Road and A313 at Teddington. At its southern extent, the A310 intersects the A308 in the proximity of Kingston Bridge and Kingston Town Centre.

Existing Public Transport Network

7A.132 The site is well-positioned to be accessed by public transport, due to its proximity to Syon Lane Station, Osterley Station and a number of bus services.

Existing Bus Connectivity

7A.133 There are a number of bus stops close to the site, with two located in the immediate adjacencies of the site on Great West Road and Syon Lane.

7A.134 The key stops and their destinations are presented in Table 7.7.

Service	Route	Direction (Towards)	First Bus	Last Bus	AM	PM	Sat	Sun
H91 (Great West Road)	Hounslow West Station – Osterley Station – Wood Lane – Gillette Corner – West Cross Centre – Boston Manor Road – Gunnersbury Station – Hammersmith Bus Station	Hounslow West Station	05.10	23.50	6ph	6ph	5ph	4ph
		Hammersmith Bus Station	05.00	23:40	6ph	6ph	5ph	4ph
H28 (Syon Lane)	Bulls Bridge Tesco – Beaufort Gardens – Bath Road – Hounslow High Street – Hounslow East Station – Thornbury Avenue/Great West Road – West Middlesex Hospital – Syon Lane Station – Tesco Osterley	Bulls Bridge Tesco	05:50	23:30	3ph	3ph	3ph	2ph
		Tesco Osterley	05:50	23:30	3ph	3ph	3ph	2ph
235 (London Road)	Three Fishes – Sunbury Station – Feltham Tesco – Hounslow High Street – Thornbury Road – Isleworth Station – Wood Lane – Syon Lane – Brentford County Court – Great West Quarter	Three Fishes	05.05	00.00	7ph	7ph	6ph	5ph
		Great West Quarter	05:05	00:05	7ph	7ph	6ph	5ph
237 (London Road)	Frampton Road – Hounslow High Street – Isleworth Station – Syon Lane – Brentford County Court – Kew Bridge Station – Shepherd's Bush Green – White City Bus Station	Frampton Road	04.55	00.25	7ph	7ph	7ph	5ph
		White City Bus Station	05.05	23:55	7ph	7ph	7ph	5ph
267 (London Road)	Hammersmith Bus Station – Gunnersbury Station – Kew Bridge Station – Brentford County Court – Syon Lane – West Middlesex Hospital – Fullwell Bus Station	Hammersmith Bus Station	05:01	23:41	5ph	5ph	5ph	4ph
		Fullwell Bus Station	05:49	00:31	5ph	5ph	5ph	4ph
E8 (London Road)	The Bell – Isleworth Station – Syon Lane – Brentford Station – Boston Manor Station – Ealing Broadway Station	The Bell	04:00	00:50	7ph	7ph	7ph	7ph
		Ealing Broadway Station	04:50	01:15	7ph	7ph	7ph	6ph
N9 (London)	Heathrow T5 – Hounslow West Station – Wood Lane	Heathrow T5	23:55	04:55	3ph	3ph	3ph	3ph

Service	Route	Direction (Towards)	First Bus	Last Bus	AM	PM	Sat	Sun
Road)	– Syon Lane – Brentford County Court – Gunnersbury Station – Hammersmith Station – High Street Kensington – Hyde Park Corner – Charing Cross Station – Aldwych	Aldwych	23:30	05:20	3ph	3ph	3ph	3ph

7A.135 There are seven bus services within walking distance of the site. The H28 buses run adjacent to the site, along Syon Lane. The H91 can be accessed from the A4 Great West Road at bus stops K/C, while the 235, 237, 267, E8 and N9 buses can be accessed from London Road, at bus stops X/W. All routes provide at least three services per hour, while the most frequent services, the 235, 237 and E8 provide seven services per hour.

Existing Rail Connectivity

7A.136 Syon Lane Station, located approximately 550 m from the site, provides National Rail services direct to London Waterloo, via Brentford, Putney, Clapham Junction and Vauxhall. To the west, the service connects with Windsor and Eton.

7A.137 Syon Lane Station is on the Brentford loop of the South Western Railway network. At Syon Lane Station, there is a frequent service connecting the site with Central London. There are approximately seven trains per hour to London Waterloo and Mortlake, respectively. There are three trains per hour to Weybridge.

7A.138 Clapham Junction is a major railway station on the South Western Railway network and is accessible via a train journey of approximately 20 minutes from Syon Lane. Clapham Junction is served by London Overground, Southern and Gatwick Express services.

7A.139 With consideration of the Institution of Highways and Transportation guidance 'Providing for Journeys on Foot' 2000²⁴ referenced above which recommends a preferred maximum walking distance of 2 km for commuting journeys, it is further noted that Osterley Station is located within 1.8 km of the site and provides access to the London Underground network via Piccadilly line services. At Osterley Station, the Piccadilly line has a peak frequency of 12 trains per hour in each direction, with trains timetabled approximately every 5 minutes.

7A.140 A summary of services from Syon Lane Station is presented in Table 7.8.

Destination	Weekday AM Peak (Per Hour)	Weekday PM Peak (Per Hour)	Saturday (Per Hour)	Sunday (Per Hour)	Journey Time (Minutes)
London Waterloo*	2	2	6	2	35-52**
Feltham	2	2	2	1	11
Windsor & Eton Riverside	2	2	2***	1	33

* trains also stop at both Clapham Junction and Vauxhall stations
**as Syon Lane is on the Hounslow loop when it travels anti-clockwise it takes 52 minutes to London Waterloo Rail Station

²⁴ Highways and Transportation guidance, 2000. Providing for Journeys on Foot.

Destination	Weekday AM Peak (Per Hour)	Weekday PM Peak (Per Hour)	Saturday (Per Hour)	Sunday (Per Hour)	Journey Time (Minutes)
***No Direct service change at Feltham					

Public Transport Infrastructure Improvements

7A.141 A number of proposed rail improvements are planned in the local area. These would support the development of the wider 'Great West Road Opportunity Area', an area designated for higher density development. These proposals are defined in Mayor's Transport Strategy (2018) and the Borough's Local Implementation Plan (2019) and the Great West Corridor Strategic Transport Study, Full Report (May 2019)²⁵.

7A.142 The proposals include:

- **The West London Orbital** - A new London Overground service that would run from Hounslow and Kew Bridge, towards Hendon and West Hampstead in the north. This service would route via Syon Lane Station;
- **Southall Rail Link** - A passenger train service, operating on an existing freight line, linking Brentford with the planned Crossrail station at Southall. A new station would be created at Transport Avenue, Brentford, close to the existing Sky campus, and this route could in due course be connected to Brentford station; and
- **Piccadilly Line Signalling improvements and new stock** - will allow faster trains, increasing capacity and frequency, and is expected to be delivered by 2023. Within the study area, these works would benefit Osterley Station.

7A.143 In addition to the above, improved connectivity to the site by bus is proposed, with TfL proposing to extend service E1 from its current terminus in Ealing to the site. It is understood that TfL will formally consult on the route extension in the Summer 2020 and the Applicant has been requested to design a new bus terminus for this service as part of the proposed development.

Public Transport Accessibility Level

Existing Public Transport Accessibility

7A.144 Public Transport Accessibility Levels (PTALs) are the GLA's adopted methodology for the measurement of accessibility to a specific location, by public transport.

7A.145 The methodology takes account of the walk time from a specific location to the point of access to public transport services. The methodology also accounts for the frequency of public transport services, to identify an average wait time for each accessible service.

7A.146 The calculation allows bus services within a 640 m walking distance of the 'point of interest' to be included within the calculation. Mainline rail and underground services located within 960 m of the 'point of interest' can be included within the calculation.

7A.147 The methodology calculates an Accessibility Index (AI) and the value equates to a PTAL rating, as summarised below:

- PTAL Rating 1 (AI range 0 to 5) - Very poor;
- PTAL Rating 2 (AI range 5.01 to 10) - Poor;
- PTAL Rating 3 (AI range 10.01 to 15) - Moderate;
- PTAL Rating 4 (AI range 15.01 to 20) - Good;

²⁵ Great West Corridor Strategic Transport Study Full Report (May 2019)

- PTAL Rating 5 (AI range 20.01 to 25) - Very Good; and
- PTAL Rating 6 (AI range 25+) - Excellent.

7A.148 Based on the TfL on-line PTAL calculator, the site as a PTAL rating of 2, which equates to 'Poor' public transport accessibility. However, to the south of Great West Road, the PTAL scores improve. Approximately 400 m to the south, the area surrounding Syon Lane Station is scored at PTAL 3, while 1 km to the south, London Road has pockets of PTAL 4.

Future Public Transport Accessibility

7A.149 The anticipated future PTAL levels are summarised in the Great West Corridor Strategic Transport Study, Full Report (May 2019) – this is a joint LBH and TfL document. In discussing both bus and rail public transport capacity improvement options, the report says that “both packages are effective in reducing bus and rail crowding levels and in improving public transport connectivity and accessibility levels (PTAL) in the GWC area. The level of increase in PTAL achieved with each package is very similar in the central and western sectors - levels increase from 2 to 3 in the 2015 base year to 3 to 4 with both intervention packages.” Looking at the analysis in detail, the report suggests changes to PTAL levels in the area, based on bus and rail improvement packages. The changes are shown in Figure 7.3.

Figure 36: PTAL Site Locations

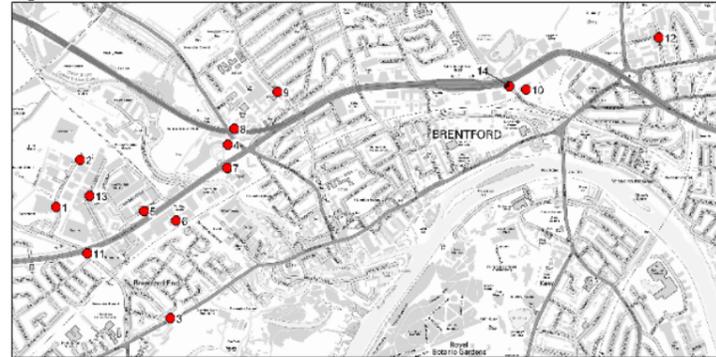


Table 13: Impact of intervention packages on PTAL at selected site locations

Site ID	Site Name	2015 Base	Package 1 (Bus)	Package 2 (Rail)
Eastern sector				
10	Lionel Road station	3	3	5
12	Power Road	4	4	5
14	GW Rd/Lionel Rd South	2	3	5
Central sector				
4	GSK	2	4	4
7	Riverbank Way	3	4	4
8	University of West London	3	4	4
9	Junction of Windmill Rd and Reynard Way	3	4	4
Western sector				
1	Tesco	2	3	3
2	Sky Campus	1b	3	3
3	Site 3 - Syon Lane	3	4	4
5	West Cross	2	4	4
6	Safestore site	2	5	5
11	Syon Lane/GWR	2	4	4
13	Harlequin Ave	1b	3	3

Figure 7.3: Great West Corridor Strategic Transport Study (May 2019) – Changes to PTAL

7A.150 Figure 7.3 infers a future PTAL level of 3 for the site. However, bus improvements are to be implemented (E1 and H28) and the rail service improvement also has potential to come forward. The combined bus and rail improvements could further increase PTAL rates for the site above those referred to above. The introduction of the rail service to Southall (from Transport Avenue) will be particularly important in

creating an increased PTAL rating for the site.

Walking Connectivity

7A.151 The Institution of Highways and Transportation guidance 'Providing for Journeys on Foot' 2000²⁶ provides guidance of widely considered acceptable walk distances in relation to local amenities and key services. The recommended average length of a walking journey is 1 km. It further recommends a preferred maximum walking distance of 2 km for commuting journeys and 1.2 km for other journey destinations.

7A.152 The National Travel Survey (NTS) (2018)²⁷ guidance states that walking is particularly significant in urban areas due to close proximity to basic amenities. Walking statistics in London support this, as around 33 % of all journeys are made on foot. This is largely due to high population density and low car-use in London, relative to the rest of the UK.

7A.153 Syon Lane railway station is considered to be a key destination for pedestrians. The route to Syon Lane railway station is along Syon Lane, where an approximately 2 m wide street lit footway is located on both sides of the carriageway. Large sections of the footway on Syon Lane are separated from the carriageway by a grass verge, providing an improved environment for pedestrians.

7A.154 The route to Syon Lane Station from the site requires pedestrians to cross the A4 (Great West Road) at its junction with Syon Lane. A signal controlled crossing is present at the Syon Lane/A4 junction (western side), in addition to a subway link (eastern side) which enables pedestrians to cross beneath the carriageway without having to wait for traffic.

7A.155 A summary of existing local services and facilities is provided within Table 7.9.

Table 7.9: Summary of Existing Walk Distances to Local Facilities

Facilities	Location	Approximate Walking Distance
Syon Lane Station	Syon Lane	550 m
Osterley Station	Great West Road	2,000 m
Marlborough School	Syon Lane	1,100 m
Syon Park	London Road	1,100 m
Nishkam School	Syon Lane	500 m
West Middlesex Hospital	Twickenham Road	1,550 m
Sky Campus	Syon Lane	200 m
Brentford Town Centre	High Street	2,000 m

Cycling Accessibility

Existing Cycling Accessibility

7A.156 Observations are that there are many current and proposed opportunities for cyclists within the study area. A distance of 3.1 miles (5.0 km) is considered a distance that many people consider suitable for a cycle trip to substitute for a car trip. There are many current and proposed opportunities for cyclists within the study area.

7A.157 Syon Lane operates under a 20 mph speed restriction between Grant Way and Windmill Lane/Jersey Road to the north. The southern section of Syon Lane, from the railway station to Grant Way, operates under a 30 mph speed limit. There is currently no dedicated cyclist infrastructure on this route; however, there are dedicated segregated cycle lanes on the A4, enabling links between the site and Osterley to the west, and Boston Manor Park and Chiswick to the east.

²⁶ Highways and Transportation guidance, 2000. Providing for Journeys on Foot.

²⁷ The National Travel Survey (NTS) (2018)

7A.158 Improved cycle infrastructure is proposed on Syon Lane along the site frontage, associated with the development of the Bolder Academy (application reference P/2017/1417). The Academy will support the provision of a 3m wide shared footway/cycleway on the site frontage. Additional infrastructure to support cycling would be provided between the site and the A4 Great West Road. This would improve pedestrian/cyclist connectivity between the site and the Homebase development where the replacement Tesco store would be located.

7A.159 Brentford neighbourhood centre is considered to be a key destination for cyclists and the main route along London Road has cycle lanes and cycle/bus lanes present, separating cyclists from traffic.

Future Cycling Accessibility

7A.160 Construction of Cycle Superhighway 9 started in 2019 on London Road with the route expected to be completed by 2021. This will provide a 7 km section of cycleway between Kensington Olympia and Brentford. The new cycle superhighway would support journeys by cycle from the site towards Central London.

7A.161 Furthermore, a cycle track from Syon Lane to Boston Manor Road Cycle track is proposed. The changes are intended to improve safety for all road users and make cycling a safer, and more appealing, travel option for employees and local residents of the study area.

