Appendix 7.3A: Transport Assessment Addendum (Gillette Corner Design Option 2)

Introduction

7A.1 This Appendix to Chapter 7A reports on the likely significant Transport and Accessibility effects that could arise as a result of an alternative junction design for Gillette Corner (A4 Great West Road and Syon Lane).

7A.2 This Appendix considers 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 reported in Chapter 7A.

7A.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.

7A.4 The highway works would be delivered as part of the Homebase development (but have been relied upon in the future baseline assessment for the proposed development).

7A.5 The following design solutions have been subject to traffic modelling, with the traffic modelling reported in Appendix 7.1R:Replacment 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.

7A.6 All modelled junction layouts include the provision of a new second right turn lane from the A4 into Syon Lane South.

7A.7 The effects of Design Option 1 was considered in Chapter 7 of the ES, (September 2020) and within the Transport Assessment (TA) submitted with the planning application (September 2020 – provided as Appendix 7.1). 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.

7A.8 VISSIM traffic modelling was scoped out of the assessment for the demolition and construction stage and this chapter therefore reports the effects associated with Design Option 2 for the completed development stage, only.

7A.9 The assessment methodology, the assessment criteria and the assessment scope for 'Driver Delay' and 'Bus Delay' described in the Chapter 7A remain valid for this Appendix.

Assessment of Effects

Completed Development Effects

Driver Delay

7A.10 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.

7A.11 Within the model traffic Scenario 4 is compared against future baseline conditions - Scenario 2.

7A.12 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.13 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 Replacement Transport Assessment (Appendix 7.1R).

7A.14 This Appendix presents the results of Design Option 2, which can be described as follows:

- A new traffic signal control junction on Syon Lane to the Homebase site – the site access being located approximately 7 m (centre to centre to the south of the existing Homebase access). The new junction would incorporate the staggered traffic signal controlled pedestrian crossing that exists adjacent to Northumberland Avenue and 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 the provision of 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. This Design Option would provide an improved pedestrian connection across the A4, which would also be to the benefit of cyclists. The crossing would act to mitigate the effects of increased pedestrian and cycle movement across the A4 and would support access to the new Tesco store on the Homebase site, which would attract trips from the Tesco, Osterley site; 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.15 Table 7.20A[1] 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 2.

Table 7.20A: 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	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Diff. (- / +)
From Syon Lane North	to A4 West	324	417	92	273	158	-115	310	185	-125
	to A4 East	296	304	8	160	142	-18	167	144	-23
	to Syon Lane south	336	441	106	177	157	-19	186	177	-9
From	to Syon Lane -	189	198	9	170	183	12	147	189	42

[1] Consistent Table number referencing to enable comparison with Chapter 7A.

Table 7.20A: 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	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Diff. (- / +)
Syon Lane South	North									
	to A4 West	154	167	14	129	151	23	112	164	52
	to A4 East	187	203	17	151	166	16	136	185	48
From A4 West	to Syon Lane - North	445	224	-221	189	170	-18	175	169	-6
	to A4 East	435	219	-216	167	153	-14	156	152	-4
	to Syon Lane - south	649	320	-328	348	241	-107	202	219	17
From A4 East	to Syon Lane - south	167	215	48	158	222	64	153	206	53
	to A4 West	141	154	13	132	166	34	130	131	1
	to Syon Lane - North	359	304	-55	196	194	-2	176	174	-2
Average Delay*		-		-39			-11			+3

Key — Magnitude of Impact: Negligible; Low; Medium; High

The average journey time saving is indicative of network performance and does not account for traffic volumes using each route.

7A.16 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.17 The VISSIM model's methodology is presented in the TA and the results are summarised in Tables-7.20A and 7.21A.

7A.18 For general traffic (Table 7.20A), the only turning movements where a 'medium' magnitude of impact is identified is from Syon Lane (North) to the A4 (West) and Syon Lane (South) in the weekday AM peak period, only. The only 'low' magnitude of impact is associated with traffic turning from the A4 (East) to Syon Lane (South), in the weekday PM peak. All other turning movements, for all time periods modelled, result in a negligible magnitude of impact. Overall, an average journey time saving is anticipated through the study area for the modelled weekday AM and PM peak traffic periods, and a small (+3 second) increase is anticipated on a Saturday.

