HIGH SPEED RAIL (LONDON - WEST MIDLANDS)

Supplementary Environmental Statement and Additional Provision 2 Environmental Statement

Volume 5 | Technical appendices

Traffic and transport (TR-001-000)

July 2015

SES and AP2 ES 3.5.3.1

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Department for Transport

High Speed Two (HS2) Limited has been tasked by the Department for Transport (DfT) with managing the delivery of a new national high speed rail network. It is a non-departmental public body wholly owned by the DfT.

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Contents

1 Introduction

1.1 Background

1.1.1 The Bill for High Speed Rail between London and the West Midlands was submitted to Parliament together with the main Environmental Statement (ES) in November 2013. The Additional Provision 1 Environmental Statement (AP1), which was submitted in September 2014, contained generally minor amendments to the design of the original scheme (i.e. the scheme submitted in November 2013). The Bill and associated Additional Provisions to the Bill, if enacted by Parliament, will provide the powers to construct, operate and maintain Phase One of HS2.

1.1.2 Since the submission of the main ES and AP1 ES, a number of changes or updates to environmental information and scheme design or assumptions have occurred.

1.1.3 In order to differentiate between the original proposals and subsequent changes, the following terms are used:

- 'the original scheme' - the Bill scheme submitted to Parliament in November 2013, which was assessed in the main ES;
- 'the AP1 revised scheme' - the original scheme as amended by the AP submitted in September 2014;
- 'the SES scheme' - the original scheme with the design changes described in the Supplementary Environmental Statement (SES); and
- 'the AP2 revised scheme' - the original scheme as amended by the SES scheme and AP2.

1.1.4 This Transport Assessment (TA) addendum summarises changes to the TA reported in the main ES (Volume 5 Appendix, Transport Assessment, TR-001-000) including:

- the regional assessment methodology,
- the assessment of impacts in each Community Forum Area (CFA) between Kilburn (CFA4) and Washwood Heath to Curzon Street Station (CFA26) as a result of the AP2 revised scheme, and other changes and corrections; and
- route-wide and off-route impacts.

1.1.5 An additional section is included in each CFA which describes new baseline surveys that have undertaken.

1.1.6 The above amendments lead to a number of changes to the TA in each CFA as reported in the main ES, and these are described in the following sections of this report.

1.1.7 Where text, tables or figures are not discussed they are unchanged from the main ES.

1.1.8 Where not specifically stated all paragraph, table and figure references are references to the main TA in Volume 5 Appendix: Transport Assessment (TR-001-000) of the main ES.

2 London Region

2.1 Regional methodology and assumptions

Operations Assessments

2.1.1 The assessments of traffic changes have only considered the construction phase. Operational impacts need to be assessed in combination with any impacts arising from the Euston station design review. Therefore, any new or different operation impacts arising in Kilburn (Brent) to Old Oak Common (CFA4) and Northolt Corridor (CFA5) will be reported in a future AP.

Regional highway modelling

CloHAM and WelHAM SATURN highway modelling

2.1.2 In order to assess changes to the scheme in London it has been necessary to undertake new transport modelling. However, since the submission of the main ES a number of changes have been made to provide an updated base for the modelling. Paragraphs 6.2.25 to 6.2.31 of the main TA describe the development of the West London (WeLHAM) Highway Assignment Models used in the assessment of the original scheme.

2.1.3 Transport for London (TfL) has subsequently provided HS2 Ltd with an interim 2012 base year WeLHAM model in spring 2014 and confirmed that this would provide a better base for the assessment of the AP2 revised scheme than the 2009 base year model described above.

2.1.4 HS2 Ltd has further developed this WeLHAM model and undertaken additional calibration and validation of the model in the areas of interest, namely Old Oak Common and West Ruislip/Ickenham. Further details of the model development are provided in the model performance report (MPR) which is included in Annex C.

2.1.5 Table 6.2 has been partially updated to show the model performance statistics for Old Oak Common and West Ruislip.

Table 6.2: WeLHAM local area link performance summary (partial replacement)

DMRB GEH <5 guidance	**AM peak hour (08:00-09:00)**	**Ave. inter peak hour (10:00-16:00)**	**PM peak hour (17:00-18:00)**
Old Oak Common area	94%	N/A	94%
West Ruislip area	100%	N/A	100%

2.2 Kilburn (Brent) to Old Oak Common (CFA4)

Kilburn (Brent) to Old Oak Common (CFA4) AP2 revised scheme changes

2.2.1 The original scheme through this area is as described in paragraphs 6.7.1 to 6.7.10 of the main TA.

2.2.2 In the Kilburn (Brent) to Old Oak Common CFA (CFA4) there are three SES changes which affect the TA:

- SES-004-002 The removal of the proposal to relocate the Heathrow Express (HEx) depot at the North Pole (East) site. It is now proposed to relocate the depot to Langley in the County of Berkshire and the County of Buckinghamshire.
- SES-004-003 Old Oak Common Lane closure mitigation. Step-free pedestrian access will be maintained along Old Oak Common Lane throughout most of the twelve month period of construction with occasional short term closures for certain construction works. Further details of this proposal can be seen in the SES and AP2 ES Volume 2 report for CFA4, and
- consequential use of the updated West London Highway Assignment Model (WeLHAM)

2.2.3 There is also a change regarding the use of an internal haul road to the Victoria box site, which leads to an increase in HGV movements at Old Oak Common. The internal haul road is longer used because of the re-phasing of the Heathrow Express (HEx) depot relocation.

2.2.4 The above changes lead to a number of amendments to the main TA in Kilburn (Brent) to Old Oak Common (CFA4).

Assessment methodology

2.2.5 The assessment methodology for the original scheme is described in Section 6.2 of the main TA.

2.2.6 As noted above, the updated WeLHAM model has been used by HS2 Ltd to provide revised forecasts for the AP2 revised scheme.

Existing baseline

2.2.7 The baseline traffic and transport information for Kilburn (Brent) to Old Oak Common is described in Section 5.7 of the main TA.

2.2.8 Supplementary traffic surveys were undertaken in June 2014 and December 2014 at locations not previously surveyed but potentially now affected by the SES revised scheme. The supplementary traffic survey report is included in SES and AP2 Annex B(ii).

Supplementary surveys at Old Oak Common & Bethune Road (December/January 2015)

2.2.9 Targeted surveys were undertaken to survey vehicles at the Victoria Road/Bethune Road/Regency Street access and pedestrian flows on Old Oak Common Lane.

2.2.10 The local surveys undertaken in 2014 indicate that conditions are similar to those surveyed in 2012, and help to confirm prevailing conditions in those local areas not previously surveyed.

Future baseline

2.2.11 Future baseline conditions for the original scheme are described in Section 6.8 of the main TA, these have been updated using the revised WeLHAM model.

Key future baseline issues

2.2.12 The second sentence of paragraph 6.7.40 is amended:

"Land use and transport changes affecting this CFA are modest however the future baseline has been refined to include schemes forming part of the Mayor's Cycle Super Highway (CSH) network."

Strategic and local road network traffic flows

2.2.13 Revised Table 6-218 and Table 6-219 show the AM and PM peak hour future baseline traffic flows on key strategic and local roads.

2.2.14 There are no changes to the observations made in paragraphs 6.7.54 and 6.7.55 as a result of these updated baseline forecasts.

Table 6-218: AM peak hour future baseline traffic flows on key strategic and local roads (demand flows)

Location	Direction	2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All Vehicles change from 2012			All Vehicle % change from 2012		
		All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
CFA4															
Kilburn High Road (south of Belsize Road)	NB	581	86	697	86	654	85	653	84	116	73	72	20%	13%	12%
	SB	785	96	856	116	846	120	875	123	71	61	90	9%	8%	11%
Salusbury Road (north of Premier Corner)	NB	342	6	417	8	403	9	471	8	75	61	130	22%	18%	38%
	SB	799	9	789	9	763	9	793	11	-10	-36	-6	-1%	-5%	-1%
Premier Corner (north of Kilburn Lane)	NB	600	40	694	43	680	44	773	44	94	81	173	16%	13%	29%
Chamberlayne Road (north of Kilburn Lane)	NB	483	51	490	51	493	51	521	50	7	10	38	2%	2%	8%
	SB	746	58	775	59	785	57	802	58	29	39	55	4%	5%	7%
Harrow Road (west of College Road)	WB	476	44	470	47	433	47	455	46	-6	-43	-21	-1%	-9%	-4%
	EB	454	34	427	35	413	35	414	36	-28	-41	-40	-6%	-9%	-9%
Scrubs Lane (north of Hythe Road)	NB	434	32	461	32	458	32	501	32	27	23	67	6%	5%	15%
	SB	875	52	828	53	811	53	817	53	-47	-64	-58	-5%	-7%	-7%

Location	Direction	2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All Vehicles change from 2012			All Vehicle % change from 2012		
		All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
Old Oak Common Lane (north of Wulfstan Street)	NB	262	12	308	15	306	16	341	18	46	44	79	17%	17%	30%
	SB	372	22	363	21	364	22	364	21	-8	-7	-8	-2%	-2%	-2%
Old Oak Common Lane (south of Du Cane Road)	NB	592	23	603	28	620	29	635	31	11	28	43	2%	5%	7%
	SB	379	26	375	25	372	26	385	26	-4	-8	6	-1%	-2%	2%
Wales Farm Road	SB	1093	67	1279	71	1261	70	1335	69	186	168	242	17%	15%	22%
Victoria Road (north of Park Royal Road)	NB	1101	64	1094	69	1063	69	1138	66	-7	-38	37	-1%	-3%	3%
Park Royal Road	NB	379	49	360	48	390	48	415	46	-19	11	36	-5%	3%	9%
	SB	349	21	317	24	316	24	328	21	-32	-33	-21	-9%	-10%	-6%
CFA5															
Coronation Road	EB	177	17	136	8	136	8	137	8	-40	-40	-40	-23%	-23%	-23%
	WB	142	15	130	12	123	12	127	12	-12	-19	-15	-9%	-13%	-10%
Connell Crescent bridge	EB	828	26	836	26	837	25	877	25	8	9	49	1%	1%	6%
	WB	219	21	254	24	249	24	275	29	35	29	56	16%	13%	25%

Location	Direction	2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All Vehicles change from 2012			All Vehicle % change from 2012		
		All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
Hanger Lane East Bridge	SB	4757	356	4813	351	4790	350	4952	344	56	34	196	1%	1%	4%
Hanger Lane West Bridge	NB	4260	208	4329	226	4342	220	4550	246	69	81	290	2%	2%	7%
Alperton Lane	NB	580	68	547	45	638	54	746	25	-32	59	167	-6%	10%	29%
	SB	391	2	373	2	370	2	401	2	-18	-21	9	-5%	-5%	2%
Bideford Avenue	NB	20	0	18	0	19	0	19	0	-1	-1	0	-7%	-5%	-1%
	SB	387	10	422	9	411	9	472	10	35	24	85	9%	6%	22%
Horsenden Lane	NB	371	13	366	13	363	12	365	12	-5	-8	-6	-1%	-2%	-2%
	SB	280	18	281	17	280	16	284	16	1	-1	4	0%	0%	1%
Greenford Road (north of Uneeda Drive)	NB	573	27	562	28	547	27	548	25	-12	-27	-26	-2%	-5%	-5%
	SB	846	33	853	32	821	32	833	31	8	-24	-13	1%	-3%	-1%
Greenford Road (south of Uneeda Drive)	NB	1027	60	954	58	970	56	983	56	-72	-57	-44	-7%	-6%	-4%
	SB	1011	73	1003	69	1013	64	1014	66	-8	2	3	-1%	0%	0%

Location	Direction	2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All Vehicles change from 2012			All Vehicle % change from 2012		
		All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
Oldfield Lane (north of Uneeda Drive)	NB	320	13	340	13	364	13	441	15	19	44	121	6%	14%	38%
	SB	582	15	571	15	555	14	600	15	-11	-27	18	-2%	-5%	3%
Mandeville Road (north of Eastcote Lane)	NB	1342	46	1330	45	1398	44	1420	46	-12	56	78	-1%	4%	6%
	SB	784	37	799	38	791	38	823	38	14	7	38	2%	1%	5%
Mandeville Road (south of Eastcote Lane)	NB	1761	80	1749	78	1825	77	1740	78	-11	64	-20	-1%	4%	-1%
	SB	1049	62	1000	65	959	64	865	64	-50	-91	-185	-5%	-9%	-18%
Eastcote Lane	EB	1250	16	1254	16	1160	16	1315	16	4	-89	65	0%	-7%	5%
	WB	240	16	267	16	262	16	305	17	26	22	65	11%	9%	27%

Table6-219: PM peak hour future baseline traffic flows on key strategic and local roads (demand flows)

Location	Direction	2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All Vehicles change from 2012			All Vehicle % change from 2012		
		All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
CFA4															
Kilburn High Road (south of Belsize Road)	NB	602	71	614	71	608	70	648	71	11	6	46	2%	1%	8%
	SB	618	67	634	68	603	67	638	67	16	-15	19	3%	-2%	3%
Salusbury Road (north of Premier Corner)	NB	600	6	593	6	596	6	615	6	-7	-5	14	-1%	-1%	2%
	SB	463	1	470	2	429	2	494	2	7	-34	32	1%	-7%	7%
Premier Corner (north of Kilburn Lane)	NB	849	38	848	38	845	38	878	39	-1	-4	29	0%	0%	3%
Chamberlayne Road (north of Kilburn Lane)	NB	595	48	596	49	591	49	633	48	1	-4	38	0%	-1%	6%
	SB	493	43	514	45	526	45	565	45	22	33	72	4%	7%	15%
Harrow Road (west of College Road)	WB	498	26	481	28	471	28	463	28	-17	-27	-35	-3%	-5%	-7%
	EB	480	23	456	26	436	26	395	26	-24	-43	-85	-5%	-9%	-18%
Scrubs Lane (north of Hythe Road)	NB	1082	29	1081	29	1075	29	1076	30	-2	-8	-7	0%	-1%	-1%
	SB	530	16	497	15	487	16	499	15	-33	-43	-31	-6%	-8%	-6%

Location	Direction	2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All Vehicles change from 2012			All Vehicle % change from 2012		
		All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
Old Oak Common Lane (north of Wulfstan Street)	NB	437	13	417	15	421	17	444	16	-20	-16	8	-5%	-4%	2%
	SB	256	9	356	11	336	11	402	11	99	80	146	39%	31%	57%
Old Oak Common Lane (south of Du Cane Road)	NB	507	21	670	27	680	28	650	27	163	173	143	32%	34%	28%
	SB	383	17	419	18	417	18	438	18	36	34	55	9%	9%	14%
Wales Farm Road	SB	1161	36	1160	37	1226	39	1351	42	-1	65	189	0%	6%	16%
Victoria Road (north of Park Royal Road)	NB	827	43	898	40	889	40	963	41	71	62	136	9%	7%	16%
Park Royal Road	NB	552	23	554	23	552	24	584	25	3	0	33	0%	0%	6%
	SB	282	17	291	17	271	17	303	19	9	-11	21	3%	-4%	7%
CFA5															
Coronation Road	EB	206	9	209	6	211	6	210	6	3	6	4	1%	3%	2%
	WB	173	14	174	13	167	12	170	10	1	-6	-3	1%	-3%	-2%
Connell Crescent bridge	EB	212	13	233	12	216	12	236	14	21	3	23	10%	2%	11%
	WB	529	11	524	10	539	11	555	9	-5	11	26	-1%	2%	5%

Location	Direction	2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All Vehicles change from 2012			All Vehicle % change from 2012		
		All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
Hanger Lane East Bridge	SB	4563	157	4642	162	4539	162	4660	162	79	-24	97	2%	-1%	2%
Hanger Lane West Bridge	NB	4693	163	4727	161	4697	162	4836	157	34	4	143	1%	0%	3%
Alperton Lane	NB	765	5	821	5	812	5	810	4	56	47	45	7%	6%	6%
	SB	163	0	210	0	222	0	288	0	47	59	125	29%	36%	77%
Bideford Avenue	NB	25	0	25	0	23	0	24	0	-1	-3	-2	-3%	-11%	-7%
	SB	477	7	449	7	471	7	496	6	-28	-6	19	-6%	-1%	4%
Horsenden Lane	NB	421	13	407	12	402	12	420	11	-14	-18	-1	-3%	-4%	0%
	SB	318	11	314	10	314	10	316	10	-4	-4	-1	-1%	-1%	0%
Greenford Road (north of Uneeda Drive)	NB	758	19	743	17	719	17	728	17	-14	-39	-30	-2%	-5%	-4%
	SB	741	11	749	11	750	10	765	7	8	9	24	1%	1%	3%
Greenford Road (south of Uneeda Drive)	NB	1365	46	1324	44	1269	44	1258	43	-41	-96	-106	-3%	-7%	-8%
	SB	1103	31	1098	28	1099	27	1109	25	-5	-4	6	0%	0%	1%

Location	Direction	2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All Vehicles change from 2012			All Vehicle % change from 2012		
		All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	All Vehs	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
Oldfield Lane (north of Uneeda Drive)	NB	688	15	680	14	665	13	729	15	-8	-24	41	-1%	-3%	6%
	SB	437	13	443	13	472	14	539	15	6	35	101	1%	8%	23%
Mandeville Road (north of Eastcote Lane)	NB	1306	56	1317	59	1297	59	1314	56	11	-9	8	1%	-1%	1%
	SB	987	17	991	17	990	18	980	17	4	3	-7	0%	0%	-1%
Mandeville Road (south of Eastcote Lane)	NB	1809	76	1816	81	1744	81	1809	78	7	-65	0	0%	-4%	0%
	SB	483	35	488	35	485	37	497	33	5	2	14	1%	0%	3%
Eastcote Lane	EB	650	11	656	11	690	11	745	11	6	40	95	1%	6%	15%
	WB	872	44	888	45	878	45	1000	45	15	6	128	2%	1%	15%

Junction performance

2.2.15 Revised Tables 6-220 to 6-230 replace those in the main TA as a result of the updated baseline traffic forecasts.

Table 6-220: Forecast baseline performance at Salusbury Road / Carlton Vale / Fernhead Road (priority junction)

CFA4	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Salusbury Road	1179	21	0	1191	21	0	1162	21	0	1216	22	0
Carlton Vale	453	11	0	523	13	0	491	12	0	561	14	0
Fernhead Road	165	20	0	150	19	0	143	17	0	152	19	0
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Salusbury Road	918	17	0	930	17	0	882	16	0	966	17	0
Carlton Vale	505	13	0	503	13	0	494	12	0	509	13	0
Fernhead Road	283	34	0	259	31	0	258	30	0	264	31	0

Table 6-221: Forecast baseline performance at Premier Corner / Kilburn Lane

CFA4	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Kilburn Lane (WB)	968	17	0	1001	17	0	943	16	0	1026	18	0
Premier corner (1 way outbound *)	*	*	*	*	*	*	*	*	*	*	*	*
Kilburn Lane (EB)	320	27	0	389	31	0	396	31	0	442	34	0
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Kilburn Lane (WB)	1031	18	0	966	17	0	920	16	0	968	17	0
Premier corner (1 way outbound *)	*	*	*	*	*	*	*	*	*	*	*	*
Kilburn Lane (EB)	371	32	0	396	33	0	394	33	0	419	34	0

Table 6-222: Forecast baseline performance at Salusbury Road / Brondesbury Road / Harvist Road (signals)

CFA4	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Salusbury Road (SB)	582	86	9	551	79	9	528	75	9	520	74	8
Brondesbury Road	324	34	6	342	36	6	336	35	6	357	38	6
Salusbury Road (NB)	350	42	5	427	49	6	415	46	6	482	53	7
Harvist Road	234	36	4	233	37	4	212	33	4	241	38	4
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Salusbury Road (SB)	363	47	5	366	47	5	332	43	5	361	46	5
Brondesbury Road	230	32	5	213	30	4	203	28	4	233	32	5
Salusbury Road (NB)	614	48	8	601	47	8	603	46	8	623	48	8
Salusbury Road (NB)	109	22	2	114	23	2	110	21	2	119	24	2

Table6-223: Forecast baseline performance at Harrow Road / Scrubs Lane (signals)

CFA4	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Harrow Road (EB)	967	52	8	935	51	8	910	49	7	918	49	7
Harrow Road (WB)	763	67	12	772	68	12	740	65	11	747	66	11
Scrubs Lane	473	35	7	500	38	7	497	37	7	541	40	8
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Harrow Road (EB)	662	53	8	658	54	8	653	54	8	670	56	9
Harrow Road (WB)	519	50	7	528	48	7	511	46	7	524	47	7
Scrubs Lane	1120	54	14	1116	54	14	1109	54	14	1112	54	14

Table 6-224: Forecast baseline performance at Old Oak Lane / Tubbs Road (signals)

CFA4	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Station Road	604	75	10	710	90	12	725	92	12	711	89	12
Tubbs Road	249	71	5	273	79	5	264	76	5	271	77	5
Old Oak Lane	430	60	4	470	78	6	439	76	5	479	78	6
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Station Road	274	49	3	318	58	4	324	59	4	363	67	5
Tubbs Road	297	62	4	287	60	4	291	61	4	297	62	4
Old Oak Lane	587	102	7	537	103	6	534	103	6	493	105	6

Table 6-225: Forecast baseline performance at Old Oak Common Lane / Du Cane Road (signals)

CFA4	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Old Oak Common Lane (SB)	250	56	10	246	55	10	247	55	10	254	57	10
Du Cane Road	71	42	2	71	43	2	71	42	2	71	42	2
Old Oak Common Lane (NB)	618	46	10	635	48	11	654	50	11	671	50	11
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Old Oak Common Lane (SB)	344	43	9	351	47	10	351	47	10	367	49	10
Du Cane Road	178	35	4	179	35	4	177	34	4	183	35	4
Old Oak Common Lane (NB)	535	60	13	701	76	17	712	78	17	681	74	16

Table 6-226: Forecast baseline performance at Old Oak Common Lane / Western Avenue / Old Oak Road (signals)

CFA4	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Old Oak Common Lane (SB)	409	103	12	403	102	12	401	100	12	414	101	12
A40 West Way	2413	88	47	2482	90	48	2461	89	48	2614	95	50
Old Oak Common Lane (NB)	1521	91	27	1494	95	27	1495	92	27	1560	93	27
A40 Western Avenue (EB)	3913	85	43	3776	84	43	3795	84	43	3887	85	43
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Old Oak Common Lane (SB)	403	97	12	438	93	13	436	91	13	457	92	13
A40 West Way	2835	102	52	2729	96	50	2729	96	50	2780	98	51
Old Oak Common Lane (NB)	1542	92	27	1486	90	26	1489	90	26	1518	91	26
A40 Western Avenue (EB)	3113	72	34	3065	70	34	3029	70	33	3201	73	35

Table 6-227: Forecast baseline performance at Atlas Road / Old Oak Lane / Old Oak Common Lane / Victoria Road (signals)

CFA4	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Atlas Road	11	7	0	12	1	0	13	1	0	15	1	0
Old Oak Lane	662	50	12	805	74	0	810	74	0	816	74	0
Old Oak Common Lane	317	47	7	367	43	0	367	43	0	405	47	0
Victoria Road	399	45	7	397	41	0	365	38	0	394	41	0

	2012			2021			2026			2041		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Atlas Road	25	18	0	24	2	0	27	2	0	29	3	0
Old Oak Lane	481	60	7	500	49	0	522	50	0	577	58	0
Old Oak Common Lane	502	78	8	467	50	0	474	51	0	497	55	0
Victoria Road	506	87	7	563	60	2	550	59	2	605	63	2

Table 6-228: Forecast baseline performance at Bethune Road / Victoria Road (priority junction)

CFA4	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Bethune Road	24	5	0	190	45	0	193	44	0	211	50	1
Victoria Road (SB)	516	28	0	569	31	0	568	31	0	594	32	0
Victoria Road (NB)	369	20	0	437	24	0	401	22	0	434	23	0
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Bethune Road	84	21	0	287	61	1	305	65	1	300	68	1
Victoria Road (SB)	617	34	0	526	29	0	563	31	0	647	36	0
Victoria Road (NB)	352	19	0	421	23	0	404	22	0	454	25	0

Table 6-229: Forecast baseline performance at Western Avenue / Wales Farm Road / Leamington Park (signals)

CFA4/5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Western Avenue (EB)	3485	91	26	3356	88	25	3374	88	25	3465	88	25
Wales Farm Road	1174	61	30	1364	71	36	1346	70	35	1419	74	37
Western Avenue (WB)	2647	55	30	2691	55	30	2657	55	30	2778	56	31

	2012			2021			2026			2041		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Western Avenue (EB)	2842	91	32	2812	78	25	2774	77	25	2936	80	26
Wales Farm Road	1225	78	34	1202	59	30	1269	62	32	1398	68	35
Western Avenue (WB)	2918	70	42	2822	60	33	2829	60	34	2887	61	34

Table 6-230: Forecast baseline performance at Friary Road / Friary Road (priority junction)

CFA4/5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Friary Road (EB)	71	5	0	58	4	0	58	4	0	60	4	0
Friary Road (NB)	40	18	0	12	18	0	9	17	0	48	20	0
Friary Road (WB)	126	6	0	135	7	0	133	7	0	119	6	0
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Friary Road (EB)	159	11	0	165	12	0	158	11	0	169	12	0
Friary Road (NB)	181	24	0	141	21	0	141	21	0	167	23	0
Friary Road (WB)	85	4	0	113	6	0	101	5	0	77	4	0

2.2.16 Apart from paragraph 6.7.61, there are no changes to the observations made on individual junction performance in paragraphs 6.7.57 to 6.7.67. Paragraph 6.7.61 which summarised the baseline assessment results for the Old Oak Lane / Tubbs Lane signal junction, is amended as follows:

"The model shows the junction operating within capacity during both AM peak hours in all modelled periods. For the PM peak the Old Oak Lane arm of the junction operates slightly over capacity for all future forecast years."

Construction description

2.2.17 Changes to the original scheme construction description set out in paragraphs 6.7.77 to 6.7.114 of the main TA are summarised in the following paragraphs.

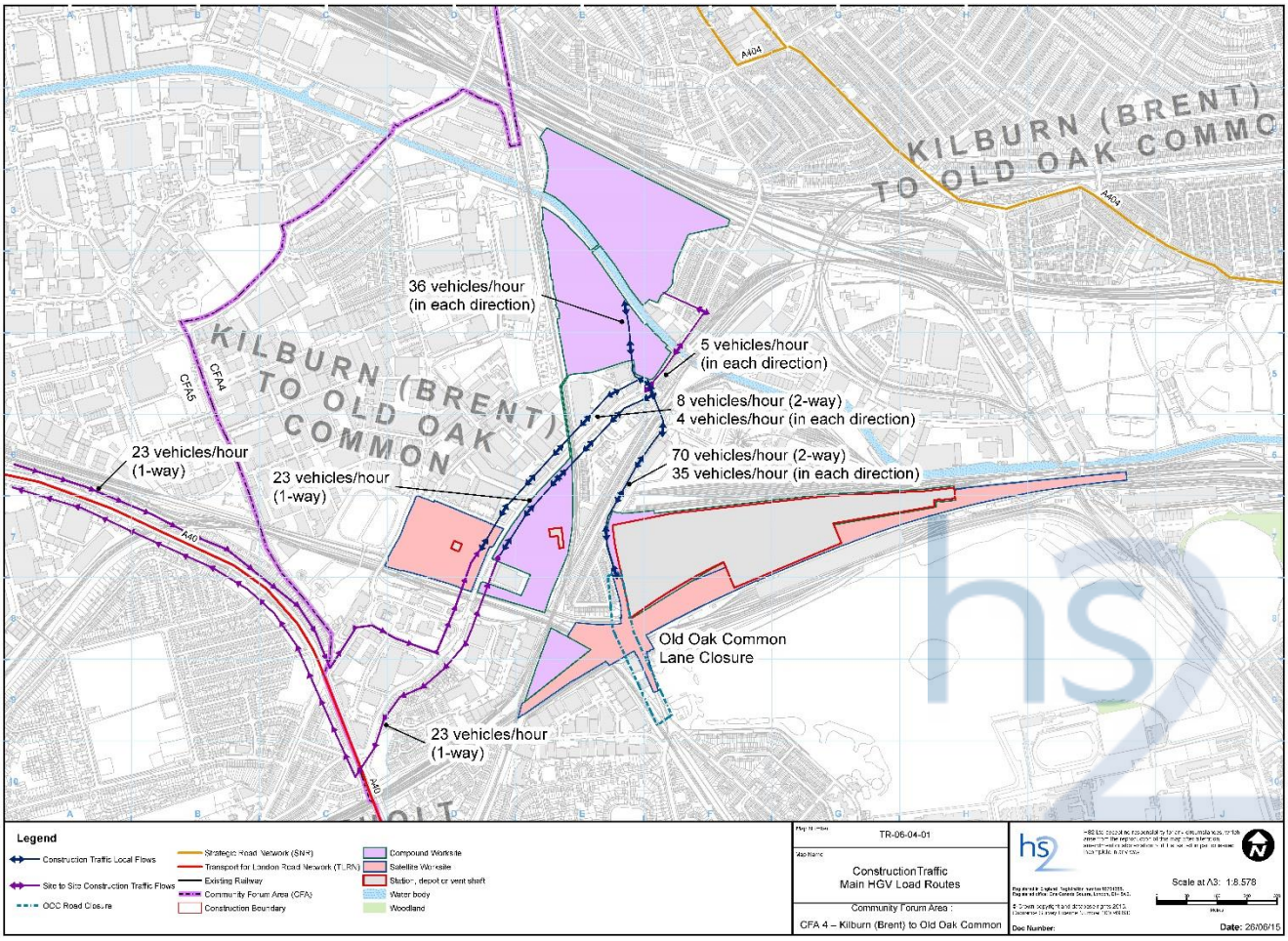
Construction lorry routes

Construction vehicle movements

2.2.18 Figure 6-190 has been updated to reflect the forecast increase of HGV movements on Old Oak Common Lane (from 14 to 70 HGVs two-way trips). In the original scheme,

these movements were assumed to use the internal haul road to the Victoria Road box site and then by conveyor to the Willesden Railhead.

Figure 6-190: CFA4 AP2 HGV route loadings



Traffic management, road closures and diversions

Old Oak Common

2.2.19 Paragraph 6.7.139 is deleted due to the introduction of the local mitigation measure (SES-004-003) which maintains pedestrian movement past the closure on Old Oak Common Lane.

2.2.20 Table 6.233 is amended to delete the Old Oak Common pedestrian diversion.

2.2.21 A new paragraph is added after Table 6-233 regarding the phasing of proposed improvements to the junction of Victoria Road with Atlas Road:

"Victoria Road / Atlas Road

The London Borough of Ealing (LBE) replaced the original signalised junction at Victoria Road / Atlas Road with a roundabout in March 2014. The originally planned widened signalised junction required for the operational phase has been brought forward to the construction phase."

Assessment of construction impacts

Strategic and local road network traffic flows

2.2.22 As noted in the main TA, Construction Test 1 refers to late 2017 / early 2018 with peak construction HGV movements leading up to the start of the Willesden Railhead for HS2 construction movements. Construction Test 2 refers to the planned closure of Old Oak Common Lane for construction purposes for periods within 2023 to 2024.

2.2.23 Revised Table 6-234 and Table 6-235 compare 2021 baseline flows with 2021 Test 1 and Test 2 construction case flows.

2.2.24 These tables show similar levels of change overall with the AP2 revised scheme when compared to the original scheme, although as noted HGV use of the northern section of Old Oak Common Lane increases.

Table 6-234: WeLHAM (p3) AM peak hour model screenline analysis for construction tests.

Location	Direction	Future baseline 2021		2021 Construction Test 1		Test 1 change from 2021 future baseline				2021 Construction Test 2		Test 2 change from 2021 future baseline			
		All Vehs	HGVs	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %
CFA4															
Kilburn High Road (south of Belsize Road)	NB	697	86	697	86	-1	0	0%	0%	698	86	1	0	0%	0%
	SB	856	116	855	116	-1	0	0%	0%	871	117	15	1	2%	0%
Salusbury Road (north of Premier Corner)	NB	417	8	421	8	4	0	1%	0%	422	7	5	-1	1%	-11%
	SB	789	9	799	9	10	0	1%	5%	835	10	46	1	6%	8%
Premier Corner (north of Kilburn Lane)	NB	694	43	696	43	2	0	0%	0%	680	42	-14	-1	-2%	-2%
Chamberlayne Road (north of Kilburn Lane)	NB	490	51	493	51	3	0	1%	0%	498	51	8	1	2%	1%
	SB	775	59	780	59	5	0	1%	0%	796	59	20	1	3%	1%
Harrow Road (west of College Road)	WB	470	47	458	47	-12	0	-3%	-1%	454	46	-16	-1	-3%	-1%
	EB	427	35	427	36	0	0	0%	1%	432	34	6	-1	1%	-4%
Scrubs Lane (north of Hythe Road)	NB	461	32	471	32	9	0	2%	1%	548	33	87	1	19%	4%
	SB	828	53	835	53	8	0	1%	0%	922	56	95	3	11%	6%

		Future baseline 2021		2021 Construction Test 1		Test 1 change from 2021 future baseline				2021 Construction Test 2		Test 2 change from 2021 future baseline			
Location	**Direction**	**All Vehs**	**HGVs**	**All Vehs**	**HGVs**	**All Vehs**	**HGVs**	**All Vehs %**	**HGVs %**	**All Vehs**	**HGVs**	**All Vehs**	**HGVs**	**All Vehs %**	**HGVs %**
Old Oak Common Lane (north of Wulfstan Street)	NB	308	15	318	55	10	39	3%	259%	45	45	-262	30	-85%	197%
	SB	363	21	369	59	5	39	1%	187%	45	45	-318	25	-87%	118%
Old Oak Common Lane (south of Du Cane Road)	NB	603	28	602	28	-1	0	0%	0%	646	34	43	5	7%	19%
	SB	375	25	373	25	-2	0	-1%	0%	366	27	-9	2	-2%	7%
Wales Farm Road	SB	1279	71	1272	99	-6	28	0%	40%	1298	97	19	27	2%	38%
Victoria Road (north of Park Royal Road)	NB	1094	69	1046	98	-48	29	-4%	42%	1079	92	-15	23	-1%	33%
Park Royal Road	NB	360	48	387	50	27	2	7%	5%	379	53	19	5	5%	10%
	SB	317	24	332	26	16	2	5%	9%	324	22	7	-2	2%	-9%
CFA5															
Coronation Road	EB	136	8	137	8	-1	0	0%	0%	132	8	-4	0	-3%	0%
	WB	130	12	131	12	0	0	0%	0%	123	12	-6	0	-5%	0%
Connell Crescent bridge	EB	836	26	822	26	-1	0	0%	0%	823	26	-12	0	-1%	0%
	WB	254	24	255	24	0	0	0%	0%	260	28	6	4	2%	19%
Hanger Lane East Bridge	SB	4813	351	4809	351	2	0	1%	0%	4800	353	-12	3	0%	1%

		Future baseline 2021		2021 Construction Test 1		Test 1 change from 2021 future baseline				2021 Construction Test 2		Test 2 change from 2021 future baseline			
Location	**Direction**	**All Vehs**	**HGVs**	**All Vehs**	**HGVs**	**All Vehs**	**HGVs**	**All Vehs %**	**HGVs %**	**All Vehs**	**HGVs**	**All Vehs**	**HGVs**	**All Vehs %**	**HGVs %**
Hanger Lane West Bridge	NB	4329	226	4316	219	-14	0	-2%	-1%	4342	226	14	0	0%	0%
Alperton Lane	NB	547	45	552	51	1	0	0%	0%	546	48	-1	3	0%	7%
	SB	373	2	371	2	-4	0	0%	0%	367	2	-7	0	-2%	1%
Bideford Avenue	NB	18	0	19	0	-13	-7	0%	-3%	18	0	0	0	1%	2%
	SB	422	9	426	9	5	7	1%	15%	427	9	5	0	1%	-1%
Horsenden Lane	NB	366	13	366	13	-2	0	-1%	-1%	366	13	0	0	0%	0%
	SB	281	17	281	17	0	0	3%	0%	280	17	0	0	0%	0%
Greenford Road (north of Uneeda Drive)	NB	562	28	564	28	4	0	1%	-1%	569	28	7	0	1%	0%
	SB	853	32	854	32	-1	0	0%	0%	856	32	3	0	0%	0%
Greenford Road (south of Uneeda Drive)	NB	954	58	950	58	0	0	0%	0%	958	58	4	0	0%	0%
	SB	1003	69	1005	69	2	0	0%	0%	1011	69	8	0	1%	-1%
Oldfield Lane (north of Uneeda Drive)	NB	340	13	335	13	1	0	0%	0%	332	13	-7	0	-2%	-1%
	SB	571	15	576	14	-5	0	0%	0%	573	14	2	0	0%	-1%

Location	Direction	Future baseline 2021		2021 Construction Test 1		Test 1 change from 2021 future baseline				2021 Construction Test 2		Test 2 change from 2021 future baseline			
		All Vehs	HGVs	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %
Mandeville Road (north of Eastcote Lane)	NB	1330	45	1341	45	2	0	0%	0%	1339	45	9	0	1%	0%
	SB	799	38	805	38	-5	0	-1%	0%	804	38	5	0	1%	0%
Mandeville Road (south of Eastcote Lane)	NB	1749	78	1735	78	5	0	1%	-1%	1743	78	-7	0	0%	0%
	SB	1000	65	986	65	10	0	1%	0%	990	65	-10	0	-1%	0%
Eastcote Lane	EB	1254	16	1273	16	7	0	1%	0%	1277	16	23	0	2%	0%
	WB	267	16	271	16	-14	0	-1%	0%	271	16	4	0	1%	0%

Table 6-235: WeLHAM PM peak hour model screenline analysis for construction tests

Location	Direction	Future baseline 2021		2021 Construction Test 1		Test 1 change from 2021 future baseline				2021 Construction Test 2		Test 2 change from 2021 future baseline			
		All Vehs	HGVs	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %
CFA4															
Kilburn High Road (south of Belsize Road)	NB	614	71	617	71	3	0	1%	0%	621	71	8	0	1%	0%
	SB	634	68	636	68	2	0	0%	0%	637	68	3	0	0%	0%
Salusbury Road (north of Premier Corner)	NB	593	6	594	6	1	0	0%	1%	614	6	21	0	3%	1%
	SB	470	2	481	2	11	0	2%	5%	507	2	37	0	8%	14%

		Future baseline 2021		2021 Construction Test 1		Test 1 change from 2021 future baseline				2021 Construction Test 2		Test 2 change from 2021 future baseline			
Location	**Direction**	**All Vehs**	**HGVs**	**All Vehs**	**HGVs**	**All Vehs**	**HGVs**	**All Vehs %**	**HGVs %**	**All Vehs**	**HGVs**	**All Vehs**	**HGVs**	**All Vehs %**	**HGVs %**
Premier Corner (north of Kilburn Lane)	NB	848	38	848	38	0	0	0%	0%	854	38	6	0	1%	0%
Chamberlayne Road (north of Kilburn Lane)	NB	596	49	591	49	-5	0	-1%	0%	659	49	63	0	11%	0%
	SB	514	45	518	45	4	0	1%	0%	506	45	-8	1	-2%	1%
Harrow Road (west of College Road)	WB	481	28	473	28	-8	0	-2%	0%	487	28	7	0	1%	1%
	EB	456	26	460	26	4	0	1%	0%	457	26	1	0	0%	0%
Scrubs Lane (north of Hythe Road)	NB	1081	29	1077	29	-4	0	0%	0%	1139	29	58	0	5%	2%
	SB	497	15	501	16	4	1	1%	6%	520	18	23	2	5%	16%
Old Oak Common Lane (north of Wulfstan Street)	NB	417	15	450	55	33	40	8%	262%	45	45	-371	30	-89%	197%
	SB	356	11	306	50	-49	39	-14%	363%	46	45	-310	35	-87%	322%
Old Oak Common Lane (south of Du Cane Road)	NB	670	27	732	27	62	0	9%	1%	855	27	184	0	28%	-1%
	SB	419	18	404	17	-15	-1	-4%	-4%	372	20	-47	2	-11%	11%
Wales Farm Road	SB	1160	37	1169	66	9	28	1%	76%	1174	65	14	27	1%	73%
Victoria Road (north of Park Royal Road)	NB	898	40	829	69	-69	29	-8%	73%	956	72	58	32	6%	79%

Location	Direction	Future baseline 2021		2021 Construction Test 1		Test 1 change from 2021 future baseline				2021 Construction Test 2		Test 2 change from 2021 future baseline			
		All Vehs	HGVs	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %
Park Royal Road	NB	554	23	549	26	-6	2	-1%	9%	543	26	-12	3	-2%	12%
	SB	291	17	300	19	9	2	3%	15%	330	19	4	0	1%	-1%
CFA5															
Coronation Road	EB	209	6	207	7	-1	1	-1%	9%	189	8	-19	2	-9%	36%
	WB	174	13	169	13	-6	0	-3%	0%	164	12	-10	-1	-6%	-4%
Connell Crescent bridge	EB	233	12	232	12	-1	0	0%	0%	230	13	-3	0	-1%	2%
	WB	524	10	532	11	8	1	1%	9%	541	11	17	0	3%	2%
Hanger Lane East Bridge	SB	4642	162	4612	160	-31	-2	-1%	-1%	4694	163	52	2	1%	1%
Hanger Lane West Bridge	NB	4727	161	4718	160	-9	-1	0%	-1%	4720	161	-7	0	0%	0%
Alperton Lane	NB	821	5	820	5	-1	0	0%	0%	818	5	-3	0	0%	0%
	SB	210	0	200	0	-10	0	-5%	0%	227	0	17	0	8%	13%
Bideford Avenue	NB	25	0	25	0	0	0	1%	0%	24	0	-1	0	-3%	0%
	SB	449	7	460	7	11	0	2%	0%	447	7	-2	0	0%	0%

Location	Direction	Future baseline 2021		2021 Construction Test 1		Test 1 change from 2021 future baseline				2021 Construction Test 2		Test 2 change from 2021 future baseline			
		All Vehs	HGVs	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %	All Vehs	HGVs	All Vehs	HGVs	All Vehs %	HGVs %
Horsenden Lane	NB	407	12	407	12	0	0	0%	0%	405	12	-2	0	0%	0%
	SB	314	10	314	10	0	0	0%	0%	314	10	-1	0	0%	0%
Greenford Road (north of Uneeda Drive)	NB	743	17	736	17	-7	0	-1%	0%	750	17	7	0	1%	1%
	SB	749	11	752	11	3	0	0%	-3%	751	11	2	0	0%	-1%
Greenford Road (south of Uneeda Drive)	NB	1324	44	1320	44	-4	0	0%	0%	1330	44	7	0	0%	0%
	SB	1098	28	1098	28	0	0	0%	0%	1101	28	3	0	0%	-2%
Oldfield Lane (north of Uneeda Drive)	NB	680	14	686	14	5	0	1%	0%	687	13	7	-1	1%	-4%
	SB	443	13	450	13	7	0	1%	2%	442	13	-1	0	0%	0%
Mandeville Road (north of Eastcote Lane)	NB	1317	59	1317	60	0	0	0%	1%	1307	59	-10	-1	-1%	-1%
	SB	991	17	993	18	1	0	0%	1%	983	17	-8	0	-1%	-1%
Mandeville Road (south of Eastcote Lane)	NB	1816	81	1823	81	7	0	0%	0%	1815	81	-1	0	0%	0%
	SB	488	35	486	35	-2	0	0%	-1%	485	35	-3	-1	-1%	-2%
Eastcote Lane	EB	656	11	656	11	1	0	0%	0%	666	11	10	0	2%	0%
	WB	888	45	900	45	12	0	1%	0%	903	46	15	0	2%	1%

Junction performance

2.2.25 Tables 6-236 to 6-246 show revised forecast baseline and with construction junction performance at various locations within CFA4.

Table 6-236: Construction impacts at Salusbury Road / Carlton Vale / Fernhead Road (priority junction)

CFA4	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Salusbury Road	1191	21	0	1200	21	0	1219	22	0
Carlton Vale	523	13	0	523	13	0	514	13	0
Fernhead Road	150	19	0	149	19	0	146	18	0
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Salusbury Road	930	17	0	940	17	0	953	17	0
Carlton Vale	503	13	0	498	12	0	504	13	0
Fernhead Road	259	31	0	257	30	0	261	31	0

Table6-237: Construction impacts at Premier Corner / Kilburn Lane (priority junction)

	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Kilburn Lane (WB)	1001	17	0	1006	17	0	1017	18	0
Kilburn Lane (EB)	389	31	0	386	31	0	366	29	0
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Kilburn Lane (WB)	966	17	0	966	17	0	991	17	0
Kilburn Lane (EB)	396	33	0	398	33	0	397	33	0

Table 6-238: Construction impacts at Salusbury Road / Brondesbury Road / Harvist Road

CFA4	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Salusbury Road (SB)	551	79	9	551	79	9	569	82	9
Brondesbury Road	342	36	6	338	36	6	341	36	6
Salusbury Road (NB)	427	49	6	431	50	7	431	51	7
Harvist Road	233	37	4	241	38	4	258	41	5
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Salusbury Road (SB)	366	47	5	374	48	6	400	51	6
Brondesbury Road	213	30	4	211	29	4	207	29	4
Salusbury Road (NB)	601	47	8	602	47	8	622	49	8
Salusbury Road (NB)	114	23	2	114	23	2	113	22	2

Table 6-239: Construction impacts at Harrow Road / Scrubs Lane (signals)

CFA4	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Harrow Road (EB)	935	51	8	938	51	8	984	53	9
Harrow Road (WB)	772	68	12	760	67	12	758	67	12
Scrubs Lane	500	38	7	510	38	8	589	44	9
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Harrow Road (EB)	658	54	8	660	55	8	671	55	8
Harrow Road (WB)	528	48	7	531	48	7	536	48	7
Scrubs Lane	1116	54	14	1112	54	14	1174	55	14

Table 6-240: Construction impacts at Old Oak Lane / Tubbs Road (signals)

CFA4	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Station Road	710	90	12	658	83	11	535	67	9
Tubbs Road	273	79	5	254	73	5	245	70	5
Old Oak Lane	470	78	6	422	64	4	337	44	3
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Station Road	318	58	4	280	50	3	201	34	2
Tubbs Road	287	60	4	280	59	4	302	62	4
Old Oak Lane	537	103	6	580	102	7	449	73	5

Table6-241: Construction impacts at Old Oak Common Lane / Du Cane Road (signals)

CFA4	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Old Oak Common Lane (SB)	246	55	10	244	55	10	218	57	10
Du Cane Road	71	43	2	71	43	2	71	42	2
Old Oak Common Lane (NB)	635	48	11	635	48	11	686	51	11
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Old Oak Common Lane (SB)	351	47	10	332	44	9	287	41	8
Du Cane Road	179	35	4	183	35	4	202	39	5
Old Oak Common Lane (NB)	701	76	17	763	83	18	885	95	21

Table 6-242: Construction impacts at Old Oak Common Lane / Western Avenue / Old Oak Road (signals)

CFA4	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Old Oak Common Lane (SB)	403	102	12	401	101	12	396	103	12
A40 West Way	2482	90	48	2490	90	48	2512	91	48
Old Oak Common Lane (NB)	1494	95	27	1501	94	27	1541	95	27
A40 Western Avenue (EB)	3776	84	43	3768	84	43	3786	82	42
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Old Oak Common Lane (SB)	438	93	13	422	96	12	393	121	10
A40 West Way	2729	96	50	2732	96	50	2688	95	49
Old Oak Common Lane (NB)	1486	90	26	1496	90	26	1509	91	26
A40 Western Avenue (EB)	3065	70	34	3111	71	34	3361	77	37

Table 6-243: Construction impacts at Atlas Road / Old Oak Lane / Old Oak Common Lane / Victoria Road (signals)

CFA4	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Atlas Road	12	1	0	95	26	2	95	24	2
Old Oak Lane	805	74	0	731	77	16	578	61	12
Old Oak Common Lane	367	43	0	416	69	9	132	22	3
Victoria Road	397	41	0	366	44	7	326	38	7

	2021 future baseline			Test 1			Test 2		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Atlas Road	24	2	0	107	24	2	107	22	2
Old Oak Lane	500	49	0	466	50	10	390	41	8
Old Oak Common Lane	467	50	0	541	70	11	129	17	3
Victoria Road	563	60	2	527	83	11	480	74	10

Table 6-244: Construction impacts at Bethune Road / Victoria Road (priority junction)

CFA4	**2021 future baseline**			**Test 1**			**Test 2**		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Bethune Road	190	45	0	199	44	0	194	45	0
Victoria Road (SB)	569	31	0	518	28	0	525	28	0
Victoria Road (NB)	437	24	0	449	22	0	467	23	0
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Bethune Road	287	61	1	297	60	1	258	55	1
Victoria Road (SB)	526	29	0	500	27	0	404	21	0
Victoria Road (NB)	421	23	0	429	21	0	482	24	0

Table 6-245: Construction impacts at Western Avenue / Wales Farm Road / Leamington Park (signals)

CFA4	**2021 future baseline**			**Test 1**			**Test 2**		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Western Avenue (EB)	3356	88	25	3350	88	25	3349	88	25
Wales Farm Road	1364	71	36	1386	72	36	1409	74	37
Western Avenue (WB)	2691	55	30	2698	55	30	2781	57	31

	2021 future baseline			Test 1			Test 2		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Western Avenue (EB)	2812	78	25	2841	79	25	2860	79	25
Wales Farm Road	1202	59	30	1239	60	31	1243	60	31
Western Avenue (WB)	2822	60	33	2823	60	33	2932	61	34

Table6-246: Construction impacts at Friary Road / Friary Road (priority junction)

CFA4/5	**2021 future baseline**			**Test 1**			**Test 2**		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Horn Lane (SB)	697	91	9	703	91	9	713	92	9
Friary Road (WB)	332	76	7	331	76	7	335	77	7
Horn Lane (NB)	766	92	10	764	92	10	761	93	10
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Horn Lane (SB)	573	95	6	568	93	6	560	91	5
Friary Road (WB)	340	56	4	344	56	4	319	52	4
Horn Lane (NB)	629	93	6	631	93	6	628	91	6

2.2.26 Apart from paragraph 6.7.172, there are no changes to the observations made in paragraphs 6.7.168 to 6.7.178 arising from the revised junction assessments. Paragraph 6.7.172 which summarised the assessment results for the Old Oak Lane / Tubbs Lane signal junction is amended as follows:

"Table 6-240 shows the performance of the junction under the two construction scenarios alongside the 2021 future baseline case. It can be seen that in the PM peak hour the RFC on the Old Oak Lane approach is already over its practical capacity and in construction scenario 2 this decreases to 73%."