Baseline Traffic Data (2019)

7A.162 As discussed earlier in this Chapter, 24-hour traffic flows and speed data for the study area was captured from Automatic Traffic Counters (ATCs) sites between Wednesday 3 July to Tuesday 9 July 2019, inclusive. These surveys were supplemented by turning count traffic surveys at key junction throughout the study area. The surveyed traffic flow data is summarised in Table 7.10.

Receptor Location		24hr AADT*			12hr AAWT** (07:00 – 19:00)		
		All Vehicles	HGVs** *	% HGVs	All Vehicles	HGVs** *	% HGVs
1	A310 Twickenham Road (south of A315, London Road)	21,528	1,610	7.48%	15,800	1,328	8.40%
2	A315, London Road (west of Syon Lane/ Twickenham Road junction)	10,460	1,294	12.37%	8,232	1,029	12.50%
3	A315, London Road (east of Syon Lane/ Twickenham Road junction)	14,062	1,753	12.47%	10,948	1,334	12.18%
4	Syon Lane - North of A315, London Road	18,563	819	4.41%	13,536	734	5.42%
5	Syon Lane - South-east of Homebase Site Access	21,941	1,537	7.01%	15,641	1,086	6.95%
6	A4 - East of Syon Lane	51,862	2,329	4.49%	41,387	1,868	4.51%
7	A4 - West of Syon Lane	41,760	1,921	4.60%	33,293	1,541	4.63%
8	Syon Lane, North of A4	25,138	817	3.25%	19,297	630	3.27%
9	Syon Lane - South-east of Tesco Access (between Grant Way and Tesco)	19,989	1,122	5.61%	15,100	807	5.34%
10	Syon Lane, North of Tesco Site Access	18,856	479	2.54%	14,490	369	2.55%

Receptor Location		24hr AADT*			12hr AAWT** (07:00 – 19:00)		
		All Vehicles	HGVs** *	% HGVs	All Vehicles	HGVs** *	% HGVs
11	Northumberland Avenue	3,672	54	1.47%	2,823	43	1.53%

* AADT – Annual Average Daily Traffic flows, i.e. average traffic flows over a week
 **AAWT – Annual Average Weekday Traffic flows, i.e. average traffic flows between Monday and Friday
 ***Includes buses
 Note: Figures adjusted to represent a neutral month

7A.163 The traffic surveys were undertaken in June and July 2019, but predominantly in the month of July. To this end, the figures presented in Table 7.10 incorporate seasonality adjustments to represent a 'neutral month'.

Baseline Road Safety

7A.164 To understand whether the proposed development's traffic generation would have a significant road safety effect, it is necessary to establish a baseline and identify any inherent road safety issues within the traffic study area. This review utilises historic PIC data obtained from TfL for the most recently available five-year period up to 31 December 2018.

7A.165 Over the five-year study period, across the traffic study area, 286 PICs were recorded, of which 28 were recorded as resulting in a 'serious' injury, with two recorded fatalities. All remaining PICs resulted in 'slight' injury.

7A.166 Table 7.11 summarises the recorded PIC by route and at key junctions. The table enables 'cluster' locations to be established, with a cluster defined as being five or more PICs occurring within 20 m of one another, or at a junction.

No.	Receptor Location	Accident Severity			Total
		Slight	Serious	Fatal	
1	A310 Twickenham Road (south of A315, London Road)	7	0	0	7
2	A315, London Road (west of Syon Lane/ Twickenham Road junction)	9	0	0	9
3	A315, London Road (east of Syon Lane/ Twickenham Road junction)	14	0	0	14
4	Syon Lane - North of A315, London Road	32	6	0	38
5	Syon Lane - South-east of Homebase Site Access	15	3	0	18
6	A4 - East of Syon Lane	13	4	0	17
7	A4 - West of Syon Lane	23	1	2	26
8	Syon Lane, North of A4	10	0	0	10
9	Syon Lane - South-east of Tesco Access (between Grant Way and Tesco)	11	0	0	11
10	Syon Lane, North of Tesco Site Access	12	0	0	12

No.	Receptor Location	Accident Severity			Total
		Slight	Serious	Fatal	
11	Northumberland Avenue	7	2	0	9
Total		153	16	2	171

7A.167 Table 7.11 concludes that PIC clusters occur on all links. It is noted that the PIC data has been aggregated in respect of intersections and as such, for robustness, several data items are included within the summary of more than one link.

7A.168 For the purpose of the EIA these clusters are considered to be of high sensitivity. Of the PICs recorded as those of 'serious' severity, it is noted that the highest rates are observed at Syon Lane south of the existing Homebase site entrance (six accidents in five years). A similar rate, of just over one 'serious' accident a year, is observed at the A4, west of its junction with Syon Lane, where the only two fatal incidents over the five year study period have also been observed.

Future Baseline

7A.169 TfL have requested that a future baseline traffic flows are calculated with reference to traffic growth generated figures from TfL's LoHAM model.

7A.170 To assess traffic growth from 2019 to 2035, and to the interim year of assessment 2028 LoHAM model data has been reviewed and traffic growth figures extrapolated to identify traffic growth, year on year, from 2012 to 2031. 2031 is the year to which LoHAM is based and TfL have confirmed that they do not expect any additional background traffic growth to be applied to traffic flows from 2031 to 2035.

7A.171 The LoHAM data provides different traffic growth rates for cars, taxis, LGV and HGV. What is evident from the data is that overall, at the A4/Syon Lane (Gillette Corner) junction, the LoHAM traffic model predicts an overall increase in traffic flow from 2019 to 2031.

7A.172 Future baseline traffic flows within this assessment make reference to LoHAM traffic growth statistics. An average AM Peak/ PM Peak traffic growth rate has been generated from the LoHAM data for each assessment year under consideration and this has been applied to both weekday and weekend traffic flows. The adopted growth rates are as detailed in Table 7.12.

Highway Link	Future Baseline Year	
	2019 to 2028	2019 to 2031 (2035)
A4 (West)	1.034	1.049
Syon Lane North	1.091	1.128
A4 East	1.008	1.014
Syon Lane South	1.020	1.037

7A.173 Table 7.13 presents the scenario 2 future baseline traffic flows for the anticipated peak year of construction traffic activity, 2028 (demolition and construction stage). Thereafter, Table 7.14 presents scenario 2 future baseline traffic flows for the first year of full occupation, 2035 (completed development stage).

No.	Receptor Location	24hr AADT*			12hr AAWT** (07:00 – 19:00)		
		All Vehicles	HGVs***	% HGVs	All Vehicles	HGVs***	% HGVs
1	A310 Twickenham Road (south of A315, London Road)	22,109	1,643	7.43%	16,328	1,354	8.29%
2	A315, London Road (west of Syon Lane/ Twickenham Road junction)	10,820	1,320	12.20%	8,608	1,049	12.19%
3	A315, London Road (east of Syon Lane/ Twickenham Road junction)	14,555	1,788	12.28%	11,379	1,360	11.96%
4	Syon Lane - North of A315, London Road	19,448	836	4.30%	14,442	748	5.18%
5	Syon Lane - South-east of Homebase Site Access	22,895	1556	6.80%	16,589	1,108	6.68%
6	A4 - East of Syon Lane	52,378	2348	4.48%	41,859	1,883	4.50%
7	A4 - West of Syon Lane	43,224	1986	4.60%	34,487	15,93	4.62%
8	Syon Lane, North of A4	28,025	891	3.18%	21,891	688	3.14%
9	Syon Lane - South-east of Tesco Access (between Grant Way and Tesco)	22,406	1224	5.46%	17,312	880	5.08%
10	Syon Lane, North of Tesco Site Access	21,171	523	2.47%	16,647	403	2.42%
11	Northumberland Avenue	3,672	54	1.47%	2,823	43	1.53%

* AADT – Annual Average Daily Traffic flows, i.e. average traffic flows over a week
 **AAWT – Annual Average Weekday Traffic flows, i.e. average traffic flows between Monday and Friday
 ***Includes buses
 Note: Figures adjusted to represent a neutral month

No.	Receptor Location	24hr AADT*			12hr AAWT** (07:00 – 19:00)		
		All Vehicles	HGVs***	% HGVs	All Vehicles	HGVs***	% HGVs
1	A310 Twickenham Road (south of A315, London Road)	22,401	1,670	7.45%	16,492	1,377	8.35%
2	A315, London Road (west of Syon Lane/ Twickenham Road junction)	10,924	1,342	12.29%	8,644	1,067	12.34%

No.	Receptor Location	24hr AADT*			12hr AAWT** (07:00 – 19:00)		
		All Vehicles	HGVs***	% HGVs	All Vehicles	HGVs***	% HGVs
3	A315, London Road (east of Syon Lane/ Twickenham Road junction)	14,690	1,818	12.37%	11,461	1,383	12.07%
4	Syon Lane - North of A315, London Road	19,510	850	4.36%	14,359	761	5.30%
5	Syon Lane - South-east of Homebase Site Access	23,014	1,594	6.93%	16,541	1,127	6.81%
6	A4 - East of Syon Lane	52,654	2,362	4.49%	42,058	1,894	4.50%
7	A4 - West of Syon Lane	43,830	2,015	4.60%	34,957	1,616	4.62%
8	Syon Lane, North of A4	28,675	922	3.21%	22,213	711	3.20%
9	Syon Lane - South-east of Tesco Access (between Grant Way and Tesco)	22,866	1,265	5.53%	17,479	910	5.21%
10	Syon Lane, North of Tesco Site Access	21,588	541	2.50%	16,791	417	2.48%
11	Northumberland Avenue	3,672	54	1.47%	2,823	43	1.53%

* AADT – Annual Average Daily Traffic flows, i.e. average traffic flows over a week
 **AAWT – Annual Average Weekday Traffic flows, i.e. average traffic flows between Monday and Friday
 ***Includes buses
 Note: Figures adjusted to represent a neutral month

Sensitive Receptors

7A.174 A desktop exercise informed by site visits was undertaken to allocate sensitivity to the sensitive receptors in the study area.

7A.175 The receptors identified as sensitive to the proposed development and which have been 'scoped-in' to the assessment are summarised in Table 7.15.

No.	Receptor Link	Link Sensitivity	Rationale for Link Sensitivity
1	A310 Twickenham Road (south of A315, London Road)	Medium	The link serves predominantly activity residential frontages; however, the road is directly fronted by The Green School for Boys.
2	A315, London Road (West of Syon Lane/ Twickenham Road junction)	Medium	The link is provided with footways and crossing points and contains some local retail frontages. Cycle lanes provided as part of a route signed or marked for use by cyclists on a mixture of quiet or busier road. The link also accommodates pedestrian connectivity to The Green School for Girls via Quakers Lane.

No.	Receptor Link	Link Sensitivity	Rationale for Link Sensitivity
3	A315, London Road (East of Syon Lane/ Twickenham Road junction)	Medium	The link is provided with footways and crossing points and serves residential and commercial frontages.
4	Syon Lane - North of A315, London Road	Medium	A limited number of active frontages. Footways provided at both sides of the carriageway. Signalised pedestrian crossing facilities provided in the northern section of the link.
5	Syon Lane - South-east of Homebase Site Access	Medium	A limited number of active frontages. Pedestrian footway provided at one side of the carriageway in parts. Can experience high peaks in pedestrian footfall resulting from train activity at Syon Lane Rail Station.
6	A4 - East of Syon Lane	Low	Link forms part of an arterial route. Relatively frequent formal pedestrian crossing provisions with footways either side of the carriageway.
7	A4 - West of Syon Lane	Low	Link forms part of an arterial route. Relatively less frequent formal pedestrian crossing provisions with footways either side of the carriageway.
8	Syon Lane - North of A4	Medium	A red route - the link is provided with footways and crossing points and serves retail and commercial uses as well as some residential properties.
9	Syon Lane - South-east of Tesco Access (between Grant Way and Tesco)	Medium	A red route - the link is provided with footways and crossing points and does not serve many active frontages.
10	Syon Lane - North of Tesco Site Access	Medium	A red route - the link is provided with pedestrian footways at both sides of the carriageway and serves a relatively low density of residential frontages. The Nishkam School West London takes access from this link.
11	Northumberland Avenue	High	The link provides access to a network of residential streets and incorporates pedestrian footways at both sides of the carriageway.

Assessment of Effects

7A.176 The assessment has been based on the scenario where the Homebase development is granted planning permission concurrently with the proposed development and that controls are then imposed through the grant of planning permission that the existing on-site Tesco store would be relocated to the Homebase site and that the existing on-site Tesco store is only demolished once the new store becomes operational. Therefore, at any point in time there will only ever be one Tesco store in operation between the two sites. As the Applicant for both sites is St. Edward, this is considered to be the most likely scenario.

7A.177 An alternative theoretical scenario whereby Tesco, Osterley is redeveloped and the Homebase site is retained as existing, is considered in Appendix 7.2 to this chapter.

7A.178 The assessment compares scenario 2 with scenario 4 and in doing so compares scenarios with the largest differential in traffic flow for the design years 2028 and 2035.

7A.179 The proposals for the Homebase development would be for the demolition and erection of buildings to provide up to 480 residential units (Use Class C3), a replacement Tesco foodstore (Use Class A1) of

10,679 m² (GIA) and 179 m² of flexible retail/office floorspace (Use Class A1-A5/B1), ancillary plant, access, servicing and car parking, landscaping and associated works. The Homebase development would not accommodate a replacement petrol filling station. The Homebase site is scheduled to be developed and fully occupied in 2026, and would therefore be fully operational for the Future Baseline years considered in this assessment (2028 and 2035). However, as explained in the assessment method section the Homebase development has not been included in the 2028 and 2035 Scenario 2 future baseline.

7A.180 In parallel to the site, the assessment methodology for the Homebase development has been discussed and agreed with officers at TfL and the LBH.

7A.181 Within this chapter, the Homebase development proposal is considered to form part of the scenario 4 cumulative assessment.

Demolition and Construction Effects

7A.182 In accordance with the GEART (Rule 1 and Rule 2), a screening process has been undertaken for the traffic study area to identify routes that are likely to experience significant changes in traffic flows and, therefore, require further assessment. The screening process has utilised 12hr AAWT flows, during which demolition and construction traffic would be operational.

7A.183 The assessment of demolition and construction traffic has been assessed for the future year of 2028, at which time peak site construction activity is anticipated (Figure 7.4). Tables 7.16 considers scenario 2 and scenario 4, with reference to demolition and construction stage.