7A.19 Where a 'medium' driver delay is predicted, this would involve traffic travelling from a link of 'medium' sensitivity and the effect can therefore be described as direct, long term, permanent **Minor to Moderate Adverse** during the weekday AM peak hour. The effect would not be significant.

7A.20 Where a 'low' driver delay is predicted, this would involve traffic travelling from a link of 'low' sensitivity and the effect can therefore be described as direct, long term, permanent **Negligible Adverse** during the weekday PM peak hour. The effect would not be significant.

7A.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.

7A.22 For bus operations, Table 7.21A[1] presents the associated journey time impact.

Table 7.21A: 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	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)
H91	A4 West to A4 East	431	374	-57	298	295	-3	268	260	-8
	A4 East to A4 West	237	257	19	309	310	1	272	261	-11
	Two-way Operation	648	631	-38	607	605	-2	540	521	-19
E1	A4 West to Syon Lane North	438	405	-34	236	287	52	209	287	78
	Syon Lane North to A4 West	405	301	-104	261	231	-29	222	184	-38
	Two-way Operation	843	706	-138	495	518	-23	431	471	40

Key — Magnitude of Impact: Negligible; Low; Medium; High

7A.23 Table 7.21A identifies that for the users of bus service H91 the magnitude of impact can be described negligible. The resulting effect is identified as direct, long term, permanent **Negligible Adverse** where journey times increase and **Negligible Beneficial** where journey times reduce. The effects would not be significant.

7A.24 Table 7.21A identifies that for the users of bus service E1 journey time reduction is expected in the weekday AM peak. A 'medium' increase in journey time is predicted for buses routing from the A4 (West) to Syon Lane (North) in the weekday PM peak and a 'high' magnitude of impact is predicted for this turning movement on a Saturday. 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.

7A.25 Where a 'high' magnitude of impact occurs the Delay is associated with queuing on a link (A4 - East) with 'low' sensitivity and this therefore results in a direct, long term, permanent **Minor to Moderate Adverse** effect for bus service E1 on a Saturday. In the weekday PM peak, the 'medium' magnitude of effect would result in a direct, long term, permanent **Minor Adverse** effect. The effects would not be

significant. Overall, based on two-way flow, Design Option 2 would result in a 'low' magnitude of impact on service E1 on the Saturday peak hour resulting in a **Minor Adverse** effect in this peak period. For all other time periods and bus movements, the effects can be described as being direct, long term, permanent **Negligible Adverse** where journey times increase and **Negligible Beneficial** where journey times reduce. The effects of the proposal on bus service E1 would not be significant.

Assessment of Residual Effects

Additional Mitigation

7A.26 This section provides a summary of the predicted effects for the completed development stage and additional mitigation measures that could be implemented to reduce the scale of reported effects reported for Design Option 2.

Completed Development Stage

7A.27 Table 7.23A[1] summarises the reported effects, likely significance and required additional mitigation measures for the completed development stage.

Table 7.23A: Summary Completed Development Effects and Additional Mitigation Measures

Issue	Likely Effect	Additional Mitigation Measures
Driver Delay	**Minor to Moderate Adverse** for vehicles turning from Syon Lane (North) the A4 West and Syon Lane South for Weekday AM, peaks only. **Negligible Beneficial** to **Negligible Adverse** for all other manoeuvres and in all other modelled time periods.	None required
Bus Delay	H91: **Negligible Adverse** or **Negligible Beneficial** for all modelled time periods.	
	E1: **Negligible Beneficial** in the weekday AM peak. **Minor Adverse** in the weekday PM peak only for traffic turning from the A4 (East), and based on two-way movement, **Negligible Beneficial,** overall in the weekday PM peak. **Minor to Moderate Adverse** in the Saturday peak only for traffic turning from the A4 (East), and based on two-way movement, **Minor Adverse**, overall in the Saturday peak.	

Enhancement Measures

7A.28 No additional enhancement measures have been identified.