2.2.27 Revised Table 6-247 lists the roads that exceed the link thresholds for assessment.

Table 6-247: Summary of triggered links

2021 Construction Assessment		Increase in General Traffic		Increase in HGVs	
		Test 1 (Q4 2017)	Test 2 (2023/2024)	Test 1 (Q4 2017)	Test 2 (2023/2024)
CFA	Streets affected by increase	% Increase	% Increase	% Increase	% Increase
4	A40 OOC			40%	41%
4	Wales Farm Road			2775%	2119%
4	Victoria Road			63%	62%
4	Atlas Road	218%	218%	4972%	4972%
4	Bethune Road			124%	
4	Channel Gate Rd			808%	807%
4	Chase Road			37%	
4	Old Oak Common Lane			235%	179%
4	Churchfield Road, Acton				159%
5	Rainsford Road				78%
4	Du Cane Road		47%		
4	Wulfstan Street		90%		
4	Uxbridge Road		140%		
4	The Fairway		48%		
4	Fitzneal Street		106%		
4	Erconwald Street		151%		
4	Lancaster Road		53%		
5	Friary Road		75%		
4	The Approach		73%		

2.2.28 Paragraph 6.7.180 is amended as follows:

"There will be traffic impacts that exceed the threshold values for assessment in the vicinity of the following junctions during WeLHAM Construction Scenario 2;

- Old Oak Lane / Tubbs Road;
- A40 Western Avenue / Old Oak Road (Savoy Circus); and
- Old Oak Common Lane / A40 Western Avenue (Savoy Circus)."

Operations assessment

2.2.29 The assessment of traffic changes has only considered the construction phase in this CFA. Operational impacts need to be assessed in combination with any impacts arising from the Euston station design review. Therefore, any new or different operation impacts arising in this CFA will be reported in a future AP.

2.3 Northolt Corridor (CFA5)

Northolt Corridor (CFA5) AP2 revised scheme changes

2.3.1 The original scheme through this area is as described in paragraphs 6.8.1 to 6.8.21 of the main TA.

2.3.2 In the Northolt Corridor Community Forum Area (CFA5), there is a SES change in terms of baseline traffic forecasts as a result of using the updated West London Highway Assignment Model (WeLHAM).

2.3.3 The AP2 revised scheme makes amendments to the original scheme and there is one change which has an impact on traffic and transport:

- AP-C221-053 which provides a new access to the F-sidings from a new private road off Waxlow Road in the Townsend Industrial Estate. Further information on this amendment is provided in the SES and AP2 ES Volume 2.

2.3.4 The above changes lead to a number of amendments to the main TA in Northolt Corridor (CFA5).

Existing baseline

2.3.5 The baseline traffic and transport information for Northolt Corridor is described in Section 5.7 of the main TA.

2.3.6 Supplementary traffic surveys were undertaken in June 2014 and December 2014 at locations not previously surveyed but potentially now affected by the SES revised scheme. Spot counts and site observations have therefore been undertaken to provide an understanding of the updated baseline situation. The supplementary traffic survey reports are included in SES and AP2 Annex B(ii).

2.3.7 The local surveys undertaken in 2014 indicate that conditions are similar to those surveyed in 2012, and help to confirm prevailing conditions in those local areas not previously surveyed.

Assessment methodology

2.3.8 The assessment methodology for the original scheme is described in Section 6.2 of the main TA.

2.3.9 As noted above, the updated WeLHAM model has been used by HS2 Ltd to provide revised forecasts for the AP2 revised scheme.

Future baseline

2.3.10 Future baseline conditions for the original scheme are described in Section 6.8 of the main TA and have been updated using the revised WeLHAM model.

2.3.11 An additional paragraph 6.8.23.1 is added:

"Forecast future baseline schemes have been incorporated within the WeLHAM model for the future construction year of 2021. These refinements include schemes forming part of the Mayor's Cycle Super Highway (CSH)."

Strategic and local road network traffic flows

2.3.12 Revised Table 6-279 and Table 6-280 show updated AM and PM peak hour future baseline traffic flows on key strategic and local roads.

2.3.13 For comparison purposes as well as the construction 2021 forecast, baseline growth to the 2026 and 2041 operational period is included.

2.3.14 Within CFA5, it can be seen that absolute flow changes between baseline and future baseline are typically relatively small and these are generally reflected in small percentage changes. There are therefore no material changes to paragraphs 6.8.31 to 6.8.34.

Table 6-279: AM peak hour future baseline traffic flows on key strategic and local roads (demand flows)

		2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All vehicles change from 2012			All vehicle % change from 2012		
Location	**Direction**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**Change 2012-2021**	**Change 2012-2026**	**Change 2012-2041**	**Change 2012-2021 %**	**Change 2012-2026 %**	**Change 2012-2041 %**
Coronation Road	EB	177	17	136	8	136	8	137	8	-40	-40	-40	-23%	-23%	-23%
	WB	142	15	130	12	123	12	127	12	-12	-19	-15	-9%	-13%	-10%
Connell Crescent bridge	EB	828	26	836	26	837	25	877	25	8	9	49	1%	1%	6%
	WB	219	21	254	24	249	24	275	29	35	29	56	16%	13%	25%
Hanger Lane East Bridge	SB	4757	356	4813	351	4790	350	4952	344	56	34	196	1%	1%	4%
Hanger Lane West Bridge	NB	4260	208	4329	226	4342	220	4550	246	69	81	290	2%	2%	7%
Alperton Lane	NB	580	68	547	45	638	54	746	25	-32	59	167	-6%	10%	29%
	SB	391	2	373	2	370	2	401	2	-18	-21	9	-5%	-5%	2%
Bideford Avenue	NB	20	0	18	0	19	0	19	0	-1	-1	0	-7%	-5%	-1%
	SB	387	10	422	9	411	9	472	10	35	24	85	9%	6%	22%
Horsenden Lane	NB	371	13	366	13	363	12	365	12	-5	-8	-6	-1%	-2%	-2%
	SB	280	18	281	17	280	16	284	16	1	-1	4	0%	0%	1%

		2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All vehicles change from 2012			All vehicle % change from 2012		
Location	**Direction**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**Change 2012-2021**	**Change 2012-2026**	**Change 2012-2041**	**Change 2012-2021 %**	**Change 2012-2026 %**	**Change 2012-2041 %**
Greenford Road (north of Uneeda Drive)	NB	573	27	562	28	547	27	548	25	-12	-27	-26	-2%	-5%	-5%
	SB	846	33	853	32	821	32	833	31	8	-24	-13	1%	-3%	-1%
Greenford Road (south of Uneeda Drive)	NB	1027	60	954	58	970	56	983	56	-72	-57	-44	-7%	-6%	-4%
	SB	1011	73	1003	69	1013	64	1014	66	-8	2	3	-1%	0%	0%
Oldfield Lane (north of Uneeda Drive)	NB	320	13	340	13	364	13	441	15	19	44	121	6%	14%	38%
	SB	582	15	571	15	555	14	600	15	-11	-27	18	-2%	-5%	3%
Mandeville Road (north of Eastcote Lane)	NB	1342	46	1330	45	1398	44	1420	46	-12	56	78	-1%	4%	6%
	SB	784	37	799	38	791	38	823	38	14	7	38	2%	1%	5%
Mandeville Road (south of Eastcote Lane)	NB	1761	80	1749	78	1825	77	1740	78	-11	64	-20	-1%	4%	-1%
	SB	1049	62	1000	65	959	64	865	64	-50	-91	-185	-5%	-9%	-18%
Eastcote Lane	EB	1250	16	1254	16	1160	16	1315	16	4	-89	65	0%	-7%	5%
	WB	240	16	267	16	262	16	305	17	26	22	65	11%	9%	27%

Table 6-280: PM peak hour future baseline traffic flows on key strategic and local roads (demand flows)

		2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All vehicles change from 2012			All vehicle % change from 2012		
Location	**Direction**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**Change 2012-2021**	**Change 2012-2026**	**Change 2012-2041**	**Change 2012-2021 %**	**Change 2012-2026 %**	**Change 2012-2041 %**
Coronation Road	EB	206	9	209	6	211	6	210	6	3	6	4	1%	3%	2%
	WB	173	14	174	13	167	12	170	10	1	-6	-3	1%	-3%	-2%
Connell Crescent bridge	EB	212	13	233	12	216	12	236	14	21	3	23	10%	2%	11%
	WB	529	11	524	10	539	11	555	9	-5	11	26	-1%	2%	5%
Hanger Lane East Bridge	SB	4563	157	4642	162	4539	162	4660	162	79	-24	97	2%	-1%	2%
Hanger Lane West Bridge	NB	4693	163	4727	161	4697	162	4836	157	34	4	143	1%	0%	3%
Alperton Lane	NB	765	5	821	5	812	5	810	4	56	47	45	7%	6%	6%
	SB	163	0	210	0	222	0	288	0	47	59	125	29%	36%	77%
Bideford Avenue	NB	25	0	25	0	23	0	24	0	-1	-3	-2	-3%	-11%	-7%
	SB	477	7	449	7	471	7	496	6	-28	-6	19	-6%	-1%	4%
Horsenden Lane	NB	421	13	407	12	402	12	420	11	-14	-18	-1	-3%	-4%	0%
	SB	318	11	314	10	314	10	316	10	-4	-4	-1	-1%	-1%	0%

		2012 baseline		2021 future baseline		2026 future baseline		2041 future baseline		All vehicles change from 2012			All vehicle % change from 2012		
Location	**Direction**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**All Veh**	**HGV & Buses**	**Change 2012-2021**	**Change 2012-2026**	**Change 2012-2041**	**Change 2012-2021 %**	**Change 2012-2026 %**	**Change 2012-2041 %**
Greenford Road (north of Uneeda Drive)	NB	758	19	743	17	719	17	728	17	-14	-39	-30	-2%	-5%	-4%
	SB	741	11	749	11	750	10	765	7	8	9	24	1%	1%	3%
Greenford Road (south of Uneeda Drive)	NB	1365	46	1324	44	1269	44	1258	43	-41	-96	-106	-3%	-7%	-8%
	SB	1103	31	1098	28	1099	27	1109	25	-5	-4	6	0%	0%	1%
Oldfield Lane (north of Uneeda Drive)	NB	688	15	680	14	665	13	729	15	-8	-24	41	-1%	-3%	6%
	SB	437	13	443	13	472	14	539	15	6	35	101	1%	8%	23%
Mandeville Road (north of Eastcote Lane)	NB	1306	56	1317	59	1297	59	1314	56	11	-9	8	1%	-1%	1%
	SB	987	17	991	17	990	18	980	17	4	3	-7	0%	0%	-1%
Mandeville Road (south of Eastcote Lane)	NB	1809	76	1816	81	1744	81	1809	78	7	-65	0	0%	-4%	0%
	SB	483	35	488	35	485	37	497	33	5	2	14	1%	0%	3%
Eastcote Lane	EB	650	11	656	11	690	11	745	11	6	40	95	1%	6%	15%
	WB	872	44	888	45	878	45	1000	45	15	6	128	2%	1%	15%

Junction performance

2.3.15 Revised Tables 6-281 to 6-291 show forecast baseline performance at various junctions within this CFA.

Table 6-281: Forecast baseline performance at Western Avenue / Wales Farm Road / Leamington Park (signals)

CFA4/5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Western Avenue (EB)	3485	91	26	3356	88	25	3374	88	25	3465	88	25
Wales Farm Road	1174	61	30	1364	71	36	1346	70	35	1419	74	37
Western Avenue (WB)	2647	55	30	2691	55	30	2657	55	30	2778	56	31
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Western Avenue (EB)	2842	91	32	2812	78	25	2774	77	25	2936	80	26
Wales Farm Road	1225	78	34	1202	59	30	1269	62	32	1398	68	35
Western Avenue (WB)	2918	70	42	2822	60	33	2829	60	34	2887	61	34

Table 6-282: Forecast baseline performance at Friary Road / Friary Road (priority junction)

CFA4/5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Friary Road (EB)	71	5	0	58	4	0	58	4	0	60	4	0
Friary Road (NB)	40	18	0	12	18	0	9	17	0	48	20	0
Friary Road (WB)	126	6	0	135	7	0	133	7	0	119	6	0

	2012			2021			2026			2041		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Friary Road (EB)	159	11	0	165	12	0	158	11	0	169	12	0
Friary Road (NB)	181	24	0	141	21	0	141	21	0	167	23	0
Friary Road (WB)	85	4	0	113	6	0	101	5	0	77	4	0

Table 6-283: Forecast baseline performance at Acton Lane / Mordaunt Road (signals)

CFA5	**2012**			**2021**			**2026**			**2041**		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Mordaunt Road	484	68	8	526	74	9	540	76	9	545	76	9
Acton Lane (SB)	221	25	2	235	26	3	233	26	3	249	28	3
Acton Lane (NB)	879	101	9	868	100	9	873	100	9	877	100	9
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Mordaunt Road	412	83	7	433	86	8	431	86	7	438	87	8
Acton Lane (SB)	423	46	5	413	47	5	408	46	5	401	46	5
Acton Lane (NB)	524	70	6	588	79	7	584	78	7	629	84	7

Table 6-284: Forecast baseline performance at Horn Lane / Friary Road (signals)

CFA5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Horn Lane (SB)	484	68	8	526	74	9	540	76	9	545	76	9
Friary Road (WB)	221	25	2	235	26	3	233	26	3	249	28	3
Horn Lane (NB)	879	101	9	868	100	9	873	100	9	877	100	9
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Horn Lane (SB)	**412**	**83**	**7**	**433**	**86**	**8**	**431**	**86**	**7**	**438**	**87**	**8**
Friary Road (WB)	**423**	**46**	**5**	**413**	**47**	**5**	**408**	**46**	**5**	**401**	**46**	**5**
Horn Lane (NB)	**524**	**70**	**6**	**588**	**79**	**7**	**584**	**78**	**7**	**629**	**84**	**7**

Table 6-285: Forecast baseline performance at Hanger Lane Gyratory (northwest corner) (signals)

CFA5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Hanger Lane	1485	93	20	1469	93	20	1492	94	20	1536	95	21
Round-about (NB)	4523	48	17	4615	50	17	4620	49	17	4862	51	18
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Hanger Lane	1352	88	19	1326	87	19	1282	84	18	1265	82	18
Round-about (NB)	4911	53	16	4929	53	16	4900	53	16	5033	54	16

Table 6-286: Forecast baseline performance at Hanger Lane / West Gate (signals)

CFA5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Hanger Lane (SB)	1461	46	5	1445	45	5	1468	46	5	1512	46	5
Hanger Lane (NB)	910	33	3	914	33	3	892	32	3	933	33	3
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Hanger Lane (SB)	1328	46	6	1302	46	6	1258	44	6	1240	43	5
Hanger Lane (NB)	1125	44	5	1080	42	5	1061	42	4	1114	43	5

Table 6-287: Forecast baseline performance at Ealing Road / Hanger Lane / Alperton Lane

CFA5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Ealing Road	1047	29	0	1033	29	0	1041	29	0	1058	29	0
Hanger Lane	832	41	0	845	42	0	825	41	0	864	42	0
Alperton Lane	414	36	4	390	33	3	425	36	4	449	38	6
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Ealing Road	964	27	0	945	27	0	906	26	0	885	25	0
Hanger Lane	1171	57	0	1124	55	0	1108	54	0	1158	56	0
Alperton Lane	293	34	1	321	36	1	320	35	1	313	34	1

Table 6-288: Forecast baseline performance at Greenford Road / Rockware Avenue

CFA5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Greenford Road (SB)	831	83	10	847	85	10	812	81	10	832	82	10
Greenford Road (NB)	756	87	10	714	82	9	723	84	10	700	80	9
Rockware Avenue	191	34	3	163	29	3	172	30	3	165	29	3
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Greenford Road (SB)	738	97	8	742	98	8	740	98	8	752	100	8
Greenford Road (NB)	776	99	11	773	99	11	759	97	11	760	96	10
Rockware Avenue	162	27	3	133	22	2	103	17	2	106	17	2

Table 6-289: Forecast baseline performance at Church Road / Target Roundabout (signals)

CFA5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Church Road	1122	100	11	1076	96	11	1035	92	10	941	82	9
Target Roundabout (EB)	1643	74	14	1654	75	14	1568	71	13	1748	77	14
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Church Road	523	101	5	526	101	5	525	101	5	532	102	5
Target Roundabout (EB)	1337	46	6	1284	44	6	1315	45	6	1323	44	6

Table 6-290: Forecast baseline performance at Mandeville Road / Eastcote Lane (priority junction)

CFA5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Mandeville Road (SB)	830	101	9	845	102	9	837	101	9	870	103	9
Mandeville Road (NB)	1182	81	14	1161	80	14	1212	83	15	1205	81	14
Eastcote Lane	669	78	10	703	82	11	721	84	11	784	91	11
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Mandeville Road (SB)	1007	99	8	1011	99	8	1010	99	8	999	98	8
Mandeville Road (NB)	1332	98	17	1334	98	17	1308	97	16	1321	97	16
Eastcote Lane	311	50	5	324	52	5	353	57	6	428	68	7

Table 6-291: Forecast baseline performance at Pett's Hill / Wood End Road / Mandeville Road (priority junction)

CFA5	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Pett's Hill	372	18	0	377	19	0	370	18	0	413	20	0
Wood End Lane	162	16	0	151	15	0	166	16	0	139	14	0
Mandeville Road	1223	70	0	1226	69	0	1283	72	0	1297	70	0
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Pett's Hill	610	30	0	607	30	0	604	30	0	633	31	0
Wood End Lane	362	42	0	365	42	0	376	43	0	359	41	0
Mandeville Road	1117	63	1	1117	63	1	1114	62	0	1112	62	0

2.3.16 There are no changes to the observations on the junction assessments made in paragraphs 6.8.36 to 6.8.46 apart from paragraph 6.8.44 which is replaced by:

"Table 6-289 shows the impacts at Church Road / Target Roundabout junction. The model shows that the junction operates close to its practical capacity during the AM peak. During the PM peak hours in all modelled periods the Church Road arm operates slightly over capacity."

Construction description

Construction lorry routes

F-Sidings Compound

2.3.17 Paragraph 6.5.58 of the main TA is amended to reflect the proposed change of access to the F-Sidings Compound:

"The site is located in the Willesden Freight Sidings to the north of Waxlow Road. Access to the site will be from Waxlow Road via a private road to the east of the Royal Mail access as proposed in the original scheme. Access to and from the A40 Western Avenue will be via the B4492 Acton Lane/Coronation Street."

Assessment of construction impacts

Strategic and local road network traffic flows

2.3.18 Revised Table 6-294 and Table 6-295 present flows on key roads, comparing 2021 baseline flows with 2021 construction case flows.

2.3.19 Tests 1 and 2 are as defined in paragraph 2.2.22 of this TA.

2.3.20 Within CFA5, the changes on link flows are typically very small in absolute values and in percentages. Therefore, there is no material change to the conclusions and observations made in paragraphs 6.8.82-6.8.88.

Table 6-294: WeLHAM AM peak hour model screenline analysis for construction area

Location	Direction	Future baseline 2021		2021 construction Test 1		Test 1 change from 2021 future baseline				2021 construction Test 2		Test 2 change from 2021 future baseline			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Coronation Road	EB	136	8	137	8	0	0	0%	0%	132	8	-4	0	-3%	0%
	WB	130	12	132	12	2	0	1%	0%	123	12	-7	0	-5%	0%
Connell Crescent bridge	EB	836	26	823	26	-13	0	-2%	-1%	823	26	-13	0	-2%	0%
	WB	254	24	255	24	1	0	0%	0%	260	28	5	5	2%	19%
Hanger Lane East Bridge	SB	4813	351	4807	351	-5	0	0%	0%	4805	353	-7	3	0%	1%
Hanger Lane West Bridge	NB	4329	226	4312	222	-17	-4	0%	-2%	4346	224	18	-2	0%	-1%
Alperton Lane	NB	547	45	557	48	10	4	2%	8%	544	50	-3	5	-1%	12%
	SB	373	2	372	2	-1	0	0%	0%	367	2	-6	0	-2%	0%
Bideford Avenue	NB	18	0	18	0	0	0	0%	0%	18	0	0	0	1%	2%
	SB	422	9	426	9	4	0	1%	0%	426	9	4	0	1%	0%
Horsenden Lane	NB	366	13	366	13	-1	0	0%	0%	366	13	0	0	0%	1%
	SB	281	17	281	17	0	0	0%	0%	281	17	0	0	0%	0%

Location	Direction	Future baseline 2021		2021 construction Test 1		Test 1 change from 2021 future baseline				2021 construction Test 2		Test 2 change from 2021 future baseline			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Greenford Road (north of Uneeda Drive)	NB	562	28	564	28	2	0	0%	0%	565	28	3	0	1%	0%
	SB	853	32	855	32	2	0	0%	0%	855	32	2	0	0%	0%
Greenford Road (south of Uneeda Drive)	NB	954	58	952	58	-3	0	0%	0%	953	58	-1	0	0%	0%
	SB	1003	69	1005	69	2	0	0%	0%	1003	69	0	0	0%	0%
Oldfield Lane (north of Uneeda Drive)	NB	340	13	335	13	-5	0	-1%	0%	336	13	-4	0	-1%	-1%
	SB	571	15	574	15	4	0	1%	0%	574	14	3	0	1%	-1%
Mandeville Road (north of Eastcote Lane)	NB	1330	45	1339	45	9	0	1%	0%	1337	45	7	0	1%	0%
	SB	799	38	802	38	3	0	0%	0%	803	38	5	0	1%	0%
Mandeville Road (south of Eastcote Lane)	NB	1749	78	1736	78	-13	0	-1%	0%	1738	78	-11	0	-1%	0%
	SB	1000	65	990	65	-10	0	-1%	0%	992	65	-8	0	-1%	0%
Eastcote Lane	EB	1254	16	1274	16	21	0	2%	0%	1274	16	20	0	2%	0%
	WB	267	16	268	16	2	0	1%	0%	270	16	4	0	1%	0%

Table 6-295: WeLHAM PM peak hour model screenline analysis for construction area

		Future baseline 2021		2021 construction Test 1		Test 1 change from 2021 future baseline				2021 construction Test 2		Test 2 change from 2021 future baseline			
Location	**Direction**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**
Coronation Road	EB	209	6	207	7	-2	1	-1%	9%	189	8	-19	2	-9%	36%
	WB	174	13	170	13	-5	0	-3%	0%	164	12	-10	-1	-6%	-4%
Connell Crescent bridge	EB	233	12	232	12	-1	0	0%	0%	234	13	2	0	1%	3%
	WB	524	10	531	11	7	1	1%	8%	540	11	16	0	3%	2%
Hanger Lane East Bridge	SB	4642	162	4616	160	-26	-1	-1%	-1%	4728	164	86	2	2%	1%
Hanger Lane West Bridge	NB	4727	161	4723	160	-4	-1	0%	-1%	4718	162	-9	0	0%	0%
Alperton Lane	NB	821	5	820	5	-2	0	0%	0%	823	5	1	0	0%	0%
	SB	210	0	203	0	-7	0	-3%	5%	233	0	22	0	11%	11%
Bideford Avenue	NB	25	0	25	0	0	0	1%	0%	25	0	0	0	0%	0%
	SB	449	7	458	7	10	0	2%	0%	439	7	-10	0	-2%	-1%
Horsenden Lane	NB	407	12	406	12	-1	0	0%	0%	404	12	-2	0	-1%	0%
	SB	314	10	314	10	0	0	0%	0%	313	10	-1	0	0%	0%

		Future baseline 2021		2021 construction Test 1		Test 1 change from 2021 future baseline				2021 construction Test 2		Test 2 change from 2021 future baseline			
Location	**Direction**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**
Greenford Road (north of Uneeda Drive)	NB	743	17	743	17	0	0	0%	0%	751	17	7	0	1%	1%
	SB	749	11	753	11	5	0	1%	-1%	748	11	0	0	0%	0%
Greenford Road (south of Uneeda Drive)	NB	1324	44	1318	44	-6	0	0%	0%	1330	44	6	0	0%	0%
	SB	1098	28	1100	28	2	0	0%	-1%	1097	28	-2	0	0%	0%
Oldfield Lane (north of Uneeda Drive)	NB	680	14	679	14	-1	0	0%	-1%	682	13	1	0	0%	-4%
	SB	443	13	447	13	4	0	1%	1%	444	13	1	0	0%	0%
Mandeville Road (north of Eastcote Lane)	NB	1317	59	1315	60	-2	0	0%	1%	1310	59	-7	0	-1%	0%
	SB	991	17	992	17	0	0	0%	0%	985	17	-6	0	-1%	-1%
Mandeville Road (south of Eastcote Lane)	NB	1816	81	1823	81	7	0	0%	0%	1820	81	4	0	0%	0%
	SB	488	35	487	35	-1	0	0%	-1%	482	35	-6	-1	-1%	-1%
Eastcote Lane	EB	656	11	659	11	3	0	0%	0%	657	11	1	0	0%	0%
	WB	888	45	899	45	11	0	1%	0%	904	46	16	0	2%	1%

Junction Performance

2.3.21 Revised Tables 6-298 to 6-308 show forecast baseline performance at various junctions within this CFA, as a result of the SES scheme change.

Table 6-298: Construction impacts at Western Avenue / Wales Farm Road / Leamington Park (signals)

CFA4/5	**2021 future baseline**			**Test 1**			**Test 2**		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Western Avenue (EB)	3356	88	25	3332	87	25	3355	88	25
Wales Farm Road	1364	71	36	1387	72	37	1410	74	37
Western Avenue (WB)	2691	55	30	2698	55	30	2781	57	31
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Western Avenue (EB)	2812	78	25	2845	79	25	2865	79	25
Wales Farm Road	1202	59	30	1227	60	31	1245	60	31
Western Avenue (WB)	2822	60	33	2827	60	33	2859	59	33

Table 6-299: Construction impacts at Friary Road / Friary Road (priority junction)

CFA4/5	**2021 future baseline**			**Test 1**			**Test 2**		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Horn Lane (SB)	697	91	9	704	91	9	713	92	9
Friary Road (WB)	332	76	7	329	76	7	334	77	7
Horn Lane (NB)	766	92	10	764	92	10	760	93	10

	2021 future baseline			Test 1			Test 2		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Horn Lane (SB)	573	95	6	569	93	6	560	91	5
Friary Road (WB)	340	56	4	340	56	4	353	58	5
Horn Lane (NB)	629	93	6	633	93	6	624	91	6

Table 6-300: Construction impacts at Acton Lane / Mordaunt Road (signals)

CFA5	**2021 future baseline**			**Test 1**			**Test 2**		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Mordaunt Road	526	74	9	528	75	9	483	68	8
Acton Lane (SB)	235	26	3	240	27	3	226	25	3
Acton Lane (NB)	868	100	9	874	101	9	870	100	9
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Mordaunt Road	433	86	8	423	84	7	389	78	7
Acton Lane (SB)	413	47	5	425	48	5	438	49	5
Acton Lane (NB)	588	79	7	569	76	7	561	75	7

Table 6-301: Construction impacts at Horn Lane / Friary Road (signals)

CFA5	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Horn Lane (SB)	697	91	9	704	91	9	713	92	9
Friary Road (WB)	332	76	7	329	76	7	334	77	7
Horn Lane (NB)	766	92	10	764	92	10	760	93	10
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Horn Lane (SB)	573	95	6	569	93	6	560	91	5
Friary Road (WB)	340	56	4	340	56	4	353	58	5
Horn Lane (NB)	629	93	6	633	93	6	624	91	6

Table 6-302: Construction impacts at Hanger Lane Gyratory (Northwest corner) (signals)

CFA5	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Hanger Lane	1469	93	20	1479	94	20	1474	94	20
Roundabout (NB)	4615	50	17	4593	49	17	4629	50	17
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Hanger Lane	1326	87	19	1325	87	19	1327	87	19
Roundabout (NB)	4929	53	16	4924	53	16	4921	53	16

Table 6-303: Construction impacts at Hanger Lane / Westgate (signals)

CFA5	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Hanger Lane (SB)	1445	45	5	1455	46	5	1450	46	5
Hanger Lane (NB)	914	33	3	913	33	3	911	33	3
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Hanger Lane (SB)	1302	46	6	1300	45	6	1303	46	6
Hanger Lane (NB)	1080	42	5	1081	42	5	1072	42	4

Table 6-304: Construction impacts at Ealing Road / Hanger Lane / Alperton Lane (priority junction)

CFA5	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Ealing Road	1033	29	0	1033	29	0	1031	29	0
Hanger Lane	845	42	0	843	42	0	841	42	0
Alperton Lane	390	33	3	403	34	4	399	34	3
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Ealing Road	945	27	0	943	27	0	943	27	0
Hanger Lane	1124	55	0	1126	55	0	1117	55	0
Alperton Lane	321	36	1	323	36	1	327	36	1

Table 6-305: Construction impacts at Greenford Road / Rockware Avenue (signals)

CFA5	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Greenford Road (SB)	847	85	10	847	85	10	846	85	10
Greenford Road (NB)	714	82	9	714	82	9	715	82	9
Rockware Avenue	163	29	3	165	29	3	166	29	3
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Greenford Road (SB)	742	98	8	746	98	8	742	97	8
Greenford Road (NB)	773	99	11	770	99	11	771	99	11
Rockware Avenue	133	22	2	133	22	2	144	24	3

Table 6-306: Construction impacts at Church Road / Western Avenue (Target Roundabout) (signals)

CFA5	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Church Road	1076	96	11	1066	95	11	1068	95	11
Target Roundabout (EB)	1654	75	14	1669	75	14	1666	75	14
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Church Road	526	101	5	525	101	5	520	101	5
Target Roundabout (EB)	1284	44	6	1280	44	6	1278	44	6

Table 6-307: Construction impacts at Mandeville Road / Eastcote Lane (priority junction)

CFA5	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Mandeville Road (SB)	845	102	9	848	102	9	849	102	9
Mandeville Road (NB)	1161	80	14	1163	80	14	1160	80	14
Eastcote Lane	703	82	11	712	83	11	719	84	11
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Mandeville Road (SB)	1011	99	8	1011	99	8	1004	98	8
Mandeville Road (NB)	1334	98	17	1334	98	17	1326	98	16
Eastcote Lane	324	52	5	330	53	5	331	53	6

Table 6-308: Construction impacts at Pett's Hill / Wood End Road / Mandeville Road (priority junction)

CFA5	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Pett's Hill	377	19	0	382	19	0	382	19	0
Wood End Lane	151	15	0	149	15	0	150	15	0
Mandeville Road	1226	69	0	1233	69	0	1231	69	0
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Pett's Hill	607	30	0	610	30	0	607	30	0
Wood End Lane	365	42	0	367	42	0	358	41	0
Mandeville Road	1117	63	1	1117	63	1	1109	62	0

2.3.22 There is no material change to the observations on individual junction performance in paragraphs 6.8.90 to 6.8.100 of the main TA.

Parking and loading

2.3.23 The use of the private access within the Townsend Industrial Estate to the F-Sidings Compound as proposed in AP-C221-053 will result in the loss of up to 22 car parking spaces including two disabled parking bays. However it is envisaged that alternative provision will be made for the disabled parking bays and there is local provision of on-street parking.

Operation description and assessment of operation impacts

2.3.24 The assessment of traffic changes has only considered the construction phase in this CFA. Operational impacts need to be assessed in combination with any impacts arising from the Euston station design review. Therefore, any new or different operation impacts arising in this CFA will be reported in a future AP.

2.4 South Ruislip to Ickenham (CFA6)

South Ruislip to Ickenham (CFA6) AP2 revised scheme changes

2.4.1 The original scheme through this area is as described in paragraphs 6.9.1 to 6.9.21 of the main TA.

2.4.2 In the South Ruislip to Ickenham Community Forum Area (CFA6), there are two SES changes which impact on the transport assessment for this area:

- revisions to construction traffic forecasts relating to a review of the material import and construction programme (AP-C221-060), and
- consequential use of the West London Highway Assignment Model (WeLHAM).

2.4.3 In the original scheme it was incorrectly assumed that Breakspear Road South would be closed for reconstruction of the railway underbridge. There are no plans to reconstruct the existing bridge.

2.4.4 The above changes lead to a number of amendments to the main TA in South Ruislip to Ickenham (CFA6).

Existing baseline

2.4.5 The baseline traffic and transport information for South Ruislip to Ickenham is described in Section 5.8 of the main TA.

2.4.6 Supplementary traffic surveys were undertaken in June 2014 and December at locations not previously surveyed but potentially now affected by the SES revised scheme. Spot counts and site observations have therefore been undertaken to provide an understanding of the updated baseline situation. The supplementary traffic survey reports are included in SES and AP2 Annex B(ii).

2.4.7 The local surveys undertaken in 2014 indicate that conditions are similar to those surveyed in 2012, and help to confirm prevailing conditions in those local areas not previously surveyed.

Assessment methodology

2.4.8 The assessment methodology for the original scheme is described in Section 6.2 of the main TA.

2.4.9 As noted above, the updated WeLHAM traffic model has been used by HS2 Ltd to provide revised forecasts for the AP2 revised scheme.

Future baseline

2.4.10 Future baseline conditions for the original scheme are described in Section 6.9 of the main TA, these have been updated using the revised WeLHAM model.

Transport supply assumptions

2.4.11 The first sentence of paragraph 6.9.29 is amended to reflect the revised 2021 baseline:

"Forecast future baseline schemes have been incorporated within the WeLHAM model for the future construction year of 2021. These refinements include schemes forming part of the Mayor's Cycle Super Highway (CSH)."

Strategic and local road network traffic flows

2.4.12 Revised Table 6-316 and Table 6-317 show revised AM/PM peak hour future baseline traffic flows on key strategic and local roads.

2.4.13 For comparison purposes, as well as the construction 2021 forecast, baseline growth to 2026 and 2041 operational periods have also been shown.

2.4.14 Within CFA6, it can be seen that absolute flow changes between baseline and future baseline typically are relatively small and these are generally reflected in small percentage changes.

Table 6-316: WeLHAM AM peak hour model screenline analysis for construction area

Location	Direction	2012 baseline		2021 Baseline		2026 Baseline		2041 Baseline		All Vehicles change from 2012			ALL vehicles % change from 2012		
		All Veh	HGV & Buses	All Veh	HGV & Buses	All Veh	HGV & Buses	All Veh	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
CFA5															
Eastcote Lane	EB	1250	16	1254	16	1160	16	1315	16	4	-89	65	0%	-7%	5%
	WB	240	16	267	16	262	16	305	17	26	22	65	11%	9%	27%
CFA6															
West End Road	NB	606	35	634	29	680	30	706	29	28	74	100	5%	12%	16%
	SB	531	15	538	15	533	15	542	15	7	2	12	1%	0%	2%
Ickenham Road	NB	960	38	961	39	962	40	963	37	0	1	3	0%	0%	0%
	SB	949	27	945	29	926	35	938	27	-4	-23	-11	0%	-2%	-1%
Breakspear Road	NB	586	23	602	24	637	24	650	27	17	51	64	3%	9%	11%
	SB	679	5	671	5	763	5	775	7	-7	84	97	-1%	12%	14%
Harvil Road	NB	346	18	434	20	389	16	470	19	87	42	123	25%	12%	36%
	SB	441	6	470	11	434	11	442	11	29	-7	1	7%	-2%	0%
Swakeleys Road (south)	NB	1193	79	1240	81	1296	77	1326	79	47	104	133	4%	9%	11%
	SB	943	41	971	51	1015	56	1047	48	28	72	104	3%	8%	11%

Table 6-317: WeLHAM PM peak hour model screenline analysis for construction area

Location	Direction	2012 baseline		2021 Baseline		2026 Baseline		2041 Baseline		All Vehicles change from 2012			ALL vehicles % change from 2012		
		All Veh	HGV & Buses	All Veh	HGV & Buses	All Veh	HGV & Buses	All Veh	HGV & Buses	Change 2012-2021	Change 2012-2026	Change 2012-2041	Change 2012-2021 %	Change 2012-2026 %	Change 2012-2041 %
CFA5															
Eastcote Lane	EB	650	11	656	11	690	11	745	11	6	40	95	1%	6%	15%
	WB	872	44	888	45	878	45	1000	45	15	6	128	2%	1%	15%
CFA6															
West End Road	NB	876	10	877	12	856	11	881	12	1	-21	5	0%	-2%	1%
	SB	523	11	540	11	527	11	547	12	17	4	24	3%	1%	5%
Ickenham Road	NB	1227	18	1232	20	1201	20	1223	20	5	-26	-4	0%	-2%	0%
	SB	998	17	964	18	983	18	999	17	-34	-15	1	-3%	-1%	0%
Breakspear Road	NB	899	11	928	10	906	11	967	11	29	7	68	3%	1%	8%
	SB	527	9	585	9	596	10	652	11	58	70	125	11%	13%	24%
Harvil Road	NB	342	9	361	10	364	13	392	15	19	22	50	5%	6%	15%
	SB	436	10	450	9	438	9	466	8	14	2	31	3%	0%	7%
Swakeleys Road (south)	NB	1650	65	1718	72	1663	72	1747	85	68	13	98	4%	1%	6%
	SB	1295	31	1325	29	1356	31	1393	30	30	61	98	2%	5%	8%

Junction performance

2.4.15 Revised Tables 6-318 to 6-320 show forecast baseline performance at three junctions within this CFA.

Table 6-318: Forecast baseline performance at High Road/Long Lane/Swakeleys Road

CFA6	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
High Road, Ickenham	1137	83	13	1140	86	13	1116	83	13	1126	84	13
Long Lane	714	76	9	762	81	10	745	79	10	757	80	10
Swakeleys Road	474	100	13	467	97	13	452	96	13	463	98	13
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
High Road, Ickenham	1066	79	8	1034	77	8	1059	78	8	1074	80	8
Long Lane	1015	99	11	1034	101	11	996	99	11	1028	101	11
Swakeleys Road	238	66	7	272	73	8	243	67	7	276	74	8

Table 6-319: Forecast Baseline performance at Breakspear Road and Swakeleys Road

CFA6	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Breakspear Road	685	84	1	678	83	1	770	92	1	784	93	2
Swakeleys Road (WB)	248	50	0	292	56	0	272	55	0	262	54	0
Swakeleys Road (EB)	1048	102	2	1057	103	3	1051	103	3	1056	102	2

CFA6	2012			2021			2026			2041		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Breakspear Road	540	65	0	598	72	0	610	73	0	665	78	0
Swakeleys Road (WB)	189	32	0	198	33	0	213	36	0	194	33	0
Swakeleys Road (EB)	1245	99	1	1270	102	3	1248	99	1	1280	101	2

Table 6-320: Forecast Baseline performance at Harvil Road and Swakeleys Road

CFA6	2012			2021			2026			2041		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Harvil Road	448	34	0	484	37	0	447	35	0	455	35	0
Swakeleys Road (WB)	926	59	0	966	62	0	999	64	0	986	63	0
Swakeleys Road (EB)	977	63	0	1018	67	0	1063	69	0	1106	72	0
	2012			**2021**			**2026**			**2041**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Harvil Road	447	39	0	460	41	0	449	39	0	476	42	0
Swakeleys Road (WB)	746	50	0	769	51	0	820	55	0	803	53	0
Swakeleys Road (EB)	1399	88	0	1450	91	0	1424	89	0	1486	92	0

Construction description

2.4.16 The original scheme construction description is set out in paragraphs 6.9.49 to 6.9.81 of the main TA. Changes as a result of the AP2 revised scheme are outlined below.

Compound and construction sites

2.4.17 Revised Table 6-322 shows that the AP2 revised scheme provides a reduction in duration of the compounds at Breakspear Road and West Ruislip, and a reduction in the peak levels of construction traffic for the main Harvil Road compound.

Table 6-322: South Ruislip to Ickenham (CFA6) typical vehicle trip generation for construction compounds

Compound type	Location	Access	Indicative start / set up date	Estimated duration of use (years)	Estimated duration with busy vehicle movements (Years)	Typical daily number of combined two-way trips	
						Cars/ LGVs	HGVs
Main compound and facilities	Northolt tunnel and earthworks (including Gatemead embankment works)	Harvil Road	2017	10 years	1 year	102 -136	720-770
Satellite compound and facilities	Breakspear Road (including West Ruislip embankment works)	Breakspear Road South	2017	18 months	6 months	15-20	150 - 200
Satellite compound and facilities	West Ruislip portal	Ickenham Road / Hill Lane	2017	7 years	1 year 6 months	22-30	225- 300

2.4.18 Review and rescheduling of all the construction activities has resulted in a net reduction of HGV flows on Harvil Road and Swakeleys Road when compared to the original scheme. The HGV flows for Breakspear Road and High Road Ickenham remain the same as the original scheme.

2.4.19 The revised forecast of 1,460 HGVs two-way per day on Swakeleys Road (compared to 1,860 HGVs two-way per day in the original scheme) is a worst case, as it is not anticipated that the peak periods of activity associated with each compound within CFA6 will occur at the same time.

West Ruislip tunnel portal main compound (Chainage 23500)

2.4.20 Figure 6-216 incorrectly identified the compound's local access onto Ickenham Road as proposed access for non-HGVs. The label text should be revised to read "proposed access for HGVs".

Breakspear Road satellite compound (Chainage 24600)

2.4.21 The original scheme assessment incorrectly assumed Breakspear Road South would be closed for reconstruction of the railway underbridge. As such paragraph 6.9.61 in the main TA inaccurately referenced a construction route from Breakspear Road satellite compound via A4180 High Street and Bury Street to Breakspear Road (south-west bound). Therefore paragraph 6.9.61 is amended as shown below and paragraph 6.9.62 deleted to reflect that the route under the railway bridge will not be closed:

"The route from the A40 Western Avenue will be via the B467 Swakeleys Road north-eastbound, and then left into Breakspear Road."

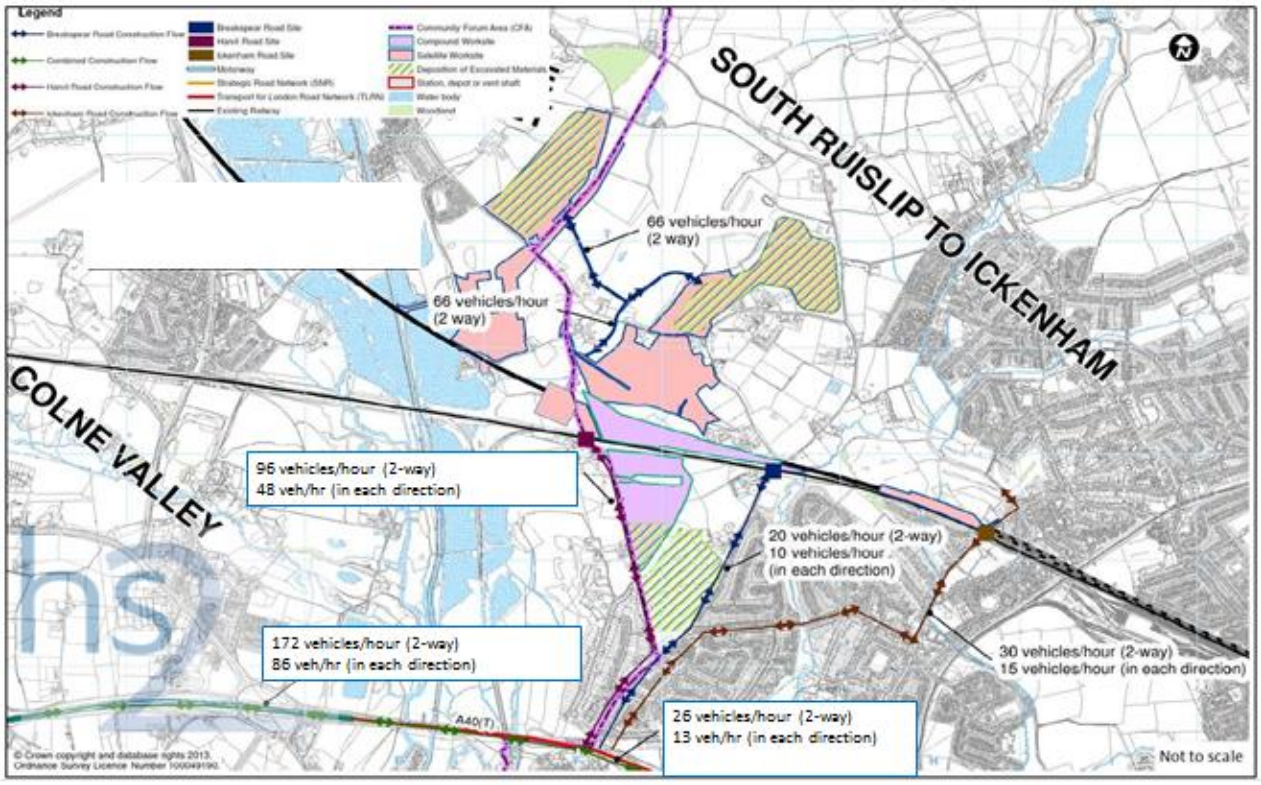
Construction lorry routes and HGV movements

2.4.22 Paragraph 6.9.64 is replaced by:

"Figure 6-218 shows weekday (12 hour) traffic flows during the construction phase peak period of activity."

