APPENDIX 9.4 DRIVER AND BUS DELAY ASSOCIATED WITH DESIGN OPTION 3

Introduction

9.1 This Appendix to ES Chapter 9A reports on the likely significant Transport and Accessibility effects that could arise in association with an alternative junction **Design Option 3** for Gillette Corner (A4 Great West Road and Syon Lane).

9.2 This Appendix will consider the effects of the alternative junction design on 'Driver Delay' and 'Bus Delay', only. In all other respects, the 'Transport and Accessibility' assessment of effects remain as detailed in Chapter 9A.

9.3 During the statutory consultation process for the planning application, Transport for London (TfL) and the London Borough of Hounslow (LBH) requested updated and additional traffic modelling to be undertaken for a number of design options for Gillette Corner. The design options include variations to the pedestrian and cycle connectivity across the junction. The highway works would be delivered as part of the Homebase development.

9.4 The following design solutions have been subject to traffic modelling, with the traffic modelling reported in Appendix 9.1A (Revised Transport Assessment):

- Design Option 1: No additional pedestrian/cyclist crossings;
- Design Option 2: A new surface level north-south pedestrian/cyclist crossing on the eastern side of the junction; and in this option the surface level crossing would replace the underpass;
- Design Option 3: A new pedestrian/cyclist crossing on the northern, eastern and southern sides of the junction; and in this option the surface level crossing would replace the underpass;
- 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 seek to keep the existing A4 underpass and provide a parallel surface crossing.

9.5 All modelled junction layouts include the provision of a new second right turn lane from the A4 into Syon Lane South.

9.6 The effects of Design Option 1 was considered in Chapter 9 of the ES, (September 2020) and within the Transport Assessment (TA) submitted with the planning application (September 2020 – provided as Appendix 9.1A). In their statutory consultation responses to the application TfL and LBH have stated that Design Option 1 would make insufficient provision for pedestrian and cycle movement across the Gillette Corner junction.

9.7 VISSIM traffic modelling was scoped out of the assessment for the 'Demolition and Construction' stage and this Appendix to ES Chapter 9A therefore reports the effects associated with **Design Option 3** for the Completed Development scenario, only.

9.8 The assessment methodology, the assessment criteria and the assessment scope for 'Driver Delay' and 'Bus Delay' described in the Chapter 9A remain valid for this Appendix.

Assessment of Effects

Driver Delay

9.9 Driver delay (and bus service delay) is considered within '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) – traffic Scenario 4.

9.10 Within the model traffic Scenario 4 is compared against future baseline conditions - Scenario 2.

9.11 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.

9.12 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. Four Design Options have been modelled and all results are presented in the Revised TA (Appendix 9.1A).

9.13 This Appendix presents the results of **Design Option 3**, which can be described as follows:

- A new traffic signal control junction for the Homebase site – the site access being located approximately 7 metres (centre to centre to the south of the existing Homebase access). The new junction would provide a traffic signal controlled crossing across the new development site access.

- The addition of a second right turning lane on the A4 for traffic turning into Syon Lane (towards the new Homebase site access) from the west.

- The removal of the pedestrian underpass beneath the A4 and a new staggered surface level crossing suitable for use by pedestrians and cyclists. The provision of the staggered crossing requires minor widening of the A4 carriageway on its southern side.

- The removal of the staggered 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. The crossing would be provided on the desire line to the new Tesco store customer entrance on the Homebase site and would create a continuous route alongside the southern side of the A4 for pedestrian and cyclist movement.

- Currently, a crossing is marked on-street across Syon Lane on the northern side of the Gillette Corner junction; however, the crossing is not incorporated into the traffic signal control. This means that pedestrians and cyclists are required to cross the carriageway in gaps observed in the traffic stream. Design Option 3 incorporates the provision of traffic signal control for pedestrian and cycle movements on the northern side of the Gillette Corner junction.

- The proposed removal of the existing bus stop layby on the A4 Great West Road (Westbound), located on the Homebase site frontage, to allow the pedestrian footway to be widened and the A4's off-carriageway cycle lane 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 the extended E1 bus services.

9.14 Table 9.16A compares journey times through the study area for 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 3**.