No	Link	Link Sensitivity	Future Baseline 2028 - 12hr AAWT (7am-7pm) Flows		Future Baseline + Cumulative + Development 2028 - 12hr AAWT (7am-7pm) Flows		Percentage Increases	
			All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
1	A310 Twickenham Road (south of A315, London Road)	Medium	16,328	1,354	16,169	1,353	-0.97%	-0.07%
2	A315, London Road (west of Syon Lane/ Twickenham Road junction)	Medium	8,608	1,049	8,449	1,048	-1.85%	-0.10%
3	A315, London Road (east of Syon Lane/ Twickenham Road junction)	Medium	11,379	1,360	11,220	1,359	-1.40%	-0.07%
4	Syon Lane - North of A315, London Road	Medium	14,442	748	13,964	745	-3.31%	-0.40%
5	Syon Lane - South-east of Homebase Site Access	Medium	16,589	1,108	16,109	1,105	-2.89%	-0.27%
6	A4 - East of Syon Lane	Low	41,859	1,883	41,322	1,983	-1.28%	5.31%

No	Link	Link Sensitivity	Future Baseline 2028 - 12hr AAWT (7am-7pm) Flows		Future Baseline + Cumulative + Development 2028 - 12hr AAWT (7am-7pm) Flows		Percentage Increases	
			All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
7	A4 - West of Syon Lane	Low	34,487	1,593	34,199	1,696	-0.84%	6.47%
8	Syon Lane, North of A4	Medium	21,891	688	18,644	788	-14.83%	14.53%
9	Syon Lane - South-east of Tesco Access (between Grant Way and Tesco)	Medium	17,312	880	14,066	980	-18.75%	11.36%
10	Syon Lane, North of Tesco Site Access	Medium	16,647	403	16,184	401	-2.78%	-0.50%
11	Northumberland Avenue	High	2,823	43	2,811	43	-0.43%	0.00%

Severance, Pedestrian and Cyclist Delay, Pedestrian Amenity, Fear and Intimidation

7A.184 In accordance with the GEART, only highly sensitive links that show a greater than 10 % increase in total traffic flows (or HGV component) or, for all other links, a greater than 30 % increase in total traffic (or the HGV component) are considered when assessing the traffic effect upon receptors.

7A.185 It is noted from Table 7.16 that all links with low or medium sensitivity fall below GEART screening threshold of 30 %.

7A.186 For links that would experience a reduction in traffic flow (or HGV component) (links 1, 2, 3, 4, 5 and 10) the magnitude of impact would be negligible. The resulting effect would be direct, medium term, temporary **Negligible Beneficial** for severance, pedestrian and cyclist delay, pedestrian amenity, fear and intimidation.

7A.187 For links with low or medium sensitivity that would experience an increase in traffic flow (or HGV component) of 0 to 30 % (links 6, 7, 8 and 9) the magnitude of impact would be negligible. The resulting effect would be direct, medium term, temporary **Negligible Adverse** for severance, pedestrian and cyclist delay, pedestrian amenity, fear and intimidation.

7A.188 For links that are of a high sensitivity increases in traffic would fall below 10 % and the magnitude of impact on these links (link 11) would therefore be negligible. The resulting effect would be direct, medium term, temporary **Negligible Beneficial** for severance, pedestrian and cyclist delay, pedestrian amenity, fear and intimidation.

7A.189 An assessment of driver (and bus service) delay has been screened out for the assessment and does not form part of the modelling process that has been discussed with TfL and the LBH.

Accidents and Safety

7A.190 Table 7.11 identifies that personal injury collision clusters occur all assessed links, making each link highly sensitive in relation to road safety. Table 7.16 identifies that HGV movements would increase on Links 6, 7, 8 and 9 during the demolition and construction stage. Links 6 and 7 are not considered

further because the increases are less than 10 %; however, links 8 and 9 have been considered further because HGV increases are greater than 10 %.

7A.191 Over the 5-year period of assessment, the collision data has identified 21 personal injury accident collisions taking place within the study area on Syon Lane, north of the A4 (links 8 and 9).

7A.192 Ten of the 21 PICs took place on link 8. Nine of these incidents involved cars and one involved pedestrian modes.

7A.193 The remaining 11 PICs were recorded between Grant Way and the current site access (link 9). At this location, two pedestrian and two cyclist collisions were recorded, alongside two motorcyclist, four car and one private hire vehicle PICs.

7A.194 All of the personal injury collisions associated with links 8 and 9 resulted in a 'slight' injury.

7A.195 One collision took place of the site frontage, at the site's existing roundabout access junction, with the majority of the recorded collisions taking place at the Syon Lane/Grant Way roundabout junction, or between Grant Way and the A4.

7A.196 Over the five year assessment period the recorded collisions on links 8 and 9 involved:

- 3 pedestrian;
- 2 powered two-wheeler;
- 2 pedal cycles;
- 1 private hire vehicles;
- 13 cars

7A.197 Overall, while vulnerable users have been involved in collisions on this route, there is no evidence to suggest a recurring problem at a single location.

7A.198 It is noted that both links 8 and 9 has footways on both sides and the highway environment has the characteristics of an urban route serving heavy bus demand (i.e. adequate geometry for turning movements, controlled pedestrian crossings and wide footpaths). It is therefore considered that links 8 and 9 can accommodate the construction scenario flows and therefore the magnitude of impact of the demolition and construction stage can be concluded to be direct, medium term, temporary **Minor Adverse** for road safety.

Completed Development Effects

7A.199 The multi-modal trip generation of the proposed development is presented in Table 7.17 based on 1,677 units and 400 parking spaces.

Mode of Travel	Weekday 08:00-09:00		Weekday 17:00-18:00		Weekday 07:00-19:00		Saturday Peak	
	Arrivals	Departs	Arrivals	Departs	Arrivals	Departs	Arrivals	Departs
	Underground, metro, light rail, tram	36	189	115	59	646	747	75
Train	39	204	124	64	700	810	82	134
Bus, minibus or coach	42	219	133	68	749	866	87	143
Taxi	1	7	4	2	25	29	3	5
Motorcycle, scooter or moped	4	21	13	6	71	82	8	14

Mode of Travel	Weekday 08:00-09:00		Weekday 17:00-18:00		Weekday 07:00-19:00		Saturday Peak	
	Arrivals	Departs	Arrivals	Departs	Arrivals	Departs	Arrivals	Departs
	Driving a car or van	21	111	87	45	401	464	54
Passenger in a car or van	8	40	24	12	136	158	16	26
Bicycle	11	60	37	19	206	238	24	39
On foot	28	146	89	45	500	578	58	96
Other method of travel to work	2	13	8	4	43	50	5	8
Total	192	1,009	633	325	3,476	4,022	413	667

7A.200 Total daily vehicle movements of the completed development traffic across the highway network for the first year of full occupation, assumed to be 2035, has been assessed.

7A.201 In accordance with the GEART (Rule 1 and Rule 2) a screening process has been undertaken for the study area to identify links that are likely to have sufficient changes in traffic flows and, therefore, require further impact assessment. The screening process has been undertaken with reference to 24-hour AADT flows and 12-hour AAWT flows (during which time residential development related traffic flows would be predominate). The results of scenarios 4 and 5 are presented in Table 7.18.

No.	Link	Link Sensitivity	2035 Future Baseline – 24hr AADT Flows		2035 Future Baseline + Cumulative + Development – 24hr AADT Flows		Percentage Increases	
			All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
1	A310 Twickenham Road (south of A315, London Road)	Medium	22,401	1,670	22,323	1,669	-0.35%	-0.06%
2	A315, London Road (west of Syon Lane/ Twickenham Road junction)	Medium	10,924	1,342	10,846	1,341	-0.71%	-0.07%
3	A315, London Road (east of Syon Lane/ Twickenham Road junction)	Medium	14,690	1,818	14,612	1,817	-0.53%	-0.06%
4	Syon Lane - North of A315, London Road	Medium	19,510	850	19,277	848	-1.19%	-0.24%
5	Syon Lane - South-east of Homebase Site Access	Medium	23,014	1,594	22,778	1,592	-1.03%	-0.13%
6	A4 - East of Syon Lane	Low	52,654	2,362	52,280	2,359	-0.71%	-0.13%

No.	Link	Link Sensitivity	2035 Future Baseline – 24hr AADT Flows		2035 Future Baseline + Cumulative + Development – 24hr AADT Flows		Percentage Increases	
			All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
7	A4 - West of Syon Lane	Low	43,830	2,015	43,678	2,015	-0.35%	0.00%
8	Syon Lane, North of A4	Medium	28,675	922	24,750	890	-13.69%	-3.47%
9	Syon Lane - South-east of Tesco Access (between Grant Way and Tesco)	Medium	22,866	1,265	18,942	1,234	-17.16%	-2.45%
10	Syon Lane, North of Tesco Site Access	Medium	21,588	541	21,149	539	-2.03%	-0.37%
11	Northumberland Avenue	High	3,672	54	3,659	54	-0.35%	0.00%

No.	Link	Link Sensitivity	2035 Future Baseline + Cumulative – 12hr AAWT Flows (7am - 7pm)		2035 Future Baseline + Cumulative + Development – 12hr AAWT Flows (7am - 7pm)		Percentage Increases	
			All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
1	A310 Twickenham Road (south of A315, London Road)	Medium	16,492	1,377	16,403	1,376	-0.54%	-0.07%
2	A315, London Road (west of Syon Lane/ Twickenham Road junction)	Medium	8,644	1,067	8,554	1,066	-1.04%	-0.09%
3	A315, London Road (east of Syon Lane/ Twickenham Road junction)	Medium	11,461	1,383	11,371	1,382	-0.79%	-0.07%
4	Syon Lane - North of A315, London Road	Medium	14,359	761	14,089	758	-1.88%	-0.39%
5	Syon Lane - South-east of Homebase Site Access	Medium	16,541	1,127	16,269	1,123	-1.64%	-0.35%

No.	Link	Link Sensitivity	2035 Future Baseline + Cumulative – 12hr AAWT Flows (7am - 7pm)		2035 Future Baseline + Cumulative + Development – 12hr AAWT Flows (7am - 7pm)		Percentage Increases	
			All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
6	A4 - East of Syon Lane	Low	42,058	1,894	41,652	1,890	-0.97%	-0.21%
7	A4 - West of Syon Lane	Low	34,957	1,616	34,759	1,615	-0.57%	-0.06%
8	Syon Lane, North of A4	Medium	22,213	711	18,851	672	-15.14%	-5.49%
9	Syon Lane - South-east of Tesco Access (between Grant Way and Tesco)	Medium	17,479	910	14,117	871	-19.23%	-4.29%
10	Syon Lane, North of Tesco Site Access	Medium	16,791	417	16,379	415	-2.45%	-0.48%
11	Northumberland Avenue	High	2,823	43	2,811	43	-0.43%	0.00%

Severance, Pedestrian and Cyclist Delay, Pedestrian Amenity, Fear and Intimidation

7A.202 In accordance with the GEART, only those sensitive links that show a greater than 10 % increase in total traffic flows (or HGV component) or, for all other links, a greater than 30 % increase in total traffic (or the HGV) component are considered when assessing the traffic impact upon receptors.

7A.203 Tables 7.18 and 7.19 identify that as a result of the proposed development there would be no increase in traffic demand for the 'with development' scenario, in the future base year 2035. Instead a reduction in traffic is predicted for all links, with this reduction being most pronounced on Syon Lane, north of the A4 (links 8 and 9).

7A.204 As a reduction in traffic is anticipated on all assessed links, it can be considered that the magnitude of impact would be negligible. The resulting effect would be direct, long term, permanent **Negligible Beneficial** for severance, pedestrian and cyclist delay, pedestrian amenity, fear and intimidation.

Accidents and Safety

7A.205 Due to the reduction in flows across all road links, the effect on road safety would be direct, long term, permanent **Negligible Beneficial**.

Driver Delay

7A.206 Driver delay (and bus service delay) is considered within the 'peak hour' VISSIM micro-simulation models prepared to assess the traffic impact of the proposed development. TfL and the LBH have requested that the VISSIM model is prepared for the 2035 design year, and should adopt the '2035 future baseline (including cumulative schemes) + cumulative development (Homebase development) + proposed development' traffic scenario for the Weekday AM peak (07:45-08:45), the weekday PM peak (17:00-18:00) and a Saturday peak (13:00-14:00) – scenario 4.

7A.207 Within the model scenario 4 is compared against scenario 2.

7A.208 The model incorporates the new traffic signal control site access junction to the Homebase development and associated pedestrian crossing facility on Syon Lane, south of the A4 Great West Road.

7A.209 An iterative process has been undertaken to establish a site access junction design for the Homebase development and possible capacity improvements at the Gillette Corner (A4/Syon Lane) junction that would be suitable to accommodate the redistribution of Tesco store traffic that would result from a new store being located at the Homebase site. Both TfL and LBH officers were involved in the optioneering process.

7A.210 What is apparent from the modelling undertaken is that some physical mitigation is required at the Gillette Corner junction to accommodate Tesco traffic turning from the A4 Great West Road south into Syon Lane. The modelling has shown extended journey times through the road network for traffic routing towards Syon Lane south, from the east and the west on the A4. A particular constraint to highway capacity is the right turn from the A4 into Syon Lane south. While a dedicated right turn lane is provided from the A4 into Syon Lane south this is a short lane and early iterations of the model showed traffic queuing back beyond the extent of the lane to block ahead traffic on the A4. The magnitude of impact would be low to high, resulting in a direct, long term, permanent **Minor to Major Adverse** effect, unless additional mitigation is considered.

7.210N1 Following submission of the application TfL and Highway Officers at the LBH requested that a number of design solutions for the Gillette Corner junction be modelled in VISSIM. This is to establish a design solution that offers both traffic capacity and pedestrian/cycle connectivity. Based on the four options tested, this Chapter presents the results of a reasonable 'worst case' scenario in relation to highway capacity. The design solution for which journey times are presented in Table 7.20A is referred to as Design Option 4. This design option comprises the following:

- The addition of a second right turning lane on the A4 for traffic turning south into Syon Lane (towards the new Homebase site access), from the west;
- A new traffic signal control junction for the Homebase site (serving the new Tesco store and associated residential development) – the site access would be located approximately 7 m (centre to centre to the south of the existing Homebase access). The new junction would provide a traffic signal controlled crossing across the Homebase development site access;
- The retention of the pedestrian underpass beneath the Great Western Road on its eastern side and the creation of a parallel staggered surface level crossing suitable for use by both pedestrians and cyclists;
- The removal of the staggered signal controlled pedestrian crossing on Syon Lane adjacent to Northumberland Avenue, and it's replacement with a direct pedestrian and cycle crossing on Syon Lane, to be incorporated within the Gillette Corner junction; and
- The proposed removal of the existing bus stop layby on the Great West Road (Westbound), located on the Homebase site frontage, to allow the pedestrian footway to be widened and the Great Western Road's off-carriageway cycle lane to be extended in the vicinity of the new Tesco store frontage. The bus stop would be relocated to the east to better facilitate the operation of the H91 and an extended E1 bus services.

7A.211A Table 7.20A compares journey times through the study area for the scenario 2 and scenario 4. The table illustrates the effect of proposed mitigation, which is incorporated within the 2035 baseline + cumulative + proposed development' traffic models. The proposed mitigation would comprise the highway infrastructure proposals considered within Design Option 4, which would be an additional turning lane to be delivered as part of the Homebase development and that would be in place by the time the proposed development's demolition and construction works commence.

7.211N1 At the request of Transport for London, Table 7.20A incorporates changes to the location of journey

time markers in the models. For traffic approaching Gillette Corner, journey time markers have been adjusted to the periphery of the model to ensure that the full extent of traffic queuing is reflected in journey times through the junction.