2.4.23 The following figure replaces Figure 6-218 in the main TA.

Figure 6-218: CFA6 HS2 HGV route loading



Assessment of construction impacts

Strategic and local road network traffic flows

2.4.24 Revised Tables 6-323 and 6-325 (AM peak) and revised Tables 6-324 and 6-326 (PM peak) show screenline and non screenline peak hour flows for the 2021 baseline and two construction tests.

2.4.25 Tests 1 and 2 are as defined in paragraph 2.2.22 of this TA noting that within this area test 1 and test 2 are effectively the same.

2.4.26 There is no material change to the comments and conclusions drawn in paragraphs 6.9.93 to 6.9.97 of the main TA as a result of these revised forecasts.

Table 6-323: WeLHAM AM peak hour model screenline analysis for construction tests 1 & 2.

		Future baseline 2021		2021 construction Test 1		Test 1 change from 2021 future baseline				2021 construction Test 2		Test 2 change from 2021 future baseline			
Location	**Direction**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**
CFA5															
Eastcote Lane	EB	1254	16	1274	16	21	0	2%	0%	1274	16	20	0	2%	0%
	WB	267	16	268	16	2	0	1%	0%	270	16	4	0	1%	0%
CFA6															
West End Road	NB	634	29	648	30	14	0	2%	1%	651	30	16	0	3%	1%
	SB	538	15	534	15	-3	0	-1%	1%	532	15	-5	0	-1%	1%
Ickenham Road	NB	961	39	978	56	18	17	2%	44%	979	56	18	17	2%	44%
	SB	945	29	946	46	1	16	0%	55%	946	46	0	16	0%	55%
Breakspear Road	NB	602	24	608	35	6	12	1%	49%	609	35	6	11	1%	49%
	SB	671	5	676	16	5	12	1%	234%	676	16	4	12	1%	235%
Harvil Road	NB	434	20	491	78	57	58	13%	282%	491	78	57	57	13%	279%
	SB	470	11	502	71	32	60	7%	540%	507	71	36	60	8%	540%
Swakeleys Road (south)	NB	1240	81	1303	167	63	86	5%	106%	1305	166	65	85	5%	105%
	SB	971	51	1053	134	81	83	8%	161%	1056	134	85	83	9%	162%

Table 6-324: Non Screenline links with substantial traffic changes AM peak

Location	Direction	Future baseline 2021		2021 construction Test 1		Test 1 change from 2021 future baseline				2021 construction Test 2		Test 2 change from 2021 future baseline			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Swakeleys Drive / Woodstock Drive	EB	77	0	54	0	-23	0	-30%	0	57	0	-20	0	-26%	0
	WB	0	0	13	0	13	0	3418%	0	18	0	18	0	4624%	0
Swakeleys Roundabout	WB	513	40	592	139	79	98	15%	243%	596	139	82	99	16%	244%
Ladygate Lane	EB	41	3	37	3	-4	0	-9%	0%	37	3	-4	0	-9%	0%
	WB	392	3	385	3	-7	0	-2%	0%	390	3	-2	0	-1%	0%
A40 eastbound off-slip	EB	948	47	830	136	-117	88	-12%	186%	839	136	-109	89	-11%	187%
A40 westbound on-slip	WB	747	54	810	153	63	99	8%	185%	818	153	70	99	9%	186%

Table 6-325: WeLHAM PM peak hour model screenline analysis for construction tests 1 & 2.

		Future baseline 2021		2021 construction Test 1		Test 1 change from 2021 future baseline				2021 construction Test 2		Test 2 change from 2021 future baseline			
Location	**Direction**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**
CFA5															
Eastcote Lane	EB	656	11	659	11	3	0	0%	0%	657	11	1	0	0%	0%
	WB	888	45	899	45	11	0	1%	0%	904	46	16	0	2%	1%
CFA6															
West End Road	NB	877	12	878	11	1	0	0%	-2%	879	12	2	0	0%	2%
	SB	540	11	542	11	3	0	0%	1%	544	11	5	0	1%	2%
Ickenham Road	NB	1232	20	1236	37	4	17	0%	85%	1237	37	5	17	0%	86%
	SB	964	18	950	35	-13	17	-1%	96%	946	35	-17	17	-2%	97%
Breakspear Road	NB	928	10	928	21	1	11	0%	104%	933	21	5	11	1%	102%
	SB	585	9	596	21	11	11	2%	118%	595	20	10	11	2%	115%
Harvil Road	NB	361	10	398	67	37	56	10%	545%	395	67	35	56	10%	543%
	SB	450	9	505	69	55	60	12%	674%	507	69	58	60	13%	674%
Swakeleys Road (south)	NB	1718	72	1725	157	7	85	0%	117%	1728	158	11	86	1%	119%
	SB	1325	29	1369	117	44	87	3%	297%	1365	116	40	87	3%	296%

Table 6-326: Non Screenline links with substantial traffic changes PM peak

		Future baseline 2021		2021 construction Test 1		Test 1 change from 2021 future baseline				2021 construction Test 2		Test 2 change from 2021 future baseline			
Location	**Direction**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**	**All veh**	**HGVs**	**All veh**	**HGVs**	**All veh %**	**HGVs %**
Swakeleys Drive / Woodstock Drive	EB	28	0	27	0	-1	0	-4%	0	26	0	-1	0	-5%	0
	WB	22	0	32	0	9	0	42%	0	26	0	4	0	16%	0
Swakeleys Roundabout	WB	1030	32	1116	136	86	104	8%	327%	1113	136	83	104	8%	327%
Ladygate Lane	EB	295	3	297	3	2	0	1%	0%	306	3	12	0	4%	0%
	WB	227	3	236	3	9	0	4%	3%	239	3	11	0	5%	3%
A40 eastbound off-slip	EB	402	35	519	139	117	104	29%	300%	505	141	103	107	26%	306%
A40 westbound on-slip	WB	794	15	789	121	-5	105	-1%	693%	793	121	-1	105	0%	693%

Junction performance

2.4.27 Revised Tables 6-327 to 6-330 show construction impacts at various junctions within CFA6.

Table 6-237 Construction impacts at Pett's Hill / Wood End Road / Mandeville Road junction (signals)

CFA6	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Pett's Hill	377	19	0	382	19	0	382	19	0
Wood End Lane	151	15	0	149	15	0	150	15	0
Mandeville Road	1226	69	0	1233	69	0	1231	69	0
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Pett's Hill	607	30	0	610	30	0	607	30	0
Wood End Lane	365	42	0	367	42	0	358	41	0
Mandeville Road	1117	63	1	1117	63	1	1109	62	0

Table 6-238 Construction impacts at High Road, Ickenham / Long Lane / Swakeleys Road junction (signals)

CFA6	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
High Road, Ickenham	1140	86	13	1149	89	13	1149	89	13
Long Lane	762	81	10	790	84	10	791	84	10
Swakeleys Road	467	97	13	473	98	13	467	97	13

	2021 future baseline			Test 1			Test 2		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
High Road, Ickenham	1034	77	8	1033	77	8	1030	76	8
Long Lane	1034	101	11	1042	101	11	1041	101	11
Swakeleys Road	272	73	8	278	75	8	285	75	8

Table 6-239 Construction impacts at Breakspear Road / Swakeleys Road junction (signals)

CFA6	**2021 future baseline**			**Test 1**			**Test 2**		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Breakspear Road	678	83	1	694	84	1	694	84	1
Swakeleys Road (WB)	292	56	0	281	55	0	282	55	0
Swakeleys Road (EB)	1057	103	3	1061	103	3	1060	103	3
	2021 future baseline			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Breakspear Road	598	72	0	619	74	0	618	74	0
Swakeleys Road (WB)	198	33	0	203	33	0	202	33	0
Swakeleys Road (EB)	1270	102	3	1275	101	2	1281	101	2

Table 6-240 Construction impacts at Harvil Road / Swakeleys Road junction (signals)

CFA6	2021 future baseline			Test 1			Test 2		
AM Peak (08:00-09:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Harvil Road	484	37	0	575	44	0	580	45	0
Swakeleys Road (WB)	966	62	0	951	63	0	955	63	0
Swakeleys Road (EB)	1018	67	0	1163	75	0	1162	76	0
CFA6	**2021 future baseline**			**Test 1**			**Test 2**		
PM Peak (17:00-18:00)	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**	**Flow**	**RFC**	**Max Queue**
Harvil Road	460	41	0	575	51	0	578	51	0
Swakeleys Road (WB)	769	51	0	777	53	0	771	53	0
Swakeleys Road (EB)	1450	91	0	1549	96	0	1553	96	0

2.4.28 There is no material change to the observations and conclusions drawn in paragraphs 6.9.101 to 6.9.105 of the main TA apart from paragraph 6.9.102. Paragraph 6.9.102 which describes the results of the assessment for the High Road, Ickenham / Long Lane /Swakeleys Road junction is replaced by:

"The junction operates close to its practical capacity during the AM peak. During the PM peak the junction operates under capacity with the exception of the Long Lane arm which operates slightly over capacity."

Operation description and assessment of operation impacts

2.4.29 This is as described in Section 6.9 of the main TA. In operation, there are no changes to the scheme and, as reported in the main TA, there are few operational transport activities with the scheme in this area. Consequently, the impact of the AP2 changes on scheme operation in this area is negligible.

3 Country Region

3.1 Colne Valley (CFA7)

Colne Valley (CFA7) AP2 revised scheme changes

3.1.1 The original scheme through this area is as described in paragraphs 7.3.1 to 7.3.10 of the main TA.

3.1.2 Scheme changes in other CFAs have necessitated a revision to the movement of excavated material by road. These changes include:

- removal of the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-199).

3.1.3 Whilst originating in other CFAs, these SES scheme changes have resulted in the following changes to forecast HGV traffic flows within the Colne Valley area (CFA7) during construction, in comparison to the original scheme:

- A40, between Denham Roundabout and the A413 - a minor increase in HGV flows.

3.1.4 AP2 amendments do not result in any material changes to the traffic and transport assessment as reported in the main TA within this CFA.

3.1.5 A correction has been made to the forecast number of workforce trips to some compounds. This has resulted in a small change in peak hour, all vehicle, construction trips on a number of roads.

3.1.6 The above changes lead to a number of amendments to the main TA in Colne Valley (CFA7).

3.1.7 The impacts upon the A40 Western Avenue, the B467 Swakeleys Road and Harvil Road were reported within both CFA6 and CFA7 of the main TA. For the purpose of clarity, the impact of the AP2 revised scheme upon these roads are now solely reported in CFA6.

Existing baseline

3.1.8 Baseline conditions in this area are described in Section 5.9 of the main TA.

Assessment methodology

3.1.9 The assessment methodology is described in Section 7.2 of the main TA.

Future baseline

3.1.10 Future baseline conditions are described in Section 7.3 of the main TA.

Construction description

Construction trip assumptions

Trip generation

3.1.11 Table 7-7 which showed typical vehicle trip generation for construction site compounds is amended as described below. Where trip generation values are stated, the lower end of the range shows the average number of daily two-way trips in the busy period and the upper end the average during the peak month.

3.1.12 The average daily two-way HGV trips generated by the Chiltern tunnel main compound and the Chiltern tunnel south portal satellite compound is 580-1060, compared to 860-920 in the original scheme. Cars/LGV trips are also amended from 400-440 to 350-370. This amendment is in relation to the SES scheme and associated changes to the movement of excavated material.

3.1.13 As a result of corrections to the main TA, the trip generation for the Colne Valley viaduct north launch and the Colne Valley north embankment satellite compounds were documented incorrectly and need to be switched. In addition, the average daily two-way HGV trips generated for the Colne Valley viaduct and south embankment/ Ickenham auto-transformer feeder station satellite compounds is corrected to 150-160 car/LGV and 140-220 HGV trips; and for the Colne Valley viaduct main compound corrected to 70 during the busy period compared to 80 in the original scheme.

Assignment

3.1.14 Paragraph 7.3.45 is revised to add to those roads listed as used for the movement of excavated material:

- A40, between Denham Roundabout and the A413; and
- A413 between the A40 and boundary with CFA8.

3.1.15 Paragraph 7.3.48 is amended to remove '102 cars/LGVs per day and 9 HGVs' and replace this text with '62 cars/LGVs and 9 HGVs per day (two-way)'. The decrease in cars/LGV flows is a result of corrections to construction traffic flows on the A413 and the A40, between the A413 and the A412.

Assessment of construction impacts

Highway network

Strategic road network

3.1.16 The following tables replace Table 7-10 and Table 7-11.

Table 7-10: Colne Valley strategic road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A40 (between Denham Roundabout and A412)	Northbound (NB)	2077	2681	2758	72	77	7	3%	10%
	Southbound (SB)	1785	2176	2187	182	11	7	0%	4%
A40, between the A412 Denham Way and the A413 (Note: new link with a 10% or more change in all veh or HGV peak hour flow)	Eastbound (EB)	884	1349	1355	32	7	2	0%	8%
	Westbound (WB)	1164	1822	1825	27	3	2	0%	10%

Table7-11: Colne Valley strategic road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A40 (between Denham Roundabout and A412)	NB	2180	2368	2375	65	7	3	0%	6%
	SB	1238	1285	1358	57	73	3	6%	6%
A40, between the A412 Denham Way and the A413	EB	518	527	529	16	2	2	0%	14%
	WB	1884	2110	2116	24	6	2	0%	9%

3.1.17 The SES scheme has resulted in a small increase in HGV movements on the A40, between Denham Roundabout and the A413 in relation to the movement of excavated material.

3.1.18 Paragraph 7.3.78 is revised to add to those roads listed as used for the movement of excavated material:

- A40, between Denham Roundabout and the A413; and
- A413 between the A40 and boundary with CFA8.

Junction capacity

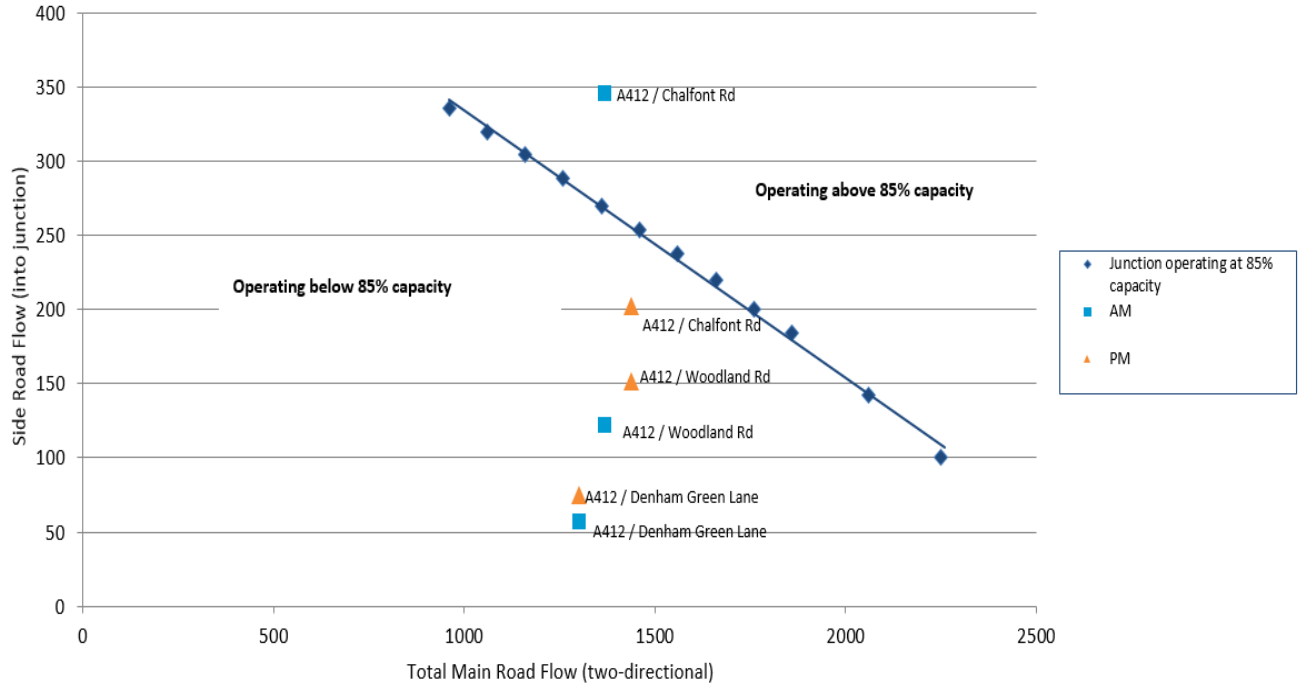
3.1.19 Priority junctions have been reassessed based upon adjusted traffic flows within CFA7 as a result of the SES scheme and corrections to the main TA. Table 7-15 is replaced by the following table.

Table 7-15: Colne Valley priority junction flows

Junction	2021 With HS2 construction traffic			
	AM peak		PM peak	
	Main road flow (PCUs)	Side road flow (PCUs)	Main road flow (PCUs)	Side road flow (PCUs)
A412 North Orbital Road / Denham Green Lane	1300	57	1302	75
A412 Denham Way / Woodland Road	1367	122	1437	152
A412 Denham Way / Chalfont Road	1367	346	1437	202

3.1.20 The following figure replaces Figure 7-2 in the main TA.

Figure 7-2: Colne Valley priority junction assessment 2021



3.1.21 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, with these priority junctions not forecast to be close to their theoretical capacity of 85% during construction, apart from the A412 with Chalfont Road, during the AM peak.

3.1.22 The A412 Denham Way with A405 North Orbital Road and A412 Uxbridge Road and A412 Denham Way with Chalfont Lane non-priority junctions have been re-modelled with and without adjusted traffic flows, as a result of the SES scheme and corrections to the main TA. Tables 7-16 and 7-17 are replaced by the tables below.

Table 7-16: Forecast baseline and construction scenario performance at A412 Denham Way with Chalfont Lane

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
Chalfont Lane (E)	239	29%	1	239	30%	1
A412 (S)	476	32%	1	484	32%	1
Chalfont Lane (W)	87	13%	1	87	13%	1
A412 (N)	814	47%	1	883	51%	1
Total	N/A	47%	N/A	N/A	51%	N/A
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
Chalfont Lane (E)	371	36%	1	371	36%	1
A412 (S)	906	63%	2	970	67%	3
Chalfont Lane (W)	53	13%	1	53	14%	1
A412 (N)	464	26%	1	467	26%	1
Total	N/A	63%	N/A	N/A	67%	N/A

Table 7-17: Forecast baseline and construction scenario performance at A412 Denham Way with A405 North Orbital Road

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A412 (N) Uxbridge Road	939	50%	1	966	52%	2
A412 (S) Denham Way	476	19%	1	484	19%	1
A405 North Orbital Road	1355	53%	2	1396	55%	2
Total	N/A	53%	N/A	N/A	55%	N/A

17:00-18:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A412 (N) Uxbridge Road	693	31%	1	693	31%	1
A412 (S) Denham Way	906	35%	1	970	38%	1
A405 North Orbital Road	823	34%	1	825	34%	1
Total	N/A	35%	N/A	N/A	38%	N/A

3.1.23 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, with both junctions predicted to operate well within capacity during construction.

Operation description and assessment of operation impacts

3.1.24 There is no change to the main TA with regard to the assessment of the original scheme during operation.

3.2 The Chalfonts and Amersham (CFA8)

The Chalfonts and Amersham (CFA8) AP2 revised scheme changes

3.2.1 The original scheme through this area is as described in paragraphs 7.4.1 to 7.4.9 of the main TA.

3.2.2 Scheme changes in other CFAs have necessitated a revision to the movement of excavated material by road. These changes include:

- removal of the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-199).

3.2.3 Whilst originating in other CFAs, these SES design changes have resulted in the following changes to forecast HGV traffic flows within CFA8 during construction, in comparison to the original scheme:

- A413, between the boundary with Colne Valley (CFA7) and Joiners Lane; and between A355 Gore Hill and the boundary with Central Chilterns (CFA9), an increase in HGV flows;
- A413, between Joiners Lane and the A404 Stanley Hill, a decrease in HGV flows, with the A413 between Bottom House Farm Lane and A404 Stanley Hill no longer used for the movement of excavated material;
- A404 Wheilden Lane, between the A413 Amersham Bypass and Whielden Street, this section of road is no longer used for the movement of excavated material, resulting in a decrease in HGV flows;
- A355 Gore Hill/Amersham Rd, between A413 Amersham Bypass and M40; Joiners Lane; and Chesham Lane/Denham Lane, between Joiners Lane and Chalfont St Peter ventilation shaft satellite construction compound, these sections of roads are now used for the movement of excavated material, resulting in an increase in HGV flows; and
- Bottom House Farm lane, between Chalfont St Giles ventilation shaft satellite construction compound and A413 Amersham Road, a decrease in HGV flows.

3.2.4 AP2 amendments do not result in any changes to the traffic and transport assessment as reported in the main TA within this CFA.

3.2.5 A correction has been made to the forecast number of workforce trips to some compounds. This has resulted in a small change in peak hour, all vehicle, construction trips on a number of roads.

3.2.6 The above changes lead to a number of amendments to the main TA in The Chalfonts and Amersham (CFA8).

Existing baseline

3.2.7 Baseline conditions in this area are described in Section 5.10 of the main TA.

Assessment methodology

3.2.8 The assessment methodology is described in Section 7.2 of the main TA.

Future baseline

3.2.9 Future baseline conditions in this area are described in Section 7.4 of the main TA.

Construction description

Construction trip assumptions

Trip generation

3.2.10 Table 7-27 which showed typical vehicle trip generation for construction site compounds is amended as described below. Where trip generation values are stated, the lower end of the range shows the average number of daily two-way trips in the busy period and the upper end the average during the peak month.

3.2.11 The average daily two-way HGV trips generated for the Chalfont St Peter ventilation shaft satellite compound is revised to 20-30, compared to <10-20 in the original scheme (Cars/LGV trips also amended from 90-100 to 80-90). Trip generation for the Amersham ventilation shaft satellite compound is amended to up to 190, in relation to 90-100 in the original scheme (Cars/LGV trips are also amended from 80-100 to up to 30). These amendments are in relation to the SES scheme and associated changes to the movement of excavated material.

3.2.12 In addition, there has been a small change to the number of car/LGV daily trips generated at the Chalfont St Giles ventilation shaft satellite compound. This results in a change of 10 or less two-way trips per day, but does not alter the outcome of main technical assessment

Assignment

3.2.13 Paragraph 7.4.35 describing construction routes is amended to remove 'A413 across the whole of the area' and replaced by:

"A413 (between the boundary with CFA7 and Bottom House Farm Lane, and between the A355 Gore Hill and the boundary with CFA9), A355 Gore Hill/Amersham Road (between A413 Amersham Bypass and M40), Bottom House Farm Lane (between Chalfont St Giles ventilation shaft satellite construction compound and A413 Amersham Road), Joiners Lane and Chesham Lane/Denham Lane (between Joiners Lane and Chalfont St Peter ventilation shaft satellite construction compound)".

3.2.14 Paragraph 7.4.38 is amended to remove '420 cars/LGVs per day (two-way) and 100 HGVs per day (two-way)' and replace this text with '330 cars/LGVs and 100 HGVs per day (two-way)'. The decrease in cars/LGV flows is a result of corrections to construction traffic flows on the A413.

Assessment of construction impacts

Highway network

Strategic road network

3.2.15 Table 7-30 and Table 7-31 in the main TA are replaced by the tables below.

Table 7-30: The Chalfonts and Amersham strategic road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A413 Amersham Road, between A40 Oxford Road and Joiners Lane (Gerrards Cross and Chalfont St Peter)	NB	764	837	853	19	16	2	2%	15%
Under the description 'A413 Amersham Road, between B416 Kingsway and A40 Oxford Road (Gerrards Cross)' in the main TA	SB	795	871	874	74	3	2	0%	3%
A413 Amersham Road, between Joiners Lane and A404 Stanley Hill (Amersham)	NB	784	855	882	16	26	3	3%	21%
Under the description 'A413 Amersham Road, between High Street/Pheasant Hill and A404 Stanley Hill (Chalfont St Giles)' in the main TA	SB	442	483	487	16	4	3	1%	22%
A355 Gore Hill/Amersham Rd, between A413 Amersham Bypass and M40	NB	840	917	969	41	52	28	6%	214%
Under the description 'A355 Gore Hill/Amersham Rd, between A413 Amersham Bypass and Leadborough Lane (Beaconsfield)' in the main TA	SB	936	1022	1053	35	31	28	3%	394%
A413 Amersham Bypass, between A355 Gore Hill and A404 Whielden Lane (Amersham)	EB	1396	1539	1569	115	30	27	2%	31%
	WB	876	965	1035	115	69	27	7%	31%
A404 Whielden Lane, between A413 Amersham Bypass and Whielden Street (Amersham)	EB	874	964	1001	50	37	0	4%	0%
	WB	733	808	808	5	0	0	0%	0%
A413 Amersham Road, between A404 Whielden Lane and B485 Frith Hill/Chesham Road (Little Missenden) (in CFA9)	EB	1135	1237	1272	56	35	27	3%	91%
Under the description 'A413 Amersham Road, between A404 Whielden Lane and Hyde Lane (Little Missenden)' in the main TA	WB	659	718	819	40	101	27	14%	209%

Table 7-31: The Chalfonts and Amersham strategic road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A413 Amersham Road, between A40 Oxford Road and Joiners Lane (Gerrards Cross and Chalfont St. Peter) Under the description 'A413 Amersham Road, between B416 Kingsway and A40 Oxford Road (Gerrards Cross)' in the main TA	NB	975	1066	1068	11	2	2	0%	12%
	SB	214	234	250	36	15	2	7%	6%
A413 Amersham Road, between Joiners Lane and A404 Stanley Hill (Amersham) Under the description 'A413 Amersham Road, between High Street/Pheasant Hill and A404 Stanley Hill (Chalfont St Giles)' in the main TA	NB	755	823	826	4	3	2	0%	104%
	SB	282	308	333	3	25	2	8%	266%
A355 Gore Hill/Amersham Rd, between A413 Amersham Bypass and M40 Under the description 'A355 Gore Hill/Amersham Rd, between A413 Amersham Bypass and Leadborough Lane (Beaconsfield)' in the main TA	NB	939	1024	1047	29	23	22	2%	339%
	SB	699	762	806	25	44	22	6%	886%
A413 Amersham Bypass, between A355 Gore Hill and A404 Whielden Lane (Amersham)	EB	1529	958	1020	59	62	22	7%	60%
	WB	2397	1686	1709	90	23	22	1%	32%
A404 Whielden Lane, between A413 Amersham Bypass and Whielden Street (Amersham)	EB	915	664	664	22	0	0	0%	0%
	WB	1517	1009	1046	5	37	0	4%	0%
A413 Amersham Road, between A404 Whielden Lane and B485 Frith Hill/Chesham Road (Little Missenden) (in CFA9) Under the description 'A413 Amersham Road, betweenA404 Whielden Lane and Hyde Lane (Little Missenden)' in the main TA	EB	1195	643	738	32	95	22	15%	218%
	WB	1786	1301	1330	43	29	22	2%	101%

Local road network

3.2.16 Table 7-32 and Table 7-33 in the main TA are replaced by the tables below:

Table 7-32: The Chalfonts and Amersham local road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
Joiners Lane, between Denham Lane and A413 Gravel Hill (Chalfont St Peter)	EB	250	274	277	3	3	2	1%	176%
	WB	409	448	451	4	3	2	1%	88%
Chesham Lane/Denham Lane, between Joiners Lane and Chalfont St Peter ventilation shaft satellite construction compound (Chalfont St Peter)	NB	120	132	146	3	14	2	11%	122%
	SB	174	190	204	2	14	2	7%	790%
Bottom House Farm Lane, between Chalfont St Giles ventilation shaft satellite construction compound and A413 Amersham Road (Chalfont St Giles)	EB	2	2	18	3	16	3	699%	-
	WB	2	2	18	4	16	3	863%	764%

Table 7-32: The Chalfonts and Amersham local road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
Joiners Lane, between Denham Lane and A413 Gravel Hill (Chalfont St Peter)	EB	275	301	302	1	1	1	0%	176%
	WB	168	184	185	1	1	1	1%	176%
Chesham Lane/Denham Lane, between Joiners Lane and Chalfont St Peter ventilation shaft satellite construction compound (Chalfont St Peter)	NB	139	152	164	1	12	1	8%	264%
	SB	72	79	91	1	12	1	15%	75%
Bottom House Farm Lane, between Chalfont St Giles ventilation shaft satellite construction compound and A413 Amersham Road (Chalfont St Giles)	EB	2	3	15	1	12	3	470%	-
	WB	1	2	14	1	12	3	805%	-

3.2.17 The SES scheme has resulted in a reduction of HGV movements on the A413 between Joiners Lane and the A404 Stanley Hill, with the section of A413 between Bottom House Farm Lane and A404 Stanley Hill no longer used for the movement of excavated material. There is, however, an increase in HGV movements on the remaining extent of the A413 within the CFA in relation to the movement of excavated material.

3.2.18 The A404 Whielden Lane, between the A413 Amersham Bypass and Whielden Street, is also no longer used for the movement of excavated material and consequently has a reduction in HGV flows; however HGV flows increase due to the introduction of the movement of excavated material on other roads within the CFA, namely A355 Gore Hill/Amersham Road, between A413 Amersham Bypass and M40; Joiners Lane; and Chesham Lane/Denham Lane, between Joiners Lane and Chalfont St Peter ventilation shaft satellite construction compound. Whilst Bottom House Farm Lane is still used for the movement of excavated material, the number of HGV trips in relation to this has decreased.

3.2.19 Paragraph 7.4.66 is to be amended so that bullet point 'A413, across the whole of the study area' be removed and replacement bullet points listed:

- A413, between the boundary with CFA7 and Bottom House Farm Lane;
- A413, between A355 Gore Hill and the boundary with CFA9;
- A355 Gore Hill/Amersham Rd, between A413 Amersham Bypass and M40;
- Joiners Lane;
- Chesham Lane/Denham Lane, between Joiners Lane and Chalfont St Peter ventilation shaft satellite construction compound; and
- Bottom House Farm Lane, between Chalfont St Giles ventilation shaft satellite compound and A413 Amersham Road.

Junction capacity

3.2.20 Amendment to paragraph 7.4.72, so that the assessment for the A413 with School Lane (Amersham Old Town) and Shardeloes, and A413 Amersham Bypass with A404 Whielden Lane junctions be changed from 'increased traffic during the most intensive periods of construction may potentially cause additional intermittent traffic congestion and delay at these junctions during peak', to 'increased traffic during the most intensive periods of construction has high potential to cause additional intermittent traffic congestion and delay at these junctions during peak'. This amendment is due to a correction to the assessment carried out for the main TA.

Operation description and assessment of operation impacts

3.2.21 There is no change to the main TA with regard to the assessment of the original scheme during operation.

3.3 Central Chilterns (CFA9)

Central Chilterns (CFA9) AP2 revised scheme changes

3.3.1 The original scheme through this area is as described in paragraphs 7.5.1 to 7.5.13 of the main TA.

3.3.2 Scheme changes in other CFAs have necessitated a revision to the movement of excavated material by road. These changes include:

- removal of the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001).

3.3.3 Whilst originating in other CFAs, these SES scheme changes have resulted in the following changes to forecast heavy goods vehicle (HGV) traffic flows within Central Chilterns (CFA9) during construction, in comparison to the original scheme:

- A413, between the boundary with CFA8 and the B485 Frith Hill/Chesham Road – an increase in HGV flows;
- A413, between the B485 Frith Hill/Chesham Road and the boundary with CFA10 – this section of road is no longer used for the movement of excavated material, resulting in a decrease in HGV flows; and
- B485 Frith Hill/Chesham Road, between the A413 and King's Lane – this section of road is now used for the movement of excavated material, resulting in an increase in HGV flows.

3.3.4 The AP2 revised scheme makes amendments to the original scheme and those changes which have an impact on traffic and transport are:

- the realignment of footpaths LMI/21 and GMI/23 (AP2-009-002), resulting in two public rights of way (PRoW) in CFA9 being permanently realigned by the same distance, but via a different route to that of the original scheme.

3.3.5 A correction has been made to the forecast number of workforce trips to some compounds. This has resulted in a small change in peak hour, all vehicle, construction trips on a number of roads.

3.3.6 The above changes lead to a number of amendments to the main TA in Central Chilterns (CFA9).

Existing baseline

3.3.7 Baseline conditions in this area are described in Section 5.11 of the main TA.

Assessment methodology

3.3.8 The assessment methodology is described in Section 7.2 of the main TA.

Future baseline

3.3.9 Future baseline traffic conditions are described in Section 7.5 of the main TA.

Construction description

Construction trip assumptions

Trip generation

3.3.10 Table 7-42 which showed typical vehicle trip generation for construction site compounds is amended as described below. Where trip generation values are stated, the lower end of the range shows the average number of daily two-way trips in the busy period and the upper end the average during the peak month.

3.3.11 The average daily two-way HGV trips generated for the Little Missenden ventilation shaft satellite compound is revised to 160-200, compared to 50-60 in the original scheme (Cars/LGV trips are also amended from 80-90 to 50-90). HGV trip generation for the South Heath green tunnel (south) satellite and Chilterns (rail systems) main compounds is revised to 360-370, compared to 50-60 in the original scheme (Cars/LGV trips are also amended from 150-190 to 140-150).

3.3.12 In addition, there have been small changes to the number of car/LGV daily trips generated at a number of compounds. These result in changes of 10 or less two-way trips per day at any compound, but does not alter the outcome of the main technical assessment.

Assignment

3.3.13 Paragraph 7.5.40 summarising construction routes is revised to remove 'A413 across the whole of the area', as excavated material is no longer transported on the entire extent of the A413 in this CFA. This text within paragraph 7.5.40 is replaced by 'the A413 between the boundary with CFA8 and the B485 Frith Hill/Chesham Road, and the B485 Frith Hill/Chesham Road, between the A413 and King's Lane'.

3.3.14 Paragraph 7.5.43 is amended to remove '310 cars/LGVs per day and 60 HGVs' and replace this text with '235 cars/LGVs and 60 HGVs per day (two-way)' and paragraph 7.5.44 is amended to remove '20 cars/LGVs per day (two-way)' and replace this text with '10 cars/LGVs (two-way)'. The decrease in cars/LGV flows is a result of corrections to construction traffic flows on the A413.

PRoW closures and diversions

3.3.15 The realignment of footpaths LMI/21 and GMI/23 (AP2-009-002) has resulted in two PRoW (LMI/21/1 - public footpath; and GMI/23/7 - public footpath) in CFA9 being permanently realigned by the same distance, but via a different route to that of the original scheme. The impact on this PRoW is outlined in paragraphs 3.3.28 and 3.3.29.

Assessment of construction impacts

Highway network

Strategic road network

3.3.16 The following tables replace Table 7-45 and Table 7-46.

Table 7-45: Central Chilterns strategic road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A413, between A404 Whielden Lane (in CFA8) and Hyde Lane (Great Missenden) Named 'A413 Amersham Road (Little Missenden)' in main TA.	EB	1135	1237	1272	56	35	27	3%	91%
	WB	659	718	819	40	101	27	14%	209%
A413, between Hyde Lane (Great Missenden) and B485 Frith Hill/Chesham Road Named 'A413 Missenden Bypass (South of B485)' in main TA	NB	745	812	907	54	95	27	12%	97%
	SB	1293	1409	1453	83	44	27	3%	47%
A413 London Road between B485 Frith Hill/Chesham Road and Rocky Lane (in CFA10) Named 'A413 Missenden Bypass (North of B485)' in main TA	NB	661	720	790	28	70	7	10%	35%
	SB	1105	1204	1227	56	23	7	2%	15%
B485 Frith Hill/Chesham Road, between A413 and King's Lane Named 'B485 Chesham Road/Frith Hill (west of King's Lane)' in main TA	EB	521	568	695	39	127	26	22%	196%
	WB	393	428	624	55	196	26	46%	88%

Table 7-46: Central Chilterns strategic road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A413, between A404 Whielden Lane (in CFA8) and Hyde Lane (Great Missenden) Named 'A413 Amersham Road (Little Missenden)' in main TA.	EB	591	643	738	32	95	22	15%	218%
	WB	1195	1301	1330	43	29	22	2%	101%
A413, between Hyde Lane (Great Missenden) and B485 Frith Hill/Chesham Road Named 'A413 Missenden Bypass (South of B485)' in main TA	NB	1002	1091	1125	38	34	22	3%	133%
	SB	712	775	864	27	89	22	11%	399%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A413 London Road between B485 Frith Hill/Chesham Road and Rocky Lane (in CFA10)	NB	1039	1131	1149	20	18	2	2%	14%
Named 'A413 Missenden Bypass (North of B485)' in main TA	SB	648	706	770	7	64	2	9%	55%
B485 Frith Hill/Chesham Road, between A413 and King's Lane	EB	367	400	550	26	150	22	38%	494%
Named 'B485 Chesham Road/Frith Hill (west of King's Lane)' in main TA	WB	503	548	662	26	115	22	21%	495%

3.3.17 The SES scheme has resulted in an increase in HGV movements on the A413, between the boundary with CFA8 and the B485 Frith Hill/Chesham Road, in relation to the movement of excavated material. There is, however, a decrease in HGV movements on the A413, between the B485 Frith Hill/Chesham Road and the boundary with CFA10, as this section of road is no longer used for the movement of excavated material. The B485 Frith Hill/Chesham Road, between the A413 and King's Lane, is now used for the movement of excavated material, resulting in an increase in HGV flows on this road.

3.3.18 Paragraph 7.5.72 is to be amended so that bullet point 'A413, across the whole of the study area' be removed and replacement bullet points listed:

- A413, between the boundary with CFA8 and the B485 Frith Hill/Chesham Road; and
- B485 Frith Hill/Chesham Road, between the A413 and King's Lane.

Junction capacity

3.3.19 Amendment to paragraph 7.5.76, to remove the junctions: A413 with A4128 Link Road; A413 with Leather Lane; and King's Lane with Frith Hill with Potter Row. This is due to the SES scheme reducing HGV flows on the A413, between the B485 Frith Hill/Chesham Road and the boundary with CFA10, as this section of road is no longer used for the movement of excavated material. The King's Lane with Frith Hill with Potter Row junction is removed due to a correction to the assessment carried out for the main TA. These junctions assessed are therefore now unlikely to experience additional intermittent traffic congestion and delay during peak periods.

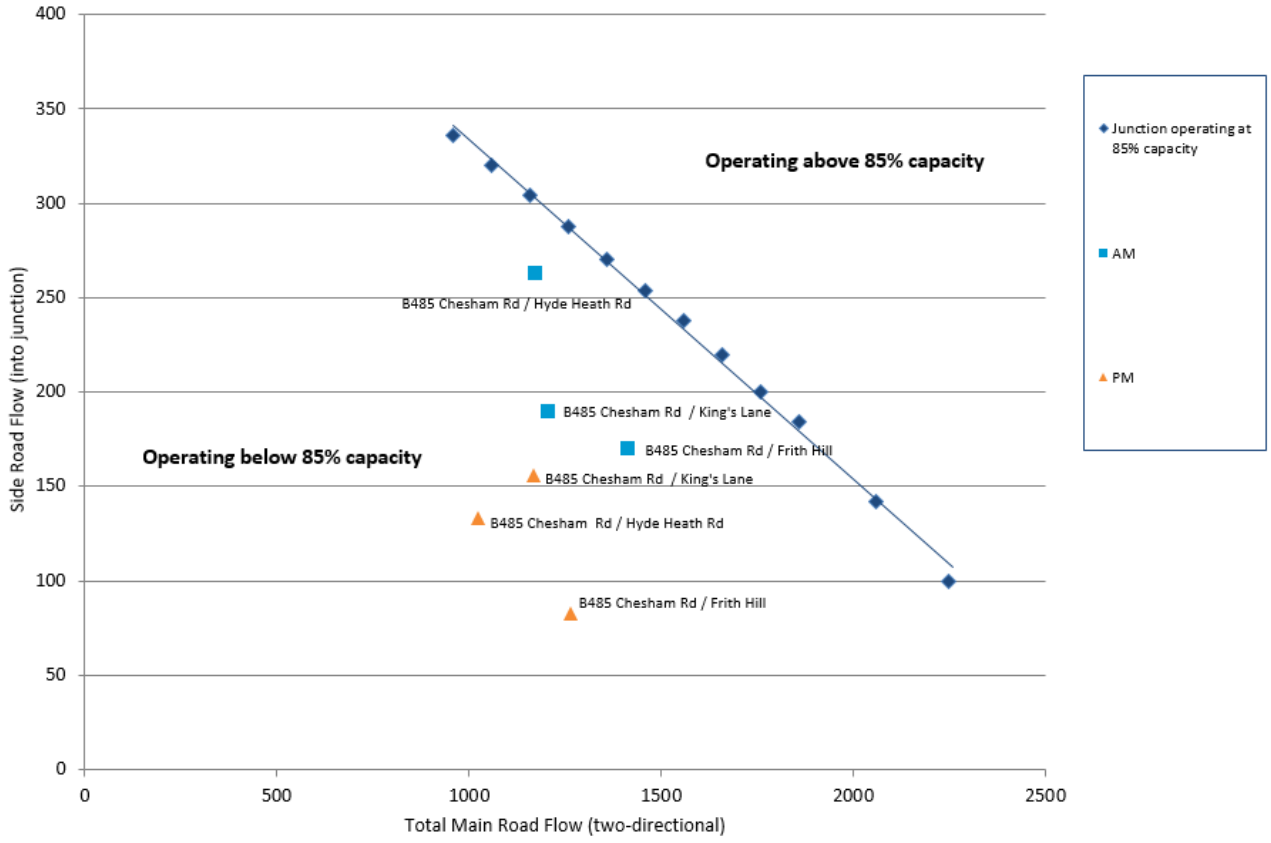
3.3.20 Priority junctions which still meet the assessment criteria have been re-assessed based upon adjusted traffic flows within CFA9 as a result of the SES scheme and corrections to the main TA. The following table replaces Table 7-49.

Table 7-49: Central Chilterns priority junction flows

Junction	2021 With HS2 construction traffic			
	AM peak		PM peak	
	Main road flow (PCUs)	Side road flow (PCUs)	Main road flow (PCUs)	Side road flow (PCUs)
B485 Chesham Rd/ Frith Hill	1414	170	1264	83
B485 Chesham Rd/ King's Lane	1206	190	1167	156
B485 Chesham Rd/ Hyde Heath Rd	1171	263	1023	133

3.3.21 Figure 7-50 is replaced by the figure below.

Figure 7-50: Central Chilterns priority junction assessment 2021



3.3.22 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, with these priority junctions not forecast to be close to their theoretical capacity of 85% during construction.

3.3.23 The A413 with the B485 Frith Hill/ Chesham Road non-priority junction has been re-modelled with and without adjusted traffic flows, as a result of the SES scheme and corrections to the main TA. Table 7-51 is replaced by the table below.

Table 7-51: Central Chilterns comparison forecast baseline and construction scenario performance at A413/B485 Frith Hill/Chesham Road junction (priority roundabout)

0800-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
B485 Frith Hill	426	36%	1	679	59%	2
A413 (S) London Road	839	37%	1	961	45%	1
A413 (N) London Road	1253	50%	1	1283	52%	2
Total	N/A	50%	N/A	N/A	59%	N/A
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
B485 Frith Hill	556	38%	1	688	48%	1
A413 (S) London Road	1107	51%	1	1163	56%	2
A413 (N) London Road	710	28%	1	777	31%	1
Total	N/A	51%	N/A	N/A	56%	N/A

3.3.24 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, with the A413/B485 Frith Hill/ Chesham Road junction predicted to operate well within capacity during construction.

3.3.25 The A413/ A4128 Link Road non-priority junction has been re-modelled with and without adjusted traffic flows, as a result of the SES scheme and corrections to the main TA. Table 7-52 is replaced by the table below.

Table 7-52: Central Chilterns comparison forecast baseline and construction scenario performance at A413/A4128 Link Road junction (priority roundabout)

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A413 (S) Missenden Bypass	741	36%	1	818	40%	1
A4128 Link Road	459	35%	1	507	39%	1
A413 (N) Missenden Bypass	1253	65%	2	1283	68%	3
Total	N/A	65%	N/A	N/A	68%	N/A
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A413 (S) Missenden Bypass	1148	56%	2	1169	56%	2
A4128 Link Road	417	37%	1	424	38%	1
A413 (N) Missenden Bypass	710	36%	1	777	39%	1
Total	N/A	63%	N/A	N/A	56%	N/A

3.3.26 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, with the A413/ A4128 Link Road junction predicted to operate well within capacity during construction.

Operation description

3.3.27 This is as described in Section 7.7 of the main TA.

Assessment of operation impacts

Pedestrians, cyclists and equestrians

3.3.28 The realignment of footpaths LMI/21 and GMI/23 (AP2-009-002) has resulted in two PRoW (LMI/21/1 - public footpath and GMI/23/7 - public footpath) in CFA9 being permanently realigned by the same distance, but via a different route to that of the original scheme.

3.3.29 Amendments to Table 7-54 to account for the changes to the original scheme are shown in the following table.

Table 7-54: Central Chilterns summary of PRoW severance (operation)

PRoW	Location	Location (chainage)	Permanent Diversion Route	Daily Users	Maximum Diversion Length	Maximum Diversion Journey Time (nearest minute)
LMI/21/1 (public footpath)	Hyde Heath	045+000	Permanent diversion along footpath LMI/17/2, existing footpath through Mantle's wood, following ground profile around toe of earthworks to join access track (Permanent diversion along footpath LMI/17/2, verge of Hyde Heath Road, Chesham Road and GMI/23/6 in original scheme)	16	700m	8min
GMI/23/7 (public footpath)	Hyde Heath	045+150	Permanent diversion along access track on east side of scheme, ground profile around toe earthworks, existing footpath through Mantle's wood, to join LMI/17/2 (Permanent diversion along footpath GMI/23/6, Chesham Road, verge of Hyde Heath Road, LMI/17/2 in original scheme)	3	700m	8min

3.4 Dunsmore, Wendover and Halton (CFA10)

Dunsmore, Wendover and Halton (CFA10) AP2 revised scheme changes

3.4.1 The original scheme through this area is as described in paragraphs 7.6.1 to 7.6.13 of the main TA.

3.4.2 Scheme changes in this and other CFAs have necessitated a revision to the movement of excavated material by road. These changes include the following SES scheme changes, one of which is in another CFA:

- removal of the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-199); and
- reduction of earthworks near Lower Boddington in CFA15 (SES-015-200).