Table 9.16A: Driver Delay – Journey Times (Seconds) and Magnitude of Impact

Turning movement/ Link		Weekday AM Peak			Weekday PM Peak			Saturday Peak		
		2035 Baseline	2035 Baseline + Cum. + PD	Change (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Change (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Change (- / +)
From Syon Lane North	to A4 West	324	373	49	273	167	-106	310	266	-44
	to A4 East	296	274	-22	160	150	-10	167	132	-35
	to Syon Lane south	336	356	20	177	167	-9	186	257	71
From A4 East	to Syon Lane - North	189	173	-17	170	191	21	147	183	36
	to A4 West	154	143	-11	129	161	33	112	153	41
	to A4 East	187	178	-9	151	183	33	136	201	65
From Syon Lane South	to Syon Lane - North	445	739	293	189	217	28	175	204	29
	to A4 East	435	692	257	167	179	11	156	172	16
	to Syon Lane - south	649	717	69	348	235	-113	202	256	55
From A4 West	to Syon Lane - south	167	273	71	158	344	186	153	527	347
	to A4 West	141	123	-17	132	195	63	130	306	176
	to Syon Lane - North	359	187	-172	196	217	21	176	343	167
Average Delay			-		+39			+12		+73

Key	
Magnitude of Effect	Negligible
	Minor
	Moderate
	Substantial

9.15 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.

9.16 The VISSIM model's methodology is presented in the TA and the results are summarised in Tables 9.16A and 9.17A.

9.17 For general traffic (Table 9.16A), a 'substantial' magnitude of impact is identified for traffic routing from the A4 (West) in the AM peak towards Syon Lane (North) and the A4 (East). A 'substantial' magnitude of impact is also identified for traffic travelling from the A4 (East) in the PM peak (towards Syon Lane South) and in the Saturday peak for all turning movements. An increased average delay to traffic is anticipated through the study area in all modelled peak hours.

9.18 In the Saturday peak, traffic movements from Syon Lane (North) to Syon Lane (South), and from Syon Lane (South) to A4 (East) experience an increase in journey times that result in a 'minor' magnitude of effect.

9.19 Where a 'substantial' driver delay is predicted, this would involve traffic travelling from a link of 'low' sensitivity (A4 East or A4 West) and the effect can therefore be described as direct, long term, permanent **Minor to Moderate Adverse**. This Minor to Moderate Adverse effect takes place for some traffic movements from the A4 in the weekday AM, PM and Saturday peak periods. The effect would not be significant.

9.20 Where a 'minor' driver delay takes place, this would involve traffic movements from a link of 'low' or 'moderate' sensitivity (Syon Lane) and the effect can therefore be described as direct, long term, permanent **Minor Adverse**. The effect would not be significant.

9.21 For all other turning movements and in all other peak hours a '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 journeys times are reduced and **Negligible Adverse** where journey times increase. The effects would not be significant.

9.22 For bus operations, Table 7.21A1 presents the associated journey time impact.

Bus Journey Delay

9.23 For bus operations, Table 9.17A presents the associated journey time impact.

Table 9.17A: Bus Journey Delay – Journey Times (Seconds) and Magnitude of Impact

Bus Service	Direction of Travel	Weekday AM Peak			Weekday PM Peak			Saturday Peak		
		2035 Baseline	2035 Baseline + Cum.+ PD	Change (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Change (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Change (- / +)
H91	A4 West to A4 East	431	380	-51	298	304	6	268	270	2
	A4 East to A4 West	237	243	6	309	359	50	272	558	286
	Two-way Operation	668	623	-45	607	661	56	540	828	288
E1	A4 East to Syon Lane North	438	272	-167	236	327	91	209	657	488
	Syon Lane North to A4 West	405	297	-109	261	238	-21	222	198	-24
	Two-way Operation	843	569	-276	497	565	70	431	855	464

Key	
Magnitude of Effect	Negligible
	Minor
	Moderate
	Substantial

9.24 Table 9.17A identifies that for the users of bus service H91 the magnitude of impact can be described 'substantial' in the Saturday peak and 'minor' in the weekday PM peak. The resulting effect is identified as direct, long term, permanent **Minor to Moderate Adverse** on a Saturday and **Minor Adverse** in the weekday PM peak. The effects would not be significant.

9.25 Table 9.17A identifies that for the users of bus service E1 journey time reduction is expected in the weekday AM peak. A 'substantial' increase in journey time is predicted for buses routing from the A4 (West) to Syon Lane (North) in the weekday PM peak and Saturday peaks. A reduced journey time is predicted for bus service E1 in the weekday PM and Saturday peak periods for buses turning from Syon Lane into the A4. The effects would not be significant.