Completed Development Residual Effects

7A.29 The residual effects would remain as reported in the previous section:

Summary of Residual Effects

7A.30 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
Completed Development								
Vehicles turning from Syon Lane (North) to the A4 (West) and Syon Lane (South)	Change in Driver Delay	None required	Minor to Moderate (not significant)	-	D	P	IR	Lt
All other manoeuvres			Negligible (not significant)	- +	D	P	IR	Lt
Bus Services	Change in Bus Delay (H91)	None required	Negligible (not significant)	- +	D	P	IR	Lt
	Change in Bus Delay (E1)		For overall two-way operation for this service: Negligible Beneficial for weekday AM and PM peak hours, and Minor Adverse on a Saturday. (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.31 As explained in Chapter 2: EIA Process and Methodology, intra-project cumulative effects are discussed in Chapter 12: Cumulative Effects.

Inter-Project Effects

7A.32 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.

7A.33 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.

The cumulative impacts and effects are reported in traffic Scenario 4 for the completed development stage. Chapter 7A, 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 TfL's London Highway Assignment (LoHAM) model. 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.

Completed Development Cumulative Effects

7A.34 This Appendix has assessed the cumulative effects of the site, the impact of committed development sites (through LoHAM) and the Homebase 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.

7A.35 Accordingly, the effects presented in this Appendix also represents the cumulative effects.

Summary of Assessment

Background

7A.36 This Appendix has reported on the likely Driver and Bus Delay effects to arise from the completed development stage of the proposed development.

7A.37 To inform the likely significance of effects, an assessment has been undertaken in accordance with recognised environmental guidelines for driver delay.

7A.38 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. This is considered to be the most realistic scenario and accordingly, the impacts and effects of this scenario are reported in this Appendix.

7A.39 The assessment has focussed on 11 links in the study area and two bus services.

Completed Development Effects

7A.40 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 – Design Option 2.

7A.41 Design Option 2 provides some physical mitigation at the Gillette Corner junction to accommodate Tesco traffic turning from the A4 Great West Road south into Syon Lane, and incorporates new surface level pedestrian crossing on the A4, to the west of the Gillette Croner junction.

7A.42 The modelling shows a **Minor to Moderate Adverse** effect for vehicles turning from Syon Lane (North) the A4 West and Syon Lane South for Weekday AM, peaks only. At all other times and for all other turning movements, the effect on Driver Delay can be described as **Negligible Beneficial** to **Negligible Adverse**. The proposals do not result in a significant effect on peak hour Driver Delay.

7A.43 The assessment concludes that the effect on the H91 bus service would be **Negligible Adverse or Negligible Beneficial**.

7A.44 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.45 Should the E1 extension be implemented the resulting delays are identified as being **Negligible Beneficial** in the weekday AM peak, **Minor Adverse** in the weekday PM peak for traffic turning from the A4 (East), and **Minor to Moderate Adverse** in the Saturday peak for traffic turning from the A4 (East).

7A.46 Based on two-way movements, Design Option 2 would result in a +40 second increase in journey time for the E1 service on a Saturday, resulting in a **Minor Adverse effect.** Based on two-way movements, Design Option 2 would result and a net reduction in journey time for the E1 service in the AM and PM peak traffic periods resulting in a **Negligible Beneficial** effect. The proposals do not therefore result in a significant effect on the operation of bus service E1.

Cumulative Effects

7A.47 The effects reported for the proposed development are all representative of cumulative effects.

Appendix 7.4A: Transport Assessment Addendum (Gillette Corner Design Option 3)

Introduction

7A.1 This Appendix to Chapter 7A reports on the likely significant Transport and Accessibility effects that could arise as a result of an alternative junction design for Gillette Corner (A4 Great West Road and Syon Lane).

7A.2 This Appendix considers 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 reported in Chapter 7A.

7A.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.

7A.4 The highway works would be delivered as part of the Homebase development (but have been relied upon in the future baseline assessment for the proposed development).

7A.5 The following design solutions have been subject to traffic modelling, with the traffic modelling reported in Appendix 7.1R: Replacement 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.