3.4.3 These SES scheme changes have resulted in the following changes to forecast HGV traffic flows within Dunsmore, Wendover & Halton (CFA10) during construction, in comparison to the original scheme:

- A413 London Road, between the boundary with CFA9 and Rocky Lane – this section of road is no longer used for the movement of excavated material, resulting in a decrease in HGV flows;
- A413, between Rocky Lane and B4009 Nash Lee Road, and the B4009 Nash Lee Road, between the B4009 Nash Lee Road overbridge satellite construction compound and the A413 – increase in HGV flows; and
- Rocky Lane, between the A413 London Road and Rocky Lane underbridge satellite construction compound - this section of road is now used for the movement of excavated material, resulting in an increase in HGV flows.

3.4.4 AP2 amendments do not result in any changes to the traffic and transport assessment as reported in the main TA within this CFA.

3.4.5 A correction has been made to the forecast number of workforce trips to some compounds. This has resulted in a small change in peak hour, all vehicle, construction trips on a number of roads.

3.4.6 The above changes lead to a number of amendments to the main TA in Dunsmore, Wendover & Halton (CFA10).

Existing baseline

3.4.7 Baseline conditions in this area are described in Section 5.12 of the main TA.

Assessment methodology

3.4.8 The assessment methodology is as described in Section 7.2 of the main TA.

Future baseline

3.4.9 Future baseline traffic conditions are described in Section 7.6 of the main TA.

Construction description

Construction trip assumptions

Trip generation

3.4.10 Table 7-61 which showed typical vehicle trip generation for construction site compounds is amended as described below. Where trip generation values are stated, the lower end of the range shows the average number of daily two-way trips in the busy period and the upper end the average during the peak month.

3.4.11 The average daily two-way HGV trips generated by the Small Dean viaduct launch satellite compound is revised to 290-450, compared to 20-30 in the original scheme (Cars/LGV trips are also amended from 90-100 to 80-90). HGV trip generation for the B4009 Nash Lee Road overbridge satellite compound is revised to 310-450, compared to 40-90 in the original scheme (Cars/LGV trips are also amended from 50-110 to 10-20).

3.4.12 In addition, there have been small changes to the number of car/LGV daily trips generated at a number of compounds. These result predominantly in changes of 12 or less two-way trips per day, but does not alter the outcome of the main technical assessment.

Assignment

3.4.13 Paragraph 7.6.41 summarising construction routes is amended to remove 'A413 (between boundary of Central Chilterns (CFA9) and B4009 Nash Lee Road) and B4009 Nash Lee Road (between A413 and the Proposed Scheme)' and replaced by 'the A413, between Rocky Lane and B4009 Nash Lee Road, the B4009 Nash Lee Road, between the B4009 Nash Lee Road overbridge satellite construction compound and the A413, and Rocky Lane, between the A413 London Road and Rocky Lane underbridge satellite construction compound'.

3.4.14 Paragraph 7.6.44 is amended to remove '120 cars/LGVs per day (two-way) and 30 HGVs per day (two-way)' and replace this text with '70 cars/LGVs and 30 HGVs per day (two-way)'. Paragraph 7.6.45 is amended to remove '70 cars/LGVs per day (two-way) and 10 HGVs per day (two-way)' and replace this text with '45 cars/LGVs and 10 HGVs per day (two-way)'. The decrease in cars/LGV flows is a result of corrections to construction traffic flows in the original scheme.

Assessment of construction impacts

Highway network

Strategic road network

3.4.15 The following tables replace Table 7-64 and Table 7-65.

Table 7-64: Dunsmore, Wendover & Halton strategic road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A413 London Road between B485 Frith Hill/Chesham Road (in CFA9) and Rocky Lane	NB	661	720	790	28	70	7	10%	35%
(Named as 'A413 London Road, between Dunsmore Lane and A4128 Link Road' in main TA).	SB	1105	1204	1227	56	23	7	2%	15%
A413 London Road, between Rocky Lane and Small Dean Lane	NB	749	875	933	45	58	35	7%	353%
(Named as 'A413 London Road, between Small Dean Lane and Dunsmore Lane' in main TA)	SB	1156	1351	1448	60	97	35	7%	141%
A413 Nash Lee Road, between Small Dean Lane and the B4009 Nash Lee Road	NB	604	706	758	63	52	38	7%	153%
(Named as 'A413 Nash Lee Road, between B4009 Nash Lee Road and London Road' in main TA).	SB	808	945	1049	68	104	38	11%	127%
B4009 Nash Lee Rd, between A4010 Aylesbury Road and A413 Nash Lee Road	EB	519	608	685	48	78	39	13%	436%
	WB	584	684	731	45	48	39	7%	637%

Table 7-65: Dunsmore, Wendover & Halton strategic road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A413 London Road between B485 Frith Hill/Chesham Road (in CFA9) and Rocky Lane	NB	1039	1131	1149	20	18	2	2%	14%
(Named as 'A413 London Road, between Dunsmore Lane and A4128 Link Road' in main TA).	SB	648	706	770	7	64	2	9%	55%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A413 London Road, between Rocky Lane and Small Dean Lane	NB	1232	1453	1551	38	98	30	7%	400%
(Named as 'A413 London Road, between Small Dean Lane and Dunsmore Lane' in main TA)	SB	776	916	975	36	59	30	6%	545%
A413 Nash Lee Road, between Small Dean Lane and the B4009 Nash Lee Road	NB	901	1063	1159	43	96	31	9%	263%
(Named as 'A413 Nash Lee Road, between B4009 Nash Lee Road and London Road' in main TA).	SB	565	667	712	46	44	31	7%	213%
B4009 Nash Lee Rd, between A4010 Aylesbury Road and A413 Nash Lee Road	EB	192	222	727	37	39	31	6%	567%
	WB	366	423	621	34	69	31	13%	1480%

Local road network

3.4.16 The following tables replace Table 7-66 and Table 7-67 in the main TA.

Table 7-66: Dunsmore, Wendover & Halton local road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
Rocky Lane (also known as Chesham Lane), between the A413 London Road and Rocky Lane underbridge satellite compound.	NB	77	85	141	33	56	33	67%	7445%
(Named as 'Rocky Lane (also known as Chesham Lane), between A413 London Road and King's Lane' in main TA).	SB	63	68	129	33	61	33	89%	9927%

Table 7-67: Dunsmore, Wendover & Halton local road network construction traffic flows (vehicles) - PM

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
Rocky Lane (also known as Chesham Lane), between the A413 London Road and Rocky Lane underbridge satellite compound.	NB	67	73	129	30	56	29	78%	26952%
(Named as 'Rocky Lane (also known as Chesham Lane), between A413 London Road and King's Lane' in main TA).	SB	48	53	105	29	53	29	100%	-

3.4.17 The SES scheme has resulted in a reduction of HGV movements on the A413 London Road, between the boundary with CFA9 and Rocky Lane, which is no longer used for the movement of excavated material. There is, however, an increase in HGV movements on the A413, between Rocky Lane and B4009 Nash Lee Road, and the B4009 Nash Lee Road, between the B4009 Nash Lee Road overbridge satellite construction compound and the A413 in relation to the movement of excavated material.

3.4.18 There is also an increase in HGV movements on Rocky Lane, between the A413 London Road and Rocky Lane underbridge satellite construction compound, as this section of road is now used for the movement of excavated material.

3.4.19 Paragraph 7.6.75 is to be amended to so that bullet point 'A413 (between the boundary of CFA09 and the B4009 Nash Lee Road)' be removed and replacement text 'A413, between Rocky Lane and the B4009 Nash Lee Road' included. Additional bullet point 'Rocky Lane, between the A413 London Road and Rocky Lane underbridge satellite construction compound' should also be included.

Junction capacity

3.4.20 Amendment to paragraph 7.6.79, to remove the junctions: A413 London Road with Dunsmore Lane and A413 London Road with Bowood Lane. This is due to the SES scheme reducing HGV flows on the A413, between the boundary with CFA9 and Rocky Lane, as this section of road is no longer used for the movement of excavated material. These junctions assessed in the main TA are therefore now unlikely to experience additional intermittent traffic congestion and delay during peak periods.

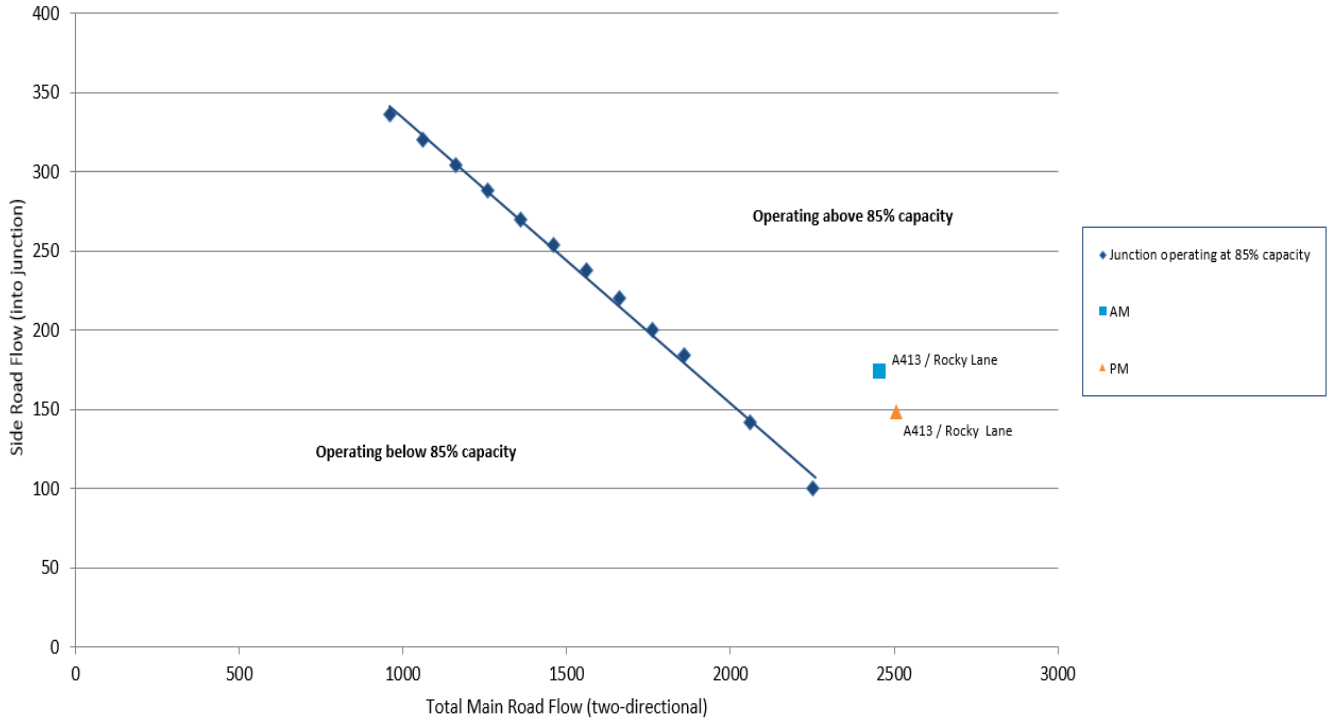
3.4.21 Priority junctions which still meet the assessment criteria have been re-assessed based upon adjusted traffic flows within CFA10 as a result of the SES scheme and corrections to the main TA. Table 7-68 is replaced by the following table.

Table 7-68: Dunsmore, Wendover & Halton priority junction flows

Junction	2021 With HS2 construction traffic			
	AM peak		PM peak	
	Main road flow (PCUs)	Side road flow (PCUs)	Main road flow (PCUs)	Side road flow (PCUs)
A413 London Road with Rocky Lane (also known as Chesham Lane)	2454	174	2505	149

3.4.22 Figure 7-7 is replaced by the following figure.

Figure 7-7: Dunsmore, Wendover & Halton priority junction assessment 2021



3.4.23 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, which indicates that increased traffic during the most intensive periods of construction may potentially cause additional intermittent traffic congestion and delay at the junction of A413 London Road with Rocky Lane.

3.4.24 The A413 London Road with Small Dean Lane and A413 Nash Lee Road with B4009 Nash Lee Road non-priority junctions have been re-assessed using industry standard software, based upon adjusted traffic flows within CFA10 as a result of the SES scheme and corrections to the main TA. Table 7-69 and Table 7-70 are replaced by the following tables.

Table 7-69: Forecast baseline and construction scenario performance at A413 London Road/ Small Dean Lane junction (priority roundabout)

0800-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
London Road / South Street	443	34%	1	443	37%	1
A413 London Road (s)	885	39%	1	978	44%	1
Small Dean Lane	3	0%	0	39	6%	1
A413 London Road (N)	975	49%	1	1117	58%	2
Total	N/A	49%	N/A	N/A	58%	N/A
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
London Road / South Street	277	18%	1	277	19%	1
A413 London Road (s)	1461	65%	2	1589	65%	2
Small Dean Lane	10	3%	0	10	3%	1
A413 London Road (N)	682	37%	1	758	41%	1
Total	N/A	65%	N/A	N/A	65%	N/A

Table 7-70: Forecast baseline and construction scenario performance at A413 Nash Lee Road/ B4009 Nash Lee Road junction (priority roundabout)

0800-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A413 (NE)	1070	51%	1	1109	53%	2
A413 (S) Nash Lee Road	731	37%	1	821	42%	1
B4009 Nash Lee Road	617	34%	1	733	41%	1
Total	N/A	51%	N/A	N/A	53%	N/A

17:00-18:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A413 (NE)	817	37%	1	817	37%	1
A413 (S) Nash Lee Road	1075	53%	2	1202	59%	2
B4009 Nash Lee Road	694	42%	1	764	48%	2
Total	N/A	53%	N/A	N/A	59%	N/A

3.4.25 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, whereby the modelling results indicate that both the A413 London Road with Small Dean Lane and A413 Nash Lee Road with B4009 Nash Lee Road junctions are predicted to operate within capacity during construction.

3.4.26 The assessment for all other junctions reported in the main TA remains the same.

Operation description and assessment of operation impacts

3.4.27 There is no change to the main TA with regard to the assessment of the original scheme during operation.

3.5 Stoke Mandeville and Aylesbury (CFA11)

Stoke Mandeville and Aylesbury (CFA11) AP2 revised scheme changes

3.5.1 The original scheme through this area is as described in paragraphs 7.7.1 to 7.7.15 of the main TA.

3.5.2 Scheme changes in other CFAs have necessitated a revision to the movement of excavated material by road. These changes include:

- removal of the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-199); and
- reduction of earthworks near Lower Boddington in CFA15 (SES-015-200).

3.5.3 Whilst originating in other CFAs, these SES scheme changes have resulted in the following changes to forecast HGV traffic flows within Stoke Mandeville and Aylesbury (CFA11) during construction, in comparison to the original scheme:

- A41, between A418 Oxford Road (in CFA11) and Blackgrove Road (in CFA12), this section of road is no longer used for the movement of excavated material, resulting in a decrease in HGV flows; and
- A418 Oxford Road, between the route and the A41 in Aylesbury, this section of road is no longer used for the movement of excavated material, resulting in a decrease in HGV flows.

3.5.4 The AP2 revised scheme makes amendments to the original scheme and those changes which have an impact on traffic and transport are:

- noise mitigation on the A4010 Stoke Mandeville Bypass (AP2-011-002), resulting in one additional public rights of way (PRoW) in the study area being subject to permanent realignment during operation.

3.5.5 A correction has been made to the forecast number of workforce trips to some compounds. This has resulted in a small change in peak hour, all vehicle, construction trips on a number of roads. An assessment correction has also been made to construction traffic flows on the A4010 Aylesbury Road/Risborough Road (Little Kimble), resulting in lower forecast flows than stated in the main TA.

3.5.6 The above changes lead to a number of amendments to the main TA in Stoke Mandeville and Aylesbury (CFA11).

Existing baseline

3.5.7 Baseline conditions in this area are described in Section 5.13 of the main TA.

Assessment methodology

3.5.8 The assessment methodology is described in Section 7.2 of the main TA.

Future baseline

3.5.9 Future baseline conditions are described in Section 7.7 of the main TA.

Construction description

Construction trip assumptions

Trip generation

3.5.10 Table 7-80 which showed typical vehicle trip generation for construction site compounds is amended as described below. Where trip generation values are stated, the lower end of the range shows the average number of daily two-way trips in the busy period and the upper end the average during the peak month.

3.5.11 The average daily two-way HGV trips generated by the A418 Oxford Road overbridge and Sedrup express feeder auto-transformer station satellite compound is revised to 20-40, compared to 710-730 in the original scheme (Cars/LGV trips are also amended from 10-20 to 140-220).

3.5.12 In addition, there have been small changes to the number of car/LGV daily trips generated at a number of compounds. These result predominantly in changes of 16 or less two-way trips per day, but does not alter the outcome of main technical assessment.

Assignment

3.5.13 Paragraph 7.7.44 that summarises construction routes is amended to remove 'A418 (between the Proposed Scheme and A41 in Aylesbury)' and 'A41 (between A418 and boundary with CFA11)', as excavated material is no longer transported on these sections of roads. Paragraph 7.7.44 is replaced by 'There are no lorry routes within this CFA which will be used for the movement of excavated material (although there may have been an increase in other scheme-related traffic)'.

3.5.14 Paragraph 7.7.48 is amended to remove '230 cars/LGVs per day and no HGVs' and replace this text with '180 cars/LGVs and 145 HGVs per day (two-way)'. The change to cars/LGV flows is a result of corrections to construction traffic flows on the A4010 Aylesbury Road/Risborough Road (Little Kimble), and the change to HGV flows is a result of a reporting error in the main TA.

PRoW closures and diversions

3.5.15 Construction of noise mitigation on the A4010 Stoke Mandeville Bypass (AP2-011-002) has resulted in an additional PRoW in the study area (ELL/2 - public footpath) subject to permanent realignment. The impact on this PRoW is outlined in paragraphs 3.5.22 and 3.5.23 of this TA.

Assessment of construction impacts

Highway network

Strategic road network

3.5.16 Table 7-82 and Table 7-83 are replaced by the following tables.

Table 7-82: Stoke Mandeville and Aylesbury strategic road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A4010 Aylesbury Road/ Risborough Road (Little Kimble)	EB	679	794	849	20	56	11	7%	136%
	WB	767	896	911	21	15	11	2%	119%
A418 Oxford Road, between the route and the A41 in Aylesbury Under the description "A418 Oxford Road (north west of Proposed Scheme alignment)" in the main TA	NB	1107	1283	1312	79	29	2	2%	3%
	SB	964	1117	1137	42	20	2	2%	6%
A41, between A418 Oxford Road (in CFA11) and Blackgrove Road (in CFA12) Under the description "A41 (east of Blackgrove Road, Waddeson)" in the main TA	EB	913	1058	1091	129	33	3	3%	2%
	WB	633	734	776	101	42	3	6%	3%

Table 7-83: Stoke Mandeville and Aylesbury strategic road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A4010 Aylesbury Road/ Risborough Road (Little Kimble)	EB	582	1006	1012	6	6	4	1%	170%
	WB	467	667	715	7	47	4	7%	140%
A418 Oxford Road, between the route and the A41 in Aylesbury Under the description "A418 Oxford Road (north west of Proposed Scheme alignment)" in the main TA	NB	901	1051	1069	18	18	1	2%	4%
	SB	1168	1362	1389	16	27	1	2%	5%
A41, between A418 Oxford Road (in CFA11) and Blackgrove Road (in CFA12) Under the description "A41 (east of Blackgrove Road, Waddeson)" in the main TA	EB	697	812	852	65	39	1	5%	2%
	WB	832	969	1000	69	31	1	3%	2%

3.5.17 A correction to the main TA has resulted in a reduction in HGV and all vehicle flows on the A4010 Aylesbury Road/Risborough Road, near Little Kimble. The SES scheme has resulted in the A41 (between A418 Oxford Road and the boundary of CFA12), and the A418 Oxford Road (between the route and the A41 in Aylesbury) no longer used for the movement of excavated material. This has resulted in a decrease in HGV movements on these roads, in comparison to those presented in the main TA.

3.5.18 Paragraph 7.7.75 is to be is replaced by:

"There are no lorry routes within this CFA which will be used for the movement of excavated material (although there may have been an increase in other scheme-related traffic)."

Junction capacity

3.5.19 Removal of paragraphs 7.7.79 to 7.7.82, with replacement paragraph 7.7.79 :

"No junctions within the study area meet the junction assessment criteria and therefore none are considered to be substantially impacted by the scheme."

3.5.20 This is due to the SES scheme decreasing HGV flows on the A41 (between A418 Oxford Road and the boundary of CFA12), and the A418 Oxford Road (between the route and the A41 in Aylesbury), as these sections of roads are no longer used for the movement of excavated material. All junctions assessed in the main TA are therefore now unlikely to experience additional intermittent traffic congestion and delay during peak periods.

Operation description

3.5.21 This is as described in Section 7.7 of the main TA.

Assessment of operation impacts

Pedestrians, cyclists and equestrians

3.5.22 Construction of noise mitigation on the A4010 Stoke Mandeville Bypass (AP2-011-002) has resulted in an additional PRoW in the study area (ELL/2 - public footpath) being subject to permanent realignment.

3.5.23 Table 7-97 is amended to also include the following additional PRoW permanent realignment.

Table 7-97: Stoke Mandeville and Aylesbury summary of PRoW severance (operation)

PRoW	Location	Location (chainage)	Permanent Diversion Route	Daily Users	Maximum Diversion Length	Maximum Diversion Journey Time (nearest minute)
ELL/2 (public footpath)	Stoke Mandeville	57+800	Minor offset of existing alignment, to west of existing alignment, between two landscape earthworks "bunds".	-	40m	1 min

3.6 Waddesdon and Quainton (CFA12)

Waddesdon and Quainton (CFA12) AP2 revised scheme changes

3.6.1 The original scheme through this area is as described in paragraphs 7.8.1 to 7.8.15 of the main TA.

3.6.2 Scheme changes in other CFAs have necessitated a revision to the movement of excavated material by road. These changes include:

- removal of the sustainable placement area at Hunt's Green Farm in Dunsmore, Wendover and Halton (CFA10) (SES-010-199); and
- reduction of earthworks near Lower Boddington in Greatworth to Lower Boddington (CFA15) (SES-015-200).

3.6.3 Whilst originating in other CFAs, these SES design changes have resulted in the following changes to forecast HGV traffic flows within Waddesdon and Quainton (CFA12) during construction, in comparison to the original scheme:

- A41, between the A418 Oxford Road (in CFA11) and Blackgrove Road; The Broadway (Grendon Underwood), Grendon Road/Buckingham Road, between Perry Hill and Main Street; The Broadway, between Main Street and the A41 Aylesbury Road; and Perry Hill, between Buckingham Road and the boundary with Calvert, Steeple Claydon, Twyford and Chetwode (CFA13) – these sections of roads are no longer used for the movement of excavated material, resulting in a decrease in HGV flows;
- A41, between Blackgrove Road and The Broadway (Grendon Underwood), a decrease in HGV flows; and
- A41, between The Broadway (Grendon Underwood) and the boundary with CFA13, this section of road (between The Broadway and the A4421 located in CFA13) is now used for the movement of excavated material, resulting in an increase in HGV flows.

3.6.4 The AP2 revised scheme makes amendments to the original scheme and those changes which have an impact on traffic and transport, are detailed below:

- revised location for the National Grid substation near Quainton (AP2-012-004), resulting in an additional public rights of way (PRoW) in CFA12 being subject to permanent realignment during operation.

3.6.5 A correction has been made to the forecast number of workforce trips to some compounds. This has resulted in a small change in peak hour, all vehicle, construction trips on a number of roads.

3.6.6 The above changes lead to a number of amendments to the main TA in Waddesdon and Quainton (CFA12).

3.6.7 Whilst Perry Hill, between Buckingham Road in CFA12 and West Street overbridge main compound in CFA13 is no longer used for the movement of excavated material, the assessment for Perry Hill as a complete link is reported in CFA13 in the main TA.

Existing baseline

3.6.8 Baseline conditions are described in Section 5.14 of the main TA.

Assessment methodology

3.6.9 The assessment methodology is described in Section 7.2 of the main TA.

Future baseline

3.6.10 Future baseline traffic conditions are described in Section 7.8 of the main TA.

Construction description

Construction trip assumptions

Trip generation

3.6.11 Table 7-99 which showed typical vehicle trip generation for construction site compounds is amended as described below. Where trip generation values are stated, the lower end of the range shows the average number of daily two-way trips in the busy period and the upper end the average during the peak month.

3.6.12 The average daily two-way HGV trips generated by the A41 Bicester Road overbridge satellite compound is revised to 310-370, compared to 370-380 in the original scheme (Cars/LGV trips are also amended from 10-20 to 30-50).

3.6.13 In addition, there have been small changes to the number of car/LGV daily trips generated at a number of compounds. These result in changes of 16 or less two-way trips per day, but does not alter the outcome of main technical assessment.

Assignment

3.6.14 Paragraph 7.8.45 summarising construction routes is amended to remove 'A41 (across the study area), The Broadway/Edgcott Road (Grendon Underwood), Grendon Road/Buckingham Road (Edgcott) and Perry Hill (between Buckingham Road and the boundary with CFA13)', as excavated material is no longer transported on these links, apart from a section of the A41 within this CFA. This text within paragraph 7.8.45 is replaced by 'A41, between Blackgrove Road (Waddeson) and the boundary with CFA13'.

3.6.15 Paragraph 7.8.48 is amended to remove '470 cars/LGVs per day and 20 HGVs' and replace this text with '235 cars/LGVs and 20 HGVs per day (two-way)' and paragraph 7.8.49 is amended to remove '310 cars/LGVs per day (two-way) and 20 HGVs per day (two-way)' and replace this text with '220 cars/LGVs and 20 HGVs per day (two-way)'. The decrease in cars/LGVs flows is a result of corrections to construction traffic flows the A41 and Perry Hill.

PRoW closures and diversions

3.6.16 The revised location for the National Grid substation near Quainton (AP2-C222-004) has resulted in an additional PRoW in the study area (QUA/35/2 - public footpath) subject to permanent realignment. This PRoW should therefore also be listed in paragraph 7.8.57. The impact on this PRoW is presented under the operation impacts section.

Assessment of construction impacts

Highway network

Strategic road network

3.6.17 The following tables replace Table 7-101 and Table 7-102.

Table 7-101: Waddesdon and Quainton strategic road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A41, between A418 Oxford Road (in CFA11) and Blackgrove Road (in CFA12)	EB	913	1058	1091	129	33	3	3%	2%
	WB	633	734	776	101	42	3	6%	3%
A41 Akeman Road/High Street, between Blackgrove Road and The Broadway (Grendon Underwood)	EB	912	1045	1088	101	43	26	4%	34%
	WB	722	827	862	95	35	26	4%	37%
A41 between The Broadway (Grendon Underwood) and the A4421 (Bicester) (CFA13)	EB	912	1011	1063	99	52	26	5%	35%
[Note this is a new link reported, with 10% or more increase in peak hour flow]	WB	722	801	827	93	26	26	3%	38%

Table 7-102: Waddesdon and Quainton strategic road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A41, between A418 Oxford Road (in CFA11) and Blackgrove Road (in CFA12)	EB	697	812	852	65	39	1	5%	2%
	WB	832	969	1000	69	31	1	3%	2%
A41 Akeman Road/High Street, between Blackgrove Road and The Broadway (Grendon Underwood)	EB	767	886	918	53	32	23	4%	78%
	WB	756	873	914	49	41	23	5%	92%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
A41 between The Broadway (Grendon Underwood) and the A4421 (Bicester) (CFA13)	EB	767	854	878	52	24	23	3%	81%
[Note this is a new link reported, with 10% or more increase in peak hour flow]	WB	756	842	891	48	49	23	6%	96%

Local road network

3.6.18 The following tables replace Table 7-103 and Table 7-104.

Table 7-103 - Waddesdon and Quainton local road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
Grendon Road/ Buckingham Road, between Perry Hill and Main Street (Grendon Underwood)	NB	239	274	334	9	60	1	22%	19%
	SB	89	102	104	7	2	1	2%	27%
The Broadway (Grendon Underwood), between Main Street (Grendon Underwood) and A41 Aylesbury Road	NB	109	125	185	7	60	1	48%	27%
	SB	220	253	254	10	2	1	1%	18%

Table 7-104 - Waddesdon and Quainton local road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGVs	All vehicles	HGVs	All vehicles	HGVs
Grendon Road/ Buckingham Road, between Perry Hill and Main Street (Grendon Underwood)	NB	239	274	96	1	1	<1	1%	87%
	SB	89	102	294	2	59	<1	25%	33%
The Broadway (Grendon Underwood), between Main Street (Grendon Underwood) and A41 Aylesbury Road	NB	109	125	234	1	1	<1	0%	433%
	SB	220	253	154	1	59	<1	62%	108%

3.6.19 The SES scheme has resulted in the general reduction of HGV movements across CFA12, in comparison to those presented in the main TA, with the A41 between Blackgrove Road and the boundary with CFA11, The Broadway (Grendon Underwood) between Main Street and A41 Aylesbury Road, and Grendon Road/Buckingham Road between Perry Hill and Main Street (Grendon Underwood) no longer used for the movement of excavated material. However, the SES scheme has introduced the movement of excavated material on the A41 between The Broadway (Grendon Underwood) and the A4421 (Bicester, in CFA13), which increases HGV flows on this section of road, in comparison to those presented in the main TA.

3.6.20 Paragraph 7.8.69 is to be is replaced by:

"Lorry routes which will be used for the movement of excavated material (although in addition may also have an increase in other scheme-related traffic) is the A41, between Blackgrove Road (Waddeson) and the boundary with CFA13."

Junction capacity

3.6.21 Removal of paragraphs 7.8.73 to 7.8.80, with replacement paragraph 7.8.73:

"No junctions within the study area meet the junction assessment criteria and therefore none are considered to be substantially impacted by the scheme."

3.6.22 This is due to the SES scheme reducing HGV flows on the A41 between The Broadway (Grendon Underwood) and the boundary with CFA11, The Broadway (Grendon Underwood) between Main Street and A41 Aylesbury Road, and Grendon Road/Buckingham Road between Perry Hill and Main Street (Grendon Underwood). All junctions assessed in the main TA are therefore now unlikely to experience additional intermittent traffic congestion and delay during peak periods.

Operation description

3.6.23 This is as described in Section 7.8 of the main TA.

Assessment of operation impacts

Pedestrians, cyclists and equestrians

3.6.24 The revised location for the National Grid substation near Quainton (AP2-012-004) has resulted in an additional PRoW in the study area (QUA/35/2 - public footpath) subject to permanent realignment.

3.6.25 Table 7-117 is amended to also include the following additional PRoW permanent realignment:

Table 7-117 - Waddesdon and Quainton summary of PRoW severance (operation)

PRoW	Location	Location (chainage)	Permanent Diversion Route	Daily Users	Maximum Diversion Length	Maximum Diversion Journey Time (nearest minute)
QUA/35/2 (public footpath)	Quainton	074+200	Permanent diversion to the north east around national grid substation.	-	50m	1 min

3.7 Calvert, Steeple Claydon, Twyford and Chetwode (CFA13)

Calvert, Steeple Claydon, Twyford and Chetwode (CFA13) AP2 revised scheme changes

3.7.1 The original scheme through this area is as described in paragraphs 7.91. to 7.9.17 of the main TA.

3.7.2 Scheme changes in other CFAs have necessitated a revision to the movement of excavated material by road. These changes include:

- removal of the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-199); and
- reduction of earthworks near Lower Boddington in CFA15 (SES-015-200).

3.7.3 Whilst originating in other CFAs, these SES scheme changes have resulted in the following changes to forecast HGV traffic flows within Calvert, Steeple Claydon, Twyford and Chetwode (CFA13) during construction, in comparison to the original scheme:

- Perry Hill between the boundary of CFA12 and West Street overbridge main compound (located between School Hill and West Street) - this section of road (between Buckingham Road located in CFA12 and West Street overbridge main compound) is no longer used for the movement of excavated material, resulting in a decrease in HGV flows;
- Perry Hill between West Street overbridge main compound and Gawcott, Buckingham Road/ Gawcott Road and the A421 between Buckingham Road/ Gawcott Road and the A4421 – a decrease in HGV flows; and
- A41 between the boundary of CFA12 and the A4421 (Bicester) – this section of road (between The Broadway located in CFA12 and the A4421) is now used for the movement of excavated material, resulting in an increase in HGV flows.

3.7.4 The AP2 revised scheme makes amendments to the original scheme and those changes which have an impact on traffic and transport are:

- bridleway diversion and footpath upgrades at Calvert Landfill site (AP2-013-001), resulting in three new public rights of way (PRoW) in CFA13 being permanently realigned. The amendment will provide a more suitable bridleway route for horse riders during operation;
- temporary realignment of School End at Chetwode (AP2-013-008), resulting in School End remaining open to traffic during construction, via a temporary offline diversion. This has resulted in a decrease in all vehicle flows on Manor Farm Lane and the A4421, between Manor Farm Lane and Watergate Farm Lane (note that the A4421 is located within CFA14 and therefore reported on within that chapter).

3.7.5 A correction has been made to the forecast number of workforce trips to some compounds. This has resulted in a small change in peak hour, all vehicle, construction trips on a number of roads.

3.7.6 The above changes lead to a number of amendments to the main TA in Calvert, Steeple Claydon, Twyford and Chetwode (CFA13).

Existing baseline

3.7.7 Baseline conditions are described in Section 5.15 of the main TA.

Assessment methodology

3.7.8 The assessment methodology is described in Section 7.2 of the main TA.

Future baseline

3.7.9 Future baseline traffic conditions are described in Section 7.9 of the main TA.

Construction description

Construction trip assumptions

Trip generation

3.7.10 Table 7-124 which showed typical vehicle trip generation for construction site compounds is amended as described below. Where trip generation values are stated, the lower end of the range shows the average number of daily two-way trips in the busy period and the upper end the average during the peak month.

3.7.11 The average daily two-way HGV trips generated by the West Street overbridge and Calvert railhead main compounds is revised to 40-60, compared to 470-1,240 in the original scheme (Cars/LGV trips are also amended from 650-1,240 to 1,030-1,280).

3.7.12 In addition, there have been small changes to the number of car/LGV daily trips generated at at a number of compounds. These result predominantly in changes of 18 or less two-way trips per day, but does not alter the outcome of main technical assessment

Assignment

3.7.13 Paragraph 7.9.51 summarising construction routes is amended to replace 'Perry Hill (between boundary with CFA12 and Gawcott)' with 'Perry Hill, between West Street overbridge main compound and Gawcott'. This is due to the removal of excavated material movement from Perry Hill, between West Street overbridge main compound and the boundary with CFA12.

3.7.14 Paragraph 7.9.54 is amended to remove '190 cars/LGVs per day (two-way) and 10 HGVs per day (two-way)' and to be replaced by '135 cars/LGVs and 10 HGVs per day (two-way)', and paragraph 7.9.55 is amended to remove '140 cars/LGVs per day (two-way) and 30 HGVs per day (two-way)' and to be replaced by '125 cars/LGVs and 10 HGVs per day (two-way)'. The decrease in cars/LGV flows is a result of corrections to construction traffic flows on the A421, the A4421 and the A41.

Traffic management, road closures and diversions

3.7.15 Removal of 'School End' row in Table 7-125 and paragraph 7.9.59, as School End which was temporarily closed during construction of the original scheme, with temporary diversion of traffic, is now remaining open, via a temporary offline diversion in the AP2 revised scheme (AP2-013-008).

PRoW closures and diversions

3.7.16 The bridleway diversion and footpath upgrades at Calvert Landfill site (AP2-013-001), has resulted in three new public rights of way (PRoW) in CFA13 being permanently realigned in comparison to the original scheme. The impact on these PRoW is outlined in paragraphs 3.7.28 and 3.7.29 of this TA.

Assessment of construction impacts

Highway network

3.7.17 The reduction in flows specific to the AP2 revised scheme (AP2-013-008) is on Manor Farm Lane, due to the removal of the traffic diversion in relation to the temporary closure of School End in the original scheme. The decrease in all vehicle flows on the A4421, between Manor Farm Lane and Watergate Farm Lane, also associated with this design change, is reported in CFA14.

Strategic and local road network

3.7.18 The following tables replace Table 7-127 and Table 7-128.

Table 7-127: Calvert, Steeple Claydon, Twyford and Chetwode strategic and local road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A41 between The Broadway (Grendon Underwood) (CFA12) and the A4421 (Bicester)	EB	912	1011	1063	99	52	26	5%	35%
[Note this is a new link reported, with 10% or more increase in peak hour flow]	WB	722	801	827	93	26	26	3%	38%
Perry Hill (between Buckingham Road and School Hill)	NB	110	126	183	7	57	1	45%	27%
(correction to link name 'Perry Hill (between School Hill and Edgcott)' in the main TA)	SB	167	192	197	5	5	1	3%	47%
Perry Hill (between School Hill and West Street)	NB	84	96	301	5	205	4	213%	229%
	SB	92	105	235	11	130	6	123%	140%
Perry Hill (between West Street and Gawcott)	NB	130	149	154	14	5	5	3%	56%
	SB	123	141	169	15	27	5	19%	49%
Manor Farm Lane	EB	22	24	24	0	0	0	0%	0%
	WB	15	17	17	0	0	0	0%	0%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Buckingham Rd/ Gawcott Road	NB	159	182	187	7	5	5	22%	19%
	SB	96	110	125	6	14	5	2%	27%

Table 7-128: Calvert, Steeple Claydon, Twyford and Chetwode strategic and local road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A41 between The Broadway (Grendon Underwood) (CFA12) and the A4421 (Bicester) [Note this is a new link with 10% or more increase in peak hour flow]	EB	767	854	878	52	24	23	3%	81%
	WB	756	842	891	48	49	23	6%	96%
Perry Hill (between Buckingham Road and School Hill) (correction to link name 'Perry Hill (between School Hill and Edgcott)' in the main TA)	NB	NB	203	207	4	4	0	2%	14%
	SB	SB	116	171	7	56	0	48%	7%
Perry Hill (between School Hill and West Street)	NB	95	110	331	2	221	1	201%	189%
	SB	61	70	178	6	108	4	154%	139%
Perry Hill (between West Street and Gawcott)	NB	134	155	181	6	26	4	17%	178%
	SB	113	131	135	13	4	4	3%	44%
Manor Farm Lane	EB	22	25	25	0	0	0	0%	0%
	WB	14	15	15	0	0	0	0%	0%
Buckingham Rd/ Gawcott Road	NB	94	109	122	4	13	4	1%	87%
	SB	96	110	125	6	4	4	2%	27%

3.7.19 The SES scheme has resulted in a reduction of HGV movements on Perry Hill between the boundary of Waddesdon and Quainton (CFA12) and West Street overbridge main

compound, with this section of road no longer used for the movement of excavated material.

3.7.20 There is also a decrease in HGV movements on Perry Hill, between West Street and Gawcott, Buckingham Road/ Gawcott Road and the A421, between Buckingham Road/ Gawcott Road and the A4421, although these roads are still used for the movement of excavated material. There is, however, an increase in HGV movement on the A41 between the boundary of CFA12 and the A4421 (Bicester), as this section of road (between The Broadway located in CFA12 and the A4421) is now used for the movement of excavated material.

3.7.21 Amendment to paragraph 7.9.83 to remove the third bullet point 'Manor Farm Lane (between School End and A4421), A4421 (between Manor Farm Lane and Watergate Farm Lane) and Watergate Farm Lane (between A4421 and School End), for up to one year and six months from January 2018', as the AP2 revised scheme (AP2-013-008) results in School End being kept open during construction.

3.7.22 Amendment to paragraph 7.9.84 to replace 'Perry Hill (between boundary with CFA12 and Gawcott)' with 'Perry Hill, between West Street overbridge main compound and Gawcott'. This is due to the removal of excavated material movement from Perry Hill, between West Street overbridge main compound and the boundary with CFA12, in the SES scheme.

Junction capacity

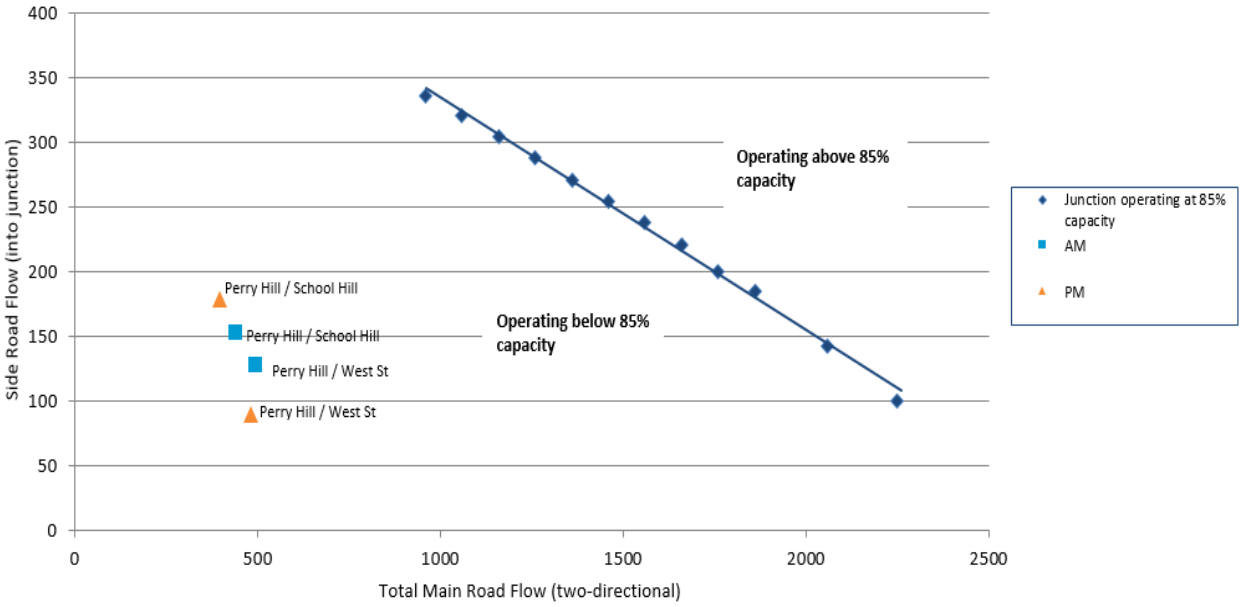
3.7.23 Priority junctions meeting the assessment criteria have been re-assessed based upon adjusted traffic flows within CFA13 as a result of the SES scheme and corrections to the main TA. Table 7-129 is replaced by the following table.

Table 7-129: Calvert, Steeple Claydon, Twyford and Chetwode priority junction flows

Junction	2021 With HS2 construction traffic			
	AM peak		PM peak	
	Main road flow (PCUs)	Side road flow (PCUs)	Main road flow (PCUs)	Side road flow (PCUs)
Perry Hill / West Street	491	129	481	89
Perry Hill / School Hill	436	153	395	178

3.7.24 Figure 7-13 is replaced by the following figure.

Figure 7-13: Calvert, Steeple Claydon, Twyford and Chetwode priority junction assessment 2021



3.7.25 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, with these priority junctions not forecast to be close to their theoretical capacity of 85% during construction.

3.7.26 Paragraph 7.9.95 is amended so that the assessment for the A421 with A4421 and Sandpit Hill junction is changed from 'increased traffic during the most intensive periods of construction may potentially cause additional intermittent traffic congestion and delay' to 'increased traffic during the most intensive periods of construction in unlikely to cause additional intermittent traffic congestion and delay'. This is due to the removal of the movement of excavated material on the A421, between the A4421 and the A43, at the border with CFA14.

Operation description

3.7.27 This is as described in Section 7.9 of the main TA.

Assessment of operation impacts

Pedestrians, cyclists and equestrians

3.7.28 The bridleway diversion and footpath upgrades at Calvert Landfill site (AP2-013-001), has resulted in three new public rights of way (PRoW) in CFA13 being permanently realigned in comparison to the original scheme. The amendment will provide a more suitable bridleway route for horse riders during operation.

3.7.29 The amendments to Table 7-140 arising from changes to the original scheme are shown in the following table.

Table 7-140: Calvert, Steeple Claydon, Twyford and Chetwode summary of PRoW severance (operation)

PRoW	Location	Location (chainage)	Permanent Diversion Route	Daily Users	Maximum Diversion Length	Maximum Diversion Journey Time (nearest minute)
Bridleway GUN/25/1	Calvert	076+600	Permanently realigned to west of Calvert Landfill site via bridleways GUN/35/1, GUN/36/1 and GUN/36/2, and footpaths GUN/24/1, GUN/23/1, CAG/1/1, EDG/12/1, CAG/4/3 and CAG/5/1	7	2.2km	26 minutes (pedestrian walking pace)
Bridleway CAG/3/1	Calvert	076+600	Permanently realigned to west of Calvert Landfill site via bridleways GUN/35/1, GUN/36/1 and GUN/36/2, and footpaths GUN/24/1, GUN/23/1, CAG/1/1, EDG/12/1, CAG/4/3 and CAG/5/1	1	2.2km	26 minutes (pedestrian walking pace)
Bridleway SCL/18	Calvert	076+600	Permanently realigned to west of Calvert Landfill site via bridleways GUN/35/1, GUN/36/1 and GUN/36/2, and footpaths GUN/24/1, GUN/23/1, CAG/1/1, EDG/12/1, CAG/4/3 and CAG/5/1	0	2.2km	26 minutes (pedestrian walking pace)

3.8 Newton Purcell to Brackley (CFA14)

Newton Purcell to Brackley (CFA14) AP2 revised scheme changes

3.8.1 The original scheme through this area is as described in paragraphs 7.10.1 to 7.10.17 of the main TA.

3.8.2 Scheme changes in other CFAs have necessitated a revision to the movement of excavated material by road. These changes include:

- removal of the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001); and
- reduction of earthworks near Lower Boddington in CFA15 (SES-015-001).

3.8.3 Whilst originating in other CFAs, these SES scheme changes have resulted in the following changes to forecast HGV traffic flows within Newton Purcell to Brackley (CFA14) during construction, in comparison to the original scheme:

- A421, between the A4421 and the A43 – this section of road is no longer used for the movement of excavated material, resulting in a decrease in HGV flows;
- A43 between the A422 and M40, and the A422 Brackley Road between the A43 and the route – decrease in HGV flows; and
- A4421 Buckingham Road between the A421 and the A41 – this section of road is now used for the movement of excavated material, resulting in an increase in HGV flows.