Turning Movement/ Link		Weekday AM Peak			Weekday PM Peak			Saturday Peak		
		2035 Baseline	2035 Baseline + Cum. + PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Diff. (- / +)
From Syon Lane North	to A4 West	324 236	315 257	-10 21	273 242	161 116	-112 -126	310 281	169 154	-141 -126
	to A4 East	296 203	251 158	-45	160 132	151 109	-9 -23	167 131	151 118	-51 -13
	to Syon Lane south	336 240	318 253	-17 12	177 148	154 116	-22 -32	186 152	165 148	-21 -4
From Syon Lane South	to Syon Lane - North	189 154	170 147	-19 -7	170 129	189 133	18 4	147 114	179 128	32 14
	to A4 West	154 119	137 114	-17 -5	129 86	158 100	29 14	112 78	149 103	38 24
	to A4 East	187 152	190 167	4 15	151 109	174 118	24 9	136 103	200 123	64 20
From A4 West	to Syon Lane - North	445 93	356 102	-89 9	189 83	181 76	-8 -7	175 86	175 81	0 -5
	to A4 East	435 83	341 96	-95 13	167 61	197 60	29 -1	156 67	171 63	15 -4
	to Syon Lane - south	649 295	424 157	-225 -139	348 243	352 262	4 19	202 112	220 127	18 15
From A4 East	to Syon Lane - south	167 82	321 164	155 82	158 92	286 131	127 39	153 90	375 139	222 49
	to A4 West	141 57	146 66	5 10	132 65	183 77	52 12	130 66	199 64	69 -2
	to Syon Lane - North	359 273	202 160	-157 -112	196 129	212 135	15 6	176 112	223 108	57 -5
Average Delay*		-	-	-39	-	-	+11			+23
Key	Negligible									
Magnitude of Impact	Low									
	Medium									
	High									
The average journey time saving is indicative of network performance and does not account for traffic volumes using each route.										

7A.212 In terms of driver and bus delay, the impact of the combined Tesco and Homebase developments would result in a range of effects, depending on the route taken through the study area.

7A.213A The VISSIM model's methodology is presented in the TA and the results are summarised in Tables 7.21 and 7.22-7.20A and 7.21A. For general traffic (Table 7.21 7.20A), the only turning movements where a 'low' high magnitude of impact is identified is from the A4 East to Syon Lane south. For this movement the driver delay takes place while queuing on the A4 to turn into Syon Lane and the effect on driver delay can therefore be described as direct, long term, permanent **Minor to Moderate Adverse** during the weekday AM, PM and Saturday peaks. The 'high' magnitude of impact takes place on a link with 'low sensitivity' and as such the effect is not significant.

7A.214A For all other turning movements and in all other peak hours a 'low' or 'negligible' magnitude of impact is identified. The effect on driver delay for these turning movements can be described as direct, long term, permanent **Negligible Beneficial** where journey times are reduced and **Negligible to Minor Adverse** where journey times increase as a result of the amended proposed development. The effects would not be significant.

7A.215 For bus operations, Table 7.21A presents the associated journey time impact.

Bus Service	Direction of Travel	Weekday AM Peak			Weekday PM Peak			Saturday Peak		
		2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)
H91	A4 West to A4 East	431 415	531 418	100 3	298 283	325 278	27 -5	268 251	269 244	1 -6
	A4 East to A4 West	237 209	262 223	25 14	309 271	332 267	23 -4	272 243	408 231	136 -12
	Two-way Operation	648 624	793 641	125 12	607 554	657 545	50 -9	540 494	677 475	137 -18
E1	A4 West to Syon Lane North	438 401	309 278	-130 -124	236 195	317 263	81 62	209 177	421 230	212 52
	Syon Lane North to A4 West	405 392	278 247	-128 -145	259 260	242 203	-17 -57	222 221	167 186	-55 -36
	Two-way Operation	843 793	587 525	-258 -269	495 455	559 466	-7 10	431 398	588 416	157 16
Key Magnitude of Impact	Negligible									
	Low									
	Medium									

Bus Service	Direction of Travel	Weekday AM Peak			Weekday PM Peak			Saturday Peak		
		2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)
High										

7A.216A Table 7.21A identifies that for the users of bus service H91 the magnitude of impact can be described negligible-high. The resulting effect is identified as direct, long term, permanent **Negligible Beneficial Minor/ Minor to Moderate Adverse** during the weekday AM, PM peaks and on Saturdays (due to decreases increases in delay). and **Negligible Adverse** during the AM peak (due to increases in delay). The H91 service routes along the A4 Great West Road and the 'high' magnitude of impact therefore takes place on a link with 'low sensitivity'. As such the effect is not significant.

7A.217A TfL are proposing to extend service E1 from its current terminus in Ealing to the site. It is understood that TfL will, in due course, formally consult on the route extension which will link with London Underground services operating on the Elizabeth Line, in the Summer 2020. The Applicant has been requested to design a new bus terminus for this service as part of the proposed development (Bus Options 1 and 2).

7A.218A Should the E1 extension be implemented, Table 7.21A identifies a journey time saving of over 258 seconds (two-way) would be achieved for service E1 in the weekday AM period. An overall two-way journey time saving of 7 seconds would be achieved in the Weekday PM peak hour and on a Saturday an overall two-way journey time increase of 157 seconds would be experienced. that of the nine routes considered, five would show an improvement and the two would show only a negligible increase in delay (less than 30 seconds). The only routes that would experience potentially significant delays would be those users travelling the A4 west to Syon Lane North. When considering the overall delays that users of the E1 services would experience, it can be calculated from Table 7.21A that by 2035 (without the amended proposed development) there the overall peak hour journey times would be overall delays 3,292 1,769 seconds and that with the proposed changes to the highway (resulting from the amended proposed development) delays journey time would reduce to 2,814 1,734 seconds, an overall saving of 478 35 seconds. Disaggregated into time periods this equates to:

- AM Peak 538 258 second reduction in journey time;
- PM Peak 20 7 second increase in journey time; and
- Saturday Peak 32 157 second increase in journey time.

7A.219A The resulting effect on two-way bus movement is identified as direct, long term, permanent **Negligible Beneficial** during the weekday AM and PM peaks (due to an overall decrease in delay) and **Moderate to Major Negligible Adverse** during the PM and Saturday peaks (due to increases in delay). The E1 service routes on a link with 'medium' sensitivity and as such the impact to the operation of service E1 on a Saturday can be considered significant.

Assessment of Residual Effects Additional Mitigation

7A.220 This section provides a summary of the predicted effects for the demolition and construction and completed development stages and additional mitigation measures that could be implemented to reduce the scale of reported effects.

Demolition and Construction Stage

7A.221 Table 7.22 summarises the reported effects, likely significance and required additional mitigation measures for the demolition and construction stage.

Issue	Likely Effect	Additional Mitigation Measures
Severance	Negligible Beneficial for links 1,2,3,4, 5, 10 and 11 Negligible Adverse for links 6, 7, 8, 9	None required
Pedestrian Amenity		
Fear and Intimidation		
Pedestrian (and cyclist) Delay		
Road Safety	Minor Adverse for links 8 and 9	
Driver Delay (and bus service delay)	N/A	

7A.222 There would be no need for additional mitigation measures during the demolition and construction stage over and above the measures presented in ES Chapter 5: Demolition and Construction Environmental Management.

Completed Development Stage

7A.223A Table 7.23A summarises the reported effects, likely significance and required additional mitigation measures for the demolition and construction stage.

Issue	Likely Effect	Additional Mitigation Measures
Severance	Negligible Beneficial for all links	None required
Pedestrian Amenity		
Fear and Intimidation		
Pedestrian (and cyclist) Delay		
Road Safety		
Driver Delay	Minor to Moderate Adverse for vehicles turning between the A4 East and Syon Lane South for Weekday AM, PM and Saturday peaks. Negligible Beneficial to Negligible Adverse for all other manoeuvres.	None required <u>No additional mitigation measures are available or proposed.</u>
Bus Delay	H91: <u>Minor to Moderate Adverse in the weekday AM peak and on a Saturday. Minor Adverse in the weekday PM peak</u> Negligible Beneficial for the PM Peak and on Saturdays; Negligible Adverse for the AM Peak;	
	E1: <u>Negligible Beneficial for weekday AM and PM peak hours and Moderate to Major Adverse on a Saturday.</u> PM peak and Saturday peaks;	

Issue	Likely Effect	Additional Mitigation Measures
	Negligible Adverse for PM peak and Saturday peaks. Negligible Beneficial for AM Peak.	

Enhancement Measures

7A.224 No additional enhancement measures have been identified.

Demolition and Construction Residual Effects

7A.225 The residual demolition and construction effects would remain as reported in the previous section:

- direct, medium term, temporary **Negligible Beneficial** for links 1-5, 10 and 11; **Negligible Adverse** for links 6-9 in respect of Severance, Pedestrian Amenity, Fear and Intimidation, Pedestrian (and cyclist) Delay.
- Direct, medium term, temporary **Minor Adverse** for road safety on links 8 and 9.

7A.226 Driver delay (and bus service delay) has been scoped out of the demolition and construction stage of the proposed development.

Completed Development Residual Effects

7A.227A The residual effects would remain as reported in the previous section:

- direct, long term, permanent **Negligible Beneficial** for all links in respect of Severance, Pedestrian Amenity, Fear and Intimidation, Pedestrian (and cyclist) Delay and Road Safety.

7A.228A In respect of driver and bus delay, the benefit to journey times provided by the additional turning lane on the A4 would vary, depending on the route taken through the Gillette Corner junction and the time period in which the journey was undertaken. The VISSIM model's results presented in Table 7.20A 7-23 indicate that as a result of the additional mitigation the effects on driver delay would be as follows:

- direct, long term, permanent **Minor to Moderate Adverse** for vehicles turning from the A4 (East) to Syon Lane (South) between the A4 east and Syon Lane south; and
- direct, long term, permanent **Negligible Adverse** to **Negligible Beneficial** for all other manoeuvres.

7A.229A While adverse effects are predicted for vehicles turning between the A4 East and Syon Lane South, for the majority of car drivers, passengers and bus passengers, journey times would improve as a result of the mitigation, compared to the baseline. The VISSIM model's results presented in Table 7.21A indicates that as a result of the additional mitigation the effects on bus delay would be as follows:

- direct, long term, permanent Minor to Moderate Adverse for buses operating on route H91; and
- direct, long term, permanent Negligible Beneficial, as well as Moderate to Major Adverse for buses operating on route E1.

7A.230 From the perspective of bus services, the mitigation would result in an overall journey time saving for bus services. While some services are adversely affected in one direction of travel, or in one peak hour, overall more services benefit from improved journey times than would experience an adverse effect. The effect for the bus services would range from **Negligible Adverse** to **Negligible Beneficial**.

Summary of Residual Effects

7A.231A Table 7.24A provides a tabulated summary of the outcomes of this transport and accessibility assessment.

Table 7.24A: Summary of Residual Effects									
Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*					
				+	D I	P T	R I R	St Mt Lt	
Demolition and Construction									
1	A310 Twickenham Road (south of A315, London Road)	Change in Severance, Pedestrian Amenity, Fear and Intimidation, Pedestrian (and cyclist) Delay	None required	Negligible (not significant)	+	D	T	R	Mt
2	A315, London Road (west of Syon Lane/ Twickenham Road junction)		Negligible (not significant)	+	D	T	R	Mt	
3	A315, London Road (east of Syon Lane/ Twickenham Road junction)		Negligible (not significant)	+	D	T	R	Mt	
4	Syon Lane - North of A315, London Road		Negligible (not significant)	+	D	T	R	Mt	
5	Syon Lane - South-east of Homebase Site Access		Negligible (not significant)	+	D	T	R	Mt	
6	A4 - East of Syon Lane		Negligible (not significant)	-	D	T	R	Mt	
7	A4 - West of Syon Lane		Negligible (not significant)	-	D	T	R	Mt	
8	Syon Lane, North of A4		Negligible (not significant)	-	D	T	R	Mt	
9	Syon Lane - South-east of Tesco Access (between Grant Way and Tesco)		Negligible (not significant)	-	D	T	R	Mt	
10	Syon Lane, North of Tesco		Negligible (not significant)	+	D	T	R	Mt	

Table 7.24A: Summary of Residual Effects									
Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*					
				+	D I	P T	R I R	St Mt Lt	
	Site Access								
11	Northumberland Avenue		Negligible (not significant)	+	D	T	R	Mt	
Links 8-9	Change in accidents and safety	None required	Minor (not significant)	-	D	T	R	Mt	
Completed Development									
Links 1-11	Change in Severance, Pedestrian Amenity, Fear and Intimidation, Pedestrian (and cyclist) Delay	None required	Negligible (not significant)	+	D	P	IR	Lt	
Links 1-11	Change in Accidents and Safety	None required	Negligible (not significant)	+	D	P	IR	Lt	
Vehicles turning between the A4 East and Syon Lane South	Change in Driver Delay	<u>None available or proposed</u>	Minor <u>to Moderate</u> (not significant)	-	D	P	IR	Lt	
All other manoeuvres		<u>required</u>	Negligible (not significant)	- +	D	P	IR	Lt	
Bus Services	Change in Bus Delay (H91)	<u>None available or proposed</u> <u>None required</u>	<u>Minor to Moderate Adverse (AM and Saturday peaks)</u> <u>Negligible (PM Peak and Saturdays)</u> (not significant)	<u>+</u> <u>=</u>	D	P	IR	Lt	
			<u>Minor Adverse (PM peak)</u> <u>Negligible (AM Peak)</u> (not significant)	-	D	P	IR	Lt	
	Change in Bus Delay (E1)		<u>Negligible Beneficial for weekday AM and PM peak hours</u> <u>Negligible (PM Peak and Saturdays)</u> (Not	-	D	P	IR	Lt	

Table 7.24A: Summary of Residual Effects

Receptor	Description of Residual Effect	Additional Mitigation	Scale and Significance of Residual Effect **	Nature of Residual Effect*				
				+	D	P	R	St
				-	I	T	IR	Mt Lt
			significant)					
			Moderate to Major Adverse on a Saturday Negligible (AM Peak) (not significant)	+	D	P	IR	Lt

Notes:
* - = Adverse/ + = Beneficial/ +/- Neutral; D = Direct/ I = Indirect; P = Permanent/ T = Temporary; R=Reversible/ IR= Irreversible; St = Short-term/ Mt = Medium term/ Lt = Long term.
**Negligible/Minor/Moderate/Major

Cumulative Effects

Intra-Project Effects

7A.231 As explained in Chapter 2: EIA Process and Methodology, intra-project cumulative effects are discussed in Chapter 12: Cumulative Effects.

Inter-Project Effects

7A.232 This assessment has considered the proposed development's impacts in the context ('in combination with') of all background growth (cumulative schemes) and the Homebase development, as required by the LBH's Scoping Opinion. The Scenario 2 future baseline accounts for all cumulative schemes, excluding the Homebase development. This is then carried forward in Scenario 3 and 4.