7A.6 All modelled junction layouts include the provision of a new second right turn lane from the A4 into Syon Lane South.

7A.7 The effects of Design Option 1 was considered in Chapter 7 of the ES, (September 2020) and within the Transport Assessment (TA) submitted with the planning application (September 2020 – provided as Appendix 7.1). 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.

7A.8 VISSIM traffic modelling was scoped out of the assessment for the demolition and construction stage and this chapter therefore reports on the effects associated with Design Option 3 for the completed development stage, only.

7A.9 The assessment methodology, the assessment criteria and the assessment scope for 'Driver Delay' and 'Bus Delay' described in the Chapter 7A remain valid for this Appendix.

Assessment of Effects

Completed Development Effects

Driver Delay

7A.10 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.

7A.11 Within the model traffic Scenario 4 is compared against future baseline conditions - Scenario 2.

7A.12 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.13 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 Replacement TA (Appendix 7.1R).

7A.14 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 m (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; and
- 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.

7A.15 Table 7.20A[1] 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.

[1] Consistent Table number referencing to enable comparison with Chapter 7A.

Table 7.20A: 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	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum. + PD	Diff. (- / +)
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 Syon Lane South	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 A4 West	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 East	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 Impact: Negligible; Low; Medium; High

The average journey time saving is indicative of network performance and does not account for traffic volumes using each route.

7A.16 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.17 The VISSIM model's methodology is presented in the TA and the results are summarised in Tables–7.20A and 7.21A[1].

7A.18 For general traffic (Table 7.20A), a 'high' 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 'high' 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.

7A.19 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 'low' magnitude of effect.

7A.20 Where a 'high' 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 would occur for some traffic movements from the A4 in the weekday AM, PM and Saturday peak periods. The effect would not be significant.

7A.21 Where a 'low' driver delay takes place, this would involve traffic movements from a link of 'low' or 'medium' sensitivity (Syon Lane) and the effect can therefore be described as direct, long term, permanent **Minor Adverse.** The effect would not be significant.

7A.22 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.

7A.23 For bus operations, Table 7.21A[1] presents the associated journey time impact.

Table 7.21A: 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	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)	2035 Baseline	2035 Baseline + Cum.+ PD	Diff. (- / +)
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 West 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 Impact: Negligible; Low; Medium; High

7A.24 Table 7.21A identifies that for the users of bus service H91 the magnitude of impact can be described 'high' in the Saturday peak and 'low' 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.

7A.25 Table 7.21A identifies that for the users of bus service E1 journey time reduction is expected in the weekday AM peak. A 'high' 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.

7A.26 Where a 'high' 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.

7A.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.

Assessment of Residual Effects

Additional Mitigation

7A.28 This section provides a summary of the predicted effects for the completed development stage and additional mitigation measures that could be implemented to reduce the scale of reported effects reported for Design Option 3.

Completed Development Stage

7A.29 Table 7.23A[1] summarises the reported effects, likely significance and required additional mitigation measures for the completed development stage.

Table 7.23A: Summary Completed Development Effects and Additional Mitigation Measures

Issue	Likely Effect	Additional Mitigation Measures
Driver Delay	**Minor to Moderate Adverse** for traffic turning from the A4 in the AM, PM and Saturday periods. **Minor Adverse** for vehicles travelling from Syon Lane (North) to Syon Lane (South) and from Syon Lane (South) to the A4 (East) in the Saturday peak. **Negligible Beneficial** to **Negligible Adverse** for all other manoeuvres and in all other modelled time periods.	None available or proposed
Bus Delay	H91: **Minor to Moderate Adverse** in the Saturday peak and **Minor Adverse** in the weekday PM peak. **Negligible Adverse** or **Negligible Beneficia**l for all modelled time periods.	
	E1: In the weekday AM peak the effect is **Negligible Adverse** or **Negligible Beneficial** **Minor to Moderate Adverse** in the weekday PM and Saturday peaks for traffic turning from the A4 to Syon Lane (North). Overall, the effect on the E1 service in the Saturday peak would be **Moderate to Major Adverse**.	