3.8.4 The AP2 revised scheme makes amendments to the original scheme and those changes which have an impact on traffic and transport in comparison to the original scheme are:

- temporary diversion of Featherbed Lane and relocation of Featherbed Lane overbridge satellite compound (AP2-014-001), resulting in Featherbed Lane remaining open to traffic during construction; and a change of access to Featherbed Lane overbridge and Tibbetts Farm express feeder autotransformer station satellite construction compounds from Featherbed Lane in the original scheme to via haul road from the A421 in the AP2 revised scheme. This has resulted in a reduction in all vehicle flows on Fullwell Road, between A421 London Road and Featherbed Lane, Featherbed Lane, between the route and A421 London Road, and the A421 London Road between Featherbed Lane and the A4421;
- realignment of Footpath 303/7 (AP2-014-002), resulting in a public right of way (PRoW) in CFA14 being subject to permanent realignment of a different distance to that of the original scheme during operation;
- realignment of Footpath BD8 (AP2-014-005), resulting in a PRoW in CFA14 being subject to permanent realignment of a different distance to that of the original scheme during operation;
- provision of a green bridge at Radstone, changes to environmental mitigation

and realignment of Footpath AX15 (AP2-014-006), resulting in a PRoW in CFA14 being subject to permanent realignment of a different distance to that of the original scheme during operation; and

- footpath AX7 diversion (AP2-014-007), resulting in a PRoW in CFA14 being subject to permanent realignment of a different distance to that of the original scheme during operation.

3.8.5 A correction has been made to the forecast number of workforce trips to some compounds. This has resulted in a small change in peak hour, all vehicle, construction trips on a number of roads.

3.8.6 The above changes lead to a number of amendments to the main TA in Newton Purcell and Brackley (CFA14).

3.8.7 It is to be noted that the AP2 revised scheme in the adjoining CFA13 results in School End remaining open to traffic during construction, whereas it was previously temporarily closed with a diversion of traffic in the original scheme (AP2-013-008). This has resulted in a decrease in all vehicle flows on the A4421, between Manor Farm Lane and Watergate Farm Lane within CFA14, as reported later in this CFA chapter.

Existing baseline

3.8.8 Baseline traffic conditions are described in Section 5.16 of the main TA.

Assessment methodology

3.8.9 The assessment methodology is described in Section 7.2 of the main TA.

Future baseline

3.8.10 Future baseline traffic conditions are described in Section 7.10 of the main TA.

Construction description

Construction trip assumptions

Trip generation

3.8.11 Table 7-147 which showed typical vehicle trip generation for construction site compounds is amended as described below. Where trip generation values are stated, the lower end of the range shows the average number of daily two-way trips in the busy period and the upper end the average during the peak month.

3.8.12 The average daily two-way HGV trips generated by the A4421 Buckingham Road overbridge satellite compound is revised to 360-370, compared to less than 10 in the original scheme (cars/LGV trips are also amended from 120-140 to 20-30). Average daily two-way HGV trips generated by the A422 Brackley Road overbridge satellite compound are revised to 'up to 10', compared to 850-1,430 in the original scheme (cars/LGV trips are also amended from 30-50 to up to 10). Average daily two-way HGV trips generated by the Turweston Green overbridge satellite compound are revised to 1,150-1,160, compared to 'less than 10' in the original scheme (cars/LGV trips are also amended from 50-60 to 40-60).

3.8.13 In addition, there have been small changes to the number of car/LGV daily trips generated at a number of compounds. These result predominantly in changes of 18 or less two-way trips per day, but does not alter the outcome of main technical assessment.

Assignment

3.8.14 Paragraph 7.10.47 summarising construction routes is amended to remove 'A421 (between boundary with CFA13 and the A43)', as excavated material is no longer transported on this section of road, and replaced by 'A4421 Buckingham Road between the A421 and the A41', which is a new section of road used for the movement of excavated material.

3.8.15 Paragraph 7.10.50 is amended to remove '110 cars/LGVs per day and 50 HGVs' and replace this text with '90 cars/LGVs and 50 HGVs per day (two-way)' and paragraph 7.10.51 is amended to remove '35 cars/LGVs per day (two-way) and 10 HGVs per day (two-way)' and replace this text with '20 cars/LGVs per day (two-way) and 10 HGVs per day (two-way)'. The decrease in cars/LGV flows is a result of corrections to construction traffic flows on the B4525 Welsh Lane, the A421 and Manor Farm Lane.

Construction lorry routes

3.8.16 Paragraph 7.10.52 is amended to remove 'Featherbed Lane overbridge and Tibbetts Farm express feeder autotransformer station satellite compounds will be accessed via Featherbed Lane from A421 London Road and A43 Oxford Road' and replaced by 'Featherbed Lane overbridge and Tibbetts Farm express feeder autotransformer station satellite construction compounds will be accessed via haul road from A421 London Road and A43 Oxford Road'. This change in access is a result of the AP2 revised scheme (AP2-014-001).

Traffic management, road closures and diversions

3.8.17 Removal of paragraphs 7.10.53 to 7.10.55, as Featherbed Lane which was temporarily closed during construction of the original scheme with temporary diversion of traffic, is now remaining open via a temporary offline diversion to the south of the route, in the AP2 revised scheme (AP2-014-001).

PRoW closures and diversions

3.8.18 The realignment of Footpath 303/7 (AP2-014-002), the realignment of Footpath BD8 (AP2-014-005), Footpath AX7 diversion (AP2-014-007), and provision of a green bridge at Radstone, with realignment of Footpath AX15 (AP2-014-006), has resulted in PRoW in CFA14 being permanently realigned, as per the original scheme, but by different distances.

Assessment of construction impacts

Highway network

3.8.19 The reduction in flows specific to the AP2 revised scheme (AP2-014-001) are on the A421 (London Road), Featherbed Lane and Fullwell Road, due to the removal of the traffic diversion in relation to the temporary closure of Featherbed Lane in the original scheme, and also the revised access to Featherbed Lane overbridge and Tibbetts Farm express feeder autotransformer station satellite construction compound.

3.8.20 The AP2 revised scheme in the adjoining CFA13 results in School End remaining open to traffic during construction, whereas it was previously temporarily closed with a diversion of traffic in the original scheme (AP2-013-008). This has resulted in a decrease in all vehicle flows on the A4421, between Manor Farm Lane and Watergate Farm Lane, located within CFA14. The flows presented are also therefore inclusive of the design change AP2-013-008 in CFA13.

Strategic road network

3.8.21 The following tables replace Table 7-150 and Table 7-151.

Table 7-150: Newton Purcell to Brackley strategic road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A422 Brackley Road, between A43 Oxford Road and the route (A422 Brackley Road overbridge satellite construction compound)	EB	371	492	597	84	106	74	22%	747%
	WB	357	444	549	81	106	74	24%	1037%
A4421 Buckingham Road, between Barton Hartshorn and Bicester Road (Bicester) Named as 'A4421 Buckingham Road, between A421 London Road and Bicester Road (Bicester)' in the main TA.	NB	465	515	554	34	39	23	7%	207%
	SB	551	611	634	35	23	23	4%	189%
A4421 Buckingham Road, between Barton Hartshorn and the A421 London Road Note: this is a new link with over 10% increase in traffic	NB	447	496	500	32	4	4	1%	15%
	SB	553	613	633	35	20	4	3%	13%
A421, between the A4421 and A43 Named as 'A421 London Road, between A4421 Buckingham Road and A421 London Road overbridge satellite compound' in the main TA	EB	473	524	549	26	24	2	5%	7%
	WB	410	454	471	28	17	2	4%	6%
A43 between M40 j10 and A421 London Road	NB	1097	1264	1378	246	114	76	9%	44%
	SB	1132	1343	1419	233	76	76	6%	48%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A43 Oxford Road between A421 London Road and the A43 Oxford Road / A422 Brackley Road junction	NB	1132	1299	1413	233	114	76	9%	48%
	SB	1508	1719	1795	276	76	76	4%	38%
A43 Oxford Road, between A422 Brackley Road (west) and A422 Brackley Road (east)	NB	1216	1420	1534	238	114	76	8%	47%
	SB	1433	1588	1664	281	76	76	5%	37%

Table 7-151: Newton Purcell to Brackley strategic road network construction traffic flows (vehicles) - PM peak – AP2 scheme

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A422 Brackley Road, between A43 Oxford Road and the route (A422 Brackley Road overbridge satellite construction compound)	EB	315	434	539	75	104	73	24%	2755%
	WB	336	469	573	76	104	73	22%	2025%
A4421 Buckingham Road, between Barton Hartshorn and Bicester Road (Bicester) Named as 'A4421 Buckingham Road, between A421 London Road and Bicester Road (Bicester)' in the main TA.	NB	676	752	775	37	23	23	3%	156%
	SB	490	546	584	28	38	23	7%	407%
A4421 Buckingham Road, between Barton Hartshorn and the A421 London Road Note: this is a new link with over 10% increase in traffic	NB	668	744	763	34	19	4	3%	13%
	SB	485	540	544	22	4	4	1%	21%
A421, between the A4421 and A43 Named as 'A421 London Road, between A4421 Buckingham Road and A421 London Road overbridge satellite compound' in the main TA	EB	405	451	466	17	15	1	3%	3%
	WB	476	530	553	18	23	1	4%	3%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A43 between M40 j10 and A421 London Road	NB	1497	1711	1784	240	73	73	4%	44%
	SB	1672	1898	2009	235	111	73	6%	45%
A43 Oxford Road between A421 London Road and the A43 Oxford Road / A422 Brackley Road junction	NB	1672	1886	1959	235	73	73	4%	45%
	SB	1217	1443	1554	190	111	73	8%	63%
A43 Oxford Road, between A422 Brackley Road (west) and A422 Brackley Road (east)	NB	1506	1674	1747	233	73	73	4%	46%
	SB	1333	1556	1667	194	111	73	7%	60%

Local road network

3.8.22 The following tables replace Table 7-152 and Table 7-153.

Table 7-152: Newton Purcell to Brackley local road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Featherbed Lane (also known as Fulwell Lane), between the route and the A421 London Road	NB	24	26	58	3	32	2	123%	360%
	SB	20	22	23	1	1	1	5%	-
Fulwell Road/Valley Road/Mere Road/Sandpit Hill, between the A421 London Road (Finmere) and Featherbed Lane	EB	18	19	19	3	0	0	0%	0%
	WB	28	31	60	0	29	0	95%	0%

Table 7-153: Newton Purcell to Brackley local road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Featherbed Lane (also known as Fulwell Lane), between the route and the A421 London Road	NB	16	18	19	1	1	1	6%	-
	SB	14	16	45	0	29	0	187%	0%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Fulwell Road/Valley Road/Mere Road/Sandpit Hill, between the A421 London Road (Finmere) and Featherbed Lane	EB	15	16	45	1	29	0	180%	0%
	WB	19	21	21	0	0	0	0%	0%

3.8.23 The SES scheme has resulted in a decrease in HGV movements on the A421, between the A4421 and the A43, as this section of road is no longer used for the movement of excavated material. There are also decreases in HGV movements on the A43 between the A422 and M40, and the A422 Brackley Road between the A43 and the route, in relation to a change in the movement of excavated material. There is an increase in HGV movements on the A4421 Buckingham Road between the A421 and the A41, as this road is now used for the movement of excavated material.

3.8.24 Paragraphs 7.10.75 and 7.10.77 should be removed as the AP2 revised scheme (AP2-014-001) results in Featherbed Lane remaining open to traffic during construction, via a temporary offline diversion to the south of the existing alignment.

3.8.25 Paragraph 7.10.78 is to be amended so that bullet point 'A421 London Road (between the boundary with CFA13 and the A43 Oxford Road' be removed and replacement text 'A4421 Buckingham Road between the A421 and the A41' included.

Junction capacity

3.8.26 The A421 London Road with the A4421 Buckingham Road and Sandpit Hill junction was incorrectly assessed and reported on within CFA14 in the main TA, as it is actually located in CFA13. For consistency with the main TA, however, this junction is again reported within this CFA14 chapter.

3.8.27 Amendment to paragraph 7.10.82, to remove the junctions: A421 London Road with Featherbed Lane and A421 London Road with A4421 Buckingham Road and Sandpit Hill. This is due to the SES scheme reducing HGV flows on the A421, between the A4421 and the A43, as this section of road is no longer used for the movement of excavated material. These junctions assessed in the main TA are therefore now unlikely to experience additional intermittent traffic congestion and delay during peak periods.

3.8.28 Amendment of paragraph 7.10.82, to add the following junctions: A4421 with Stoke Lyne Road and access to Stratton Audley; A4421 with Stratton Audley Road; A4421 with Thompson Drive; A4421 with Bicester Road; A4421 with Skimmingdish Lane; and A4421 with Southwold Lane. These junctions now meet the assessment criteria, due to an increase in HGV flows relating to the movement of excavated material on the A4421 Buckingham Road, between the A421 and the A41.

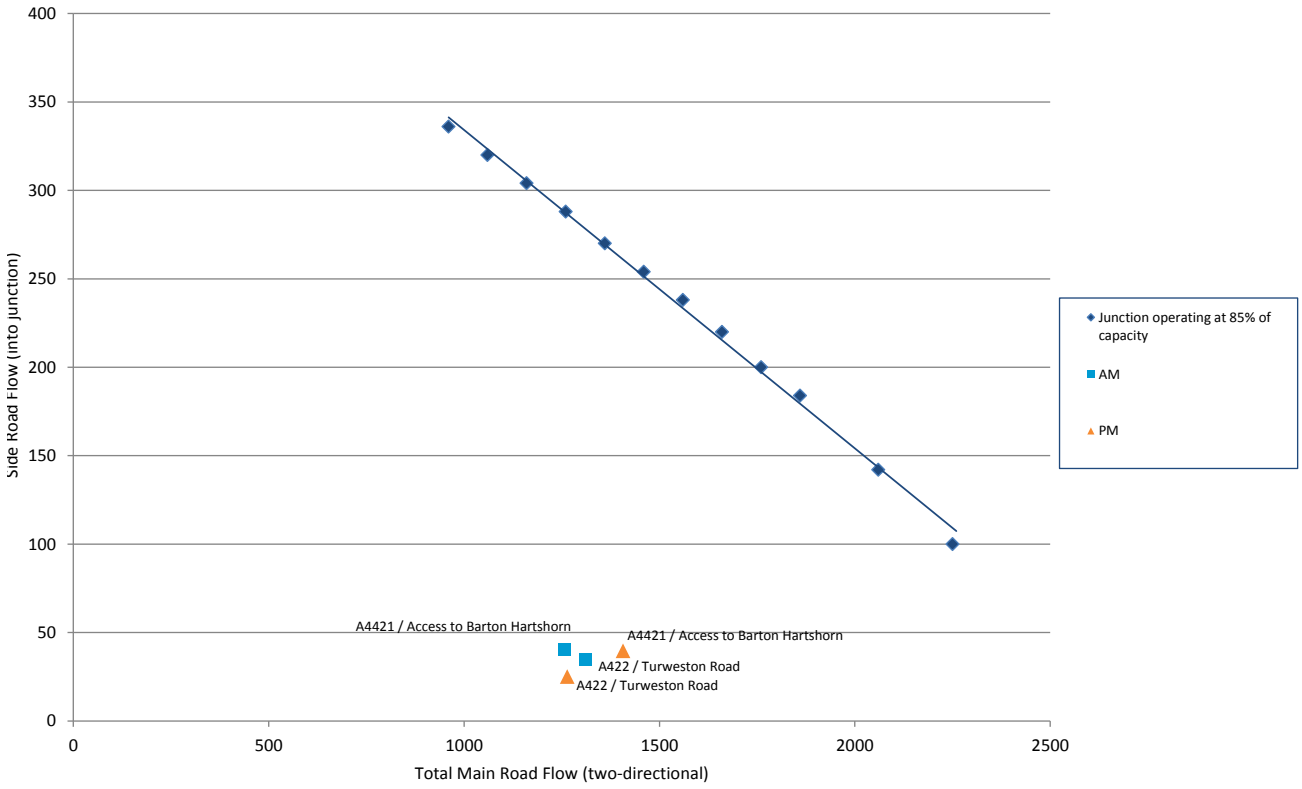
3.8.29 Priority junctions which still meet the assessment criteria have been reassessed based upon adjusted traffic flows within CFA14 as a result of the SES scheme and corrections to the main TA. Table 7-154 is replaced by the following table.

Table 7-154: Newton Purcell to Brackley priority junction flows

Junction	2021 With HS2 construction traffic			
	AM peak		PM peak	
	Main road flow (PCUs)	Side road flow (PCUs)	Main road flow (PCUs)	Side road flow (PCUs)
A422 / Turweston Road / South Bank	1312	35	1264	25
A4421 / Access to Barton Hartshorn	1257	41	1407	40

3.8.30 Figure 7-15 is replaced by the following figure.

Figure 7-15: Newton Purcell to Brackley priority junction assessment 2021



3.8.31 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, with these priority junctions not forecast to be close to their theoretical capacity of 85% during construction.

3.8.32 Amendment to paragraph 7.10.88 to include the following junctions, which now meet the assessment criteria based upon the SES scheme. The qualitative assessment indicates that increased traffic during the most intensive periods of construction is unlikely to cause additional traffic congestion and delay at these junctions during peak periods:

- A4421 with Stoke Lyne Road and access to Stratton Audley;
- A4421 with Stratton Audley Road;
- A4421 with Thompson Drive;

- A4421 with Bicester Road;
- A4421 with Skimmingdish Lane; and
- A4421 with Southwold Lane.

3.8.33 The assessment for all other junctions reported in the main TA remains the same.

Operation description

3.8.34 This is as described in Section 7.10 of the main TA.

Assessment of operation impacts

Pedestrians, cyclists and equestrians

3.8.35 The realignment of Footpath 303/7 (AP2-014-002), the realignment of Footpath BD8 (AP2-014-005), Footpath AX7 diversion (AP2-014-007), and provision of a green bridge at Radstone, with realignment of Footpath AX15 (AP2-014-006), has resulted in PRoW being permanently realigned, as per the original scheme, but by different distances.

3.8.36 Table 7-157 is amended to account for the changes to the original scheme.

Table 7-157: Central Chilterns summary of PRoW severance (operation)

PRoW	Location	Location (chainage)	Permanent Diversion Route	Daily Users	Maximum Diversion Length	Maximum Diversion Journey Time (nearest minute)
303/7/10 (public footpath)	Mixbury	090+650	Same as original scheme, but uses a new access track to meet Featherbed Lane, further east than was proposed in the original scheme (Permanent diversion across Featherbed Lane overbridge and along eastern side of HS2 to re-join existing footpath alignment in original scheme)	1	175m (100m in original scheme)	2 mins (1 min in original scheme)
BD8 (public footpath)	Brackley	096+100	Permanently diverted along the eastern side of HS2, under Turweston viaduct and along Footpath BD10 (Permanently diverted under Turweston viaduct in original scheme)	11	510m (700m in original scheme)	6 mins (8 minutes in original scheme)

PRoW	Location	Location (chainage)	Permanent Diversion Route	Daily Users	Maximum Diversion Length	Maximum Diversion Journey Time (nearest minute)
AX15 (public footpath)	Radstone	097+650	Permanent diversion along east side of scheme, Bridleway AX15 green overbridge and Bridleway AX14 (Permanent diversion to Footpath AX15 overbridge in original scheme)	0	430m (100m in original scheme)	5 mins (1 minute in original scheme)
AX7 (public footpath)	Radstone	097+900	Permanent diversion along east side of scheme, Bridleway AX15 green overbridge, Bridleway AX14 and Radstone Road (Permanent diversion around drainage pond, south along east side of the HS2 alignment and over AX15 overbridge in original scheme).	0	990m (300m in original scheme)	6 mins (4 mins in original scheme)

3.9 Greatworth to Lower Boddington (CFA15)

Greatworth to Lower Boddington (CFA15) AP2 revised scheme changes

3.9.1 The original scheme through this area is as described in paragraphs 7.11.1 to 7.11.18 of the main TA.

3.9.2 Scheme changes in this and other CFAs have necessitated a revision to the movement of excavated material by road. These changes include SES scheme changes, one of which is in another CFA:

- removal of the sustainable placement area at Hunt's Green Farm in CFA10 (SES-010-001); and
- reduction of earthworks near Lower Boddington in CFA15 (SES-015-001).

3.9.3 These SES scheme changes have resulted in the following changes to forecast HGV traffic flows within Greatworth to Lower Boddington (CFA15) during construction, in comparison to the original scheme:

- A361, between the A422/M40 and Chipping Warden green tunnel main construction compound – increase in HGV flows; and
- B4525 Banbury Lane (south west of Thorpe Mandeville), Banbury Lane (Thorpe Mandeville) and Banbury Road, between Banbury Lane and Thorpe Mandeville cutting satellite construction compound – decrease in HGV flows.

3.9.4 The AP2 revised scheme makes amendments to the original scheme and those changes which have an impact on traffic and transport in comparison to the original scheme are:

- provision of a Chipping Warden bypass (AP2-015-009), resulting in the reduction in HGV and all vehicle flows on the A316 through Chipping Warden during construction and operation, compared to the original scheme;
- Lower Thorpe viaduct satellite construction compound access from Banbury Lane (AP-015-005), resulting in the Lower Thorpe viaduct satellite construction compound being accessed via temporary haul road from Banbury Road, rather than via Banbury Lane as per the original scheme. This has resulted in the reduction in HGV and all vehicle flows on Banbury Road, between Banbury Lane and Thorpe Mandeville cutting satellite construction compound, and on Banbury Lane, during construction, compared to the original scheme;
- relocation of railway infrastructure and access track to the west of Chipping Warden green tunnel (AP2-015-011), resulting in the Chipping Warden tunnel north portal (rail systems) satellite construction compound being accessed via temporary haul road from the A361, rather than via Appletree Lane and Welsh Road from the A361 as per the original scheme. This has resulted in the reduction in HGV and all vehicle flows on Appletree Lane, Welsh Road between Appletree Lane and A361 Byfield Road, and on A361 Byfield Road between Welsh Road and Chipping Warden green tunnel main construction

compound, during construction, compared to the original scheme; and

- reconfiguration of the Warwick Road and Banbury Road junction (AP2-015-008), resulting in the increase in all vehicle flows on the realigned Banbury Road, east of Stoneton Lane, during operation, compared to the original scheme.

3.9.5 A correction has been made to the forecast number of workforce trips to some compounds. This has resulted in a small change in peak hour, all vehicle, construction trips on a number of roads.

3.9.6 The above changes lead to a number of amendments to the main TA in Greatworth to Lower Boddington (CFA15).

3.9.7 The impacts upon the A423 Southam Road north of Banbury and the A422 Hennef Way in Banbury between the A423 Southam Road and the M40 junction 11 were reported within both CFA15 and CFA16 of the main TA. For the purpose of clarity, the impact of the SES scheme and AP2 revised scheme upon these roads are now solely reported in CFA16 in this TA.

Existing baseline

3.9.8 Baseline conditions are described in Section 5.17 of the main TA.

Assessment methodology

3.9.9 Assessment methodology is described in Section 7.2 of the main TA.

Future baseline

3.9.10 Future baseline conditions are described in Section 7.11 of the main TA.

Construction description

Construction trip assumptions

Trip generation

3.9.11 Table 7-63 which showed typical vehicle trip generation for construction site compounds is amended as described below. Where trip generation values are stated, the lower end of the range shows the average number of daily two-way trips in the busy period and the upper end the average during the peak month.

3.9.12 The average daily two-way HGV trips generated for the Chipping Warden green tunnel satellite compound is 1,780-2,280, compared to 890-1,300 in the original scheme (cars/LGV trips are also amended from 190-200 to 180-190); for the Thorpe Mandeville cutting satellite compound is 810-1,030, compared to up to 10 in the original scheme (cars/LGV trips are also amended from 50-60 to 30-40); and for the Lower Thorpe viaduct satellite compound is 20-40, in relation to 1,070-1,240 in the original scheme (cars/LGV trips also amended from 160-180 to 20-40).

3.9.13 In addition, there have been small changes to the number of car/LGV daily trips generated at a number of compounds. These result in changes of 18 or less two-way trips per day, but does not alter the outcome of the main technical assessment.

Assignment

3.9.14 Paragraph 7.11.46 summarising construction routes is amended to remove Appletree Lane as a road on which workforce traffic has been assigned. This is in relation to the AP2 revised scheme (AP2-C222-044) amending access to the Chipping Warden tunnel north portal (rail systems) satellite construction compound.

3.9.15 Paragraph 7.11.48 is amended to remove '290 cars/LGVs per day and 12 HGVs' and replace this text with '270 cars/LGVs and 12 HGVs per day (two-way)'. The decrease in cars/LGV flows is a result of corrections to construction traffic flows on Radstone Road.

Construction lorry routes

3.9.16 Paragraph 7.11.51 is amended to amend bullet point 'Lower Thorpe viaduct satellite compound will be accessed via Banbury Lane from the M40, A422 and B4525 from the west' and replaced by 'Lower Thorpe viaduct satellite compound will be accessed via temporary haul road from Banbury Road from the M40, A422 and B4525 from the west'. This change in access is a result of the AP2 revised scheme (AP-015-005).

3.9.17 Paragraph 7.11.51 is amended to amend bullet point 'Chipping Warden tunnel north portal (rail systems) satellite compound will be accessed via Appletree Lane, Welsh Road, A361 and the M40' and replaced by 'Chipping Warden tunnel north portal (rail systems) satellite compound will be accessed via temporary haul road from the A361 Byfield Road and the M40'. This change in access is a result of the AP2 revised scheme (AP2-015-011).

Assessment of construction impacts

Highway network

3.9.18 A correction has been made to the assignment of traffic related to the movement of excavated material, whereby it was incorrectly assigned to the A361 Byfield Road, between Chipping Warden green tunnel main construction compound and Welsh Road in the main TA. This correction has resulted in a decrease in HGV flows on the A361 Byfield Road, between Welsh Road and Chipping Warden green tunnel main construction.

3.9.19 Chipping Warden bypass (AP2-015-009), will be constructed in two stages. Stage 1 would be completed during the first year of the construction programme, in advance of the main works. This would extend from the A361 Byfield Road from a point just to the north of Hogg End, to a point north of Long Barrow but south of Stone House. The connection to the A361 at the northern point will be a temporary connection until Stage 2 is completed. Construction of Stage 2 will commence once the section of the Chipping Warden green tunnel, over which the bypass would be routed, has been constructed. Once Stage 2 is completed, the temporary connection to the A361 will be reconfigured to suit the permanent road layout.

3.9.20 The flows presented are for two stages of this construction programme: firstly during construction of Stage 1 of the bypass, when some construction traffic will be on the A361 Byfield Road through Chipping Warden, although it will be complete prior to the introduction of HGV vehicles used for the movement of excavated material; and

secondly following construction of Stage 1 of the bypass when all traffic will use the bypass, apart from some local access to Chipping Warden via the A361 Byfield Road.

Strategic road network

3.9.21 The following tables replace Table 7-167 and Table 7-168.

Table 7-167: Greatworth to Lower Boddington strategic road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A361 Byfield Road, between Welsh Road and Chipping Warden green tunnel main construction compound (Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	NB	186	214	252	11	39	5	18%	101%
	SB	484	555	626	15	71	6	13%	65%
A361 Byfield Road, between Chipping Warden green tunnel main construction compound and Chipping Warden bypass. (Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	NB	186	214	407	146	193	141	90%	2616%
	SB	484	555	720	150	165	141	30%	1560%
A361 Byfield Road, through Chipping Warden. During construction of Stage 1 of the bypass (Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	NB	186	214	231	9	17	4	8%	74%
	SB	484	555	572	13	17	4	3%	44%
A361 Byfield Road, through Chipping Warden. After construction of Stage 1 of the bypass (Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	NB	186	214	46	4	-168	-1	-79%	-26%
	SB	484	555	128	3	-427	-6	-77%	-67%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A361 Byfield Road, between Chipping Warden bypass and M40.	NB	186	214	400	146	158	141	87%	2614%
(Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	SB	484	555	698	150	191	141	26%	1555%

Table 7-168: Greatworth to Lower Boddington strategic road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A361 Byfield Road, between Welsh Road and Chipping Warden green tunnel main construction compound	NB	485	560	625	6	65	2	12%	44%
(Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	SB	217	250	287	5	37	2	15%	68%
A361 Byfield Road, between Chipping Warden green tunnel main construction compound and Chipping Warden bypass.	NB	485	560	718	141	158	137	28%	3402%
(Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	SB	217	250	441	141	191	138	76%	4418%
A361 Byfield Road, through Chipping Warden. During construction of Stage 1 of the bypass	NB	485	560	577	8	17	4	3%	99%
(Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	SB	217	250	267	7	17	4	7%	128%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
A361 Byfield Road, through Chipping Warden. After construction of Stage 1 of the bypass (Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	NB	485	560	104	1	-456	-3	-81%	-75%
	SB	217	250	64	1	-186	-2	-74%	-68%
A361 Byfield Road, between Chipping Warden bypass and M40. (Named as 'A361 Byfield Road (south of Welsh Road)' in the main TA)	NB	485	560	698	141	138	137	-81%	-75%
	SB	217	250	432	140	181	137	72%	4410%

Local road network

3.9.22 The following tables replace Table 7-169 and Table 7-170.

Table 7-169: Greatworth to Lower Boddington local road network construction traffic flows (vehicles) - AM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Banbury Lane (SW of Thorpe Mandeville)	EB	74	85	170	66	85	65	100%	5697%
	WB	184	210	276	66	65	65	31%	11393%
Banbury Road (Thorpe Mandeville)	EB	58	66	161	68	95	66	144%	5788%
	WB	162	185	286	67	101	66	55%	11576%
Banbury Lane (Thorpe Mandeville)	NB	17	19	47	2	28	2	148%	-
	SB	22	25	51	1	26	1	103%	-
Appletree Lane	NB	7	8	8	0	0	0	0%	0%
	SB	13	14	14	0	0	0	0%	0%

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Welsh Road, between Appletree Lane and A361 Byfield Road (Named as 'Welsh Rd (south east of Aston le Walls)' in the main TA)	NB	42	48	66	2	18	2	38%	520%
	SB	24	28	37	3	10	2	34%	258%

Table 1-170: Greatworth to Lower Boddington local road network construction traffic flows (vehicles) - PM peak

Location	Direction	2012 Base	2021 Base	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Banbury Lane (SW of Thorpe Mandeville)	EB	158	182	247	66	64	64	35%	5587%
	WB	77	89	173	64	84	64	94%	-
Banbury Road (Thorpe Mandeville)	EB	139	160	256	66	97	65	61%	2667%
	WB	68	78	163	65	85	65	109%	0%
Banbury Lane (Thorpe Mandeville)	NB	20	22	48	1	26	1	115%	-
	SB	10	11	36	0	25	0	228%	0%
Appletree Lane	NB	13	15	15	0	0	0	0%	0%
	SB	7	8	8	0	0	0	0%	0%
Welsh Road, between Appletree Lane and A361 Byfield Road (Named as 'Welsh Rd (south east of Aston le Walls)' in the main TA)	NB	29	33	41	1	8	1	25%	140%
	SB	40	46	63	1	17	1	37%	610%

3.9.23 The SES scheme has resulted in a decrease in HGV movements on the B4525 Banbury Lane (south west of Thorpe Mandeville), Banbury Lane (Thorpe Mandeville) and Banbury Road (between Banbury Lane and Thorpe Mandeville cutting satellite construction compound) compared to the original scheme. However, the SES scheme has resulted in an increase in HGV movements on the A361 (between the A422/M40 and Chipping Warden green tunnel main construction compound), compared to the original scheme.

3.9.24 The AP2 revised scheme has resulted in a reduction in HGV and all vehicle flows on the A316 Byfield Road through Chipping Warden compared to the original scheme during construction of Phase 1 of the bypass, and a further reduction in flows, to a level less than the 2021 baseline, following construction of Phase 1 of the bypass (AP2-015-009).

3.9.25 The AP2 revised scheme has also resulted in the reduction in HGV and all vehicle flows on Banbury Road (between Banbury Lane and Thorpe Mandeville cutting satellite construction compound), Banbury Lane, Appletree Lane, Welsh Road (between Appletree Lane and A361 Byfield Road) and on A361 Byfield Road (between Welsh Road and Chipping Warden green tunnel main construction compound), compared to the original scheme, due to changes in access to construction compounds (AP-015-005 and AP2-015-011).

3.9.26 Paragraph 7.11.79 is amended to remove Appletree Lane as a road on which workforce traffic has been assigned. This is in relation to the AP2 revised scheme (AP2-C222-044) amending access to the Chipping Warden tunnel north portal (rail systems) satellite construction compound.

Junction capacity

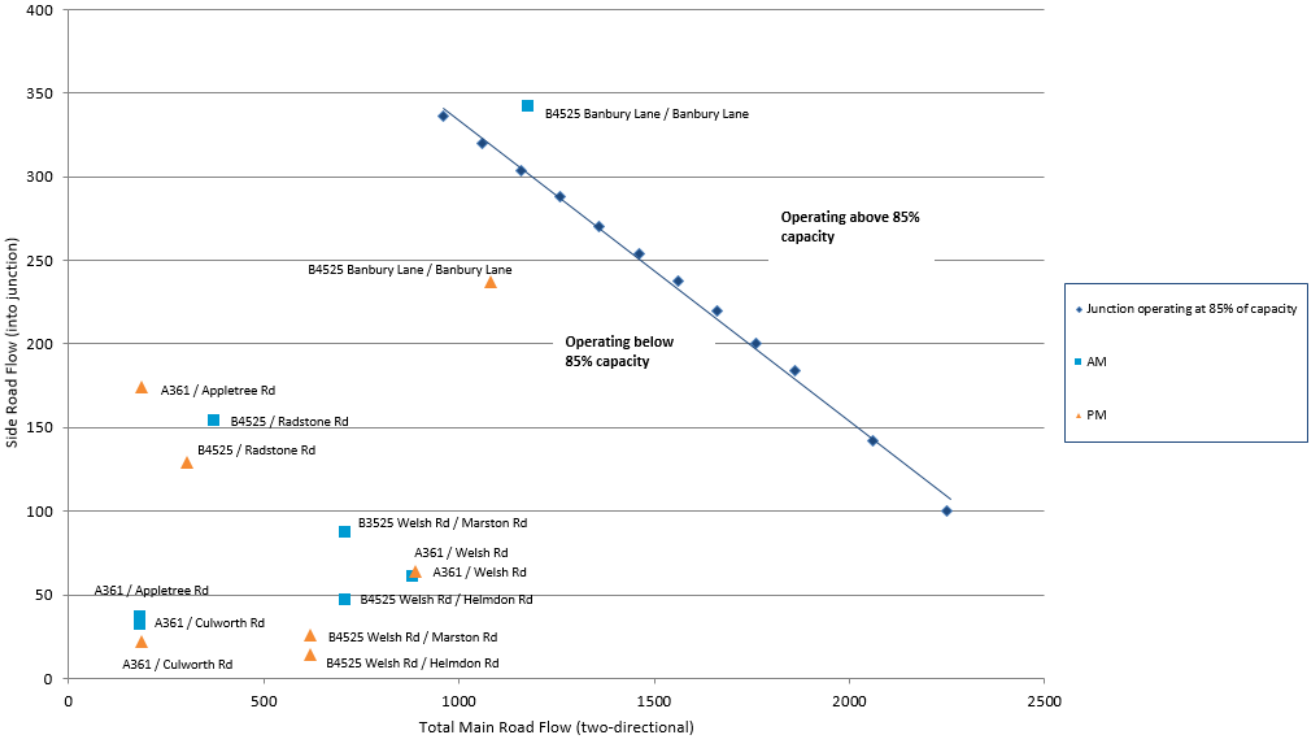
3.9.27 All priority junctions assessed in the main TA have been re-assessed based upon adjusted traffic flows within CFA15 as a result of the SES scheme, the AP2 revised scheme and corrections to the main TA. Table 7-171 is replaced by the following table.

Table 7-171: Greatworth to Lower Boddington priority junction flows

Junction	2021 With HS2 construction traffic			
	AM peak		PM peak	
	Main road flow (PCUs)	Side road flow (PCUs)	Main road flow (PCUs)	Side road flow (PCUs)
A361 Banbury Road / Welsh Road	883	61	889	64
A361 / Culworth Road	184	32	187	22
A361 / Appletree Road	184	37	187	174
B4525 Banbury Lane/Welsh Lane/ Banbury Lane	1178	342	1080	237
B4525 Welsh Lane/ Radstone Road	373	154	302	129
B4525 Welsh Lane / Marston Road	710	87	620	26
B4525 Welsh Lane / Helmdon Road	710	47	620	14

3.9.28 Figure 7-17 is replaced by the following figure.

Figure 7-17: Greatworth to Lower Boddington priority junction assessment 2021:



3.9.29 There is no material change to the result of the assessment carried out for the original scheme and reported in the main TA, with all priority junctions not forecast to be close to their theoretical capacity of 85% during construction, apart from the B4525 Banbury Lane/Welsh Lane/ Banbury Lane junction in the AM peak.

3.9.30 Paragraph 7.11.90 is amended, whereby the naming of junction 'A422 with A361 (M40 j11)' is corrected to 'A422 with B4525 Banbury Lane'. A further amendment is made to remove this junction from paragraph 7.11.90 and moved to paragraph 7.11.91, whereby increased traffic during the most intensive periods of construction may potentially cause additional intermittent traffic congestion and delay at this junction.

3.9.31 Paragraph 7.11.91 is amended so that A422 (M40 j11) with A361 junction is removed and included in a new paragraph to state that 'increased traffic during the most intensive periods of construction has high potential to cause additional intermittent traffic congestion and delay at this junction during peak periods'.

Operation description

3.9.32 This is as described in Section 7.11 of the main TA.

Assessment of operation impacts

Highway network

3.9.33 Amendments to forecast traffic flows, as a result of the AP2 revised scheme outlined in paragraphs 3.9.2-3.9.4, and specifically the Chipping Warden bypass (AP2-015-009) and the reconfiguration of the Warwick Road and Banbury Road junction (AP2-015-008), are presented in the following sections. All other forecast flows presented in the main TA are not impacted by the SES scheme and AP2 revised scheme.

3.9.34 The impact of the permanent closure of Culworth Road in the original scheme, which will result in a change in traffic flows on the A361 Byfield Road was reported in the main TA under the description 'A361 Byfield Road (between Welsh Road and Culworth Road) (Chipping Warden)'. Amendment to the name of this link in Table 7-175 and Table 7-176 in the main TA to 'A361 Byfield Road, between Welsh Road and Chipping Warden bypass', as the link has been split to now also incorporate the cumulative traffic flow changes associated with the Chipping Warden bypass in the AP2 scheme, under the description for 'A361 Byfield Road, through Chipping Warden'.

Strategic and local road network traffic flows

3.9.35 Amendment to Table 7-175 and Table 7-176 to also include additional links for 2026 year of operation.

3.9.36 The impact of the permanent closure of Culworth Road, which will result in a change in traffic flows on the A361 Byfield Road was reported in the main TA under the description 'A361 Byfield Road (between Welsh Road and Culworth Road) (Chipping Warden)'. Amendment to the name of this link in Table 7-175 and Table 1-176 in the main TA to 'A361 Byfield Road, between Welsh Road and Chipping Warden bypass', as the link has been split to now also incorporate the cumulative traffic flow changes associated with the Chipping Warden bypass in the AP2 scheme, under the description for 'A361 Byfield Road, through Chipping Warden'.

Table 7-175: Greatworth to Lower Boddington strategic and local road network 2026 future baseline With HS2 traffic (vehicles) – AM peak

Location	Direction	2026 baseline flow	2026 With HS2 traffic		With HS2 actual change from 2026 baseline		With HS2 % change from 2026 baseline	
		All vehicles	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Banbury Road, between Stoneton Road and Banbury Road overbridge	EB	57	57	0	0	0	0%	0%
	WB	130	130	4	0	0	0%	0%
A361 Byfield Road, through Chipping Warden.	NB	230	33	1	-198	-5	-86%	-83%
	SB	598	116	0	-482	-10	-81%	-100%

Table 7-176: Greatworth to Lower Boddington strategic and local road network 2026 future baseline With HS2 traffic (vehicles) – PM peak

Location	Direction	2026 baseline flow	2026 With HS2 traffic		With HS2 actual change from 2026 baseline		With HS2 % change from 2026 baseline	
		All vehicles	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Banbury Road, between Stoneton Road and Banbury Road overbridge	EB	142	142	0	0	0	0%	0%
	WB	76	76	2	0	0	0%	0%
A361 Byfield Road, through Chipping Warden.	NB	606	94	0	-512	-4	-85%	-100%
	SB	271	54	0	-217	-3	-80%	-100%

3.9.37 Amendment to Table 7-177 and Table 7-178 to also include additional links for 2041 year of operation.

Table 7-177: Greatworth to Lower Boddington strategic and local road network 2041 future baseline With HS2 traffic (vehicles) – AM peak

Location	Direction	2041 baseline flow	2041 With HS2 traffic		With HS2 actual change from 2041 baseline		With HS2 % change from 2041 baseline	
		All vehicles	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Banbury Road, between Stoneton Road and Banbury Road overbridge	EB	68	68	0	0	0	0%	0%
	WB	156	156	4	0	0	0%	0%
A361 Byfield Road, through Chipping Warden.	NB	277	33	1	-244	-6	-88%	-86%
	SB	720	116	0	-604	-12	-84%	-100%

Table 7-178: Greatworth to Lower Boddington strategic and local road network 2041 future baseline With HS2 traffic (vehicles) – PM peak

Location	Direction	2041 baseline flow	2041 With HS2 traffic		With HS2 actual change from 2041 baseline		With HS2 % change from 2041 baseline	
		All vehicles	All vehicles	HGV	All vehicles	HGV	All vehicles	HGV
Banbury Road, between Stoneton Road and Banbury Road overbridge	EB	174	174	0	0	0	0%	0%
	WB	93	93	3	0	0	0%	0%
A361 Byfield Road, through Chipping Warden.	NB	741	94	0	-647	-5	-87%	-100%
	SB	331	54	0	-277	-4	-84%	-100%

3.9.38 The AP2 revised scheme, and specifically the Chipping Warden bypass, has resulted in a decrease in all vehicle flows on the A361 Byfield Road though Chipping Warden,

compared to the original scheme, by up to 86% in 2026 year of operation and by up to 88% in 2041 year of operation. This is likely to provide beneficial impacts to motorised and non-motorised users of the link.

3.9.39 The AP2 revised scheme, and specifically the reconfiguration of the Warwick Road and Banbury Road junction, has resulted in an increase in all vehicle flows on Banbury Road between Stoneton Lane and Banbury Road overbridge, compared to the original scheme. However, this increase changes forecast flows back to the same level as the forecast baseline flows and, therefore, the impact of the AP2 revised scheme on this section of road will be negligible.

3.10 Ladbroke and Southam (CFA16)

Ladbroke and Southam (CFA16) AP2 revised scheme changes

3.10.1 The original scheme is described in paragraphs 7.12.1 to 7.12.73 of the main TA.

3.10.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- AP2-Group 16.1 Reconfiguration of the junction at the intersection of Warwick Road and Banbury Road. The includes altering the Warwick Road/Banbury Road junction to allow priority traffic flow along Warwick Road to continue across the overbridge over the HS2 route and connect to Wormleighton Road and provision of the Stoneton Lane green overbridge.
- AP2 -016-001 Provision of a shared use cycleway / footway between Ladbroke and Southam and reinstatement of footpath SM89 during operation.

Assessment methodology

3.10.3 There is no change from that reported in the main TA.

Existing and future baseline

3.10.4 There is no change from that reported in the main TA.

Construction description and assessment of impacts

3.10.5 There is no change from that reported in the main TA. Impacts arising from the AP2 permanent realignment of Warwick Road/Banbury Road junction and reinstatement of footpath SM89 are reported in the operation section.

Operation description

3.10.6 Other than the AP2 changes outlined above, there is no change from that reported in the main TA.

Assessment of operation impacts

Strategic and local road networks

Highway realignment

3.10.7 The following table is a replacement for Table 7-199 of the main TA and amends the rows relating to Stoneton Lane and Wormleighton Road.

Table 7-199: Highway realignments (CFA16)

Highway	Change in Length
Stoneton Lane to Warwick Road	300m
Stoneton Lane to Wormleighton Road	-50m
Wormleighton Road	50m
Windmill Lane	90m

Highway	Change in Length
A423 Banbury Road	-10m
B4451 Kineton Road	-20m
A425 Leamington Road	350m

3.10.8 Paragraph 7.12.6 of the main TA is also amended with the maximum journey length being 350m equivalent to a journey time of 5 minutes.

Pedestrians, cyclists and equestrians

3.10.9 The following text is added to paragraph 7.12.72:

"In addition the shared cycleway/footway will provide improved facilities for existing cyclists using the A423 resulting in the potential for road safety benefits. This will also encourage additional cycling between Ladbroke and Southam."

3.11 Offchurch and Cubbington (CFA17)

Offchurch and Cubbington (CFA17) AP2 revised scheme changes

3.11.1 The original scheme is described in paragraphs 7.13.1 to 7.13.72 of the main TA.

3.11.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- AP2 -017-06. Provision of the Offchurch Greenway Cycle Bridge over Fosse Way.

Assessment methodology

3.11.3 There is no change from that reported in the main TA.

Existing and future baseline

3.11.4 There is no change from that reported in the main TA.

Construction description and assessment of impacts

3.11.5 There is no change from that reported in the main TA.

Operation description

3.11.6 Other than the AP2 change outlined above, there is no change from that reported in the main TA.

Assessment of operation impacts

3.11.7 The following is an additional paragraph 7.13.71.1:

"The AP2 revised scheme provides substantial benefits including the provision of a dedicated bridge over the Fosse Way, for cyclists and pedestrians, and the potential to extend the National Cycle Network 41 eastwards, along the disused railway. However, cyclists using this new cycle bridge will have their journey extended by approximately 1070m, compared to the original scheme diversion of 430m, to link to the National Cycle network at Long Itchington Road."

3.12 Stoneleigh, Kenilworth and Burton Green (CFA18)

Stoneleigh, Kenilworth and Burton Green (CFA18) AP2 revised scheme changes

3.12.1 The original scheme is described in paragraphs 7.14.1 to 7.14.82 of the main TA.

3.12.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- AP-018 -004 Amendments at Burton Green area including Burton Green tunnel revised length and vertical alignment, revision to the design and access to compounds in the Waste Lane/ Burton Green area, relocation of the Waste Lane east and westbound roadhead to the north of Waste Lane and modifications to footpaths in the area including the Kenilworth Greenway.

Assessment methodology

3.12.3 There is no change from that reported in the main TA.

Existing baseline

3.12.4 The existing junction between A429/ Stoneleigh Road / Gibbet Hill Road was modified to roundabout control in 2014 and the baseline modelling of this for the 2013 observed flows is reported in an additional Table 5.127.1.

Table 5-127.1: 2013 baseline performance at the A429 Kenilworth Road / Stonebridge Road / Gibbet Hill Road roundabout junction

	2013 baseline AM Peak (08:00-09:00)			2013 baseline PM Peak (08:00-09:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A429 Kenilworth Road North	566	43%	1	549	50%	1
Stoneleigh Road	744	57%	2	544	44%	1
A429 Kenilworth Road South	742	70%	3	387	32%	1
Gibbet Hill Road	600	44%	1	954	72%	3

Future baseline

3.12.5 Table 7.221.1 is an additional table and reports on the future baseline performance at the A429/ Stoneleigh Road / Gibbet Hill Road junction under roundabout control.