7A.233 Scenario 4 assumes the Homebase development is granted planning permission concurrently with the proposed development and that controls are imposed through the grant of planning permission that the existing on-site Tesco store will be relocated to the Homebase site and that the existing on-site Tesco store is only demolished one the new store becomes operational at the Homebase site. Therefore, at any point in time there will only ever be one Tesco store in operation between the two sites.

7A.234 The cumulative impacts and effects are reported in scenario 4 for the demolition and construction stage and for the completed development stage.

7A.235 Table 7.25 provides a summary of the likely cumulative effects resulting from identified cumulative schemes in ES Chapter 2. These being sites that have planning permission, and whose traffic generations is considered to be incorporated in the LoHAM traffic growth rates applied to background traffic flows. What is evident is that these defined development sites are generally low car or car free developments that would not result in significant effects on the operation of the study area.

Table 7.25: Inter-Project Cumulative Effects

Cumulative Development	Demolition and Construction		Completed Development	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
Access Self Storage Limited – Gillette South, 871 Great West Road System Reference: P/2018/4691 Planning Reference: 00505/AF/P28	Unlikely	Generally, newly consented developments are provided with 3-years to commence work on-site. Construction work at the site would not commence until 2025 and 871 Great West Road development is likely to be operational at this time. The site is located to the south of the A4, and as such construction traffic would route on Syon Lane south and not on Syon Lane north.	Unlikely	This is a low car scheme located on the opposite side of the A4 from the site. Peak hour trips are 14 arrivals and 4 departures in the weekday AM peak, and 2 arrivals and 7 departures in the weekday PM peak.
New Horizons Court, Ryan Drive, Brentford, TW8 9EP System Reference: P/2017/0535 Planning Reference: 02912/A/P1	Unlikely	The proposed development would not commence works until 2025. Scheme access is from A4 via Harlequin Avenue – no construction traffic likely to route on Syon Lane.	Unlikely	A low car scheme with access from the A4 via Harlequin Avenue. Peak hour trips are 9 arrivals and 1 departure in the weekday AM peak, and 1 arrival and 7 departures in the weekday PM peak.
891 Great West Road, Isleworth London, TW7 5PD System Reference: P/2017/5069 Planning Reference: 00505/891/P4	Unlikely	The proposed development would not commence works until 2025. Scheme located to the south of the A4.	Unlikely	The scheme is car free
4 and 8 Harlequin Avenue, Brentford, TW8 9EW System Reference: P/2017/5358 Planning Reference: 00558/4-8/P1	Unlikely	The proposed development would not commence works until 2025. Scheme access is from A4 via Harlequin Avenue – no construction traffic likely to route on Syon Lane.	Unlikely	The number of on-site employees is not anticipated to increase as a result of the scheme proposals, no increase in car parking
Sky, Sites 6 & 7,	Unlikely	Scheme is accessible	Unlikely	The Transport

Table 7.25: Inter-Project Cumulative Effects				
Cumulative Development	Demolition and Construction		Completed Development	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
Grant Way, Isleworth, TW7 5QD System Reference: P/2019/1931 Planning Reference: 00558/A/P69		from Syon Lane via Grant Way; however, at the time of writing the timing of the development is not known. The proposed development would not commence works until 2025 and it is therefore likely that work at Sky would be completed before the proposed development commences.		Assessment says "The Sky Lab will provide working space for up to 700 employees. The majority of employees who will be based within the building will be relocated from elsewhere within the Campus, including Sky 6 and 7 buildings that are to be demolished. As such, existing travel patterns are unlikely to change. There is not expected to be a significant net increase in employee or visitor trips."
1 Commerce Road, Brentford, London, TW8 8LE System Reference: P/2018/2011 Planning Reference: 00297/H/P13	Unlikely	The proposed development would not commence works until 2025. No. 1 Commerce Road is located over 1 km from the site in Brentford, on the southern side of the A4. No construction traffic should route on Syon Lane.	Unlikely	The Transport Assessment says, "there is a net reduction of both 21 vehicle movements during the morning peak and 14 during the evening peak. This will therefore result in the development being a betterment compared to that of the existing use as the highway network is at its most congested during these periods." Given the scheme's location, it is assumed that the scheme will have no impact on the operation of the Gillette Corner junction, or on Syon Lane.
Bolder Academy, 1 MacFarlane Lane, Isleworth, TW7 5PN System Reference: P/2017/1417	Unlikely	The school is scheduled to be developed and operational before work commences on-site.	Likely	The school is located adjacent to the site, accessed from MacFarland Lane. While parents will not be permitted to drop

Table 7.25: Inter-Project Cumulative Effects				
Cumulative Development	Demolition and Construction		Completed Development	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
Planning Reference: 01106/W/P9				children at the school, some car trips are anticipated associated with staff an 'park and stride' trips that are likely to take place from the Windmill Road Garden centre. The Bolder Academy will operate a Travel Plan designed to reduce the impact of car traffic on the highway and to reduce the number of potential 'park and stride' trips. The Travel Plan targets are scheduled to be met before 2035, and therefore sustainable travel patterns should be established at the school before the proposed development is fully completed.

Demolition and Construction Cumulative Effects

7A.237^A Due to the location of the cumulative schemes referred to in Table ~~7.28~~ 7.25 and the start date for Tesco Osterley being 2025, it is not anticipated that there would be a significant cumulative effect arising from one or more construction sites operating at a time when demolition and construction is taking place at the site.

7A.238 However, there is a period of time where construction traffic would take place to both the proposed development and Homebase development, concurrently. This has been assessed as part of the TA process and details are contained within the Outline CLP for the proposed development. An overview of the combined proposed development and Homebase development demolition and construction traffic is detailed in Figure 7.4. What is evident is that while there is a period in 2025 and 2026 where construction takes place to both sites, the combined demand at this time is not as high a peak construction traffic demand for the proposed development. This assessment has therefore considered construction traffic flow at a level that exceeds the combined traffic flows for the two related sites.

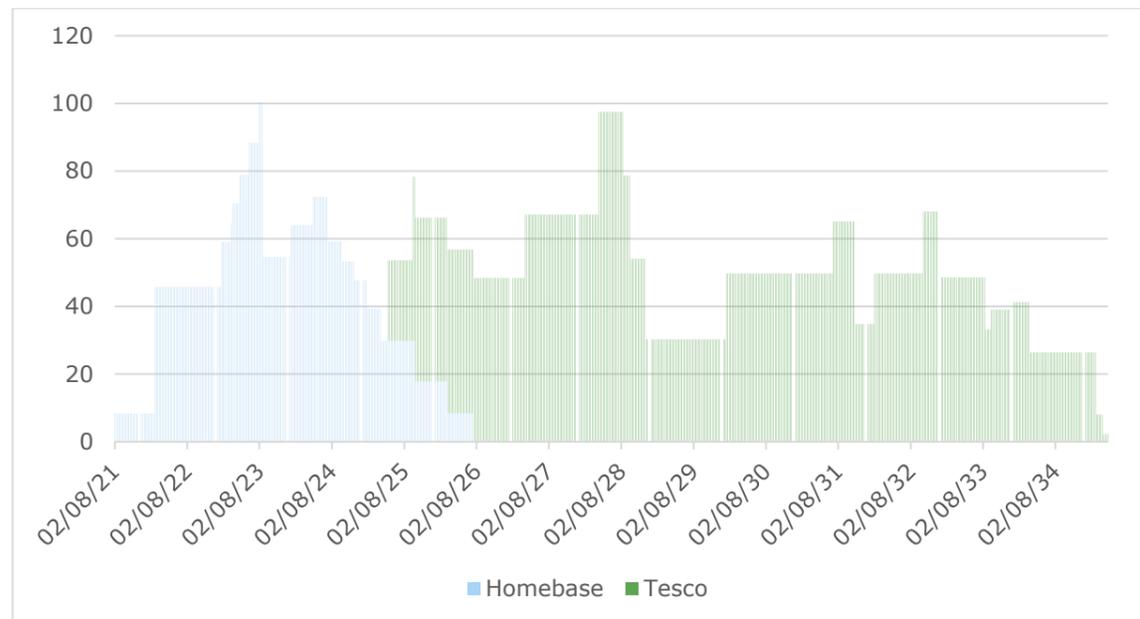


Figure 7.4: Combined Tesco, Osterley and Homebase Syon Lane Construction Traffic Volumes

Completed Development Cumulative Effects

7A.239 This chapter has assessed the cumulative effects of the site, the impact of committed development sites (through LoHAM) and the Homebase development. The use of LoHAM in establishing future baseline traffic flows means that the potential impacts of development in the wider Opportunity Area is considered.

7A.240 Accordingly, the effects presented in the main assessment also represents the cumulative effects.

Summary of Assessment Background

7A.241 This chapter of the ES has reported on the likely transport and accessibility effects to arise from the demolition and construction stage and the completed development stage of the proposed development.

7A.242 The assessment of construction and completed development stages has been undertaken taking into account the relevant national and local guidance and regulations.

7A.243 To inform the likely significance of effects, an assessment has been undertaken in accordance with recognised environmental guidelines for the effects of severance, pedestrian amenity, fear and intimidation, pedestrian (and cyclist) delay, safety and driver delay. Consideration has been given to the delay of bus services.

7A.244 The assessment provides a review of the existing traffic baseline within the traffic study area and has been informed through, data collection, desktop studies, site visits, and on-site surveys.

7A.245 An extensive consultation has been undertaken with TfL and LBH officers and a methodology for the assessment of development related trips, and traffic modelling has been agreed.

7A.246 This assessment considers the proposed development's impacts in the context ('in combination with') of all background growth (including cumulative schemes), as well as the Homebase development, as required by the LBH's Scoping Opinion. This scenario assumes the Homebase development is granted planning permission concurrently with the proposed development and that controls are imposed through the grant of planning permission that the existing on-site Tesco store would be relocated to the

Homebase site and that the existing on-site Tesco store is only demolished one the new store becomes operational at the Homebase site. Therefore, at any point in time there will only ever be one Tesco store in operation between the two sites. This is considered to be the most realistic scenario and accordingly, the impacts and effects of this scenario are reported in this chapter.

7A.247 The assessment has focussed on 11 links in the study area and two bus services.

7A.248 The impacts and effects for a scenario whereby the Tesco, Osterley site is developed independently from Homebase development is considered in Appendix 7.2.

Demolition and Construction Effects

7A.249 The Development's demolition and construction traffic demand has been calculated through the interrogation of historic data in relation to HGV and personnel movements for comparable construction projects and with reference to the site's construction programme.

7A.250 Peak construction activity is anticipated to take place from April 2028 to September 2028, at which time Development Blocks A, B and H are under construction, the Tesco petrol station is being decommissioned and temporary residential car parking is being erected. At this time up to 97 vehicle arrivals are anticipated to arrive at the site over the course of the day.

7A.251 The assessment assumes that all HGV traffic routes to and from the site from the strategic highway network, the A4 Great West Road and route northbound from the A4 to the site.

7A.252 The assessment assumes that 75 % of HGV traffic could arrive to the site from the A4 east, and 75 % could arrive from the A4 west.

7A.253 The effects of demolition and construction HGV traffic on pedestrians and cyclists in respect of severance, amenity, delay, fear and intimidation would be **Negligible Beneficial** on seven links and **Negligible Adverse** on four links.

7A.254 In respect of safety and accidents, two links would experience an increase in HGV traffic of over 10%. These links can be considered to have high sensitivity with regard to road safety. The effect on links 8 and 9 would be **Minor Adverse** for road safety.

7A.255 An assessment of driver (and bus service) delay has been screened out during consultations with TfL and LBH.

Completed Development Effects

7A.256 The proposed development's completed development stage traffic demand has been calculated through the interrogation of data for similar development sites. The assessment methodology has been discussed and agreed with Officer at TfL and LBH.

7A.257 There would be no increase in traffic (or HGV) demand for the 'with development' scenario, in the future base year 2035. Instead a reduction in traffic is predicted on all assessed links, with this reduction being most pronounced on Syon Lane, north of the A4 (Links 8 and 9).

7A.258 As a reduction in traffic is anticipated on all assessed links, the effect on severance, pedestrian and cyclist delay, pedestrian amenity, fear and intimidation and road safety would be **Negligible Beneficial**.

7A.259 Driver delay (and bus service delay) is considered within 'peak hour' VISSIM micro-simulation models prepared to assess the traffic impact of the development project. The model incorporates the new traffic signal control site access junction to the Homebase site and associated pedestrian crossing facility on Syon Lane, south of the A4 Great West Road.

7A.260 Some physical mitigation is required at the Gillette Corner junction to accommodate Tesco traffic turning from the A4 Great West Road south into Syon Lane. The modelling shows extended journey times through the road network for traffic routing towards Syon Lane south, from the east and the west on the A4. A particular constraint to highway capacity is the right turn from the A4 into Syon Lane

south. While a dedicated right turn lane is provided from the A4 into Syon Lane south this is a short lane and early iterations of the model showed traffic queuing back beyond the extent of the lane to block ahead traffic on the A4. [The Homebase development proposes to deliver a second turning lane from the A4 into Syon Lane \(south\) to increase the capacity for the turn. This turning lane would be installed ahead of the proposed development commencing on-site. The assessment considered the operation of Design Option 4 for Gillette Corner, which includes the provision of a double right turn lane into Syon Lane South and the additional of surface level pedestrian and cycle crossings on the A4 \(East\) and Syon Lane \(South\).](#)

7A.261A Overall, ~~it is~~ the assessment concludes that the effect on driver delay would be **Minor to Moderate Adverse** for vehicles turning between the A4 East and Syon Lane South [for Weekday AM, PM and Saturday peaks. This effect would not be significant and range between ~~Negligible Adverse to Negligible Beneficial~~ for all other manoeuvres.](#)

7A.2162A In addition to the wider driver delay impacts (upon all motorised users), the assessment also considers the specific impacts upon bus passengers using services H91 and E1. When considering delays to bus users the resulting effect upon the users of the H91 route is identified as ~~**Negligible Beneficial** during the weekday PM peak and on Saturdays (due to decreases in delay) and **Negligible Adverse** during the AM peak (due to increases in delay) and **Negligible Adverse** during the AM peak (due to increases in delay).~~ [Minor to Moderate Adverse in the weekday AM peak and on a Saturday, and **Minor Adverse** in the weekday PM peak. This effect would not be significant.](#)

7A.263 TfL are currently proposing to extend service E1 from its existing terminus in Ealing to the site. It is understood that TfL will formally consult on the route extension in the Summer 2020 and the Applicant has been requested to design a new bus terminus for this service as part of the proposed development.

7A.264A Should the E1 extension be implemented the resulting delays are identified as **Negligible Beneficial** during the weekday AM peak (due to decreases in delay) and **Negligible Adverse** during the PM and Saturday peaks (due to increases in delay). [being **Negligible Beneficial** for weekday AM and PM peak hours and **Moderate to Major Adverse** on a Saturday. The effect on a Saturday is considered significant.](#)

Cumulative Effects

7A.265 The effects reported for the proposed development are all representative of cumulative effects.