Enhancement Measures

7A.30 No additional enhancement measures have been identified.

Completed Development Residual Effects

7A.31 The residual effects would remain as reported in the previous section:

Summary of Residual Effects

7A.32 Table 7.24A[1] 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
Completed Development								
AM Peak - Vehicles turning from the A4 (West) towards the A4 (East) and Syon Lane (North). PM Peak - Vehicles turning from A4 (East) to Syon Lane (South). Saturday Peak - Vehicles turning from the A4 (East) to A4 West) and Syon Lane (north) and Syon Lane (South).	Change in Driver Delay	None available or proposed	Minor to Moderate (not significant)	-	D	P	IR	Lt
Saturday Peak - Vehicles turning from Syon Lane (North) towards Syon Lane (South) and from Syon Lane (South) to the A4 (East)			Minor Adverse (not significant)	-	D	P	IR	Lt
All other manoeuvres			Negligible (not significant)	- ±	D	P	IR	Lt
Bus Services (two-way operation)	Change in Bus Delay (H91)	None available or proposed	Minor to Moderate Adverse (not significant)	-	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 I	P T	R I R	St Mt Lt
	Change in Bus Delay (E1)		Moderate to Major Adverse (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.33 As explained in Chapter 2: EIA Process and Methodology, intra-project cumulative effects are discussed in Chapter 12: Cumulative Effects.

Inter-Project Effects

7A.34 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.

7A.35 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.36 The cumulative impacts and effects are reported in traffic Scenario 4 for the completed development stage. Chapter 7A, 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 TfL's London Highway Assignment (LoHAM) model. 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.

Completed Development Cumulative Effects

7A.37 This Appendix has assessed the cumulative effects of the site, the impact of committed development sites (through LoHAM) and the Homebase 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.

7A.38 Accordingly, the effects presented in this Appendix also represents the cumulative effects.

Summary of Assessment

Background

7A.39 This Appendix has reported on the likely Driver and Bus Delay effects to arise from the completed development stage of the proposed development.

7A.40 To inform the likely significance of effects, an assessment has been undertaken in accordance with recognised environmental guidelines for driver delay.

7A.41 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. This is considered to be the most realistic scenario and accordingly, the impacts and effects of this scenario are reported in this Appendix.

7A.42 The assessment has focussed on 11 links in the study area and two bus services.

Completed Development Effects

7A.43 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, which incorporates a pedestrian crossing across the new Homebase site access – Design Option 3.

7A.44 Design Option 3 provides some physical mitigation at the Gillette Corner junction to accommodate Tesco traffic turning from the A4 Great West Road south into Syon Lane, and incorporates new surface level pedestrian crossing on the A4, to the west of the Gillette Croner junction, and on Syon Lane, both north and south of the A4.

7A.45 The modelling shows a **Minor to Moderate Adverse** effect for vehicles travelling from the A4 (West) towards Syon Lane (North) and A4 (East) in the AM peak hour. A **Minor Adverse** effect is identified for vehicles travelling from Syon Lane (North) to Syon Lane (South) and from Syon Lane (South) to the A4 (East) in the Saturday peak. At all other times and for all other turning movements, the effect on Driver Delay can be described as **Negligible Beneficial** to **Negligible Adverse**. The proposals do not result in a significant effect on peak hour Driver Delay.

7A.46 In terms of Bus Delay, service H91 routes on the A4 and would experience a **Minor to Moderate Adverse** in the Saturday peak and **Minor Adverse** in the weekday PM peak. The proposals do not result in a significant effect on peak hour Bus Delay. Overall, based on the two-way operation of bus service H91, the effect on the service in the Saturday peak would be **Minor to Moderate Adverse**.

7A.47 Bus service E1 routes to/from the A4 and Syon Lane and would experience a **Minor to Moderate Adverse** effect in the weekday PM peak and on a Saturday. Overall, based on the two-way operation of the service the effect on the E1 bus route, in the Saturday peak, would be **Moderate to Major Adverse**, resulting in a significant effect.

Cumulative Effects

7A.48 The effects reported for the proposed development are all representative of cumulative effects.