9.26 Where a 'substantial' magnitude of impact occurs and the delay is associated with queuing on a link (A4) with 'low' sensitivity, this results in a direct, long term, permanent **Minor to Moderate Adverse** effect. This takes place in the weekday PM peak and in the Saturday peak.

9.27 On a Saturday, the effect of Design Option 3 on the two-way operation of the E1 bus service would be **Moderate to Major Adverse**. The effect would be significant.

Mitigation Measures

9.28 No additional mitigation measures are available or proposed in relation to driver (and bus) delay.

9.29 The following best practice measures will be implemented to support the Development.

Operational Development Phase

9.30 While no mitigation is required to reduce the environmental effect of the operational Development, it remains the ambition of the Applicant, TfL and LBH to minimise road traffic and the impact of the Development on the highway network.

9.31 For this reason, the operational Development will be supported by Residential and Commercial Travel Plans, and a Delivery and Servicing Plan, and these documents have been submitted as part of the planning application.

9.32 The purpose of the Travel Plans is to set out a long-term strategy for reducing dependence on travel by private car. Its objective is to reduce private car mileage in favour of more

sustainable modes of travel, which reflects current Government policy objectives in respect of transport. The Delivery and Servicing Plan would seek to minimise the impact of service and home delivery vehicles on the operation of the highway.

9.33 The Travel Plans refer to the introduction of a Car Club that will be accessible by Site residents.

9.34 The Travel Plans contain a commitment to monitoring Site travel patterns and enforcement measures designed to ensure the Development's traffic is within the bounds of this assessment.

Residual Effects

9.35 These mitigation measures would act to reduce the effect of the Operational Development on driver (and bus) delay.

Cumulative Effects

9.36 This Appendix has assessed the cumulative effects of the site, the impact of committed development sites (through LoHAM) and the Osterley Site development, on Driver and Bus Delay. The use of LoHAM in establishing future baseline traffic flows means that the potential impacts of development in the wider Opportunity Area is considered.

9.37 Accordingly, the effects presented in this Appendix also represents the cumulative effects.

Summary

9.38 This assessment considers the operation of **Design Option 3** for Gillette Corner. Table 9.19A contains a summary of the likely effects of the Development with **Design Option 3**.

Table 9.19A: Table of Significance – Transport and Access (with Design Option 3 for Gillette Corner)

Potential Effect	**Nature of Effect** (Permanent /Temporary)	**Significance** (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)	**Mitigation / Enhancement Measures**	**Geographical Importance***							**Residual Effects** (Major/Moderate/Minor) (Beneficial/Adverse/Negligible)
				I	UK	E	R	C	B	L	
Demolition and Construction											
Severance	Temporary	Negligible	Implementation of CLP, including vehicle routing strategy.							X	Negligible
Pedestrian Amenity	Temporary	Negligible								X	Negligible
Fear and Intimidation	Temporary	Negligible								X	Negligible
Pedestrian (and cyclist) Delay	Temporary	Negligible								X	Negligible
Road Safety	Temporary	Negligible								X	Negligible
Driver (and bus) Delay	Temporary	Negligible								X	Negligible
Operational Development											
Severance	Permanent	Negligible	Implementation of Commercial and Residential Travel Plans and a Delivery and Servicing Plan							X	Negligible
Pedestrian Amenity	Permanent	Negligible								X	Negligible
Fear and Intimidation	Permanent	Negligible								X	Negligible
Pedestrian (and cyclist) Delay	Permanent	Negligible								X	Negligible
Road Safety	Permanent	Negligible								X	Negligible
Bus Delay	Permanent	**Moderate to Major Adverse –** a significant impact								X	**Moderate to Major Adverse –** a significant impact
Driver Delay	Permanent	**Minor to Moderate Adverse –** not significant								X	**Minor to Moderate Adverse –** not significant
Cumulative Effects											
Construction	Temporary	Negligible	Implementation of CLP, including vehicle routing strategy.						X		Negligible
Operation	Permanent	Negligible	Implementation of Commercial and residential Travel Plans						X		Negligible

*** Geographical Level of Importance**

I = International; UK = United Kingdom; E = England; R = Regional; C = County; B = Borough; L = Local

REFERENCES