8A AIR QUALITY

Introduction

8A.1 This chapter of the ES Addendum assesses the potential impacts and likely effects of the amended proposed development on air quality at the site and within the study area. The assessment examines whether the amended proposed development would result in different conclusions to those of the air quality assessment set out in the September 2020 ES. This chapter should be read in conjunction with Chapter 8: Air Quality of September 2020 ES Volume 1 and its accompanying appendices in ES Volume 3.

Methodology

8A.2 In respect of international, national and local legislation and policy, there have been no changes of relevance to the air quality assessment since the September 2020 ES was completed.

8A.3 In respect of regional policy, it is noted that the Mayor of London formerly approved the Publication London Plan on 21 December 2020 and submitted it to the SoS. The Publication London Plan does not introduce any new matters for consideration in this updated air quality assessment.

8A.4 No post-submission consultation responses were received in respect of the air quality assessment.

8A.5 The assessment scope, baseline characterisation method and assessment methods remain valid for this updated air quality assessment. It is noted that the minor amendments to Block J, K and F would not impact the modelling exercise. The assessment showed that concentrations along MacFarlane would be well below the objective.

8A.6 In respect of traffic emissions, it has been confirmed that the traffic flows as previously assessed remain valid for the local highway network. However, consideration has been given to the following changes to the proposed development:

- The nominal change in bus movements across the site has been considered for the proposed Bus Route Option 2;
- The additional modelling undertaken for the Gillette Corner junction (A4 Great West Road/Syon Lane) Options 3 and 4, whilst potentially impacting peak hour flows and speeds, when averaged over the periods used within the air quality assessment the effects of these options would not alter the annual average daily traffic (AADT) flows nor the daily average traffic speeds;
- An increase in servicing trip rates predicted from sensitivity testing; and
- The energy and heating plant emissions associated with the revised space heating strategy, which would be reduced as a result of the removal of back-up gas boilers.

8A.7 The assessment criteria, assumptions and limitations remain valid for this updated air quality assessment.

Baseline Conditions

8A.8 The existing and future baseline conditions and sensitive receptors described in the September 2020 ES remain valid for this updated air quality assessment.

Assessment of Effects

Demolition and Construction Effects

8A.9 The proposed amendments and amended proposed development as a whole would not alter the demolition and construction effects as reported in the September 2020 ES as the basis of the assessment has not changed.

Completed Development Effects

Traffic Emissions

8A.10 To inform the September 2020 ES, a six-month air quality monitoring study was undertaken between August 2019 to February 2020 to establish the existing air quality conditions. The monitoring study showed that nitrogen dioxide (NO₂) concentrations around the site, including roadside monitoring locations at Syon Lane and the A4, were well below the annual mean objective.

8A.11 The September 2020 ES air quality showed that the proposed development, both in isolation and in combination with the Homebase development, would result in a reduced number of net trips compared to the current site use. Local air quality would improve with the proposed development in place due to reduction in road traffic emissions. Predicted concentrations with the proposed development in place would be well below the air quality objectives at existing receptors and within the site, with the overall air quality effects considered to be direct, long-term, permanent **Negligible Beneficial** and not significant.

8A.12 The introduction of nine buses across the site for Bus Route Option 2 would not alter the overall study area AADT flows as the rerouted buses were predicted to be part of the assessed traffic flows. Should a bus stop be located to the east of Block G and buses idle for very short periods, the air quality effect would be insignificant within the context of the operational development.

8A.13 Modelling of the Gillette Corner Junction Options 3 and 4 would also not alter the AADT flows previously assessed. Even if the speeds at the junction were to reduce slightly during peak hours, when averaging for a whole day, it would not make a difference to the assessment. The air quality model included reduced speeds at junctions and roundabouts.

8A.14 The revised servicing trips sensitivity test recognised that there is potential growth in servicing vehicle trips compared with the original assessment. The transport consultant has predicted that servicing trips may increase LDV flows by three deliveries per hour.

8A.15 This anticipated change in home shopping travel patterns forms one part of the change in the way people could live/work and shop in the future. A greater proportion of home delivery shopping trips is likely to mean a reduction in outbound shopping trips by residents. This, alongside a greater propensity to work from home, resulting from patterns of working during the Covid-19 pandemic, is likely to result in a reduced trip generation of residential development.

8A.16 Given the overall reduction in traffic flows and predicted concentrations well below the objectives with the proposed development in place, it is considered that the revised servicing trips would not materially change the outcome of the September 2020 ES.

8A.17 The September 2020 ES considered the implications of queuing and idling in the study area, as part of the air dispersion modelling, through reduction in speed at junctions and roundabouts. As discussed above, as the model uses daily average flows and speeds, the changes to queuing and idling as a result

of the introduction of buses across the site and revised servicing trips, plus the implications of the alternative Gillette Corner junction options would not materially change the modelling set-up and therefore the outcome of the September 2020 ES.

8A.18 Accordingly, the proposed amendments and the amended proposed development as a whole would not alter the completed development effects as reported in the September 2020 ES.

Energy and Heating Plant Emissions

8A.19 The proposed amendments include revisions to the space heating strategy, which would beneficially influence the air quality assessment as gas boilers are now proposed to only be used for unplanned circumstances and are no longer proposed to meet part of the proposed development heating demand.

8A.20 The September 2020 ES concluded that gas boilers providing up to 47 % of the heating demand would have a negligible effect on both on- and off-site sensitive receptors. The use of gas boilers for unplanned circumstances only would result in a substantial reduction of the energy plant emissions when compared with the previously assessed emissions. Accordingly, the assessment as previously presented should be considered a worst-case.

Site Suitability

8A.21 The nine buses introduced across the site for Bus Route Option 2 would not be allowed to idle while stopped at the site or, by lapse, would idle for very short periods of time. Buses, servicing vehicles and local traffic passing through the proposed development would be significantly lower than the traffic volume flows assessed along Syon Lane, where the monitoring study and the modelling assessment has shown that predicted concentrations would be well below the objectives. The reroute of the buses across the site and the increase in servicing vehicles would therefore not result in a significant impact and would not materially change the site suitability conclusions as reported in the September 2020 ES.

Air Quality Neutral Assessment

8A.22 The amended space heating strategy would result in a reduction or potential elimination of the buildings emissions. The proposed development was concluded to be air quality neutral in September 2020, and therefore it is expected that building emissions would be reduced. Accordingly, the air quality assessment of building emissions as previously presented should be considered a worst-case.

8A.23 The revised servicing trips sensitivity test recognised that there is growth in servicing vehicle trips between the original assessment. However, the change in home shopping travel patterns and a greater propensity to work from home, resulting from patterns of working during the Covid-19 pandemic, is likely to mean a reduction in the overall outbound trips by residents. The September 2020 ES indicated that the proposed development would comfortably meet the air quality neutral transport related benchmarks, and therefore it is expected that transport emissions would remain below the benchmarks.

8A.24 Accordingly, the proposed amendments and the amended proposed development as a whole would not alter the conclusions of the air quality neutral assessment as reported in the September 2020 ES.

London Council's Air Quality and Planning Guidance

8A.25 The conclusions as presented in the September 2020 ES remain valid.

Assessment of Residual Effects

8A.26 The residual effects as reported September 2020 ES remain valid.

8A.27 The monitoring study established the current air quality conditions and has shown that air quality objectives are currently comfortably met at the site. Air quality objectives are expected to be met at on-site sensitive receptors during completed development stage. Accordingly, no additional mitigation measures or extension of a monitoring study are deemed required to protect residential occupants from poor air quality.

Summary of Residual Effects

8A.28 The summary residual effects as reported in Table 8.21 of the September 2020 ES remain valid.

Cumulative Effects

8A.29 As no new or updated residual effects have been reported for the amended proposed development as a whole, the intra-cumulative effects presented in Chapter 12: Cumulative Effects of the September 2020 ES, remain valid.

8A.30 As no new cumulative schemes have been identified, the inter-project cumulative effects as reported in the September 2020 ES, remain valid.

Summary of Assessment

8A.31 The summary of the air quality assessment as presented in the September 2020 ES remain valid.

9A NOISE AND VIBRATION

Introduction

9A.1 This chapter of the ES Addendum assesses the potential impacts and likely effects of the amended proposed development on noise and vibration at the site and within the study area. The assessment examines whether the amended proposed development would result in different conclusions to those of the noise and vibration assessment set out in the September 2020 ES. This chapter should be read in conjunction with Chapter 9: Noise and Vibration of September 2020 ES Volume 1 and the accompanying appendices in ES Volume 3.

Methodology

9A.2 In respect of international, national and local legislation and policy, there have been no changes of relevance to the noise and vibration since the September 2020 ES was completed.

9A.3 In respect of regional policy, it is noted that the Mayor of London formerly approved the Publication London Plan on 21 December 2020 and submitted it to the SoS. The Publication London Plan does not introduce any new matters for consideration in this updated noise and vibration assessment.

9A.4 No post-submission consultation responses were received in respect of the noise and vibration assessment.

9A.5 The assessment scope, baseline characterisation method and assessment methods remain valid for this updated noise and vibration assessment. It is noted that the minor amendments to Blocks J, K and F would not impact the modelling exercise.

9A.6 In respect of traffic emissions, it has been confirmed that the traffic flows as previously assessed remain valid for the local highway network:

- The nominal change in bus movements across the site has been considered for the proposed Bus Route Option 2; and
- The additional modelling undertaken for the Gillette Corner junction (A4 Great West Road/Syon Lane) Options 3 and 4, whilst potentially impacting peak hour flows and speeds, when averaged over the periods used within the noise and vibration assessment the effects of these options would not alter the annual average weekday traffic (AAWT) flows nor the daily average traffic speeds.

9A.7 The assessment criteria, assumptions and limitations remain valid for this updated noise and vibration assessment.

Baseline Conditions

9A.8 The existing and future baseline conditions and sensitive receptors described in the September 2020 ES remain valid for this updated noise and vibration assessment.

Assessment of Effects

Demolition and Construction Effects

9A.9 The proposed amendments and amended proposed development as a whole would not alter the demolition and construction noise and vibration effects as reported in the September 2020 ES as the basis of the assessments previously undertaken remain materially unchanged.

Completed Development Effects

Traffic Noise

9A.10 The introduction of nine buses across the site for Bus Route Option 2 would not alter the overall study area AAWT flows. Should a bus stop be located to the east of Block G and buses idle for very short periods, the noise effect would be insignificant within the context of the operational development.

9A.11 Modelling of Gillette Corner junction Options 3 and 4 would not alter the AAWT flows previously assessed. In respect of longer driver delay, e.g. lower speeds, the Calculation of Road Traffic Noise (CRTN) predicts lower noise levels due to lower speeds.

9A.12 Accordingly, the proposed amendments and the amended proposed development as a whole would not alter the traffic noise effects as reported in the September 2020 ES.

Site Suitability

9A.13 The proposed amendments and amended proposed development as a whole would not alter the site suitability assessment as reported in the September 2020 ES as the basis of this assessment remains valid.

Plant Noise

9A.14 Plant noise limits were set at noise-sensitive receptors based on the measured baseline noise climate. The September 2020 ES states that it is anticipated that the limits would be secured by means of an appropriately worded planning condition.

9A.15 Therefore, in respect of the updated energy strategy, the proposed amendments and amended proposed development as a whole would not alter the plant noise effects as reported in the September 2020 ES.

Servicing Noise

9A.16 The revised servicing trips sensitivity test recognises that there is potential growth in servicing vehicle trips compared with the original assessment. The transport consultant has predicted that servicing trips may increase LDV flows by three deliveries per hour.

9A.17 Based on the number of vehicles per hour assumed to enter the completed development, it is considered that the revised servicing trips would not materially change the outcomes of the September 2020 ES.

Assessment of Residual Effects

9A.18 The residual effects as reported September 2020 ES remain valid.

Summary of Residual Effects

9A.19 The summary residual effects as reported in Table 9.18 of the September 2020 ES remain valid.

Cumulative Effects

9A.20 As no new or updated residual effects have been reported for the amended proposed development as a whole, the intra-cumulative effects presented in Chapter 12: Cumulative Effects of the September 2020 ES, remain valid.

9A.21 As no new cumulative schemes have been identified, the inter-project cumulative effects as reported in the September 2020 ES, remain valid.

Summary of Assessment

9A.22 The summary of the noise and vibration assessment as presented in the September 2020 ES remain valid.

10A WIND MICROCLIMATE

Introduction

10A.1 This chapter of the ES Addendum assesses the potential impacts and likely effects of the amended proposed development on wind microclimate at the site and within the study area. The assessment examines whether the amended proposed development would result in different conclusions to those of the wind microclimate set out in the September 2020 ES. This chapter should be read in conjunction with Chapter 10: Wind Microclimate of the September 2020 ES Volume 1.

Methodology

- 10A.2 In respect of international, national and local legislation and policy, there have been no changes of relevance to the wind microclimate assessment since the September 2020 ES was completed.
- 10A.3 In respect of regional policy, it is noted that the Mayor of London formerly approved the Publication London Plan on 21 December 2020 and submitted it to the SoS. The Publication London Plan does not introduce any new matters for consideration in this updated wind microclimate assessment.
- 10A.4 No post-submission consultation responses were received in respect of the wind microclimate assessment.
- 10A.5 The assessment scope, baseline characterisation method and assessment methods remain valid for this updated wind microclimate assessment. It is noted that the proposed minor amendments to Blocks J, K and F would not materially impact the CFD modelling exercise.
- 10A.6 The assessment criteria, assumptions and limitations remain valid for this updated wind microclimate assessment.

Baseline Conditions

- 10A.7 The existing and future baseline conditions and sensitive receptors described in the September 2020 ES remain valid for this updated wind microclimate assessment.
- 10A.8 Users of the newly introduced cycle and pedestrian lane proposed on Syon Lane has been considered as future receptors in this updated assessment, as well potential users of the alternative bus stops associated with Bus Route Option 2.

Assessment of Effects

Demolition and Construction Effects

10A.9 The proposed amendments and amended proposed development as a whole would not alter the demolition and construction effects as reported in the September 2020 ES.

Completed Development Effects

Expected Wind Conditions

10A.10 As presented within the September 2020 ES, wind conditions around Block J would be suitable for sitting and standing use with reference to the Lawson Comfort Criteria. This would be during the windiest season. Sitting and standing use represent calm conditions. Given the small scale of amendment to the parameter footprint of Block J, wind conditions would be expected to remain as presented in the

September 2020 ES and would not result in a change in the wind comfort conditions for sitting and standing use.