Table 7-221.1: Future Baseline performance at the A429 Kenilworth Road / Stonebridge Road / Gibbet Hill Road roundabout junction

0800-09:00	**2013**			**2021**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A429 Kenilworth Road North	566	43%	1	632	49%	1
Stoneleigh Road	744	57%	2	830	65%	2
A429 Kenilworth Road South	742	70%	3	829	83%	5
Gibbet Hill Road	600	44%	1	670	50%	2
17:00-18:00	**2014**			**2021**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A429 Kenilworth Road North	549	50%	1	614	.59%	2
Stoneleigh Road	544	44%	1	608	51%	1
A429 Kenilworth Road South	387	32%	1	433	37%	1
Gibbet Hill Road	954	.72%	3	1067	83%	5

Construction description

Construction trip assumptions

Trip generation

3.12.6 The following changes are made to Table 7-222 relating to compounds in the Burton Green area including the addition of data relating to the Burton Green 'green' tunnel portal satellite compound.

Table 7-222: Stoneleigh, Kenilworth and Burton Green assumed workforce at construction sites (partial replacement)

Compound type	**Location**	**Assumed daily workforce per site for duration of construction programme**	
		average	**peak**
Satellite	Burton Green 'green' tunnel south portal	50	60
Satellite	Cromwell Lane compound	50	60

Compound type	Location	Assumed daily workforce per site for duration of construction programme	
		average	peak
Satellite	B4101 Waste Lane overbridge compound	19	20
Road head	B4101 Waste Lane	10	10

3.12.7 The amendments brought about by the AP2 revised scheme result in changes to the location of these compounds, but the total amount of associated traffic from all the compounds does not change from that reported in the main TA. However, there are additional traffic flows associated with the roadheads dealing with excavated material. The principal changes to the location of the compounds are as shown in the partial replacement of Table 7-223 and relates to construction traffic in the Burton Green area.

Table 7-223: Typical vehicle trip generation for construction site compounds in CFA18 (partial replacement)

Compound Type	Location	Access to / from compound	Indicative start / set up date	Estimated duration of use years	Estimated duration with busy vehicle movements (months)	Average daily combined two –way vehicle trips during busy period and within peak month of activity	
						Cars / LGV	HGV
Satellite Site	Burton Green 'green' tunnel south portal	A429 Kenilworth Road & Bockendon Road	Dec 2017	3	36	70-84	30-40
Satellite site	Cromwell Lane compound	B4101 Waste Lane	Dec 2017	3	36	70-84	30 -40
Satellite site	Waste Lane overbridge compound	B4101 Waste Lane	Dec 2020	1.5	14	36	20 - 30
Roadhead	Waste Lane east and westbound	B4101 Waste Lane, Kelsey Lane, A452,	Oct 2021	4	15	-	180-220

3.12.8 Paragraph 7.14.27 is replaced as follows related to updated data from CFA23:

"The assessment also includes in-combination impacts by taking into account traffic and transport impacts of works being undertaken in neighbouring CFA areas. Construction traffic flows of 130 cars/LGV and 70 HGV inbound per day and 150

cars/LGV and 70 HGV per day outbound via Westhill Road as generated from CFA17 (Offchurch and Cubbington) 35 cars/LGV and 50 HGV inbound per day and 35 cars/LGV and 50 HGV per day outbound via the B4101 Waste Lane and the A452 Kenilworth Road as generated from CFA23 (Balsall Common and Hampton in Arden) in the adjacent CFAs have been included in the assessment for this area."

Construction lorry routes

3.12.9 The following changes are made to paragraph 7.14.28 relating to construction routes:

- Cromwell Lane, between Red Lane and Windmill Lane is removed;
- Windmill Lane, between Cromwell Lane and the B4101 Waste Lane is removed;

3.12.10 The following roads are added as construction lorry routes:

- Bockendon Road from Crackley Lane to Westwood Heath Road
- Westwood Heath Road from Bockendon Road to Kirby Corner
- Kirby Corner Road from Kirby Corner to Sir Henry Parkes Road
- Sir Henry Parkes Road from Kirby Corner Road to A45.

Assessment of construction impacts

3.12.11 The table below replaces Table 7-228.

Table 7-228: Priority junction A452 Kenilworth Road/B4101 Kelsey Lane - 2021 future baseline without and with Proposed Scheme for AM and PM

08:00-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
B4101 Kelsey Lane (east)	145	72%	5	218	84%	8
A452 Kenilworth Road (south)	589	71%	14	589	71%	14
A4101 Alder Lane (west)	298	68%	8	298	80%	9
A452 Kenilworth Road (north)	560	69%	13	671	84%	18
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
B4101 Kelsey Lane (east)	332	85%	11	417	88%	17
A452 Kenilworth Road (south)	702	84%	18	702	80%	22
A4101 Alder Lane (west)	175	78%	6	175	86%	9
A452 Kenilworth Road (north)	708	85%	18	757	87%	26

3.12.12 Table 7.234.1 is an additional table and reports on the future performance without and with HS2 at the A429/ Stoneleigh Road / Gibbet Hill Road junction under roundabout control.

Table 7-234.1: Roundabout A429 Kenilworth Road / Stoneleigh Road / Gibbet Hill Road - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A429 Kenilworth Road North	632	49%	1	682	.55%	2
Stoneleigh Road	830	65%	2	893	72%	3
A429 Kenilworth Road South	829	83%	5	931	93%	11
Gibbet Hill Road	670	50%	2	670	53%	2
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A429 Kenilworth Road North	614	59%	2	664	65%	2
Stoneleigh Road	608	51%	1	625	54%	2
A429 Kenilworth Road South	433	37%	1	510	43%	1
Gibbet Hill Road	1067	83%	5	1067	86%	6

3.12.13 The following is added to the list of roads in paragraph 7.14.54:

"Bockendon Road between Crackley Lane and Westwood Heath Road."

3.12.14 Table 7-235 is modified in relation to the diversion length of Kenilworth Greenway.

Table 7-235: PRoW diversions in CFA18

PRoW	**Chainage**	**Diversion length**	**Journey time increase**
Kenilworth Greenway	147+000	1.5km	20min

Operation description and assessment of impacts

3.12.15 Other than the AP2 amendment outlined above, there is no change from that reported in the main TA.

3.13 Coleshill Junction (CFA19)

Coleshill Junction (CFA19) AP2 revised scheme changes

3.13.1 The original scheme is described in paragraphs 7.15.2 to 7.15.89 of the main TA.

3.13.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- SES-019-001 Updated construction assumptions for A446 traffic assessment. The amendment assesses the impacts of revised and more refined construction assumptions on the volume of HS2 construction traffic and consequential impacts including traffic assessments of the junctions of the A446 Lichfield/Stonebridge Road with B4118 Marsh Lane, Gorsey Lane, and Coventry Road which were not undertaken for the main TA.
- AP2-019-002 Revised alignment of Manor Drive and segregation of construction traffic.

Assessment methodology

3.13.3 In considering the traffic impacts on the A446, and in particular the single carriage-way section. The refined assessment has been developed in accordance with the following assumptions:

- The levels of HGV and LGV traffic reflects the likely phasing of peak flows to compounds served from the A446 and the degree to which they coincide.
- The majority of workforce trips to / from site have been removed from the AM (08:00-09:00) and PM (17:00-18:00) peak hours since worksites commence operation before/after these periods.

Existing baseline

Surveys

3.13.4 The following text is an additional paragraph 5.21.7.1:

"Additional traffic surveys have been undertaken on the A446 corridor to supplement the information reported in the main TA and enable the re-assessment to be completed and the junction assessments omitted from the main TA to be carried out. These surveys were undertaken by Warwickshire County Council in September 2014. The additional data is contained in the SES and AP2 Annex B(iv)."

Strategic and local road network

Baseline conditions

3.13.5 The following text is additional paragraphs 5.21.16.1 and 5.21.16.2:

"An additional three junctions were identified as having potential to be affected and were omitted from the main TA. These three junctions are as follows:

- A446 Stonebridge Road / Coventry Road
- A446 Lichfield Road / Gorsey Lane

- A446 Lichfield Road / B4118 Marsh Lane

In addition the A446 Lichfield Road / B4117 Watton Lane junction which was previously assessed was included within the linked model for the latter two junctions and used the updated 2014 data."

3.13.6 The following table replaces Table 5.139.

Table 5-139: Baseline performance at the M6 / A446 Stonebridge Road junction

	2014 baseline AM Peak (08:00-09:00)			2014 baseline PM Peak (17:00-18:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**
A446 Stonebridge Road North	1315	72%	2	1166	58%	1
M6 East	812	89%	13	570	53%	5
A446 Stonebridge Road South	1290	44%	1	2071	77%	6
M6 West	1406	53%	1	959	43%	1

3.13.7 Table 5-142.1 is an additional table which shows the capacity calculations undertaken at the A446 Stonebridge Road / Coventry Road junction. It shows results for the right turn movement from the A446 only. The left turn out from Coventry Road, the minor arm, is a merge rather than being under priority control.

Table 5-142.1: Baseline performance at the A446 / Coventry Road junction

	2014 baseline AM Peak (08:00-09:00)			2014 baseline PM Peak (17:00-18:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Stonebridge Road North	1154	-	-	925	-	-
A446 Stonebridge Road South right turn only	298	0.52	1	425	0.71	3

3.13.8 The following is additional text in relation to Table 5-142.1:

"Table 5-142.1 shows that the junction operates within capacity in both peak periods."

3.13.9 Table 5-142.2 is an additional table which shows the capacity calculations undertaken at the A446 Lichfield Road / Gorsey Lane junction.

Table 5-142.2: 2014 Baseline performance at the A446 Lichfield Road / Gorsey Lane junction

	2014 baseline AM Peak (08:00-09:00)			2014 baseline PM Peak (17:00-18:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**
A446 Lichfield Road North	1478	63%	11	958	45%	8
Gorsey Lane	315	72%	7	664	76%	15
A446 Lichfield Road South Ahead	642	42%	7	759	39%	8
A446 Lichfield Road South right turn	344	71%	11	114	76%	7

3.13.10 The following is additional text in relation to Table 5-142.2:

"Table 5-142.2 shows that the junction is operating within capacity."

3.13.11 Table 5-142.3 is an additional table and shows the capacity calculations undertaken at the A446 Lichfield Road / Watton Lane junction.

Table 5-142.3: 2014 Baseline performance at the A446 Lichfield Road / Watton Lane junction

	2014 baseline AM Peak (08:00-09:00)			2014 baseline PM Peak (17:00-18:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**
A466 Lichfield Road (north)	1325	69%	6	951	47%	3
A446 Lichfield Road (south)	831	54%	7	1167	69%	26
B4177 Watton Lane	213	66%	6	181	62%	4

3.13.12 The following is additional text in relation to Table 5-142.3:

"Table 5-142.3 shows that the junction is operating within capacity."

3.13.13 Table 5-142.4 is an additional table which shows the capacity calculations undertaken at the A446 Lichfield Road / Marsh Lane junction.

Table 5-142.4: 2014 Baseline performance at the A446 Lichfield Road / Marsh Lane junction

	2014 baseline AM Peak (08:00-09:00)			2014 baseline PM Peak (17:00-18:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**
A446 Lichfield Road North	1393	82%	19	1078	62%	8
A446 Lichfield Road South	791	54%	12	1081	77%	18
B4118 Marsh Lane	233	70%	7	292	75%	10

3.13.14 The following is additional text in relation to Table 5-142.2:

"Table 5-142.2 shows that the junction is operating within capacity."

Future baseline

Key future baseline assumption

3.13.15 The following is an additional Table 7-238.1.

Table 7-238.1: TEMPRO Growth Rates for 2014 (CFA22)

Authority	Location	Zone	2014-2021	
			Average Weekday Peaks	
			AM	PM
Warwickshire	North Warwickshire	Coleshill	1.1041	1.117
Warwickshire	North Warwickshire	Rural	1.1021	1.1073

Strategic and local road network traffic flows

3.13.16 The following is additional text to paragraph 7.15.15:

"The analysis was extended to the following junctions which would have the potential to be impacted by traffic generated by the construction movements of the AP2 revised scheme or to extend to junctions not previously assessed for the original scheme:

- A446 Stonebridge Road / Coventry Road;
- A446 Lichfield Road / Gorsey Lane; and
- A446 Lichfield Road / B4118 Marsh Lane.

The latter two junctions were analysed with the A446 Lichfield Road / B4117 Watton Lane junction in a linked LINSIG model."

3.13.17 Table 7-243.1 is an additional table relating to the junction between A446 Stonebridge Road/Coventry Road.

Table 7-243.1: Coleshill Junction area future baseline performance at the A446 Stonebridge Road / Coventry Road junction

0800-09:00	2014			2021		
Approach (from)	Flow (all PCU)	Flow/ capacity %	Max queue	Flow (all PCU)	Flow/ capacity %	Max queue
A446 (north)	1154	-		1262	-	
A446 south right turn only	298	52%	1	326	58%	2
17:00-18:00	**2014**			**2021**		
Approach (from)	Flow (all PCU)	Flow/ capacity %	Max queue	Flow (all PCU)	Flow/ capacity %	Max queue
A446 (north)	925	-	-	1010	-	-
A446 south right turn only	426	71%	3	465	80%	

3.13.18 The following is additional text in relation to Table 7-243.1:

"The junction is operating within practical capacity in both the base year and 2021."

3.13.19 Table 7-243.2 is an additional table relating to the junction between the A446 Lichfield Road / Gorsey Lane junction.

Table 7-243.2: Coleshill Junction area future baseline performance at the A446 Lichfield Road / Gorsey Lane junction

0800-09:00	**2014**			**2021**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Lichfield Road North	1478	63%	11	1632	71%	15
Gorsey Lane	315	72%	7	348	80%	8
A446 Lichfield Road South Ahead	642	42%	7	709	47%	8
A446 Lichfield Road South right turn	344	71%	11	380	76%	13
17:00-18:00	**2014**			**2021**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Lichfield Road North	958	47%	10	1065	52%	12
Gorsey Lane	664	76%	15	739	85%	19
A446 Lichfield Road South Ahead	759	39%	8	844	42%	9
A446 Lichfield Road South right turn	114	76%	7	127	85%	8

3.13.20 The following is additional text in relation to Table 7-243.2:

"The junction is operating within capacity in the base year but reaches 85% on two arms of the junction in the PM peak."

3.13.21 Table 7-243.3 is an additional table relating to the junction between the A446 Lichfield Road/Watton Lane junction.

Table 7-243.3: Coleshill Junction area future baseline performance at the junction A446 Lichfield Road / Watton Lane junction

0800-09:00	**2014**			**2021**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A466 Lichfield Road (north)	1325	69%	6	1463	76%	8
A446 Lichfield Road (south)	831	54%	7	918	59%	9
B4177 Watton Lane (west)	213	66%	6	235	73%	7

17:00-18:00	2014			2021		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A466 Lichfield Road (north)	951	47%	3	1057	52%	4
A446 Lichfield Road (south)	1167	69%	26	1298	75%	30
B4177 Watton Lane (west)	181	62%	4	201	78%	5

3.13.22 The following is additional text in relation to Table 7-243.3:

"The junction is operating within capacity, at less than 85%, in both 2014 and 2021."

3.13.23 Table 7-243.4 is an additional table relating to the junction between the A446 Lichfield Road / Marsh Lane junction.

Table 7-243.4: Coleshill Junction area future baseline performance at the junction A446 Lichfield Road / Marsh Lane junction.

0800-09:00	2014			2021		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Lichfield Road North	1393	82%	19	1538	90%	30
A446 Lichfield Road South	791	54%	12	874	60%	17
B4118 Marsh Lane	233	70%	7	257	73%	8
17:00-18:00	**2012**			**2021**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 North	1078	62%	8	1199	69%	10
A446 South	1081	77%	18	1202	85%	23
Marsh Lane	292	75%	10	324	83%	12

3.13.24 The following is additional text in relation to Table 7-243.4:

"'The junction is operating within capacity in 2014 but exceeds 85% on one arm of the junction in the AM peak and reaches 85% in the PM peak on one arm of the junction."

Construction description

3.13.25 The changes brought about by the AP2 revised scheme do not change the total amount of associated construction traffic from all the compounds reported in the main TA, however minor changes to traffic flows from individual compounds are outlined in the partial replacement of Table 7-245 below.

Table 7-245: Typical vehicle trip generation for construction site compounds in CFA19 (partial replacement)

Compound Type	Location	Estimated duration with busy vehicle movements (months)	Average daily combined two –way vehicle trips during busy period and within peak month of activity
			HGV
Main	M6 Motorway Main compound including Coleshill Heath Road Underbridge	28	164-220
Satellite	M42 Coleshill Box Structure including Manor Drive	31	92-126
Satellite	M42 Coleshill North Viaduct	19	56-88
Satellite	Water Orton Viaduct 1 and 3 (M42 North)	21	130-166
Satellite	M42-M6 Motorway Link Viaduct including B4118 Water Orton Overbridge	44	52-76
Satellite	Attleboro Flyover	13	94-116
Satellite	Water Orton Viaduct 1 and 3 Central	21	60 -82
Roadhead	RH-159		700
Roadhead	RH-160		220
Roadhead	RH-161		2000
Roadhead	RH163/164		1000

3.13.26 The following text replaces the data in paragraph 7.15.24:

"There are 1290 HGVs and 400 cars/LGVs travelling along A446 from CFA24 to/from the south to sites long Coleshill Heath Road. A further 320 HGVs and 270 cars/LGVs travel along A446 from CFA24 to other sites in CFA19 north of Coleshill Heath Road. In addition 2200 HGVs and 750 cars travel between CFA19 and CFA20 and CFA21."

Assessment of construction impacts

Junction performance

3.13.27 Revised Table 7-249 replaces Table 7-249 in the main TA.

Table 7-249: Roundabout M6/A446 Stonebridge Road - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 north	1452	72%	2	1688	97%	10
M6 east	896	89%	13	939	103%	30
A446 south	1424	44%	1	1574	57%	1
M6 west	1552	53%	1	1595	71%	4
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 north	1286	58%	1	1466	77%	2
M6 east	628	56%	5	643	63%	6
A446 south	2283	77%	6	2433	94%	21
M6 west	1057	43%	1	1072	71%	3

3.13.28 The following replaces text in paragraph 7.15.50:

"The modelling results demonstrate that the M6/A446 Stonebridge Road junction would exceed practical capacity on one arm in the 2021 baseline and beyond ultimate capacity with HS2 construction traffic. The PM peak operates below ultimate capacity with HS2 construction traffic."

3.13.29 The table below replaces Table 7-250.

Table 7-250: Signalised junction A446 Lichfield Road/B4117 Watton Lane - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A466 Lichfield Road (north)	1463	76%	8	1563	81%	12
A446 Lichfield Road (south)	918	59%	9	1018	66%	10
B4117 Watton Lane	235	73%	7	235	78%	7

17:00-18:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A466 Lichfield Road (north)	1057	52%	4	1157	58%	4
A446 Lichfield Road (south)	1298	75%	30	1398	82%	44
B4117 Watton Lane	201	78%	5	201	78%	5

3.13.30 The following replaces text in paragraph 7.15.51:

"The modelling results demonstrate that the junction operates within capacity with HS2 construction traffic."

3.13.31 The table below replaces Table 7-251.

Table 7-251: Roundabout A446 Lichfield Road/B4117 Gilson Road - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Lichfield Road	1240	50%	1	1383	56%	2
B4117 Lichfield Road	265	58%	2	265	70%	3
A446 Stonebridge Road	1084	44%	1	1226	51%	1
B4117 Gilson Road	289	45%	1	324	56%	2
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Lichfield Road	1024	39%	1	1166	45%	1
B4117 Lichfield Road	316	53%	2	316	60%	2
A446 Stonebridge Road	1232	50%	1	1375	56%	2
B4117 Gilson Road	151	23%	1	168	29%	1

3.13.32 The following is replacement text for paragraph 7.15.52:

"The modelling results demonstrate that the A446 Lichfield Road/B4117 Gilson Road operates within capacity without and with HS2 construction traffic in 2021."

3.13.33 The table below replaces Table 7-252.

Table 7-252: Roundabout Birmingham Road/B4114 Birmingham Road/A446 Stonebridge Road - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	**2021 baseline**			**2021with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Stonebridge Road (North)	1522	83%	5	1665	92%	10
B4114 Birmingham Road (East)	749	66%	2	749	74%	3
A446 Stonebridge Road (South)	1201	70%	3	1294	78%	4
B4114 Birmingham Road (West)	768	73%	3	890	87%	7
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Stonebridge Road (North)	1279	69%	3	1424	78%	4
B4114 Birmingham Road (East)	599	62%	2	599	69%	3
A446 Stonebridge Road (South)	1116	61%	2	1207	68%	3
B4114 Birmingham Road (West)	863	79%	4	981	92%	10

3.13.34 The following is replacement text for paragraph 7.15.53:

"The modelling results demonstrate that the B4114 Birmingham Road/A446 Stonebridge Road junction would operate beyond practical capacity of 85% but within ultimate capacity with HS2 construction traffic in both peak hours."

3.13.35 The table below replaces Table 7-253.

Table 7-253: Roundabout A446 Stonebridge Road/Coleshill Heath Road - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	**2021 baseline**			**2021with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Stonebridge Road Southbound	1849	82%	5	1885	88%	7
A446 Stonebridge Road Northbound	1498	49%	1	1723	55%	2
Coleshill Heath Road	531	71%	3	720	88%	7

17:00-18:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Stonebridge Road Southbound	1274	56%	2	1297	59%	2
A446 Stonebridge Road Northbound	1634	49%	1	1813	54%	2
Coleshill Heath Road	565	71%	3	721	91%	8

3.13.36 The following is replacement text for paragraph 7.15.54:

"The modelling results demonstrate that the A446/Coleshill Road junction is operating between practical and ultimate capacity in the AM and PM peak hours with HS2 construction traffic."

3.13.37 Table 7-253.1 is an additional table relating to the junction between A446 Stoneleigh Road and Coventry Road.

Table 7-253.1: Priority junction A446 Stoneleigh Road / Coventry Road - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 (north)	1262	-		1462		
A446 south right turn only	326	58%	2	326	61%	2
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 (north)	1010	-	-	1210	-	--
A446 south right turn only	465	80%		465	85%	5

3.13.38 This is additional text in relation to Table 7-253.1:

"The modelling results demonstrate that the junction operates within capacity with HS2 construction traffic."

3.13.39 Table 7-253.2 is an additional table relating to the junction between A446 Lichfield Road and Gorsey Lane.

Table 7-253.2: Signalised junction A446 Lichfield Road/Gorsey Lane- 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Lichfield Road North	1632	71%	15	1732	78%	25
Gorsey Lane	348	80%	8	348	77%	8
A446 Lichfield Road South Ahead	709	47%	8	809	54%	10
A446 Lichfield Road South right turn	380	76%	13	380	76%	12
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Lichfield Road North	1065	52%	12	1165	61%	9
Gorsey Lane	739	85%	19	739	88%	20
A446 Lichfield Road South Ahead	844	42%	9	944	43%	9
A446 Lichfield Road South right turn	127	85%	8	127	76%	9

3.13.40 This is additional text in relation to Table 7-253.2:

"The modelling results demonstrate that HS2 construction traffic has minimal impact on the operation and capacity of the junction."

3.13.41 Table 7-253.3 is an additional table relating to the junction between A446 Lichfield Road and Marsh Lane.

Table 7-253.3 Signalised junction A446 Lichfield Road/B4118 Marsh Lane- 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 Lichfield Road North	1538	90%	30	1638	96%	48
A446 Lichfield Road South	874	60%	17	974	68%	17
B4118 Marsh Lane	257	73%	8	257	70%	7

17:00-18:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	Flow (all PCU)	Flow/ capacity %	Max queue	Flow (all PCU)	Flow/ capacity %	Max queue
A446 Lichfield Road North	1199	69%	10	1299	75%	13
A446 Lichfield Road South	1202	85%	23	1302	90%	27
B4118 Marsh Lane	324	83%	12	324	91%	14

3.13.42 This is additional text in relation to Table 7-253.3:

"The modelling results demonstrate that the junction reaches practical capacity in the 2021 baseline but with HS2 construction traffic it would still operate within ultimate capacity."

Operation description

3.13.43 There is no change from that reported in the main TA.

Assessment of operation impacts

Strategic and local road network traffic flows

3.13.44 The following replaces paragraph 7.15.75:

"The construction of a new road alignment for Manor Drive and the replacement of the B4114 Birmingham Road/Manor Drive roundabout with a roundabout junction to the south-west of the existing roundabout is proposed. However, this realignment will have no material impact on road users in the study area."

3.14 Curdworth and Middleton (CFA20)

Curdworth and Middleton (CFA20) AP2 revised scheme changes

3.14.1 The original scheme is described in paragraphs 7.16.1 to 7.16.72 of the main TA.

3.14.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- AP2-020-111 Alternative temporary diversion of Faraday Avenue;
- SES-019-001 Updated construction assumptions for A446 traffic assessment. The amendment assesses the impacts of revised and more refined construction assumptions on the volume of HS2 construction traffic and consequential impacts (described in the CFA19 section);
- AP2 Group 20.1 Kingsbury Road railhead area amendments to landscape earthworks and planting which affects footpaths in the area;
- AP2 Group 20.2 Middleton area amendments including lowering of the HS2 route northwards of Middleton and relocation of Church Lane overbridge satellite compound and balancing pond;
- AP2 Group 20.3 North Wood area amendments including revised access route to the Cuttle Mill mid-point auto-transformer station and balancing pond;
- AP2 -020-076 Revised diversion of Footpath T17 at Bodymoor Heath Lane.

Assessment methodology

3.14.3 There is no change from that reported in the main TA.

Existing baseline

3.14.4 Additional data has been made available by Warwickshire County Council at the A446/Faraday Avenue junction and the survey data is included in a supplementary baseline survey report in SES and AP2 Annex B(iv). The table below is additional Table 5.148.1.

Table 5-148.1 Baseline performance at the A446 Lichfield Road / Faraday Avenue / Marsh Lane junction

	2014 baseline AM Peak (08:00-09:00)			2014 baseline PM Peak (08:00-09:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 North (Lichfield Road)	1702	67%	2	1120	42%	1
Faraday Avenue	479	29%	1	958	53%	2
A446 South (Lichfield Road)	848	34%	1	1226	54%	2
Marsh Lane	243	26%	1	109	17%	1

3.14.5 Additional text to paragraph 5.22.21: Table 5.148.1 shows that the A446 / Faraday Avenue / Marsh Lane junction operates within capacity in both peak hours.

Future baseline

3.14.6 Additional Table 7-257.1 provides TEMPRO Growth Rates applied to existing traffic volumes surveyed in 2014 to establish the future baseline conditions for 2021.

Table 7-257.1: TEMPRO Growth Rates for 2014

Authority	Location	Zone	2014-2021	
			Average weekday peaks	
			AM	PM
Warwickshire	North Warwickshire	Water Orton	1.1	1.1
Warwickshire	North Warwickshire	Rural	1.1	1.1

3.14.7 The following table is additional Table 7-261.1 relating to the A446 / Faraday Avenue junction.

Table 7-261.1: Roundabout A446 Lichfield Road/Faraday Avenue/Marsh Lane -future baseline performance for AM and PM

0800-09:00	2014 baseline			2021 baseline		
Approach (from)	Flow (all PCU)	Flow/ capacity %	Max queue	Flow (all PCU)	Flow/ capacity %	Max queue
A446 North (Lichfield Road)	1702	67%	2	1908	76%	4
Faraday Avenue	479	29%	1	532	34%	1
A446 South (Lichfield Road)	848	34%	1	1045	42%	1
Marsh Lane	243	26%	1	272	32%	1
17:00-18:00	**2014 baseline**			**2021 baseline**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 North (Lichfield Road)	1120	42%	1	1249	48%	1
Faraday Avenue	958	53%	1	1080	61%	2
A446 South (Lichfield Road)	1226	54%	1	1383	62%	2
Marsh Lane	109	17%	1	123	24%	1

Construction description

Construction trip assumptions

Trip generation

3.14.8 There are the following changes to Table 7-263 relating to the average two-way HGV trips during busy periods and the peak month of activity

- Faraday Avenue underbridge compound ranges between 24 (busy period) and 36 (peak month) which is a reduction from the original scheme of 30 and 60 respectively.

- Faraday Avenue Roadhead with 980 in the peak month of activity compared with 1170 with the original scheme.
- Cuttle Mill underbridge compound ranges between 36 (busy period) and 60 (peak month) which is a reduction from the original scheme of 50 and 70 respectively.

3.14.9 The following text replaces paragraph 7.16.22:

"Trip generation from the construction works being undertaken in neighbouring CFAs has also been included in this assessment. Construction traffic flows of 750 cars/LGV and 1380 HGV per day via the A446 Lichfield Road as generated from CFA19 (Coleshill Junction) of which 1200 HGVs pass through to CFA21 and a further 770 HGVs per day travel to/from CFA19 to Faraday Avenue in CFA20."

Assessment of construction impacts

Strategic and local road network traffic flows

3.14.10 The tables below replace Tables 7-264 and 7-265 of the main TA.

Table 7-264- Curdworth to Middleton area construction traffic flows (vehicles) - AM peak

Location	Direction	2012 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A446 South of Faraday Avenue	NB	898	987	1151	311	164	163	17%	110%
	SB	1257	1382	1700	237	318	160	23%	208%
Faraday Avenue, between A446 and Edison Road	WB	664	730	812	224	82	81	11%	57%
	EB	289	318	437	209	119	81	37%	63%
A4097 Kingsbury Road, between M42 and the Reindeer Park Lodge access road	EB	809	901	985	101	84	12	9%	13%
	WB	323	360	374	81	14	12	4%	17%
A4091 Tamworth Road, between the A446 and Church Lane	NB	284	316	409	54	93	19	29%	54%
	SB	599	667	687	68	20	20	3%	42%
Church Lane, between Walker's Spinney and A4091	WB	42	47	75	8	28	5	60%	167%
	SB	30	33	39	9	6	5	18%	125%
A446 North of A4091	EB	906	1009	1104	226	95	92	9%	69%
	WB	990	1103	1240	240	137	92	12%	62%

Table 7-265: Curdworth to Middleton area construction traffic flows (vehicles) - PM peak

Location	Direction	2012 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A446 South of Faraday Avenue	NB	1116	1227	1512	254	285	141	23%	125%
	SB	784	862	1003	187	141	141	16%	307%
Faraday Avenue, between A446 and Edison Road	WB	475	524	634	203	110	75	21%	59%
	EB	754	831	906	170	75	75	9%	79%
A4097 Kingsbury Road, between M42 and the Reindeer Park Lodge access road	EB	382	428	432	50	4	4	1%	9%
	WB	831	932	1002	59	70	4	8%	7%
A4091 Tamworth Road, between the A446 and Church Lane	NB	633	710	717	43	7	7	1%	19%
	SB	428	480	554	36	74	8	15%	29%
Church Lane, between Walker's Spinney and A4091	WB	36	40	43	3	3	2	8%	200%
	SB	46	52	75	3	23	2	44%	200%
A446 North of A4091	EB	1113	1240	1361	166	121	81	10%	95%
	WB	767	854	936	149	82	81	10%	119%

Junction performance

3.14.11 The table below replaces Table 7-266.

Table 7-266: Roundabout A446 Lichfield Road/Faraday Avenue/Marsh Lane - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	Flow (all PCU)	Flow/ capacity %	Max queue	Flow (all PCU)	Flow/ capacity %	Max queue
A446 North (Lichfield Road)	1907	76%	3	2158	87%	7
Faraday Avenue	532	34%	1	634	45%	1
A446 South (Lichfield Road)	1045	42%	1	1185	48%	1
Marsh Lane	272	32%	1	278	36%	1

17:00-18:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A446 North (Lichfield Road)	1249	48%	1	1426	56%	2
Faraday Avenue	1080	61%	2	1178	70%	3
A446 South (Lichfield Road)	1383	62%	2	1637	73%	3
Marsh Lane	123	24%	1	125	31%	0

3.14.12 The table below replaces Table 7-268.

Table 7-268: Roundabout A4091 Tamworth Road/A446 Lichfield Road- 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A4091	642	59%	1	682	68%	3
A446 Lichfield Road South	1278	69%	2	1619	87%	7
M6 Toll	135	11%	0	135	14%	1
A446 Lichfield Road North	1244	81%	4	1431	98%	19
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A4091	321	24%	0	403	32%	1
A446 Lichfield Road South	1687	89%	7	1864	98%	18
M6 Toll	51	5%	0	51	6%	0
A446 Lichfield Road North	915	62%	2	1157	76%	3

3.14.13 The following two paragraphs are additional to paragraph 7.16.44.

'In order to construct the proposed scheme Faraday Avenue was to be restricted to a single lane in each direction. The AP2 amendment aims to maximise the amount of time that the dual carriageway is maintained. The AP2 revised scheme restricts the single lane working to seven 24-hour periods taking place over weekends.

Analysis shows that weekend traffic levels are substantially lower than during the weekday and do not exceed 500 vehicles per hour in any direction. This is well within the capacity of a single lane and there will be no material impact on traffic accessing the area. In addition the temporarily diverted Faraday Avenue, as part of the AP2 revised scheme, has a revised alignment into the existing roundabout with A446. This

will not change the impact upon the roundabout capacities that are reported in revised Table 7-266.'

Pedestrians, cyclists and equestrians

3.14.14 The following is an additional row to be added to Table 7-269.

Table 7-269: PRoW diversion (CFA20)

PRoW	Chainage	Diversion length	Journey time increase
M23	168+000	300m	4 mins

Operation description

3.14.15 Other than the AP2 amendments outlined above, there is no change from that reported in the main TA.

Assessment of operation impacts

Pedestrians, cyclists and equestrians

3.14.16 The AP2 revised scheme changes the diversion length of footpath T17 to 1500 metres which is an amendment to that reported in paragraph 7.16.71.

3.15 Drayton Bassett, Hints and Weeford (CFA21)

Drayton Bassett, Hints and Weeford (CFA21) AP2 revised scheme changes

3.15.1 The original scheme is described in paragraphs 7.17.2 to 7.17.72 of the main TA.

3.15.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- AP2-021-001 Amendments in the Drayton Bassett to Hints area include the lowering of the alignment of the HS2 route to the west of Drayton Bassett and the lowering of the alignment of the HS2 route to the west of Hints village. This includes modifications to a number of footpaths and the diversion of Brockhurst Lane.

Assessment methodology

3.15.3 There is no change from that reported in the main TA.

Existing baseline

3.15.4 There is no change from that reported in the main TA.

Future baseline

Future baseline assumptions

3.15.5 There is no change from that reported in the main TA.

Construction description

Construction trip assumptions

Trip generation

3.15.6 There are the following changes to Table 7-281 relating to the average daily HS2 HGV two-way trips during busy period and within the peak month of activity:

- A453 Sutton Road Roadhead ranges between 800 (busy period) and 1000 (peak month) over a 4 year period
- Watling Street Roadhead ranges between 350 (busy period) to 500 (peak month) over a 4 year period.

3.15.7 The following replaces paragraph 7.17.22:

"The assessment also includes for in-combination impacts by taking into account traffic and transport impacts of works being undertaken in neighbouring CFA areas. Construction traffic flows of 550 cars/LGV and 800 HGV per day from CFAs to the south via M6 toll road junction T4 and 1200 HGVs from CFA19 and CFA20 have been included in the assessment for this area."

Construction lorry routes

3.15.8 The following modifies paragraph 7.17.23 relating to the construction lorry route on A453:

- "A453, from A38 to 500 metres east of Drayton Lane".

Assessment of construction impacts

Strategic and local road network traffic flows

3.15.9 The tables below are replacements for Tables 7-282 and 7-283.

Table 7-282: Drayton Bassett, Hints and Weeford area construction traffic flows on strategic roads (vehicles) - AM peak

Location	Direction	2012 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A38, Between A38/M6 Toll junction and A453	NB	1035	1149	1149	137	0	0	0%	0%
	SB	1823	2024	2024	230	0	0	0%	0%
A5 Between A38/M6 Toll junction and A453	NB	1055	1171	1193	193	22	22	2%	13%
	SB	1210	1343	1365	222	22	22	2%	11%

Table 7-283: Drayton Bassett, Hints and Weeford area construction traffic flows on strategic roads (vehicles) - PM peak

Location	Direction	2012 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A38, Between A38/M6 Toll junction and A453	NB	1735	1936	1936	154	0	0	0%	0%
	SB	1154	1288	1295	115	0	0	0%	0%
A5 Between A38/M6 Toll junction and A453	NB	1238	1381	1403	138	22	22	2%	19%
	SB	1042	1163	1185	150	22	22	2%	17%

3.15.10 The tables below replace Tables 7-284 and 7-285.

Table 7-284: Drayton Bassett, Hints and Weeford area construction traffic flows on local roads (vehicles) - AM peak

Location	Direction	2012 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A453 between A38/A446 junction and Drayton Lane	NB	708	786	923	135	137	92	17%	314%
	SB	779	865	960	159	95	93	11%	241%
A453 between the A453 compound accesses and Watling Street/Hints Road junction	NB	951	1056	1056	28	0	0	0%	0%
	SB	822	913	913	39	0	0	0%	0%

Table 7-285: Drayton Bassett, Hints and Weeford area construction traffic flows on local roads (vehicles) - PM peak

Location	Direction	2012 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A453 between A38/A446 junction and Drayton Lane	NB	882	984	1063	113	82	81	8%	284%
	SB	823	918	989	102	121	81	13	345%
A453 between the A453 compound accesses and Watling Street/Hints Road junction	NB	1070	1194	1263	98	0	0	0%	0%
	SB	1016	1134	1134	11	0	0	0%	0%

Junction performance

3.15.11 The table below replaces Table 7-286.

Table 7-286: Roundabout A38 London Road/A453 Tamworth Road/A446 London Road - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	Flow (all PCU)	Flow/ capacity %	Max queue	Flow (all PCU)	Flow/ capacity %	Max queue
A38 (N)	2030	60%	17	2030	60%	17
A453 (NE)	762	86%	15	897	91%	19
A446	552	15%	0	729	20%	0
A38 (S)	641	73%	12	641	83%	13
A453 (SW)	697	74%	12	697	74%	12

17:00-18:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A38 (N)	1293	82%	22	1293	82%	22
A453 (NE)	620	78%	12	770	78%	14
A446	1000	28%	-	1111	31%	0
A38 (S)	1430	92%	28	1430	92%	28
A453 (SW)	870	87%	17	870	87%	17

3.15.12 The table below replaces Table 7-287.

Table 7-287: Roundabout A38 London Road/A5148/A5206 - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A5148 north	1847	100%	31	1994	107%	74
A38 London Road east	1928	69%	4	2374	79%	4
A5148 south	103	25%	12	103	101%	6
A5206 west	745	75%	14	768	104%	28
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A5148 north	1489	69%	3	1794	80%	4
A38 London Road east	2704	99%	29	2822	103%	66
A5148 south	108	>100%	60	108	>100%	69
A5206 west	423	60%	2	488	71%	3

3.15.13 The table below replaces Table 7-288.

Table 7-288 Roundabout A5/A5127 Birmingham Road/A5148 Exit only - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A5127 Birmingham Road (N)	702	102%	22	776	112%	46
A5148						
A5127 Birmingham Road (S)	2402	104%	66	2556	111%	135
A5	1990	93%	11	1990	96%	17
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A5127 Birmingham Road (N)	665	71%	3	841	90%	8
A5148						
A5127 Birmingham Road (S)	2620	114%	184	2641	115%	195
A5	1558	70%	3	1558	70%	3

Operation description

3.15.14 Other than the AP2 amendments outlined above, there is no change from that reported in the main TA.

Assessment of operation impacts

Strategic and local road network traffic flows

3.15.15 The following is an additional row to table 7-290 relating to Brockhurst Lane.

Highway	Diversion Length
Brockhurst Lane	300m

3.15.16 The following is additional text 17.17.64.1:

"Brockhurst Lane is diverted via a new overbridge which removes the height restriction with the original scheme which required affected vehicles to divert some 10 kilometres."

Pedestrians, cyclists and equestrians

3.15.17 The following modification is made to the list of PRoW's diverted in paragraph 7.17.70:

- "PRoW Hints 13, 176+580 will be diverted by 150 metres."

3.16 Whittington to Handsacre (CFA22)

Whittington to Handsacre (CFA22) AP2 revised scheme changes

3.16.1 The original scheme is described in paragraphs 7.18.1 to 7.18.73 of the main TA.

3.16.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- AP2 022-001 This results in the lowering of the HS2 route so that the route can run in cutting to the east of Lichfield and pass beneath the West Coast Main Line, the South Staffordshire Line and the A38. In addition the link to Handsacre is realigned to pass alongside the Trent and Mersey Canal with one crossing of the canal by the Manchester Spur, instead of the original scheme alignment that crossed the canal three times. This results in changes to compound locations, access routes to compounds and to changes in levels of traffic particularly related to excavated material. There are also changes to a number of footpaths and diversions to Wood End Lane and to Netherstowe Lane.

Assessment methodology

3.16.3 There is no change from that reported in the main TA.

Existing baseline

Surveys

3.16.4 The following is additional paragraph 5.24.6.1:'Traffic surveys have been undertaken to obtain baseline data for the impact assessment on roads not originally included in the assessment for the main TA to reflect the further development of the scheme. Traffic surveys were undertaken in September 2014 and the survey data is included in SES and AP2 Annex B(iv).

Strategic and local highway network

3.16.5 The following is additional paragraph 5.24.15.1:

"A number of local roads have been analysed based on the September 2014 surveys. In addition data collected in 2012 / 2013 on Broad Lane and Cappers Lane has also been assessed within the extended analysis of the baseline as they are affected by AP2 changes. Local roads considered are as follows:

- A5206 from A51 Tamworth Road to Cricket Lane;
- A51 Tamworth Road between Cricket Lane and London Road
- Wood End Lane between A38 and Lancaster Road
- Broad Lane north of Capper's Lane; and
- Cappers Lane east of Broad Lane."

Baseline conditions

3.16.6 Table 5-157.1 is an additional table for the new local roads assessed.

Table 5-157.1 Whittington to Handsacre local road network baseline traffic flow

Location	**Direction**	**2012 baseline AM Peak 08:00 – 09:00**		**2012 baseline PM Peak 17:00 – 18:00**	
		All vehicles	**HGV**	**All vehicles**	**HGV**
Broad Lane north of Capper's Lane	NB	15	0	32	0
	SB	25	0	30	0
Capper's Lane east of Broad lane	EB	80	0	131	0
	WB	111	0	92	0
Location	**Direction**	**2014 Baseline AM Peak 08:00 – 09:00**		**2014 Baseline PM Peak 17:00 – 18:00**	
		All vehicles	HGV	All vehicles	HGV
A5206 London Road between A51 and Cricket Lane	NB	482	20	784	25
	SB	498	21	439	10
A51 Tamworth Rd between A5206 and Cricket Lane	EB	344	22	316	11
	WB	294	18	451	14
Wood End Lane between Lancaster Road and A38 slip road overbridge	EB	501	147	760	76
	WB	751	68	582	122

3.16.7 The following is additional to paragraph 5.24.17.1:

"An additional eight junctions were identified as having potential to be affected by the AP2 amendments or the analysis extended to cover other junctions not previously reported upon but subject to construction traffic. These eight junctions are as follows:

- A38 / Wood End Lane (Hilliards Cross);
- Wood End Lane / Lancaster Road;
- Wood End Lane / Common Lane;
- Wood End Lane / Nanseawan Road;
- Wood End Lane / Gorse Lane;
- A51 Tamworth Road / A5126 London Road;
- A5206 Cappers Lane / Europa Way; and
- A51 Stafford Road / Eastern Avenue."

3.16.8 The following tables summarise the 2014 baseline performance of those junctions outlined above that operate with a flow/capacity value over 85% on more than one arm in the AM and or PM peak hours. The 85% ratio is considered to be the threshold above which the junction is approaching its practical traffic capacity.

3.16.9 Table 5-158.1 is an additional table which shows the capacity calculations undertaken at the A51 /Tamworth Road / A5206 London Road junction in east Lichfield.

Table 5-581.1 2014 Baseline performance at the A51 /Tamworth Road / A5206 London Road junction

	2014 baseline AM Peak (08:00-09:00)			2014 baseline PM Peak (08:00-09:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A51 Upper St John Street	582	91%	22.4	590	76%	18.0
A51 Tamworth Road	311	86%	8.8	464	101%	19.8
A5206 London Road	501	73%	15.5	805	100%	41.0
Shortbutts Lane	361	90%	15.5	215	97%	12.9

3.16.10 The following is additional text in relation to table 5-158.1:

"Table 5-158.1 shows that the flow to capacity reaches 90% in the AM peak on two arms and 100% on 2 arms in the PM peak."

3.16.11 Table 5-158.2is an additional table which shows the capacity calculations undertaken at the A38 / Wood End Lane junction (Hilliards Cross) at Fradley.

Table 5-581.2 2014 Baseline performance at the A38 / Wood End Lane junction (Hilliards Cross)

	2014 baseline AM Peak (08:00-09:00)			2014 baseline PM Peak (08:00-09:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity**	**Max queue**
A38 Overbridge Slip Road Left	228	42%	1	181	259%	54
A38 Overbridge Slip Road Right	35	19%	1	30	247%	9
Wood End Lane from Lancaster Rd	646	107%	28	833	155%	182

3.16.12 The following is additional text in relation to table 5-158.2:

"Table 5-158.2 shows that the Hilliards Cross junction is operating at and beyond capacity particularly in the PM Peak. As the flow / capacity is estimated to be beyond 1.0 the traffic flows modelled are beyond the limits of the model's operating range and the results shown are potentially distorted."

3.16.13 Table 5-158.3 is an additional table and shows the capacity calculations undertaken at the A51 Stafford Road / Eastern Avenue to the west of Lichfield.

Table 5-158.3 2014 Baseline performance at the A51 Stafford Avenue / Eastern Avenue junction

	2014 baseline AM Peak (08:00-09:00)			2014 baseline PM Peak (08:00-09:00)		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A51 Stafford Road Left	557	59%	9	334	28%	3
A51 Stafford Road Ahead	788	68%	12	590	43%	7
Eastern Avenue	418	66%	10	634	85%	16
A51 Western Bypass	878	68%	14	989	86%	29
Hotel Access	2	2%	1	11	10%	1

3.16.14 The following is additional text in relation to table 5-158.3:

"Table 5-158.3 shows that the junction operates below capacity in the AM but in the PM reaches 85% RFC on 2 arms of the junction. The remaining additional junctions surveyed are estimated to operate with spare capacity in both the AM and PM peak hours."

Future baseline

Key future baseline assumption

3.16.15 Table 7-292.1 provides the additional TEMPRO Growth Rates applied to existing traffic volumes surveyed in 2014 to establish the future baseline conditions for 2021.

Table 7-292.1: TEMPRO Growth Rates for 2014 (CFA22)

Authority	**Location**	**Zone**	**2012-2021**	
			Average Weekday Peaks	
			AM	**PM**
Staffordshire	Lichfield	Rural	1.1	1.1
Staffordshire	Lichfield	Lichfield	1.1	1.1

Strategic and local road network traffic flows

3.16.16 The following is additional paragraph 7.18.11.1:

"As a result of the construction of the AP2 revised scheme the analysis has been extended to the following roads:

- Broad Lane north of Capper's Lane;
- Capper's Lane east of Broad Lane;
- A51 Tamworth Road between Cricket Lane and London Road;
- A5206 from A51 Tamworth Road to Cricket Lane; and
- Wood End Lane between A38 and Lancaster Road"

3.16.17 Tables 7-296-1 and 7-296.2 are additional tables for the above roads in the current and future baseline situation.