- 10A.11 The minor set back of the ground floor of Block F would not alter the reported wind conditions given the shelter provided by the Block from the prevailing south-westerly winds.
- 10A.12 The assessment of wind conditions presented in the September 2020 ES included the single storey mobility hub (formerly identified as Block K). The amended proposed development identifies a zone for the mobility hub pavilion, with two indicative locations shown on the parameter plans. The final location of the mobility hub is subject to agreement of the preferred bus route. Due to the new locations for the mobility hub being downwind of Blocks C – J for the prevailing south-westerly winds, the mobility hub would be well sheltered and subject to calm wind conditions in the context of the maximum building massing. As such, the relocation of the mobility hub pavilion within this space would be unlikely to materially change wind comfort conditions at the amended proposed development.
- 10A.13 In respect of the potential bus stop location for Bus Route Option 2 to the east of Block G, interpretation of modelled conditions confirms that wind conditions would be suitable for sitting and standing use during the windiest season. As wind conditions are required to be suitable for standing use or calmer during the windiest season to be appropriate, wind conditions at the potential bus stop location adjacent to Block G would be suitable and no new significant effects would be introduced.
- 10A.14 With regard to the proposed segregated cycle route along Syon Lane, the Lawson Comfort Criteria used to grade the suitability of wind conditions for pedestrian uses specifies that wind conditions on pedestrian thoroughfares should be suitable for strolling use or calmer. There is no specific requirements for cyclists regarding pedestrian comfort; however, as for pedestrian thoroughfares, Lawson states that winds should not exceed the threshold for pedestrian safety defined as winds exceeding 15 m/s for more than 0.025% of the time which are often concurrent with conditions suitable for walking use (one category of the criteria windier than strolling use). As reported in the 2020 ES, wind conditions along the route of the cycle path would be suitable for sitting, standing and strolling use during the windiest season. No strong winds would therefore be expected and wind conditions would be suitable for a pedestrian thoroughfare and cycle path.

Assessment of Residual Effects

10A.15 The residual effects as reported September 2020 ES remain valid.

Summary of Residual Effects

10A.16 The summary residual effects as reported in Table 10.21 of the September 2020 ES remain valid.

Cumulative Effects

- 10A.17 As no new or updated residual effects have been reported for the amended proposed development as a whole, the intra-cumulative effects presented in Chapter 12: Cumulative Effects of the September 2020 ES, remain valid.
- 10A.18 As no new cumulative schemes have been identified, the inter-project cumulative effects as reported in the September 2020 ES, remain valid.

Summary of Assessment

10A.19 The summary of the wind microclimate assessment as presented in the September 2020 ES remain valid.

12A CUMULATIVE EFFECTS

Introduction

- 12A.1 The Town and Country Planning (Environmental Impact Assessment) Regulations 2017¹ (hereafter referred to as 'the EIA Regulations') require that the likely significant environmental effects of a development are taken into account, including cumulative effects.
- 12A.2 There is no prescriptive guidance on the methodology for the assessment of cumulative effects; however, The Planning Inspectorate (PINS) document 'Using the 'Rochdale Envelope' (July 2018)² which was drafted in relation to infrastructure projects, states the following:
- "The potential cumulative impacts with other developments will also need to be carefully identified such that the likely significant effects can be shown to have been identified and assessed against the baseline position (which would include built and operational development). In assessing cumulative impacts, other development should be identified through consultation with the local planning authorities and other relevant authorities."*
- 12A.3 PINS have also published an Advice Note³ on the approach to cumulative effects assessment relevant to nationally significant infrastructure projects, which provides more useful context.
- 12A.4 The Institute of Environmental Management and Assessment (IEMA) Guidance⁴ identifies two types of cumulative effects:
- Inter-project effects – incremental changes caused by other development schemes occurring together with the amended proposed development and the cumulative effects combining to worsen the effect of a particular impact; and
 - Intra-project effects – those effects that occur as a result of impact interaction between different environmental topics within the same project. For example, a project might affect bird species as a result of direct loss of habitat and by noise and light disturbance. Each of these when considered in isolation may have a limited effect but taken together the sum is greater than the parts.

Inter-Project Cumulative Effects

- 12A.5 A review of potential cumulative schemes has been undertaken with reference to criteria listed in ES Chapter 2: EIA Process and Methodology. The cumulative effects assessment has been undertaken within each technical chapter in this ES Volume, and within ES Volume 2.
- 12A.5N1 [An updated review of any additional potential cumulative schemes that may have come forward since the submission of the September 2020 ES has been undertaken with reference to criteria listed in ES Chapter 2: EIA Process and Methodology. There are no additional cumulative schemes that have been identified for consideration further to those presented within the September 2020 ES.](#)

Intra-Project Cumulative Effects

- 12A.6 The potential for intra-project cumulative effects is considered within this chapter.

Intra-Project Cumulative Effects

Assessment Approach

- 12.7A As mentioned earlier, there is no established EIA methodology for assessing and quantifying the combined effects of individual effects on sensitive receptors. Accordingly, Ramboll has developed an approach which uses the defined residual effects of the [amended](#) proposed development to determine the potential for interactions between effects and consequently the potential for significant intra-project cumulative effects to arise.
- 12.8A The approach comprised the following steps:
1. A review of the likely residual effects (and in particular the likely significant environmental effects) presented within the [September 2020 ES](#) and [January 2021 ES Addendum](#) was undertaken;
 2. The likely receptors or receptor groups were identified;
 3. The individual effects which may affect a singular receptor or receptor group were listed in a tabular/matrix format;
 4. The potential for individual effects to interact were identified; and
 5. The scale of the combined intra-project cumulative effects was assessed.
- 12A.9 To ensure a proportionate approach, negligible and neutral effects have been disregarded.
- 12A.10 It is noted that intra-project cumulative effects are more likely to arise when the receptor or receptor group is more sensitive to change, such as human receptors.
- 12A.11 Where there is more than one effect likely to arise on a particular receptor or receptor group, the potential for effect interactions and the scale of the combined effect have been determined. The results of the assessment are presented within a tabular/matrix format within the following section of this chapter.
- 12A.12 The assessment has been based on professional judgement and experience.

Assessment Results

- 12.13A Table 12.1R and Table 12.2R present the review of the potential for interactions of individual effects during the demolition and construction works and once the [amended](#) proposed development is complete and operational, respectively. [Updated cells are marked in blue.](#)

¹ Secretary of State, 2017. Town and Country Planning (Environmental Impact Assessment) Regulations 2017, London, HMSO.

² The Planning Inspectorate. July 2018. Using the 'Rochdale Envelope'.

³ The Planning Inspectorate, December 2015. Cumulative Effects Assessment.

⁴ Institute of Environmental Management and Assessment. The State of Environmental Impact Assessment Practice in the UK. 2011.

Likely Residual Effects		Receptor Groups																								
		Existing Local Economy (Employment Creation)	Existing Local Economy (Spending)	Existing Off-Site Commercial Uses	Future On-Site Commercial Uses/Occupiers	Existing On-Site Employees	Future On-Site Employees	Existing Off-Site Residents	Future On-Site Residents	Existing Drivers on Road Network	Existing Public Transport (Bus)	Future Users of on-site bus stops	Existing Public Transport (Overground)	Existing Public Transport (Underground)	Existing Pedestrians and Cyclists	Future Pedestrians and Cyclists	Existing and Future Users of On-Site Open/Amenity	Existing Off-Site Open Space	Existing Community Infrastructure	Future Community Infrastructure	Local Air Quality	Existing Townscape Character	Existing Views	Existing Listed Buildings	Existing Conservation Areas	Existing Registered Parks and Gardens
Socio-Economics	Loss of existing on-site jobs																									
	Generation of demolition and construction employment																									
	Loss of existing spending from loss of existing on-site jobs																									
	Spending from demolition and construction																									
Transport and Accessibility	Change in accidents and safety																									
Air Quality	Dust Soiling and PM10 due to demolition and construction works																									
Noise and Vibration	Introduction of demolition and construction plant noise																									
	Creation of demolition and construction vibration																									
Daylight, Sunlight and Overshadowing	Temporary change in daylight levels																									
	Temporary change in sunlight levels																									
	Temporary change in overshadowing levels																									
Townscape and Visual	Minor changes in views due to removal of existing on-site buildings and structures, the enclosure of the site with hoarding and presence of taller elements																									
	Glimpses of taller construction elements																									
	Change in view due to the enclosure of the site with hoarding and presence of taller elements																									
	Change in view due to presence of taller elements																									
Built Heritage	Introduction of activities associated with construction and demolition. The resulting visual and aural disruption to the setting of the receptors may affect the ability to appreciate the heritage significance as embodied in the historic context or townscape setting.																									
Potential for Effect Interaction and so Combined Cumulative Effect?		No	No	Yes - In relation to Air Quality, Noise and Vibration	No	No	No	Yes - In relation to Air Quality, Noise and Vibration and Daylight, Sunlight and Overshadowing	No	No	No	No	No	No	No	No	No	No	No	Yes - In relation to Air Quality and Noise	No	No	No	No	No	No

Major Beneficial
Moderate to Major Beneficial
Moderate Beneficial
Minor to Moderate Beneficial
Minor Beneficial
Minor Adverse
Minor to Moderate Adverse
Moderate Adverse
Moderate to Major Adverse
Major Adverse

Table 12.1R: Demolition and Construction Intra-Project Cumulative Effects

Likely Residual Effects		Receptor Groups																								
		Existing Local Economy (Employment Creation)	Existing Local Economy (Spending)	Existing Off-Site Commercial Uses	Future On-Site Commercial Uses/Occupiers	Existing On-Site Employees	Future On-Site Employees	Existing Off-Site Residents	Future On-Site Residents	Existing Drivers on Road Network	Existing Public Transport (Bus)	Future users of on-site bus stops	Existing Public Transport (Overground)	Existing Public Transport (Underground)	Existing Pedestrians and Cyclists	Future Pedestrians and Cyclists	Existing and Future Users of On-Site Open/ Amenity Space	Existing Off-Site Open Space	Existing Social Infrastructure	Future Community Infrastructure	Local Air Quality	Existing Townscape Character	Existing Views	Existing Listed Buildings	Existing Conservation Areas	Existing Registered Parks and Gardens
Socio Economics	Provision new dwellings of varied sizes and tenures																									
	Loss in employment floorspace																									
	Increased spending from new residents																									
	Demand on early years school places																									
	Demand on secondary school places																									
	Impact on levels of deprivation																									
Transport and Accessibility	Change in Driver Delay																									
	Change in Bus Delay																									
Wind Microclimate	Wind conditions suitable for on-site pedestrian thoroughfare use																									
	Wind conditions suitable for on-site pedestrian crossing use																									
	Wind conditions ranging from suitable to one category windier for on-site entrance use																									
	Unsuitable wind conditions for on-site roof level amenity use at the majority of locations																									
	Wind conditions suitable for on-site bus stop use																									
	Wind conditions suitable for existing off-site pedestrian crossing use																									
Daylight, Sunlight and Overshadowing	Change in daylight levels at surrounding receptors																									
	Glanced views of built form																									
Townscape and Visual	Introduction of built form and public realm																									
	Introduction of built form																									
Built Heritage	Introduction of new built form within setting of a heritage asset resulting in visual alteration affecting the ability to appreciate the heritage significance as embodied in the historic context or townscape setting.																									
Potential for Effect Interaction and so Combined Cumulative Effect?		No	No	No	No	No	No	No - These effects would not interact	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No



Table 12.2R: Completed Development Intra-Project Cumulative Effects⁵

⁵ Neutral effects incorrectly considered in the September 2020 ES and therefore removed for Existing Views in replacement matrix.

Demolition and Construction

- 12A.14 As shown in Table 12.1 there are potential for intra-project cumulative effect interactions to arise at existing residential occupants in the surrounding study area, in respect of air quality with dust soiling and PM₁₀ from construction works; demolition and construction plant noise and vibration; and loss of daylight/sunlight as the new building massing is constructed.
- 12A.15 Intra-cumulative effect interactions are also predicted to arise at existing commercial uses (Sky Campus) and the future Bolder Academy in respect of demolition and construction plant noise, dust soiling and PM₁₀ emissions.
- 12A.16 The dust, noise and vibration effects commonly associated with development works and would be proactively managed by the Applicant on-site through measures such as the CEMP, CLP and BPM. In respect of overlapping demolition and construction plant noise, the contractor would pay particular attention to the detailing of the final CEMP to control the identified significant effects. Noise monitoring would be undertaken and public liaison would be prioritised to communicate the planning of particularly noisy works.
- 12A.17 The intra-project cumulative effects would be direct, medium term, temporary:
- **Moderate to Major Adverse** and significant for residential and Sky Campus receptors; and
 - **Minor Adverse** and not significant for Bolder Academy.

[12A.17N1 Even though two additional effects have been reported in respect of views to Kew Gardens, there would no additional effect interactions as a result of the amended proposed development.](#)

Completed Development

- 12A.18 The potential for intra-project cumulative effects at existing residential receptors are highlighted in Table 12.2. However, these effects would by their nature not combine to give rise to increased effects.
- 12A.19 Accordingly, there would be **No** resulting completed development intra-project cumulative effects.
- [12A.19N1 Even though three amended effects have been reported for driver and bus delay, there would be no additional effect interactions as a result of the amended proposed development.](#)

Conclusions

- 12A.20 From the assessment of potential intra-project cumulative effects it has been concluded that significant adverse effects are likely at surrounding existing residential receptors and existing commercial receptors to the north during the demolition and construction stage, in relation to nuisance effects from demolition and construction dust, particulates, plant noise and vibration.

13A RESIDUAL EFFECTS AND MITIGATION

Introduction

13A.1A This chapter summarises the additional mitigation and enhancement measures identified in the technical assessment chapters of the ES (Chapters 6-11 of ES Volume 1, and Chapters 1-2 of ES Volume 2 and relevant Chapters in ES Volume 4) and provides a summary of the residual effects and the likely significant environmental effects of the amended proposed development.

Additional Mitigation and Enhancement

13A.2 As set out in Chapter 2: EIA Process and Methodology, the main aim of an EIA is to develop measures to avoid, offset or reduce the potentially significant adverse effects of a project and to enhance any beneficial effects.

13A.3A Within each of the technical assessments, a number of additional mitigation measures have been considered to avoid or minimise likely significant adverse effects as far as reasonably possible. In addition, opportunities for environmental enhancement have been explored where practicable. The proposed additional mitigation and enhancement measures are in addition to the embedded mitigation measures (as described in ES Chapter 4: Proposed Development Description and ES Chapter 4A: Proposed Development Description), and standard demolition and construction measures (as described in ES Chapter 5: Demolition and Construction Environmental Management), which have been considered within the technical assessments.

13A.4 Table 13.1 presents a summary of the additional mitigation and enhancement measures categorised under the following stages:

- Demolition and Construction; and
- Completed Development.

13A.5 Reference should be made to individual technical chapters for more detail.

Table 13.1: Summary of Proposed Mitigation and Enhancement Measures	
Topic	Proposed Mitigation and Enhancement Measures
Demolition and Construction	
Socio-Economics	None
Transport and Accessibility	None
Air Quality	None
Noise and Vibration	None, although the Applicant would ensure that works are programmed to minimise the overlap of noisy activities, that quiet plant is selected where possible, that noisy activities are screened and that detailed demolition and construction method statements would be prepared to minimise impacts to close proximity NSRs.
Wind Microclimate	None
Daylight, Sunlight and Overshadowing	None
Townscape and Visual	None
Built Heritage	None

Table 13.1: Summary of Proposed Mitigation and Enhancement Measures	
Topic	Proposed Mitigation and Enhancement Measures
Completed Development	
Socio-Economics	<ul style="list-style-type: none"> • CIL payments towards primary school provision based on worst-case child yield • CIL payments towards additional GP provision based on worst-case population yield • CIL payments towards dentist services • CIL payments towards 2,070 m² play space shortfall based on worst-case child yield • CIL payments towards additional community facilities
Transport and Accessibility	None
Air Quality	None
Noise and Vibration	None
Wind Microclimate	Mitigation measures to be developed at the detailed design stage through wind tunnel testing secured by means of an appropriately worded planning condition: <ul style="list-style-type: none"> • Mitigation should entrances be located in unsuitable locations • Mitigation measures for roof level amenity spaces
Daylight, Sunlight and Overshadowing	Design Code commitment that the detailed massing of the proposed development would be designed so as not to reduce the sunlight to neighbouring gardens to below 50 % receiving two hours sun on the ground on March 21 st .
Townscape and Visual	None
Built Heritage	None

Residual Effects

13A.6 This section summarises the predicted residual effects of the proposed development following the adoption and inclusion of the additional mitigation and enhancement measures which are set out in Table 13.1.

13A.7A Reference should be made to individual technical assessment chapters (Chapters 6-12 of ES Volume 1, and Chapters 1-2 of ES Volume 2 and relevant Chapters of ES Volume 4) of the ES for a detailed description of residual and likely significant environmental effects.

Demolition and Construction Residual Effects

13A.8A Table 13.2 summarises the residual effects which have been identified by the individual technical assessments as likely to arise as a result of the demolition and construction of the amended proposed development.

13A.9 There are no significant beneficial environmental effects for the demolition and construction stage.

13A.10A The following significant adverse environmental effects (highlighted in bold in Table 13.2A) have been identified in relation to Noise and Vibration:

- Introduction of demolition and construction plant noise to residential properties along Syon Lane Macfarlane Way/Oaklands Avenue, the Sky Campus and new on-site noise sensitive receptors.

13A.10N1 The following significant adverse environmental effects (highlighted in bold in Table 13.2A) have been identified in relation to views:

- Enclosure of the site with hoarding and presence of taller elements in view 4¹; and
- Limited glimpses of taller demolition and construction plant in views 26 and 27.

Table 13.2A: Demolition and Construction Stage Residual Effects				
Topic Area	Description of Residual Effect	Scale of Effect	Type/Nature of Effect	Duration of Effect
Socio-Economics	Loss of existing on-site jobs	Minor at local level	Adverse	Permanent Medium Term
	Generation of construction employment	Minor at regional level	Beneficial	Temporary Medium Term
	Loss of existing spending from loss of existing on-site jobs	Minor at local level	Adverse	Permanent Medium Term
	Spending from construction	Minor at local level	Beneficial	Temporary Medium Term
	Change in Severance, Pedestrian Amenity, Fear and Intimidation, Pedestrian (and cyclist) Delay	Negligible	Beneficial (links 1-5, 10-11) Adverse (links 6-9)	Temporary Medium Term
Transport and Accessibility	Change in accidents and safety (Links 8-9)	Minor	Adverse	Temporary Medium Term
	Air Quality	Dust Soiling and PM ₁₀ due to demolition and construction works	Slight	Adverse
NO ₂ , PM ₁₀ and PM _{2.5} due to vehicle emissions		Negligible	Beneficial	Temporary Medium Term
Noise and Vibration	Introduction of demolition and construction plant noise	Minor - Moderate (R1) Minor - Major (R2, R3) Minor (Bolder Academy) Major (New on-site NSRs)	Adverse	Temporary Medium Term

Table 13.2A: Demolition and Construction Stage Residual Effects				
Topic Area	Description of Residual Effect	Scale of Effect	Type/Nature of Effect	Duration of Effect
	Introduction of demolition and construction traffic noise	Negligible (all receptors)	Adverse	Temporary Medium Term
	Creation of demolition and construction vibration	Negligible to Minor (all receptors)	Adverse	Temporary Medium Term
Wind Microclimate	Wind conditions suitable for a construction site with hoarding in place	Negligible	N/A	Temporary Long Term
	Wind conditions suitable for pedestrian thoroughfare use	Negligible	N/A	Temporary Long Term
	Wind conditions suitable for pedestrian crossing use	Negligible	N/A	Temporary Long Term
	Wind conditions suitable for entrance use	Negligible	N/A	Temporary Long Term
	Wind conditions suitable for bus stop use	Negligible	N/A	Temporary Long Term
	Wind conditions suitable for private ground level open space and amenity use	Negligible	N/A	Temporary Long Term
Daylight, Sunlight and Overshadowing	Temporary change in daylight levels	Negligible to Minor	N/A Adverse	Temporary Medium Term
	Temporary change in sunlight levels	Negligible to Minor	N/A Adverse	Temporary Medium Term
	Temporary change in overshadowing levels	Negligible to Minor	N/A Adverse	Temporary Medium Term
Townscape and Visual	Minor changes in views due to removal of existing on-site buildings and structures, the enclosure of the site with hoarding and presence of taller elements	Minor (TCA1) Minor to Moderate (TCA2 and TCA5)	Adverse	Temporary Medium Term

¹ Was shown in Table 13.2 of the September 2020 ES, but not described in narrative.

Topic Area	Description of Residual Effect	Scale of Effect	Type/Nature of Effect	Duration of Effect
	Glimpses of taller construction elements	Negligible (all other receptors) Minor (TCA 4 and TCA 6. View 3 and 7) Minor to Moderate (View 8 and 10) Moderate (Views 26 and 27)	Adverse	Temporary Medium Term
	Change in view due to the enclosure of the site with hoarding and presence of taller elements	Minor (View 1 and 6) Minor to Moderate (View 5) Moderate (View 4)	Adverse	Temporary Medium Term
	Change in view due to presence of taller elements	Minor to Moderate (View 2)	Adverse	Temporary Medium Term
Built Heritage	Introduction of activities associated with construction and demolition. The resulting visual and aural disruption to the setting of the receptors may affect the ability to appreciate the heritage significance as embodied in the historic context or townscape setting.	Minor (Listed Buildings: Pavillion and Clubhouse, Former Gillette Building. Conservation area: Osterley Park) Negligible (all other receptors)	Adverse Neutral	Temporary Medium Term

Completed Development Residual Effects

13A.11A Table 13.3A summarises the residual effects which have been identified by the individual technical assessments as likely to arise as a result of the operation of the completed [amended](#) proposed development.

13A.12A The following significant beneficial environmental effects ([highlighted in bold in Table 13.3A](#)) for the completed development stage have been identified in relation to Socio Economics:

- Provision of new dwellings of varied sizes and tenures; and
- Changes in level of deprivation.

13A.13A The following significant adverse environmental effects ([highlighted in bold in Table 13.3A](#)) for the completed development stage have been identified in relation to Wind Microclimate:

- Unsuitable wind conditions for roof level amenity use at the majority of locations (strong winds) and wind conditions ranging from suitable to one category windier for potential entrance use (along the northernmost corner of Block A, the south-eastern corner of Block A and a small area along the southern façade of Block C).

13A.13N1The following significant adverse environmental effects ([highlighted in bold in Table 13.3A](#)) for the completed development stage have been identified in relation to transport and accessibility:

- [Bus Delay on service E1 in the Saturday peaks based on Design Option 4, which is considered to be a reasonable worst-case.](#)

Topic Area	Description of Residual Effect	Scale of Effect	Type/Nature of Effect	Duration of Effect
Socio-Economics	Provision of 1,623 new dwellings of varied sizes and tenures	Negligible at regional level Moderate at borough level Moderate-Major at local level	Beneficial	Permanent Long Term
	Delivery of employment floorspace which is likely to result in loss of 105-234 on-site jobs	Minor at local and borough levels Negligible at regional level	Adverse	Permanent Long Term
	Increased spending from new residents	Minor at local level	Beneficial	Permanent Long Term
	Decreased spending from reduction in on-site jobs	Negligible at local level	Adverse	Permanent Long Term
	Additional demand on early years school places	Minor at local level	Adverse	Permanent Long Term
	Additional demand on primary school places	Negligible at local level	Adverse	Permanent Long Term
	Additional demand on secondary school places	Minor at local level	Adverse	Permanent Long Term
	Additional demand for GP services	Negligible at local level	Adverse	Permanent Long Term
	Additional demand for dentist services	Negligible at local level	Adverse	Permanent Long Term
	Additional demand for open space	Negligible at local level	Beneficial	Permanent Long Term
	Additional demand for play space	Negligible at local level	Adverse	Permanent Long Term
	Change in levels of deprivation	Moderate at local level	Beneficial	Permanent Long Term

Table 13.3A: Completed Development Stage Residual Effects

Topic Area	Description of Residual Effect	Scale of Effect	Type/Nature of Effect	Duration of Effect	
		Minor at borough level			
	Additional demand for community facilities	Negligible at local level	Adverse	Permanent Long Term	
	Change in levels of crime and community safety	Minor at local level	Beneficial	Permanent Long Term	
Transport and Accessibility	Change in Severance, Pedestrian Amenity, Fear and Intimidation, Pedestrian (and cyclist) Delay	Negligible	Beneficial	Permanent Long Term	
	Change in accidents and safety	Negligible	Beneficial	Permanent Long Term	
	Driver Delay	Minor for vehicles turning between the A4 East and Syon Lane South Minor to Moderate for vehicles turning between A4 East and Syon Lane South for Weekday AM, PM and Saturday Peaks	Adverse	Permanent Long Term	
		Negligible for all other manoeuvres	Adverse to Beneficial	Permanent Long Term	
	Bus Delay	Negligible Minor to Moderate (H91)	Beneficial Adverse (PM Weekday AM Peak and Saturdays)		Permanent Long Term
		Minor (H91)	Adverse (AM Weekday PM Peak)		Permanent Long Term
		Negligible (E1) Moderate to Major (E1)	Adverse (PM Peak and Saturdays)		Permanent Long Term
		Negligible (E1)	Beneficial (Weekday AM and PM Peak)		Permanent Long Term

Table 13.3A: Completed Development Stage Residual Effects

Topic Area	Description of Residual Effect	Scale of Effect	Type/Nature of Effect	Duration of Effect
Air Quality	NO ₂ , PM ₁₀ and PM _{2.5} effects due to plant and energy centre emissions	Negligible	Adverse	Permanent Long Term
	NO ₂ due to vehicle emissions	Negligible	Beneficial	Permanent Long Term
	Site suitability for residential use	Suitable	N/A	Permanent Long Term
Noise and Vibration	Introduction of fixed plant noise	Negligible	Adverse	Permanent Long Term
	Changes in traffic noise levels	Negligible	Adverse (A4 West of Syon Lane) Beneficial (Syon Lane)	Permanent Long Term
	Noise from servicing vehicles	Negligible	Adverse	Permanent Long Term
Wind Microclimate	On-site			
	Wind conditions suitable for pedestrian thoroughfare use	Negligible to Moderate	N/A Beneficial	Permanent Long Term
	Wind conditions suitable for pedestrian crossing use	Minor to Major	Beneficial	Permanent Long Term
	Wind conditions ranging from suitable to one category windier for entrance use	Minor to Minor	Beneficial Adverse	Permanent Long Term
	Wind conditions suitable for ground level amenity use	Negligible	N/A	Temporary Long Term
	Wind conditions suitable for podium level amenity use	Negligible	N/A	Permanent Long Term
	Unsuitable wind conditions for roof level amenity use at the majority of locations	Negligible to Major	N/A Adverse	Permanent Long Term
	Wind conditions suitable for bus stop use	Negligible to Minor	N/A Beneficial	Permanent Long Term

Topic Area	Description of Residual Effect	Scale of Effect	Type/Nature of Effect	Duration of Effect
	Off-site			
	Wind conditions suitable for pedestrian thoroughfare use	Negligible	N/A	Permanent Long Term
	Wind conditions suitable for pedestrian crossing use	Negligible	N/A	Permanent Long Term
	Wind conditions suitable for proposed pedestrian crossing use	Major	Beneficial	Permanent Long Term
	Wind conditions suitable for entrance use	Negligible	N/A	Permanent Long Term
	Wind conditions suitable for bus stop use	Negligible	N/A	Permanent Long Term
	Wind conditions suitable for public and private ground level amenity use	Negligible	N/A	Permanent Long Term
	Strong winds exceeding 15 m/s and 20 m/s for more than 0.025 % of the year are expected at roof level amenity areas of Blocks A, B, C, D, F, G, and H.	Significant	Adverse	Permanent Long Term
Daylight, Sunlight and Overshadowing	Change in daylight levels at surrounding receptors	Negligible (58-82,86-88, 96, 102-104, 110-112,114-124,141 and 145 Syon Lane, 49 Oaklands Avenue)	N/A	Permanent Long Term
		Minor (90,92,98,106,108,112a, 143 Syon Lane, 48 Oaklands Avenue, 84 Syon Lane, 46 and 47 Oaklands Avenue)	Adverse	

Topic Area	Description of Residual Effect	Scale of Effect	Type/Nature of Effect	Duration of Effect
		Negligible to Major (100 Syon Lane)	N/A Adverse	
		Negligible to Minor (128-150 Syon Lane, 45 Oaklands)	N/A Adverse	
		Negligible to Moderate (94 Syon Lane)	N/A Adverse	
	Change in sunlight levels	Negligible (32 properties)	N/A	Permanent Long Term
	Change in overshadowing levels	Surrounding 15 external amenity areas	N/A	Permanent Long Term
		141 Syon Lane	Negligible following mitigation	
Townscape and Visual	Glimpsed views of built form	Negligible (TCA4, TCA6, TCA7, View 3) Minor (TCA1 and TCA5, View 7, 13 and 15) Minor to Moderate (View 8, 10 and 14)	Neutral (TCA4, TCA6, TCA7, Views 3, 7, 8, 10, 13, 14 and 15) Beneficial (TCA1, TCA5)	Permanent Long Term
	Introduction of built form and public realm	Minor (TCA2)	Beneficial	Permanent Long Term
	Introduction of built form	Minor (TCA2, View 1 and 6) Minor to Moderate (View 2 and 5) Moderate (View 4)	Neutral (View 5) Beneficial (TCA2 View 1, 2, 4 and 6)	Permanent Long Term
	Glimpsed winter views of built form	Negligible	Neutral	Permanent Long Term

Table 13.3A: Completed Development Stage Residual Effects

Topic Area	Description of Residual Effect	Scale of Effect	Type/Nature of Effect	Duration of Effect
Built Heritage	Introduction of new built form within setting of a heritage asset resulting in visual alteration affecting the ability to appreciate the heritage significance as embodied in the historic context or townscape setting.	Negligible (all other receptors) Minor (Osterley House, Syon House, Syon House Conservatory, Gower Road, Former Gillette Building, National Westminster Bank) None (all locally listed buildings)	Neutral Adverse N/A	Permanent Long Term