Table 7-296-1: Whittington to Handsacre local road network future baseline flows (vehicles) - AM peak

Location	Direction	Baseline flow				All vehicles actual change from 2012	All vehicles % change from 2012
		2012/2014		2021		2021	2021
		All vehicles	HGV	All vehicles	HGV		
A5206 London Road between A51 and Cricket Lane	NB	482	20	530	22	48	10%
	SB	498	21	548	23	50	10%
A51 Tamworth Road between A5206 and Cricket Lane	EB	344	22	378	24	34	10%
	WB	294	18	323	20	29	10%
Wood End Lane, between Lancaster Road and 38	EB	501	147	551	162	50	10%
	WB	751	68	826	75	75	10%
Broad Lane north of Capper's Lane	NB	15	0	17	0	2	10%
	SB	25	0	28	0	3	10%
Capper's Lane east of Broad Lane	NB	80	0	88	0	8	10%
	SB	111	0	122	0	11	10%

Table 7-296-2: Whittington to Handsacre local road network future baseline flows (vehicles) - PM peak

Location	Direction	Baseline flow				All vehicles actual change from 2012	All vehicles % change from 2012
		2012/2014		2021		2021	2021
		All vehicles	HGV	All vehicles	HGV		
A5206 London Road between A51 and Cricket Lane	NB	784	25	862	28	78	10%
	SB	439	10	483	11	44	10%
A51 Tamworth Road between A5206 and Cricket Lane	EB	316	11	348	12	32	10%
	WB	451	14	496	15	45	10%

Location	Direction	Baseline flow				All vehicles actual change from 2012	All vehicles % change from 2012
		2012/2014		2021		2021	2021
		All vehicles	HGV	All vehicles	HGV		
Wood End Lane, between Lancaster Road and 38	EB	760	76	836	84	76	10%
	WB	582	122	640	134	58	10%
Broad Lane north of Capper's Lane	NB	32	0	35	0	3	10%
	SB	30	0	33	0	3	10%
Capper's Lane east of Broad Lane	NB	131	0	144	0	13	10%
	SB	92	0	101	0	9	10%

3.16.18 The following is additional paragraph 7.18.14.1:

"The analysis was extended to the following junctions which would have the potential to be impacted by traffic generated by the construction movements of the AP2 revised scheme or to extend to junctions not previously assessed for the original scheme:

- A51 Tamworth Road / A5206 London Road;
- A51 Stafford Road / A5192 Eastern Avenue; and
- A38 / Wood End Lane (Hilliards Cross)."

3.16.19 Table 7-297.1 is an additional table relating to the junction between A51 Tamworth Road / A5206 London Road.

Table 7-297.1: Whittington to Handsacre area future baseline performance at the A51 Tamworth Road / A5206 London Road signalled junction

0800-09:00	**2014 baseline**			**2021 future baseline**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A51 Upper St John Street	582	91%	23	641	100%	34
A51 Tamworth Road	311	86%	9	342	94%	13
A5206 London Road	501	73%	16	551	81%	19
Shortbutts Lane	361	90%	16	397	99%	23
17:00-18:00	**2014 baseline**			**2021 future baseline**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A51 Upper St John Street	590	76%	18	649	84%	22
A51 Tamworth Road	464	101%	20	510	110%	39
A5206 London Road	805	100%	41	885	110%	80
Shortbutts Lane	215	97%	13	237	107%	21

3.16.20 The following is additional text in relation to Table 7-297.1:

"The junction is operating above practical capacity of 85% on certain arms of the junction in the AM peak and reaches capacity in the PM peak in the 2012 base year. By the 2021 forecast year the junction is operating beyond capacity in both peak hours."

3.16.21 Table 7-297.2 is an additional table relating to the A51 Stafford Road / Eastern Avenue junction.

Table 7-297.2: Whittington to Handsacre area future baseline performance at the A51 Stafford Road / Eastern Avenue signal junction

0800-09:00	**2014 baseline**			**2021 future baseline**		
Approach (from)	**Flow (all PCU)**	**Flow/capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/capacity %**	**Max queue**
A51 Stafford Road Left	557	59%	9	613	65%	11
A51 Stafford Road Ahead	788	68%	12	867	75%	15
A5192 Eastern Avenue	418	66%	10	460	73%	11
A51 Western Bypass	878	68%	14	966	75%	17
Hotel Access	2	2%	1	2	2%	1

17:00-18:00	2014 baseline			2021 future baseline		
Approach (from)	**Flow (all PCU)**	**Flow/capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/capacity %**	**Max queue**
A51 Stafford Road Left	334	28%	3	367	31%	3
A51 Stafford Road Ahead	590	43%	7	649	47%	8
A5192 Eastern Avenue	634	85%	16	698	94%	21
A51 Western Bypass	989	86%	28	1088	94%	39
Hotel Access	11	10%	1	12	11%	1

3.16.22 The following is additional text in relation to Table 7-297.2:

"The junction is operating within capacity in the AM peak and reaches practical capacity of 85% on certain arms of the junction in the PM peak in the 2014 base year. This extends to approach 95% in the PM peak in the 2021 forecast year."

3.16.23 Table 7-297.3 is an additional table relating to the A38 / Wood End Lane junction (Hilliards Cross).

Table 7-297.3: Whittington to Handsacre area future baseline performance at the A38 / Wood End Lane (Hilliards Cross) junction

0800-09:00	2014 baseline			2021 future baseline		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A38 Overbridge Slip Road Left	228	42%	1	251	64%	2
A38 Overbridge Slip Road Right	35	19%	1	39	57%	1
Wood End Lane from Lancaster Rd	646	107%	27	711	138%	94
17:00-18:00	**2014 baseline**			**2021 future baseline**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A38 Overbridge Slip Road Left	181	259%	54	199	>100%	159
A38 Overbridge Slip Road Right	30	247%	10	33	>100%	27
Wood End Lane from Lancaster Rd	833	155%	183	917	175%	287

3.16.24 The following is additional text in relation to Table 7-297.3:

"The modelling shows that the junction is operating above capacity on certain arms of the junction in the AM peak and reaches capacity in the PM peak in the 2012 base year. By the 2021 forecast year the junction is operating beyond capacity in both peak

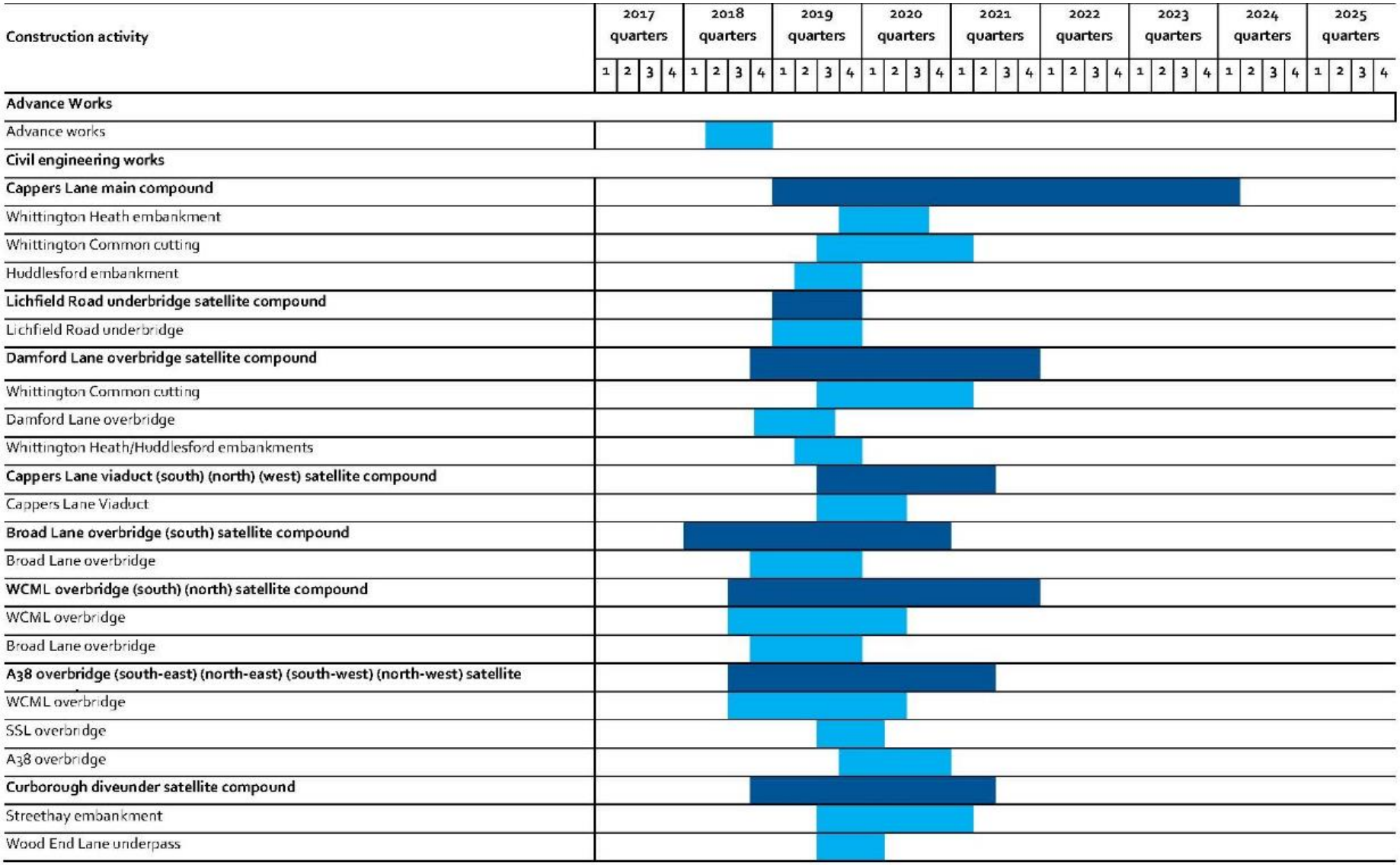
hours. As the flow / capacity ratio is beyond 1.0 the traffic flows modelled are beyond the limits of the model's operating range and the results shown are potentially distorted."

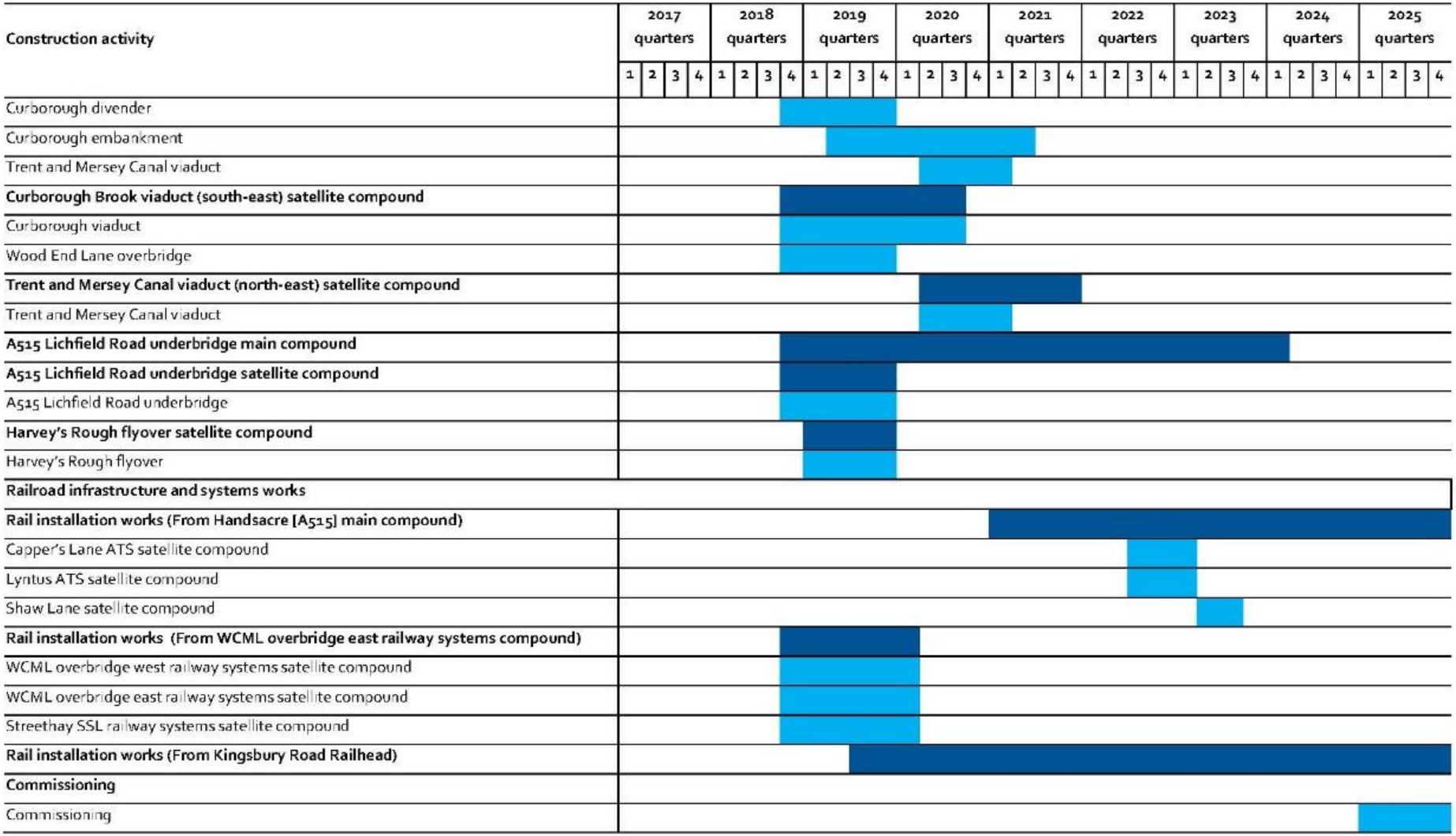
Construction description

Construction activities

3.16.25 The figures below replace Figure 7-25.

Figure 7-25: Indicative construction programme




Construction activity
2017 quarters
2018 quarters
2019 quarters
2020 quarters
2021 quarters
2022 quarters
2023 quarters
2024 quarters
2025 quarters
1 2 3 4
Curborough divender
Curborough embankment
Trent and Mersey Canal viaduct
Curborough Brook viaduct (south-east) satellite compound
Curborough viaduct
Wood End Lane overbridge
Trent and Mersey Canal viaduct (north-east) satellite compound
Trent and Mersey Canal viaduct
A515 Lichfield Road underbridge main compound
A515 Lichfield Road underbridge satellite compound
A515 Lichfield Road underbridge
Harvey's Rough flyover satellite compound
Harvey's Rough flyover
Railroad infrastructure and systems works
Rail installation works (From Handsacre [A515] main compound)
Capper's Lane ATS satellite compound
Lyntus ATS satellite compound
Shaw Lane satellite compound
Rail installation works (From WCML overbridge east railway systems compound)
WCML overbridge west railway systems satellite compound
WCML overbridge east railway systems satellite compound
Streethay SSL railway systems satellite compound
Rail installation works (From Kingsbury Road Railhead)
Commissioning
Commissioning

Compounds and Construction Sites

3.16.26 Table 7-298 is a replacement for that in the main TA. Compounds with no workforce numbers are accessed via other compounds; where numbers are given they include all workers utilising that compound.

Table 7-298: Whittington to Handsacre assumed workforce at construction sites

Compound type	**Location**	**Assumed daily workforce per site for duration of construction programme**	
		Average	**Peak**
Satellite	Lichfield Road underbridge compound	14	20
Satellite	Darnford Lane overbridge compound	18	30
Satellite	Cappers Lane viaduct (south) compound	-	-
Satellite	Cappers Lane viaduct (west) compound		
Satellite	Cappers Lane overbridge compound	-	-
Satellite	Cappers Lane auto-transformer compound	-	-
Satellite	WCML Overbridge south compound	-	-
Roadhead	A38 Southbound		
Main	Cappers Lane main compound	113	145
Satellite	A38 Overbridge (south east) compound	-	-
Satellite	A38 Overbridge (southwest) compound	-	-

Compound type	Location	Assumed daily workforce per site for duration of construction programme	
		Average	Peak
Satellite	A38 Overbridge (north east) compound	-	-
Satellite	Streethay South Staffs Line Railway systems compound		
Satellite	A38 Overbridge (Northwest)) compound	30	30
Satellite	Mare Brook package substation compound	-	-
Satellite	Curborough Diveunder compound	88	100
Satellite	Curborough Brook Viaduct compound	60	60
Road head	Wood End Lane	10	10
Satellite	Trent & Mersey Canal viaduct compound	-	-
Satellite	King Bromley Package substation compound	-	-
Satellite	A515 Lichfield Road underbridge compound		
Main	A515 Lichfield Road main compound	104	150
Satellite	Harvey's Rough flyover compound	-	-
Satellite	Shaw Lane Rail systems compound	-	-

Construction trip assumptions

Trip generation

3.16.27 Table 7-299 is a replacement for that in the main TA.

Table 7-299: Typical vehicle trip generation for construction site compounds in this area

Compound type	Location	Access to/from compound	Indicative start / set up date	Estimated duration of use (Years)	Estimated duration with busy vehicle movement (months)	Average daily combined two-way vehicle trips during busy period and within peak month of activity	
						Cars/ LGV	HGV
Satellite	Lichfield Road Underbridge Compound	Lichfield Road / A51 Tamworth Road / A5206 London Road / A38	2018	1.5	4	60-84	74-100
Satellite	Darnford Lane Overbridge Compound	Haul route via Lichfield Road Underbridge Satellite Compound	2018	3	-	Few external movements	
Satellite	Capper's Lane Viaduct (South) compound	Haul route via Capper's Lane Main Compound	2018	2	-	Few external movements	
Satellite	Capper's Lane Viaduct (West) compound	Haul route via Capper's Lane Main Compound	2018	2		Few external movements	
Satellite	Capper's Lane Overbridge Compound	Haul route via Capper's Lane Main Compound	2018	3	-	Few external movements	
Satellite	Capper's Lane auto-transformer Compound	Capper's Lane / A38	2022	1	6	28-40	2-2
Satellite	WCML Overbridge South Compound	Haul route via Capper's Lane Main Compound	2018	2	-	Few external movements	
Satellite	WCML Overbridge North Compound	A38 or haul route via Capper's Lane Main Compound	2018	3.5	-	Few external movements	

Compound type	Location	Access to/from compound	Indicative start / set up date	Estimated duration of use (Years)	Estimated duration with busy vehicle movement (months)	Average daily combined two-way vehicle trips during busy period and within peak month of activity	
						Cars/ LGV	HGV
Satellite	WCML Overbridge (East) Compound (Rail Systems)	A38 or haul route via Capper's Lane Main Compound	2019	1.5	16	44-74	2-2
Satellite	WCML Overbridge (West) Compound (Rail Systems)	Haul route via Capper's Lane Main Compound	2019	1.5	16	44-74	2-2
Roadhead	A38 Southbound North and South Roadheads	A38 temporary slip roads	2018	4	15	Few external movements	316-382
Main	Capper's Lane Main Compound	Capper's Lane / A38	2018	5	22	160 -210	136-190
Satellite	A38 Overbridge (South East) Compound	A38 or haul route via Capper's Lane Main Compound	2018	1	-	Few external movements	
Satellite	A38 Overbridge (South West) Compound	A38/A5127 Southbound slip road via A38 overbridge north east satellite compound	2019	1	-	Few external movements	
Satellite	A38 Overbridge (North East) Compound	Farm route via Capper's Lane main compound (light vehicles only). A38/A5127 Southbound slip road. Exit via A5127/A5192/A38	2018	2	16	30-40	46-76
Satellite	South Staffordshire Line Compound (Rail Systems)	A38 / A5127 junction	2019	1.5	16	44-74	2-2
Satellite	A38 Overbridge Viaduct (North-West) Compound	A38 / A5192 / A5127. Exit via A38/A5127 northbound slip road	2019	2	21	50	36-52

Compound type	Location	Access to/from compound	Indicative start / set up date	Estimated duration of use (Years)	Estimated duration with busy vehicle movement (months)	Average daily combined two-way vehicle trips during busy period and within peak month of activity	
						Cars/ LGV	HGV
Satellite	Mare Brook package substation Compound	Nanseawen Road / Wood End Lane / A38	2022	<1	<1	Few external movements	
Satellite	Curborough Dive under Compound	Wood End Lane to A38	2018	3	13	130-144	74-110
Satellite	Curborough Brook Viaduct compound	Wood End Lane to A38	2018	4	13	94	106-146
Roadhead	Wood End Lane Eastbound Roadhead	Wood End Lane to A38	2019	4	13	Few external movements	588-724
Satellite	Trent and Mersey canal Viaduct Compound	Haul route via Curborough Dive under Compound	2018	2	-	Few external movements	
Satellite	Lyntus auto-transformer station Compound	Wood End Lane to A38	2022	1	6	28-40	2-2
Satellite	Kings Bromley Package Sub Station Compound (Rail Systems)	Wood End Lane to A38	2022	1	-	Few external movements	
Satellite	A515 Lichfield Road Underbridge Compound	A515 Lichfield Road	2018	1.5	14	-	24-38
Main	A515 Lichfield Road Main Compound	A515 Lichfield Road	2018	5.5	26	150-220	46-62
Main	Handsacre Main Compound (Rail Systems)	A515 Lichfield Road	2021	5	10	138-138	0

Compound type	Location	Access to/from compound	Indicative start / set up date	Estimated duration of use (Years)	Estimated duration with busy vehicle movement (months)	Average daily combined two-way vehicle trips during busy period and within peak month of activity	
						Cars/ LGV	HGV
Satellite	Harvey's Rough Flyover Compound	Shaw Lane / B5014 Lichfield Road / A515 Lichfield Road	2019	1	-	Few external movements	
Satellite	Shaw Lane Compound (Rail Systems)	Shaw Lane / B5014 Lichfield Road / A515 Lichfield Road	2023	1	4	64-64	0-2

3.16.28 The following text replaces that in paragraph 7.18.21:

"Trip generation from the construction works being undertaken in neighbouring CFAs has also been included in this assessment. Construction traffic flows of 1200 HGVs and 800 cars /LGV via the A38 London Road and A5127 Birmingham Road as generated by CFA21 (Drayton Bassett, Hints and Weeford) and other CFAs to the south have been included in the assessment for this area."

3.16.29 The following four paragraphs are additional to text in paragraph 7.18.21:

"Trip generation of cars and LGVs in CFA22 as a result of the revised alignments remains in line with those calculated for the original scheme. The total number of HGVs though reduces due mainly to the lower amount of excavated material being transported within and to the area. In addition routes used by this and other traffic to access the strategic road network change with the AP2 revised scheme. The main impacts are summarised below.

The AP2 revised scheme generates 730 HGVs, relating to the transport of waste material at the roadhead on Wood End Lane, of which 400 HGVs come from the A38 roadhead near Capper's Lane and the remaining 330 derive from other CFAs to the south. This compares with 1500 HGVs generated with the original scheme at the roadheads on Nanseawen Road and Wood End Lane. Some but not all of this material derived from the roadhead at Streethay construction sidings, part of the original scheme and which are no longer required, and which in total generated 1550 HGVs per day.

All the satellite compounds east of A38, except those that access via A51, access through Capper's Lane main compound located immediately east of A38 at its junction with Capper's Lane. There will be limited construction traffic along Capper's Lane, to the east of the main compound, except that limited to traffic related to the Capper's Lane auto transformer compound which amount to some six HGVs per day. Construction traffic will only use the section of Broad lane immediately underneath the West Coast Main Line.

The amount of traffic on the A5192, Cappers Lane and A5127 Burton Road is now limited to construction traffic accessing the A38 overbridge north west and north east

compounds located north of Streethay adjacent to the A5127 Burton Road / A38 junction."

Construction lorry routes

3.16.30 The main construction routes through the area will be as defined in paragraph 7.18.24 except for the use of Cricket Lane in Lichfield. This is no longer proposed for construction traffic from the compounds on A51 at Lichfield Road and Darnford Lane west of Whittington. Traffic from these compounds will route along A51 Tamworth Road from Cricket Lane to A5206 London Road and along A5206 London Road from A51 Tamworth Road to Cricket Lane.

3.16.31 The construction routes can be found in the SES and AP2 ES Volume 5 Map Book - Map TR-03-122.

Traffic management, road closures and diversions

3.16.32 Additional to the highways listed in paragraph 7.18.26, Watery Lane and Netherstowe Lane are subject to diversion and overnight and / or weekend closures will be required to tie in to the existing highway.

Assessment of construction impacts

Strategic and local road network traffic flows

3.16.33 Tables 7-300 and 7-301 replace those in the main TA.

Table 7-300: Whittington to Handsacre area construction traffic flows on strategic road (vehicles) - AM peak

Location	Direction	2012 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A38, between its jnc with the A5206 and its jnc with the A5192	NB	1930	2143	2378	436	235	93	11%	27%
	SB	2017	2239	2355	474	116	93	5%	24%
A38, between its jnc with the A5192 and its jnc with Wood End Lane…	NB	1739	1913	2066	399	153	74	8%	23%
	SB	1599	1759	1854	391	95	74	3%	17%

Table 7-301: Whittington to Handsacre area construction traffic flows on strategic road (vehicles) - PM peak

Location	Direction	2012 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A38, between its jnc with the A5206 and its jnc with the A5192	NB	2076	2316	2376	314	60	59	3%	23%
	SB	2086	2328	2508	291	180	58	8%	25%

Location	Direction	2012 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A38, between its jnc with the A5192 and its jnc with Wood End Lane…	NB	1904	2124	2177	307	53	52	2%	20%
	SB	1789	1996	2106	272	110	52	6%	24%

3.16.34 Tables 7-302 and 7-303 replace those in the main TA.

Table 7-302: Whittington to Handsacre area construction traffic flows on local roads (vehicles) - AM peak

Location	Direction	2012/14 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A5192 Cappers Lane, between its jnc with the A5127 and its jnc with the A38	NB	716	788	803	58	15	5	2%	9%
	SB	743	817	823	63	6	5	1%	9%
A5127 Burton Road, between its jnc with the A5192 and its jnc with the A38	EB	495	545	551	49	6	5	1%	11%
	WB	563	619	634	58	15	5	2%	9%
Wood End Lane, between its jnc with the A515 and its jnc with the A38	EB	283	314	357	30	43	11	14%	58%
	WB	154	171	183	41	12	11	7%	37%
A515 Lichfield Road, between its jnc with the A51 and approximately 600m to the east of its jnc with Wood End Lane	NB	199	221	284	37	63	7	29%	23%
	SB	309	343	351	31	8	7	2%	29%
A5206 London Road between A51 and Cricket Lane	NB	482	530	571	33	41	11	8%	50%
	SB	498	548	561	34	13	11	2%	48%
A51 Tamworth Rd between A5206 and Cricket Lane	EB	344	378	419	35	41	11	11%	45%
	WB	294	323	336	31	13	11	4%	56%
Wood End Lane between Lancaster Road and A38 slip road overbridge	EB	501	551	617	226	66	64	12%	40%
	WB	751	826	950	139	124	64	15%	86%

Table 7-303: Whittington to Handsacre area construction traffic flows on local roads (vehicles) - PM peak

Location	Direction	2012/14 baseline	2021 baseline	2021 With HS2 construction traffic		With HS2 actual change from 2021 baseline		With HS2 % change from 2021 baseline	
		All vehicles		All vehicles	HGV	All vehicles	HGV	All vehicle	HGV
A5192 Cappers Lane, between its jnc with the A5127 and its jnc with the A38	NB	757	836	838	41	2	2	1%	5%
	SB	662	731	744	21	13	2	2%	11%
A5127 Burton Road, between its jnc with the A5192 and its jnc with the A38	EB	577	637	650	30	13	2	2%	7%
	WB	458	506	508	21	2	2	1%	11%
Wood End Lane, between its jnc with the A515 and its jnc with the A38	EB	126	141	145	25	4	4	3%	19%
	WB	315	351	382	19	31	3	9%	19%
A515 Lichfield Road, between its jnc with the A51 and approximately 600m to the east of its jnc with Wood End Lane	NB	270	301	304	20	3	2	1%	11%
	SB	220	245	302	27	57	2	23%	8%
A5206 London Road between A51 and Cricket Lane	NB	784	862	867	32	5	4	1%	15%
	SB	439	483	516	15	33	4	7%	36%
A51 Tamworth Rd between A5206 and Cricket Lane	EB	316	348	353	16	5	4	1%	33%
	WB	451	496	529	19	33	4	7%	26%
Wood End Lane between Lancaster Road and A38 slip road overbridge	EB	760	836	946	136	110	52	13%	62%
	WB	582	640	692	186	53	52	8%	39%

Junction performance

3.16.35 Table 7-304 is a replacement of that in the main TA.

Table 7-304: Roundabout A5192 Eastern Avenue/A5127 Trent Valley Road/Cappers Lane/Valley Lane - 2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A5192 Eastern Avenue	884	87%	6	884	88%	7
A5127 Trent Valley Road (East)	807	88%	7	815	90%	8
A5192 Cappers Lane	894	99%	18	913	100%	22
A5217 Trent Valley Road (West)	545	84%	5	545	85%	5
Valley Lane	168	49%	1	168	49%	1
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A5192 Eastern Avenue	828	81%	4	828	81%	4
A5127 Trent Valley Road (East)	867	97%	15	881	98%	18
A5192 Cappers Lane	866	107%	40	869	107%	41
A5217 Trent Valley Road (West)	582	109%	34	582	109%	34
Valley Lane	114	44%	1	114	44%	1

3.16.36 Table 7-305.1 is an additional table relating to the A51 Tamworth Road / A5206 London Road junction.

Table 7-305.1: Traffic signal junction A51 Tamworth Road / A5206 London Road-2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A51 Upper St John Street	641	100%	34	641	100%	34
A51 Tamworth Road	342	94%	13	358	94%	13
A5206 London Road	551	81%	18	585	83%.	19
Shortbutts Lane	397	99%	23	397	99%	23

17:00-18:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A51 Upper St John Street	649	84%	22	649	85%	22
A51 Tamworth Road	510	110%	39	534	113%	47
A5206 London Road	885	110%	80	890	113%	89
Shortbutts Lane	237	107%	21	237	107%	21

3.16.37 This is additional text in relation to Table 7-305.1:

"The modelling results demonstrate that the AP2 revised scheme has only a small impact on the capacity of the A51 Tamworth Road / A5206 London Road junction."

3.16.38 Table 7-305.2 is an additional table relating to the A51 Stafford Road / Eastern Avenue junction.

Table 7-305.2: Traffic signal junction A51 Stafford Road / Eastern Avenue junction2021 future baseline without and with Proposed Scheme for AM and PM

0800-09:00	2021 baseline			2021 with HS2 construction traffic		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A51 Stafford Road Left	613	65%	11	613	64%	10
A51 Stafford Road Ahead	867	75%	15	883	73%	14
Eastern Avenue	460	73%	11	460	78%	12
A51 Western Bypass	966	75%	17	1036	79%	20
Hotel Access	2	2%	1	2	2%	1
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
A51 Stafford Road Left	367	31%	3	367	31%	3
A51 Stafford Road Ahead	649	47%	8	709	51%	9
Eastern Avenue	698	94%	21	698	94%	21
A51 Western Bypass	1088	94%	38	1093	95%	39
Hotel Access	12	11%	1	12	11%	1

3.16.39 This is additional text in relation to Table 7-305.2:

"The modelling results demonstrate that the AP2 Revised Scheme has a minimal impact on the capacity of the A51 Stafford Road / Eastern Avenue junction."

3.16.40 The following is additional paragraph 7.18.45.1:

"Further modelling has been undertaken at the A38 / Wood End Lane (Hilliards Cross), west side, junction and this shows that the junction is already operating at its capacity in the base year and this extends well beyond capacity in the 2021 baseline forecast year. A potential mitigation scheme has been developed which includes signalisation and local widening to provide two lanes on each approach and the capacity analysis for such an option is shown on the additional Table 7-305.3."

Table 7-305.3 Traffic signal junction A38 / Wood End Lane (Hilliards Cross) 2021 without and with HS2 AM and PM

0800-09:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
Wood End Lane from A38 Northbound off slip road	658	71%	11	658	75%	12
A38 Overbridge Slip Roads	290	37%	4	478	58%	7
Wood End Lane from Lancaster Rd Ahead & Right	373	71%	8	436	76%	9
Wood End Lane from Lancaster Rd Right	338	69%	7	405	75%	9
17:00-18:00	**2021 baseline**			**2021 with HS2 construction traffic**		
Approach (from)	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**	**Flow (all PCU)**	**Flow/ capacity %**	**Max queue**
Wood End Lane from A38 Northbound off slip road	600	73%	11	600	81%	13
A38 Overbridge Slip Roads	232	26%	3	336	35%	4
Wood End Lane from Lancaster Rd Ahead & Right	479	75%	10	558	78%	12
Wood End Lane from Lancaster Rd Right	438	74%	9	521	78%	11

3.16.41 This is additional text in relation to Table 7-305.3:

"The analysis shows that with such junction improvement scheme the junction works satisfactorily and HS2 construction traffic would have limited impact on the operation of this junction."

Operation description

3.16.42 Other than the AP2 amendments outlined above, there is no change from that reported in the main TA.

Assessment of operation impacts

Strategic and local road network

3.16.43 A total of five roads will be realigned within this area. Table 7-307 is a replacement table to that in the main TA.

Table 7-307: Highway diversions (CFA22)

Highway	Change in Length
Darnford Lane	5m
Broad Lane	25 m
Capper's Lane	300m
Wood End Lane	100m
Netherstowe Lane	2000m for road users and 800 m for non-motorised users

3.16.44 The following text modifies that within paragraph 7.18.64:

"The main changes relate to Capper's Lane and Netherstowe Lane. The maximum increase in journey length occurs on Netherstowe Lane with 2000 m for road users and 800 m for non-motorised traffic, equating to an increased journey time of 10 minutes."

3.16.45 The following is replacement text for paragraph 7.18.65:

"Part of Shaw Lane will be permanently closed, between the WCML bridge and the junction with Tuppenhurst Lane. With the AP2 revised scheme the proposal includes the extension of Tuppenhurst Lane in an easterly direction to a new junction with the A515 Lichfield Road. The use of the Tuppenhurst Lane extension will result in a diversion of approximately 2.2km, effectively halving the travel time for affected traffic compared with the original scheme."

Pedestrians, cyclists and equestrians

3.16.46 Replacement text for paragraph 7.18.70:

"Six of the seven affected PRoW will be realigned within this area. Of these, three will be realigned by less than 100m, resulting in no substantial impact on PRoW users."

3.16.47 Replacement text for paragraph 7.18.71:

"The AP2 revised scheme will impact on three PRoW, Alrewas 31 (+250 m), Alrewas 44 (+150 m) and Kings Bromley 0.392 (+550 m). The maximum realignment of a PRoW in this area will be approximately 550m (Kings Bromley 0.392). This PRoW was utilised by no users during surveys undertaken."

4 West Midlands Region

4.1 Balsall Common and Hampton-in-Arden (CFA23)

Balsall Common and Hampton-in-Arden (CFA23) AP2 revised scheme changes

4.1.1 The original scheme is described in paragraphs 8.3.1 - 8.3.11 of the main TA.

4.1.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- AP2-023-001 Extension to the Kenilworth Greenway. To improve connectivity between Burton Green, Berkswell and the Berkswell Station car park, the reinstated Kenilworth Greenway will be extended beyond Footpath M191, passing alongside and to the west of Berkswell Station Car Park and connecting into the car park access road off Station Road /Truggist Lane. The extension will increase the length of the Kenilworth Greenway by approximately 500m and additional land will be permanently required.
- AP2-023-002 Retention of the temporary roundabout at Park Lane/A452 Kenilworth Road. To improve operational traffic movements, the temporary roundabout will be constructed as a permanent feature which will remain following construction of the original scheme.
- AP2-023-004 Extension of the River Blythe viaduct. To facilitate access between land holdings, the River Blythe viaduct will be extended to approximately 480m long which will replace the section of Patrick embankment between the B4102 Meriden Road and the River Blythe, the B4102 Meriden Road underbridge, and a short section of the Patrick embankment to the south-east of the underbridge. An additional private means of access will be provided and an access track off the B4102 Meriden Road for a balancing pond will be realigned closer to the route of the original scheme and Footpath M230A will be realigned accordingly. The underground diversion of the existing overhead power line would be diverted on a slightly different alignment under the viaduct.
- AP2-023-005 Realignment of Diddington Lane. To reduce the severance of agricultural land and disruption to agriculture, Diddington Lane will not be closed and instead will be realigned to the west of the route of the original scheme, crossing the route at Diddington cutting via a new bridge (Diddington Lane overbridge).

4.1.3 In addition, there are a number of amendments in the adjoining areas and changes to the movements of excavated materials and associated traffic routing which also influence traffic and transport conditions in the area. Whilst these amendments are reported separately in the associated areas, any changes to the combined impacts within this area are reported in this section.

4.1.4 The above changes lead to a number of amendments to the main TA in Balsall Common and Hampton-in-Arden (CFA23).

Existing baseline

4.1.5 Baseline conditions are described in Section 5.25 of the main TA.

4.1.6 Further transport survey data has been collected for the AP2 revised scheme and this is reported in paragraph 4.1.7.

Pedestrians, cyclists and equestrians

4.1.7 Footpath M196 meets Station Road in Balsall Common to the south-east of the Berkswell Station car park access. A non-motorised user survey has been undertaken to establish the usage of this Public Rights of Way (PRoW) and this showed 18 users on the survey day.

Assessment Methodology

4.1.8 The assessment methodology is described in Section 8.2 of the main TA.

Future baseline

4.1.9 Future baseline traffic and transport conditions are described in Section 8.3 of the main TA.

Construction description

Compounds and construction sites

4.1.10 Table 8-18 showed the assumed workforce at each of the construction sites. Table 8-18 is amended with the B4102 Meriden Road underbridge satellite compound deleted and the River Blythe Viaduct satellite compound added. The River Blythe Viaduct satellite compound amendment to Table 8-18 is shown in the following table.

Table 8-18: Assumed workforce at construction sites

Compound Type	Location	Assumed daily workforce per site for duration with busy vehicle movements	
		Average	Peak
Satellite	River Blythe Viaduct satellite compound	48	72

4.1.11 Table 8-19 showed the typical vehicle trip generation for construction site compounds in this area. The table is amended with average daily combined two-way HGV vehicle trips during peak month of activity at the Beechwood Farm accommodation underpass and Carol Green Rail underbridge (south) satellite compounds increased to 76 HGVs (from 66 HGVs) and 22 HGVs (from 11 HGVs), respectively. The B4102 Meriden Road underbridge satellite compound is deleted and the River Blythe Viaduct satellite compound is added. The River Blythe Viaduct satellite compound amendment to Table 8-19 is shown below.

Table 8-19: Typical vehicle trip generation for construction site compounds in this area (partial amendment)

Compound Type	Location	Access to/from compound	Indicative start/set up date	Estimated duration of use (Years)	Estimated duration with busy vehicle movements (Months)	Average daily combined two-way vehicle trips during busy period and within peak month of activity	
						Car / LGV	HGV
Satellite	River Blythe Viaduct satellite compound	Meriden Road initially then utilising haul routes to A45 and A452	Q2 2017	3 years	16	14-24	15-22

Construction lorry routes

4.1.12 Paragraph 8.3.37 is replaced by:

4.1.13 "The following lorry route is currently proposed for the main construction site compound:

- The proposed lorry route for the Park Lane main compound would be Park Lane leading onto the A452 Kenilworth Road, continuing northwards to Stonebridge Island and then westwards along the A45 Coventry Road to M42 junction 6."

4.1.14 The following amendments to the bullet points in paragraph 8.3.38 are as follows:

- "The proposed lorry route for the Beechwood Farm Accommodation Underpass satellite compound would be from Waste Lane, westwards to the A452 Kenilworth Road, continuing northwards to Stonebridge Island and then westwards along the A45 Coventry Road to M42 junction 6;
- The proposed lorry route for the Carol Green Rail underbridge (south) satellite compound would be from Waste Lane, westwards to the A452 Kenilworth Road, continuing northwards to Stonebridge Island and then eastwards along the A45 Coventry Road to M42 junction 6;
- The proposed initial lorry route for the Carol Green Rail underbridge (north) satellite compound would be from Truggist Lane turning right into Spencers Lane, right into Nailcote Lane. The route would continue along Nailcote Lane to Waste Lane and Kelsey Lane to join the A452 Kenilworth Road, continuing northwards to Stonebridge Island and then westwards along the A45 Coventry Road to M42 junction 6. Main access will later be via site haul route to Park Lane via A452 Kenilworth Road, continuing northwards to Stonebridge Island and then westwards along the A45 Coventry Road to M42 junction 6;
- The proposed lorry route for the Balsall Common viaduct satellite compound would be from the site access / haul route from Park Lane via the A452 Kenilworth Road, continuing northwards to Stonebridge Island and then

westwards along the A45 Coventry Road to M42 junction 6;

- The proposed lorry route for the Heart of England Way underbridge satellite compound would be from Park Lane via the A452 Kenilworth Road, continuing northwards to Stonebridge Island and then westwards along the A45 Coventry Road to M42 junction 6;
- The proposed lorry route for the Bradnock autotransformer satellite compound would be from the adjacent roundabout on the A452 Kenilworth Road, continuing northwards to Stonebridge Island and then westwards along the A45 Coventry Road to M42 junction 6;
- The proposed lorry route for the A452 Kenilworth Road satellite compound would be along the site access / haul route to the A452 Kenilworth Road continuing northwards to Stonebridge Island and then westwards along the A45 Coventry Road to the M42 junction 6.
- The proposed lorry route for the River Blythe Bypass satellite compound would be from the site access / haul route via the A452 Kenilworth Road, continuing northwards to Stonebridge Island and then westwards along the A45 Coventry Road to M42 Junction 6.
- The proposed lorry route for the River Blythe Viaduct satellite compound would be initially from the site access / haul route via the B4102 Meriden Road, continuing northwards to A452 Kenilworth Road ,Stonebridge Island and then westwards along the A45 Coventry Road to M42 Junction 6 and later utilising site haul routes to the A452 and A45
- The proposed lorry route for Shadow Brook Underbridge satellite compound would be initially from Diddington Lane via the A452 Kenilworth Road, continuing northwards to Stonebridge Island and then westwards along the A45 Coventry Road to M42 junction 6 and later utilising site haul routes to the A452 and A45."

Traffic management, road closures and diversions

4.1.15 Table 8-20 summarised the required road closures in the area. There are two amendments and one addition to this table. The amendments include: the duration of the diversion of the A452 Kenilworth Road is changed from 3 months in the original scheme to 6 months in the AP2 revised scheme; the length of diversion for Meriden Road is changed from 1600m in the original scheme to 1200m. These amendments, and an additional row for the Diddington Lane closure is shown in the following table.

Table 8-20: Summary of required road closures

Name	Location	Diversion Route	Length of Diversion	Duration	Comment
A452 Kenilworth Road	Ch150+800	Local to existing road	300m	6 months	To allow construction of roundabout including utility diversions

Name	Location	Diversion Route	Length of Diversion	Duration	Comment
Meriden Road	Ch154+000	Diddington Lane	1200m	18 months	For piling and beam installation, formwork installation & removal potentially requiring lane restrictions and also 30No overnight closures or 6No weekend closures over construction period
Diddington Lane	Ch155+150	Meriden Road	1200m	3 months	To allow tie-in of new road alignment and utility diversions requiring lane restrictions and also 4 No weekend closures over construction period.

PRoW closures and diversions

4.1.16 There are two new and one amended PRoW closure and diversion as a result of the revised scheme in the area. These changes to Table 8-21 in the main TA are shown in the following table.

Table 8-21: Construction phase impact on PRoW

Name	Location	Length of diversion	Alternative route	Duration	Comment
FP M196 (see CT-05- 101, Volume 2, Map Book 23)	Ch148+850	860m	Diversion Truggist Lane +Sunnyside Lane +Barret Lane +M191	3 months	Kenilworth Greenway extended up to Truggist Lane along part of M191 alignment.
FP M115 (see CT-05- 105a, Volume 2, Map Book 23)	Ch155+050	525m	Utilises Shadow Brook Underbridge	Temporary to Permanent	Temporary then permanent diversion to allow construction of the Shadow Brook Underbridge followed by its use adding an additional 150m
FP M114 (see CT-05- 105a, Volume 2, Map Book 23)	Ch155+500	355m	Stopped up Diddington Lane (realigned) + Pasture Farm accommodation access	Temporary to Permanent	For utility works, Western Power overhead lines and accommodation of the new Diddington Lane adding an additional 50m

Assessment of construction impacts

Strategic and local road network traffic flows

4.1.17 The following tables replace Table 8-22 and Table 8-23.

Table 8-22: Strategic road network AM peak hour (08:00-09:00) traffic flows 2021 future baseline and with the AP2 revised scheme construction traffic (vehicles)

Location	Direction	AM Peak (08:00-09:00)							
		2021 Baseline		2021 baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
A452 Kenilworth Road (between Wootton Lane and Hallmeadow Road)	NB	1036	18	1051	33	1.4%	80.2%	28.8%	29.2%
	SB	828	15	861	29	4.0%	100.4%	46.0%	47.8%
A452 Kenilworth Road (between Windmill Lane and Meer End Road)	NB	876	16	876	16	0.0%	0.0%	55.1%	55.1%
	SB	837	15	837	15	0.0%	0.0%	52.6%	52.6%
A452 Kenilworth Road (between Meriden Lane and Marsh Lane)	NB	1121	20	1147	46	2.3%	130.8%	31.1%	31.9%
	SB	900	16	926	42	2.9%	162.9%	25.0%	25.7%
A452 Kenilworth Road (between Station Road and Gypsy Lane)	NB	901	16	916	31	1.6%	92.2%	58.2%	59.1%
	SB	804	14	819	29	1.8%	103.3%	51.9%	52.8%
A452 Kenilworth Road (south of Stonebridge Roundabout)	NB	1165	54	1201	90	3.1%	67.2%	32.4%	33.4%
	SB	1382	64	1419	101	2.6%	56.6%	38.4%	39.4%
A452 Kenilworth Road (between Lavender Hall Lane and Station Road)	NB	978	17	993	32	1.5%	85.0%	63.1%	64.1%
	SB	886	16	901	30	1.7%	93.8%	57.2%	58.1%
A452 Kenilworth Road (between Wootton Green Lane and Lavender Hall Lane)	NB	908	16	971	31	6.9%	91.5%	58.6%	62.6%
	SB	756	13	838	28	10.7%	109.9%	48.8%	54.0%

Location	Direction	AM Peak (08:00-09:00)							
		2021 Baseline		2021 baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
A452 Kenilworth Road (between Hallmeadow Road and Wootton Green Lane)	NB	911	16	974	31	6.9%	91.2%	58.8%	62.8%
	SB	734	13	815	28	11.1%	113.2%	47.4%	52.6%
A452 Kenilworth Road (between Park Lane and Wootton Lane)	NB	993	18	1008	32	1.5%	83.7%	27.6%	28.0%
	SB	837	15	870	30	3.9%	99.3%	23.2%	24.2%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Park Lane)	NB	1009	18	1030	39	2.1%	120.9%	28.0%	28.6%
	SB	859	15	881	37	2.5%	141.9%	23.9%	24.5%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Marsh Lane)	NB	1112	20	1138	46	2.3%	131.9%	30.9%	31.6%
	SB	897	16	923	42	2.9%	163.5%	24.9%	25.6%
A452 Kenilworth Road (between Windmill Lane and Kelsey Lane)	NB	718	13	718	13	0.0%	0.0%	45.2%	45.2%
	SB	667	12	667	12	0.0%	0.0%	42.0%	42.0%
A452 Kenilworth Road (between Gypsy Lane and Adler Lane)	NB	672	12	686	27	2.2%	123.8%	42.2%	43.2%
	SB	712	13	727	27	2.1%	116.8%	44.8%	45.7%
A452 Kenilworth Road (between Meriden Road and Diddington Lane)	NB	1090	51	1090	51	0.0%	0.0%	30.3%	30.3%
	SB	1334	62	1371	98	2.7%	58.6%	37.1%	38.1%
A452 Kenilworth Road (south of Meer End Road)	NB	571	10	571	10	0.0%	0.0%	35.9%	35.9%
	SB	494	9	494	9	0.0%	0.0%	31.1%	31.1%

Table 8-23: Strategic road network PM (17:00-18:00) peak hour traffic flows 2021 future baseline and with the AP2 revised scheme construction traffic (vehicles)

Location	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Wootton Lane and Hallmeadow Road)	NB	937	16	951	31	1.6%	89.8%	26.0%	26.4%
	SB	1154	20	1178	35	2.1%	72.9%	64.1%	65.5%
A452 Kenilworth Road (between Windmill Lane and Meer End Road)	NB	992	17	992	17	0.0%	0.0%	62.4%	62.4%
	SB	933	16	933	16	0.0%	0.0%	58.7%	58.7%
A452 Kenilworth Road (between Meriden Lane and Marsh Lane)	NB	992	17	1018	43	2.6%	149.7%	27.5%	28.3%
	SB	1340	23	1366	49	1.9%	110.7%	37.2%	38.0%
A452 Kenilworth Road (between Station Road and Gypsy Lane)	NB	973	17	988	32	1.5%	86.4%	62.8%	63.7%
	SB	854	15	868	30	1.7%	98.5%	55.1%	56.0%
A452 Kenilworth Road (south of Stonebridge Roundabout)	NB	1344	68	1380	104	2.7%	53.4%	37.3%	38.3%
	SB	1604	81	1640	118	2.3%	44.8%	44.5%	45.6%
A452 Kenilworth Road (between Lavender Hall Lane and Station Road)	NB	895	16	910	30	1.6%	93.9%	57.8%	58.7%
	SB	1115	20	1129	34	1.3%	75.4%	71.9%	72.9%
A452 Kenilworth Road (between Wootton Green Lane and Lavender Hall Lane)	NB	815	14	865	29	6.2%	103.2%	52.6%	55.8%
	SB	1032	18	1093	33	5.9%	81.5%	66.6%	70.5%
A452 Kenilworth Road (between Hallmeadow Road and Wootton Green Lane)	NB	811	14	862	29	6.3%	103.7%	52.3%	55.6%
	SB	1032	18	1093	33	5.9%	81.5%	66.6%	70.5%

Location	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Park Lane and Wootton Lane)	NB	903	16	917	31	1.6%	93.2%	25.1%	25.5%
	SB	1139	20	1164	35	2.2%	73.8%	31.6%	32.3%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Park Lane)	NB	923	16	945	38	2.3%	133.6%	25.6%	26.2%
	SB	1132	20	1153	41	1.9%	109.0%	31.4%	32.0%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Marsh Lane)	NB	992	17	1018	43	2.6%	149.7%	27.5%	28.3%
	SB	1306	23	1332	49	2.0%	113.6%	36.3%	37.0%
A452 Kenilworth Road (between Windmill Lane and Kelsey Lane)	NB	851	15	851	15	0.0%	0.0%	53.5%	53.5%
	SB	766	13	766	13	0.0%	0.0%	48.2%	48.2%
A452 Kenilworth Road (between Gypsy Lane and Adler Lane)	NB	749	13	764	28	2.0%	112.3%	47.1%	48.0%
	SB	849	15	864	30	1.7%	99.1%	53.4%	54.3%
A452 Kenilworth Road (between Meriden Road and Diddington Lane)	NB	1194	60	1194	60	0.0%	0.0%	33.2%	33.2%
	SB	1576	80	1612	116	2.3%	45.6%	43.8%	44.8%
A452 Kenilworth Road (south of Meer End Road)	NB	512	9	512	9	0.0%	0.0%	32.2%	32.2%
	SB	610	11	610	11	0.0%	0.0%	38.4%	38.4%

4.1.18 The following tables replace Table 8-24 and Table 8-25.

Table 8-24: Local road network AM peak hour (08:00-09:00) traffic flows 2021 future baseline and with the AP2 revised scheme construction traffic (vehicles)

Location	Direction	AM Peak (08:00-09:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Base	with the AP2 revised scheme
Windmill Lane between Hob Lane and Kenilworth Road	NB	185	1	185	1	0.0%	0.0%	24.7%	24.7%
	SB	148	1	148	1	0.0%	0.0%	19.7%	19.7%
Windmill Lane between Hob Lane and Kelsey Lane	NB	122	0	122	0	0.0%	0.0%	16.3%	16.3%
	SB	155	1	155	1	0.0%	0.0%	20.7%	20.7%
Hob Lane	EB	122	0	122	0	0.0%	0.0%	16.3%	16.3%
	WB	47	0	47	0	0.0%	0.0%	6.3%	6.3%
Kelsey Lane between Kenilworth Road and Meeting House Lane	EB	372	2	386	17	4.0%	713.9%	33.5%	34.8%
	WB	259	1	274	16	5.7%	1023.7%	23.4%	24.7%
Waste Lane	EB	461	3	475	17	3.2%	576.1%	41.5%	42.8%
	WB	299	2	314	16	4.9%	887.9%	26.9%	28.3%
Lavender Hall Lane between A452 Kenilworth Road and Hallmeadow Road	EB	100	0	100	0	0.0%	0.0%	13.3%	13.3%
	WB	114	0	114	0	0.0%	0.0%	15.1%	15.1%
Lavender Hall Lane between Hallmeadow Road and Park Lane	EB	145	1	145	1	0.0%	0.0%	19.3%	19.3%
	WB	200	1	200	1	0.0%	0.0%	26.7%	26.7%
Lavender Hall Lane between Park Lane and Spencer's Lane	EB	178	1	178	1	0.0%	0.0%	23.7%	23.7%
	WB	200	1	200	1	0.0%	0.0%	26.7%	26.7%

Location	Direction	AM Peak (08:00-09:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Base	with the AP2 revised scheme
Hallmeadow Road between Lavender Hall Lane and A452 Kenilworth Road	EB	97	0	97	0	0.0%	0.0%	8.6%	8.6%
	WB	130	0	130	0	0.0%	0.0%	11.4%	11.4%
Park Lane	EB	42	0	141	7	236.3%	N/A	5.6%	18.7%
	WB	2	0	138	7	6341.5%	N/A	0.3%	18.4%
Meriden Road between A452 Kenilworth Road and Diddington Lane	EB	511	3	512	4	0.1%	24.3%	46.0%	46.1%
	WB	548	3	551	6	0.5%	82.2%	49.4%	49.6%
Meriden Road west of Diddington Lane	EB	726	4	727	5	0.1%	17.1%	65.4%	65.5%
	WB	557	3	560	6	0.4%	80.9%	50.2%	50.4%
Diddington Lane at Meriden Road	NB	224	1	224	1	0.0%	0.0%	29.9%	29.9%
	SB	18	0	18	0	0.0%	0.0%	2.4%	2.4%
Diddington Lane at A452 Kenilworth Road	EB	196	1	196	1	0.3%	70.0%	26.1%	26.2%
	WB	41	0	41	1	1.2%	334.9%	5.5%	5.5%
Hampton Lane east of A452 Kenilworth Road	EB	634	4	634	4	0.0%	0.0%	57.1%	57.1%
	WB	573	3	573	3	0.0%	0.0%	51.6%	51.6%
Spencer Lane between Coventry Road and Baulk Lane	NB	152	1	200	1	31.7%	0.0%	20.3%	26.7%
	SB	361	1	428	1	18.5%	0.0%	48.1%	57.0%

Location	Direction	AM Peak (08:00-09:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Base	with the AP2 revised scheme
Spencer Lane between Baulk Lane and Truggist Lane	NB	136	0	184	0	35.4%	0.0%	18.1%	24.6%
	SB	356	1	422	1	18.8%	0.0%	47.4%	56.3%

Table 8-25: Local road network PM peak hour (17:00-18:00) traffic flows 2021 future baseline and with the original scheme construction traffic (vehicles)

Location	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Base	with the AP2 revised scheme
Windmill Lane between Hob Lane and Kenilworth Road	NB	165	1	165	1	0.0%	0.0%	22.0%	22.0%
	SB	145	1	145	1	0.0%	0.0%	19.4%	19.4%
Windmill Lane between Hob Lane and Kelsey Lane	NB	179	1	179	1	0.0%	0.0%	23.8%	23.8%
	SB	98	1	98	1	0.0%	0.0%	13.1%	13.1%
Hob Lane	EB	43	0	43	0	0.0%	0.0%	5.7%	5.7%
	WB	109	1	109	1	0.0%	0.0%	14.5%	14.5%
Kelsey Lane between Kenilworth Road and Meeting House Lane	EB	201	1	216	16	7.3%	1133.2%	18.1%	19.4%
	WB	354	2	369	17	4.2%	643.6%	31.9%	33.2%
Waste Lane	EB	277	2	292	17	5.3%	822.6%	25.0%	26.3%
	WB	381	2	396	17	3.9%	598.4%	34.3%	35.6%

Location	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Base	with the AP2 revised scheme
Lavender Hall Lane between A452 Kenilworth Road and Hallmeadow Road	EB	92	1	92	1	0.0%	0.0%	12.3%	12.3%
	WB	83	1	83	1	0.0%	0.0%	11.1%	11.1%
Lavender Hall Lane between Hallmeadow Road and Park Lane	EB	109	1	109	1	0.0%	0.0%	14.5%	14.5%
	WB	140	1	140	1	0.0%	0.0%	18.7%	18.7%
Lavender Hall Lane between Park Lane and Spencer's Lane	EB	138	1	138	1	0.0%	0.0%	18.4%	18.4%
	WB	141	1	141	1	0.0%	0.0%	18.8%	18.8%
Hallmeadow Road between Lavender Hall Lane and A452 Kenilworth Road	EB	95	1	95	1	0.0%	0.0%	8.4%	8.4%
	WB	116	1	116	1	0.0%	0.0%	10.1%	10.1%
Park Lane	EB	35	0	110	7	212.6%	N/A	4.7%	14.7%
	WB	4	0	100	7	2237.5%	N/A	0.6%	13.3%
Meriden Road between A452 Kenilworth Road and Diddington Lane	EB	440	3	440	4	0.2%	24.2%	39.6%	39.7%
	WB	414	3	416	5	0.6%	93.5%	37.3%	37.5%
Meriden Road west of Diddington Lane	EB	551	4	552	4	0.1%	19.3%	49.6%	49.7%
	WB	447	3	450	5	0.6%	86.5%	40.3%	40.5%
Diddington Lane at Meriden Road	NB	149	1	149	1	0.0%	0.0%	19.9%	19.9%
	SB	28	0	28	0	0.0%	0.0%	3.8%	3.8%

Location	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Base	with the AP2 revised scheme
Diddington Lane at A452 Kenilworth Road	EB	168	1	168	2	0.3%	43.2%	22.4%	22.5%
	WB	10	0	10	1	5.1%	N/A	1.3%	1.4%
Hampton Lane east of A452 Kenilworth Road	EB	625	4	625	4	0.0%	0.0%	56.3%	56.3%
	WB	498	3	498	3	0.0%	0.0%	44.8%	44.8%
Spencer Lane between Coventry Road and Baulk Lane	NB	315	1	351	1	11.6%	0.0%	41.9%	46.8%
	SB	121	0	168	0	38.6%	0.0%	16.1%	22.3%
Spencer Lane between Baulk Lane and Truggist Lane	NB	309	1	346	1	11.8%	0.0%	41.2%	46.1%
	SB	114	0	161	0	40.8%	0.0%	15.3%	21.5%

4.1.19 The first sentence of paragraph 8.3.62 is replaced by the following:

"With regard to HGV construction traffic, no individual local road will experience an increase of more than 300 vehicle movements a day (two-way) with the maximum expected level of additional HGVs expected to be 296 vehicle movements a day (two-way) on Kelsey Lane/Waste Lane."

4.1.20 The first sentence of paragraph 8.3.63 is amended to:

"Similarly, the next most substantial level of construction traffic will be on Park Lane with additional HGVs expected to be 137 vehicle movements a day (two-way)."

Pedestrians, cyclists and equestrians

4.1.21 Table 8-27 is amended to include an assessment of Footpath M196 to the east of Station Road which is temporarily closed to facilitate the works to the Kenilworth Greenway. Public Right of Way M114 is amended due to the realignment of Diddington Lane.

Table 8-27: Impact on vulnerable users as a result of construction of the AP2 revised scheme

Location	Distance change (m)	Journey time change (mins)	Number affected (per day)
Public Right of Way M114 (off service road on A45 east of Stonebridge)	170 (150)	2.0 (1.8)	0 (0)
M196 to the east of Station Road	860	10.2	18

Operation description

Traffic management road closures and diversions

4.1.22 Table 8-29 is amended in regard of Diddington Lane with the proposed diversion now provided by a parallel off-line replacement.

Table 8-29: Permanent highway diversion

Highway	Diversion Length	Reason for Diversion/Stopping-up
Diddington Lane	Parallel off-line replacement	Intersects with the AP2 revised scheme

PRoW closures and diversions

4.1.23 The revised scheme results in five additional or amended permanent PRoW diversions to those shown in Table 8-30 in the main TA as shown in the following table.

Table 8-30: Permanent PRoW diversions

PRoW	Length of Diversion	Reason for Diversion
Footpath M196 (see CT-06-101, Volume 2, Map Book 23)	Minimal	Realigned access onto Station Road
Footpath M191 (see CT-06-101, Volume 2, Map Book 23)	100m	Local diversion due to HS2 earthworks via new FP M197 Footbridge
Footpath M218 (see CT-06-103 Volume 2,Map Book 23)	250m	Relocated across new Mercote Hall Lane Bridge and A452 Crossing
Footpath M115 (see CT-06-105a, Volume 2, Map Book 23)	200m	Permanent diversion along the line of the new route under the Shadow Brook Underbridge. Works to be phased such that bridge is complete prior to permanent diversion
Footpath M114 (see CT-06-105a, Volume 2, Map Book 23)	150m	Relocated to cross the realigned Diddington Road approach at grade

Assessment of operation impacts

Key operation transport issues

4.1.24 The 6th bullet point to paragraph 8.3.99 is replaced with the following:

- "the off-line realignment of Diddington Lane; and"

Strategic road network traffic flows 2026

4.1.25 Table 8-31 and Table 8-32 are replaced by the following tables.

Table 8-31: Strategic road network AM peak hour (08:00-09:00) traffic flows 2026 future baseline and with the AP2 revised scheme traffic (vehicles)

Location	Direction	AM Peak (08:00-09:00)							
		2026 Baseline (veh)		2026 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Wootton Lane and Hallmeadow Road)	NB	1059	19	1141	19	7.7%	0.0%	29.4%	31.7%
	SB	846	15	876	15	3.5%	0.0%	47.0%	48.7%
A452 Kenilworth Road (between Windmill Lane and Meer End Road)	NB	895	16	1009	16	12.7%	0.0%	56.3%	63.5%
	SB	855	15	885	15	3.5%	0.0%	53.8%	55.7%
A452 Kenilworth Road (between Meriden Lane and Marsh Lane)	NB	1146	20	1269	20	10.7%	0.0%	31.8%	35.2%
	SB	920	16	958	16	4.1%	0.0%	25.6%	26.6%
A452 Kenilworth Road (between Station Road and Gypsy Lane)	NB	921	16	1035	16	12.4%	0.0%	59.4%	66.8%
	SB	822	15	852	15	3.6%	0.0%	53.0%	55.0%
A452 Kenilworth Road (south of Stonebridge Roundabout)	NB	1190	55	1323	55	11.1%	0.0%	33.1%	36.7%
	SB	1413	66	1448	66	2.5%	0.0%	39.2%	40.2%
A452 Kenilworth Road (between Lavender Hall Lane and Station Road)	NB	1000	18	1114	18	11.4%	0.0%	64.5%	71.9%
	SB	905	16	935	16	3.3%	0.0%	58.4%	60.3%
A452 Kenilworth Road (between Wootton Green Lane and Lavender Hall Lane)	NB	928	16	1042	16	12.3%	0.0%	59.9%	67.3%
	SB	773	14	803	14	3.9%	0.0%	49.9%	51.8%

Location	Direction	AM Peak (08:00-09:00)							
		2026 Baseline (veh)		2026 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Hallmeadow Road and Wootton Green Lane)	NB	932	17	1046	17	12.3%	0.0%	60.1%	67.5%
	SB	750	13	780	13	4.0%	0.0%	48.4%	50.3%
A452 Kenilworth Road (between Park Lane and Wootton Lane)	NB	1015	18	1096	18	8.0%	0.0%	28.2%	30.4%
	SB	855	15	885	15	3.5%	0.0%	23.8%	24.6%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Park Lane)	NB	1031	18	1146	18	11.2%	0.0%	28.6%	31.8%
	SB	878	16	908	16	3.4%	0.0%	24.4%	25.2%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Marsh Lane)	NB	1137	20	1266	20	11.3%	0.0%	31.6%	35.2%
	SB	917	16	960	16	4.8%	0.0%	25.5%	26.7%
A452 Kenilworth Road (between Windmill Lane and Kelsey Lane)	NB	734	13	848	13	15.5%	0.0%	46.2%	53.3%
	SB	663	12	693	12	4.5%	0.0%	41.7%	43.6%
A452 Kenilworth Road (between Gypsy Lane and Adler Lane)	NB	686	12	800	12	16.6%	0.0%	43.2%	50.3%
	SB	728	13	757	13	4.1%	0.0%	45.8%	47.6%
A452 Kenilworth Road (between Meriden Road and Diddington Lane)	NB	1114	52	1246	52	11.9%	0.0%	30.9%	34.6%
	SB	1364	63	1399	63	2.6%	0.0%	37.9%	38.9%
A452 Kenilworth Road (south of Meer End Road)	NB	584	10	698	10	19.5%	0.0%	36.7%	43.9%
	SB	505	9	535	9	5.9%	0.0%	31.8%	33.6%

Table 8-32: Strategic road network PM peak hour (17:00-18:00) traffic flows 2026 future baseline and with the AP2 revised scheme traffic (vehicles)

Location	Direction	PM Peak (17:00-18:00)							
		2026 Baseline (veh)		2026 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Wootton Lane and Hallmeadow Road)	NB	954	20	944	20	-1.1%	0.0%	26.5%	26.2%
	SB	1175	25	1283	25	9.2%	0.0%	65.3%	71.3%
A452 Kenilworth Road (between Windmill Lane and Meer End Road)	NB	1010	22	1021	22	1.1%	0.0%	63.5%	64.2%
	SB	950	20	1058	20	11.4%	0.0%	59.8%	66.5%
A452 Kenilworth Road (between Meriden Lane and Marsh Lane)	NB	1010	22	1024	22	1.5%	0.0%	28.0%	28.5%
	SB	1365	29	1478	29	8.3%	0.0%	37.9%	41.0%
A452 Kenilworth Road (between Station Road and Gypsy Lane)	NB	991	21	1002	21	1.1%	0.0%	63.9%	64.6%
	SB	869	19	977	19	12.4%	0.0%	56.1%	63.0%
A452 Kenilworth Road (south of Stonebridge Roundabout)	NB	1369	84	1381	84	0.9%	0.0%	38.0%	38.3%
	SB	1633	101	1759	101	7.7%	0.0%	45.4%	48.9%
A452 Kenilworth Road (between Lavender Hall Lane and Station Road)	NB	912	19	922	19	1.2%	0.0%	58.8%	59.5%
	SB	1135	24	1243	24	9.5%	0.0%	73.2%	80.2%
A452 Kenilworth Road (between Wootton Green Lane and Lavender Hall Lane)	NB	830	18	840	18	1.3%	0.0%	53.5%	54.2%
	SB	1051	22	1159	22	10.3%	0.0%	67.8%	74.8%

Location	Direction	PM Peak (17:00-18:00)							
		2026 Baseline (veh)		2026 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Hallmeadow Road and Wootton Green Lane)	NB	826	18	837	18	1.3%	0.0%	53.3%	54.0%
	SB	1051	22	1159	22	10.3%	0.0%	67.8%	74.8%
A452 Kenilworth Road (between Park Lane and Wootton Lane)	NB	919	20	909	20	-1.1%	0.0%	25.5%	25.2%
	SB	1160	25	1269	25	9.4%	0.0%	32.2%	35.2%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Park Lane)	NB	940	20	951	20	1.2%	0.0%	26.1%	26.4%
	SB	1152	25	1261	25	9.5%	0.0%	32.0%	35.0%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Marsh Lane)	NB	1010	22	1060	22	5.0%	0.0%	28.0%	29.5%
	SB	1330	28	1479	28	11.2%	0.0%	36.9%	41.1%
A452 Kenilworth Road (between Windmill Lane and Kelsey Lane)	NB	867	19	878	19	1.3%	0.0%	54.5%	55.2%
	SB	695	15	803	15	15.5%	0.0%	43.7%	50.5%
A452 Kenilworth Road (between Gypsy Lane and Adler Lane)	NB	763	16	773	16	1.4%	0.0%	48.0%	48.6%
	SB	864	18	972	18	12.5%	0.0%	54.4%	61.1%
A452 Kenilworth Road (between Meriden Road and Diddington Lane)	NB	1216	75	1228	75	1.0%	0.0%	33.8%	34.1%
	SB	1604	99	1731	99	7.9%	0.0%	44.6%	48.1%
A452 Kenilworth Road (south of Meer End Road)	NB	522	11	532	11	2.1%	0.0%	32.8%	33.5%
	SB	621	13	729	13	17.4%	0.0%	39.1%	45.8%

Strategic road network traffic flows 2041 Phase Two

4.1.26 Table 8-33 and Table 8-34 are replaced by the following tables.

Table 8-33: Strategic road network AM peak hour (08:00-09:00) traffic flows 2041 future baseline and with the AP2 revised scheme traffic (vehicles)

Location	Direction	AM Peak (08:00-09:00)							
		2026 Baseline (veh)		2026 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Wootton Lane and Hallmeadow Road)	NB	1091	19	1258	19	15.3%	0.0%	30.3%	34.9%
	SB	871	15	923	15	5.9%	0.0%	48.4%	51.3%
A452 Kenilworth Road (between Windmill Lane and Meer End Road)	NB	922	16	1124	16	21.9%	0.0%	58.0%	70.7%
	SB	881	16	932	16	5.8%	0.0%	55.4%	58.6%
A452 Kenilworth Road (between Meriden Lane and Marsh Lane)	NB	1180	21	1392	21	18.0%	0.0%	32.8%	38.7%
	SB	948	17	1008	17	6.4%	0.0%	26.3%	28.0%
A452 Kenilworth Road (between Station Road and Gypsy Lane)	NB	949	17	1151	17	21.3%	0.0%	61.2%	74.2%
	SB	847	15	898	15	6.1%	0.0%	54.6%	57.9%
A452 Kenilworth Road (south of Stonebridge Roundabout)	NB	1226	57	1455	57	18.7%	0.0%	34.1%	40.4%
	SB	1455	68	1513	68	4.0%	0.0%	40.4%	42.0%
A452 Kenilworth Road (between Lavender Hall Lane and Station Road)	NB	1030	18	1233	18	19.7%	0.0%	66.4%	79.5%
	SB	932	17	984	17	5.5%	0.0%	60.2%	63.5%
A452 Kenilworth Road (between Wootton Green Lane and Lavender Hall Lane)	NB	956	17	1159	17	21.2%	0.0%	61.7%	74.7%
	SB	796	14	848	14	6.5%	0.0%	51.4%	54.7%

Location	Direction	AM Peak (08:00-09:00)							
		2026 Baseline (veh)		2026 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Hallmeadow Road and Wootton Green Lane)	NB	959	17	1162	17	21.1%	0.0%	61.9%	75.0%
	SB	773	14	824	14	6.7%	0.0%	49.9%	53.2%
A452 Kenilworth Road (between Park Lane and Wootton Lane)	NB	1045	19	1212	19	16.0%	0.0%	29.0%	33.7%
	SB	881	16	933	16	5.9%	0.0%	24.5%	25.9%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Park Lane)	NB	1062	19	1266	19	19.2%	0.0%	29.5%	35.2%
	SB	904	16	956	16	5.8%	0.0%	25.1%	26.6%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Marsh Lane)	NB	1171	21	1389	21	18.6%	0.0%	32.5%	38.6%
	SB	944	17	1010	17	7.0%	0.0%	26.2%	28.1%
A452 Kenilworth Road (between Windmill Lane and Kelsey Lane)	NB	756	13	958	13	26.7%	0.0%	47.6%	60.3%
	SB	702	12	754	12	7.3%	0.0%	44.2%	47.4%
A452 Kenilworth Road (between Gypsy Lane and Adler Lane)	NB	707	13	909	13	28.6%	0.0%	44.5%	57.2%
	SB	749	13	801	13	6.9%	0.0%	47.1%	50.4%
A452 Kenilworth Road (between Meriden Road and Diddington Lane)	NB	1147	53	1376	53	20.0%	0.0%	31.9%	38.2%
	SB	1405	65	1463	65	4.1%	0.0%	39.0%	40.6%
A452 Kenilworth Road (south of Meer End Road)	NB	601	11	803	11	33.6%	0.0%	37.8%	50.5%
	SB	520	9	572	9	9.9%	0.0%	32.7%	36.0%

Table 8-34: Strategic road network PM peak hour (17:00-18:00) traffic flows 2041 future baseline and with the AP2 revised scheme traffic (vehicles)

Location	Direction	PM Peak (17:00-18:00)							
		2026 Baseline (veh)		2041 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		Veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Wootton Lane and Hallmeadow Road)	NB	968	21	965	21	-0.3%	0.0%	26.9%	26.8%
	SB	1192	25	1386	25	16.2%	0.0%	66.2%	77.0%
A452 Kenilworth Road (between Windmill Lane and Meer End Road)	NB	1025	22	1044	22	1.9%	0.0%	64.4%	65.7%
	SB	964	21	1156	21	19.9%	0.0%	60.6%	72.7%
A452 Kenilworth Road (between Meriden Lane and Marsh Lane)	NB	1025	22	1048	22	2.3%	0.0%	28.5%	29.1%
	SB	1385	30	1583	30	14.3%	0.0%	38.5%	44.0%
A452 Kenilworth Road (between Station Road and Gipsy Lane)	NB	1006	21	1025	21	2.0%	0.0%	64.9%	66.2%
	SB	882	19	1074	19	21.8%	0.0%	56.9%	69.3%
A452 Kenilworth Road (south of Stonebridge Roundabout)	NB	1389	86	1410	86	1.5%	0.0%	38.6%	39.2%
	SB	1657	102	1874	102	13.1%	0.0%	46.0%	52.1%
A452 Kenilworth Road (between Lavender Hall Lane and Station Road)	NB	925	20	945	20	2.1%	0.0%	59.7%	61.0%
	SB	1152	25	1345	25	16.7%	0.0%	74.3%	86.7%
A452 Kenilworth Road (between Wootton Green Lane and Lavender Hall Lane)	NB	842	18	862	18	2.4%	0.0%	54.3%	55.6%
	SB	1066	23	1259	23	18.1%	0.0%	68.8%	81.2%

Location	Direction	PM Peak (17:00-18:00)							
		2026 Baseline (veh)		2041 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		Veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A452 Kenilworth Road (between Hallmeadow Road and Wootton Green Lane)	NB	838	18	858	18	2.4%	0.0%	54.1%	55.3%
	SB	1066	23	1259	23	18.1%	0.0%	68.8%	81.2%
A452 Kenilworth Road (between Park Lane and Wootton Lane)	NB	933	20	929	20	-0.3%	0.0%	25.9%	25.8%
	SB	1177	25	1370	25	16.4%	0.0%	32.7%	38.1%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Park Lane)	NB	954	20	974	20	2.1%	0.0%	26.5%	27.1%
	SB	1169	25	1363	25	16.6%	0.0%	32.5%	37.9%
A452 Kenilworth Road (between Bradnocks Marsh Lane and Marsh Lane)	NB	1025	22	1085	22	5.9%	0.0%	28.5%	30.1%
	SB	1350	29	1584	29	17.4%	0.0%	37.5%	44.0%
A452 Kenilworth Road (between Windmill Lane and Kelsey Lane)	NB	880	19	899	19	2.3%	0.0%	55.3%	56.6%
	SB	791	17	983	17	24.3%	0.0%	49.8%	61.9%
A452 Kenilworth Road (between Gipsy Lane and Adler Lane)	NB	774	17	794	17	2.6%	0.0%	48.7%	49.9%
	SB	877	19	1069	19	21.9%	0.0%	55.2%	67.2%
A452 Kenilworth Road (between Meriden Road and Diddington Lane)	NB	1234	76	1255	76	1.7%	0.0%	34.3%	34.9%
	SB	1628	101	1845	101	13.3%	0.0%	45.2%	51.3%
A452 Kenilworth Road (south of Meer End Road)	NB	529	11	549	11	3.7%	0.0%	33.3%	34.5%
	SB	630	13	822	13	30.5%	0.0%	39.6%	51.7%

Local road network traffic flows 2026

4.1.27 Table 8-35 and Table 8-36 are replaced by the following tables.

Table 8-35: Local road network AM peak hour (08:00-09:00) traffic flows 2026 future baseline and with the AP2 revised scheme traffic (vehicles)

Location	Direction	AM Peak (08:00-09:00)							
		2026 Baseline (veh)		2026 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
Lavender Hall Lane between Hallmeadow Road and Park Lane	EB	150	1	150	1	0.0%	0.0%	20.0%	20.0%
	WB	207	1	174	1	-16.0%	0.0%	27.6%	23.2%
Hallmeadow Road between Lavender Hall Lane and A452 Kenilworth Road	EB	101	0	101	0	0.1%	0.0%	8.9%	8.9%
	WB	134	0	101	0	-24.5%	0.0%	11.8%	8.9%
Park Lane	EB	43	0	43	0	0.2%	0.0%	5.8%	5.8%
	WB	2	0	36	0	1517.8%	0.0%	0.3%	4.8%
Meriden Road between A452 Kenilworth Road and Diddington Lane	EB	501	3	518	3	3.4%	0.0%	45.1%	46.6%
	WB	537	3	542	3	0.9%	0.0%	48.4%	48.9%
Meriden Road west of Diddington Lane	EB	712	4	729	4	2.4%	0.0%	64.1%	65.7%
	WB	546	3	551	3	0.9%	0.0%	49.2%	49.6%
Diddington Lane at Meriden Road	NB	220	1	220	1	0.0%	0.0%	29.3%	29.3%
	SB	17	0	17	0	0.0%	0.0%	2.3%	2.3%
Diddington Lane at A452 Kenilworth Road	EB	192	1	192	1	0.0%	0.0%	25.6%	25.6%
	WB	40	0	40	0	0.0%	0.0%	5.4%	5.4%

4.1.28 Paragraph 8.3.113 is replaced by:

"Table 8-35 shows that traffic will not create any capacity related issues on local routes within the area. The increases in traffic are not expected to result in any substantial capacity issues (V/C ratios less than 85%)."

Table 8-36:- Local road network PM peak hour (17:00-18:00) traffic flows 2026 future baseline and with the AP2 revised scheme traffic (vehicles)

Location	Direction	PM Peak (17:00-18:00)							
		2026 Baseline (veh)		2026 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
Lavender Hall Lane between Hallmeadow Road and Park Lane	EB	113	1	113	1	0.0%	0.0%	15.1%	15.1%
	WB	145	1	124	1	-14.5%	0.0%	19.3%	16.5%
Hallmeadow Road between Lavender Hall Lane and A452 Kenilworth Road	EB	99	1	99	1	0.4%	0.0%	8.6%	8.7%
	WB	120	1	99	1	-17.6%	0.0%	10.5%	8.6%
Park Lane	EB	37	0	37	0	1.0%	0.0%	4.9%	4.9%
	WB	4	0	26	0	475.9%	0.0%	0.6%	3.4%
Meriden Road between A452 Kenilworth Road and Diddington Lane	EB	447	3	448	3	0.2%	0.0%	40.2%	40.3%
	WB	420	3	437	3	4.0%	0.0%	37.9%	39.4%
Meriden Road west of Diddington Lane	EB	559	4	560	4	0.2%	0.0%	50.4%	50.5%
	WB	454	3	471	3	3.7%	0.0%	40.9%	42.4%
Diddington Lane at Meriden Road	NB	152	1	152	1	0.0%	0.0%	20.2%	20.2%
	SB	29	0	29	0	0.0%	0.0%	3.8%	3.8%
Diddington Lane at A452 Kenilworth Road	EB	171	1	171	1	0.0%	0.0%	22.7%	22.7%
	WB	10	0	10	0	0.0%	0.0%	1.3%	1.3%

4.1.29 Paragraph 8.3.115 is replaced by:

"Table 8-36 shows that traffic will not create any capacity related issues on local routes within the area."

Local road network traffic flows 2041 Phase Two

4.1.30 Table 8-37 and Table 8-38 are replaced by the following tables.

Table 8-37: Local road network AM peak hour (08:00-09:00) traffic flows 2041 future baseline and with the AP2 revised scheme traffic (vehicles)

Location	Direction	AM Peak (08:00-09:00)							
		2041 Baseline (veh)		2041 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
Lavender Hall Lane between Hallmeadow Road and Park Lane	EB	164	1	164	1	0.0%	0.0%	21.8%	21.8%
	WB	227	1	190	1	-16.0%	0.0%	30.3%	25.4%
Hallmeadow Road between Lavender Hall Lane and A452 Kenilworth Road	EB	110	0	111	0	0.2%	0.0%	9.7%	9.7%
	WB	147	1	111	1	-24.3%	0.0%	12.9%	9.7%
Park Lane	EB	47	0	47	0	0.4%	0.0%	6.3%	6.3%
	WB	2	0	40	0	1528.5%	0.0%	0.3%	5.3%
Meriden Road between A452 Kenilworth Road and Diddington Lane	EB	511	3	536	3	4.9%	0.0%	46.1%	48.3%
	WB	549	3	555	3	1.1%	0.0%	49.4%	50.0%
Meriden Road west of Diddington Lane	EB	727	4	752	4	3.4%	0.0%	65.5%	67.7%
	WB	558	3	564	3	1.1%	0.0%	50.2%	50.8%
Diddington Lane at Meriden Road	EB	224	1	224	1	0.0%	0.0%	29.9%	29.9%
	WB	18	0	18	0	0.0%	0.0%	2.4%	2.4%
Diddington Lane at A452 Kenilworth Road	EB	196	1	196	1	0.0%	0.0%	26.1%	26.1%
	WB	41	0	41	0	0.0%	0.0%	5.5%	5.5%

4.1.31 Paragraph 8.3.118 is replaced by:

"As in 2026, Table 8-37 shows that traffic will not create any capacity related issues on local routes within the area."

Table 8-38: Local road network PM peak hour (17:00-18:00) traffic Flows 2041 future baseline and with the AP2 revised scheme traffic (vehicles)

	Direction	PM Peak (17:00-18:00)							
		2041 Baseline (veh)		2041 Baseline with the AP2 revised scheme traffic		Percentage impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
Lavender Hall Lane between Hallmeadow Road and Park Lane	EB	123	1	123	1	0.0%	0.0%	16.5%	16.5%
	WB	159	1	136	1	-14.5%	0.0%	21.1%	18.1%
Hallmeadow Road between Lavender Hall Lane and A452 Kenilworth Road	EB	108	1	108	1	0.6%	0.0%	9.5%	9.5%
	WB	131	1	108	1	-17.5%	0.0%	11.5%	9.5%
Park Lane	EB	40	0	41	0	1.6%	0.0%	5.3%	5.4%
	WB	5	0	28	0	476.4%	0.0%	0.6%	3.7%
Meriden Road between A452 Kenilworth Road and Diddington Lane	EB	619	4	620	4	0.2%	0.0%	55.7%	55.8%
	WB	582	4	605	4	3.9%	0.0%	52.5%	54.5%
Meriden Road west of Diddington Lane	EB	775	5	776	5	0.1%	0.0%	69.8%	69.9%
	WB	629	4	652	4	3.7%	0.0%	56.7%	58.8%
Diddington Lane at Meriden Road	EB	210	1	210	1	0.0%	0.0%	28.0%	28.0%
	WB	40	0	40	0	0.0%	0.0%	5.3%	5.3%
Diddington Lane at A452 Kenilworth Road	EB	236	2	236	2	0.0%	0.0%	31.5%	31.5%
	WB	14	0	14	0	0.0%	0.0%	1.9%	1.9%

4.1.32 Paragraph 8.3.120 is replaced by:

"Table 8-38 shows that traffic will not create any capacity related issues on local routes within the area."

Pedestrian, cyclists and equestrians

4.1.33 Table 8-39 is amended to add Footpath M196 and Footpath M114 which are affected by the AP2 revised scheme.

Table 8-39: Summary of PRoW impacts (operation)

Location	Distance change (m)	Journey time change (min)	Number affected (per day)
Public Right of Way M114 (off service road on A45 east of Stonebridge)	110	1.3	0
M196 to the east of Station Road	5	0.1	18

4.2 Birmingham Interchange and Chelmsley Wood (CFA24)

Birmingham Interchange and Chelmsley Wood (CFA24) AP2 revised scheme changes

4.2.1 The original scheme is described in paragraphs 8.4.1 - 8.4.43 of the main TA.

4.2.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- SES-024-001 Amendments to the highway mitigation to M42 junction 6 in the vicinity of the National Motorcycle Museum. The widening of the A45 Coventry Road westbound roundabout entry is now replaced by widening of the existing A45 Coventry Road westbound slip to M42 Junction 6 from three lanes to four; and widening of the circulatory carriageway. The removal of the widening of the A45 Coventry Road westbound roundabout entry removes the need to relocate the existing access to the National Motorcycle Museum and the realignment of Footpath M107. Paragraph 8.4.16 is therefore amended to remove the second bullet point which refers to the permanent diversion of Footpath M107 as a result of the replacement access for the National Motorcycle Museum.

4.2.3 In addition, there are a number of amendments in the adjoining areas and changes to the movements of excavated materials and associated traffic routing which also influence traffic and transport conditions in the area. These amendments are reported separately in the associated areas although any changes to the combined impacts within this area are reported in this section.

4.2.4 The above changes lead to a number of amendments to the main TA in Birmingham Interchange and Chelmsley Wood (area CFA24).

Existing baseline

4.2.5 Baseline conditions are described in Section 5.26 of the main TA.

Assessment Methodology

4.2.6 The assessment methodology is described in Section 8.2 of the main TA.

Future baseline

4.2.7 Future baseline conditions are described in Section 8.4 of the main TA.

Construction description

Construction lorry routes

4.2.8 Three lorry routes are added to the list in paragraph 8.4.173:

- from the A45 Coventry Road east to Stonebridge Island, A452 Kenilworth Road southbound for movements to Waste Lane, Balsall Common & Hampton in Arden area;
- from the A452 Kenilworth Road northbound to Stonebridge Island, A452 Chester Road northbound, A446 Stonebridge Road and straight over M6

junction 4 to A446 Stonebridge Road for movements to/from Coleshill junction area; and

- from M6 junction 4 northbound on A446 Stonebridge Road for movements to/from Coleshill junction area.

4.2.9 There are revisions to the descriptions of four of the new haul routes shown in Table 8-90 of the main TA. These revisions are shown in the following table.

Table 8-90: New haul routes (temporary) for CFA24

Description of route including access from public highway	Compounds served by haul route
Access to the A45/A45 Service Road overbridges satellite compound site will be via a temporary access route off the A45 Service road to the north and from CFA23 Shadow Brook viaduct satellite site compound in the south. Access would be along the haul route to the west of the AP2 revised scheme, passing to the east of Pasture Farm and then continuing to the south of the A45 running adjacent to the AP2 revised scheme on the eastern side.	A45/A45 Service Road overbridges satellite compound Coventry Road
Access to the Stonebridge Island roundabout satellite compound site would be from off the A45. To the south of the compound is a topsoil/temporary storage stockpile area.	Stonebridge Island satellite compound
Accessing off the A45 Eastway onto a temporary haul route runs west of the first satellite compound. The temporary haul route then continues north-west for the construction of Hollywell Brook underbridge and to the Birmingham Interchange car park (east) satellite compound site. The haul route is aligned to the south- west of the eastern car parks, the haul route then crosses the new internal interchange roads (dumbbell roundabout). The route then continues west of the AP2 revised scheme to the facilitating the Birmingham interchange main compound and concrete batching precast storage compound. There are two areas of stockpiles to the east of the concrete batching precast storage compound area. The temporary haul route continues west of the AP2 revised scheme and then splits into two routes. One temporary route is aligned the southern part of the A452/A446 roundabout to facilitate the A446/A452 roundabout satellite compound. There is also a vehicle recovery compound area to the south east of this compound. The other temporary route continues west of the AP2 revised scheme (aligned along the west part of the A446/A452 roundabout) and then connects to the M42 viaduct (east) satellite compound at approximate chainage 158+000 on the eastern side of the AP2 revised scheme and the M42 viaduct (west) satellite compound on the western side of the AP2 revised scheme. There are three areas of topsoil/temporary storage stockpile material in the vicinity of the M24 viaduct (west) satellite compound site.	A45/East Way overbridges satellite compound. A452/A446 Vehicle Recovery Compound Birmingham Interchange car park (east) satellite site. Birmingham Interchange main compound. Concrete batching plant and precast storage area. A446/A452 roundabout satellite compound. M42 viaduct (east) satellite compound. M42 viaduct (west) satellite compound.
Access to the temporary workers accommodation and the logistics and storage area would be from off the A45 Eastway roundabout or along Middle Bickenhill Lane	Birmingham Interchange temporary works accommodation. Logistics and storage areas.

Assessment of construction impacts

Key transport construction issues

4.2.10 The second and third sentences of paragraph 8.4.183 are amended to present revised daily construction traffic figures, which pass through the area to the Balsall Common and Hampton area (CFA23) - 1,600 vehicle movements compared to 1,400 in the

original scheme, and Coleshill Junction area (CFA19) - 1,050 vehicle movements compared to 850 in the original scheme:

"The largest of these movements will be to the Balsall Common and Hampton-in-Arden area (CFA23), where there will be approximately 1,600 vehicle trips routed via the strategic road network to Stonebridge Island and the A452 Kenilworth Road. Approximately 1,050 vehicle movements are to the Coleshill Junction area (CFA19), which pass through on the M6 or M42 or via the A45 Coventry Road, A452 Chester Road and A446 Stonebridge Road."

Strategic and local road network

Strategic road network

4.2.11 Tables 8-93, 8-94 and 8-95 are replaced by the following tables.

Table 8-93: Strategic road network AM peak hour traffic flows 2021 future baseline and with AP2 revised scheme construction traffic (vehicles)

	Direction	AM Peak (08:00-09:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
A446 (Stonebridge Road) between M6 Junction 4 and slips to A452	NB	1160	72	1185	96	2.1%	33.8%	32.2%	32.9%
	SB	2049	127	2071	148	1.1%	17.1%	56.9%	57.5%
A452 (Chester Road) between Birmingham Business Park Roundabout and Melbicks	SB	795	49	811	65	2.0%	32.1%	22.1%	22.5%
	NB	876	54	894	72	2.1%	33.6%	24.3%	24.8%
A446 North of A452 slips	NB	1164	72	1185	93	1.9%	30.1%	64.6%	65.8%
	SB	1304	81	1326	102	1.7%	26.8%	72.5%	73.7%
A452 Between Packington Lane and Stonebridge Roundabout	NB	2018	125	2056	162	1.9%	30.2%	56.1%	57.1%
	SB	2169	134	2206	171	1.7%	27.9%	60.2%	61.3%
A45 East of Stonebridge Roundabout	EB	1783	110	1801	128	1.0%	16.1%	49.5%	50.0%
	WB	2595	160	2613	178	0.7%	11.1%	72.1%	72.6%

	Direction	AM Peak (08:00-09:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
A45 between M42 Junction 6 and Stonebridge Roundabout	EB	2420	149	2467	196	1.9%	31.1%	43.2%	44.0%
	WB	3024	187	3073	236	1.6%	26.3%	54.0%	54.9%
M42 south of Junction 6	NB	5220	303	5321	404	1.9%	33.2%	72.5%	73.9%
	SB	5509	320	5610	421	1.8%	31.5%	76.5%	77.9%
M42 north of Junction 6	NB	4182	243	4245	306	1.5%	26.0%	58.1%	59.0%
	SB	5887	342	5953	408	1.1%	19.1%	81.8%	82.7%
A452 (Chester Road) between Birmingham Business Park Roundabout and Coleshill Heath Road	SEB	1459	90	1459	90	0.0%	0.0%	91.8%	91.8%
	NWB	561	35	561	35	0.0%	0.0%	35.3%	35.3%
M42 J6 Northbound off slip	NB	2180	127	2224	170	2.0%	34.4%	121.1%	123.5%
M42 J6 Southbound on slip	SB	1482	86	1525	130	2.9%	50.6%	82.3%	84.7%
A45 west of Damson Parkway	EB	2157	133	2157	133	0.0%	0.3%	59.9%	59.9%
	WB	1853	114	1853	115	0.0%	0.3%	51.5%	51.5%
A45 between Damson Parkway an Clock Junction	EB	2213	137	2214	137	0.0%	0.3%	61.5%	61.5%
	WB	2174	134	2175	135	0.0%	0.3%	60.4%	60.4%
A45 between Clock Junction and M42 Junction 6	EB	2048	126	2048	127	0.0%	0.7%	36.6%	36.6%
	WB	3297	204	3298	204	0.0%	0.4%	58.9%	58.9%

	Direction	AM Peak (08:00-09:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
Link from M42 northbound to M6 northbound	NB	1049	61	1106	118	5.5%	93.9%	52.4%	55.3%
Link Road from M42 northbound to M6 eastbound	-	914	53	914	53	0.0%	0.0%	91.4%	91.4%
Link road between M6 westbound and M42 southbound	WB	712	41	712	41	0.0%	0.0%	35.6%	35.6%
M42 north of link road to M6 eastbound	NB	2531	147	2537	153	0.2%	4.0%	45.2%	45.3%
M42 north of link road to M6 eastbound	SB	4609	268	4675	333	1.4%	24.5%	82.3%	83.5%
M6 West of Junction 4	SB	2764	161	2767	163	0.1%	1.6%	49.4%	49.4%
	NB	3373	196	3435	258	1.8%	31.5%	60.2%	61.3%
M6 East of Junction 4	EB	3112	181	3115	184	0.1%	1.7%	55.6%	55.6%
	WB	3523	205	3526	208	0.1%	1.5%	62.9%	63.0%
M6 south bound off slip at Junction 4	SB	969	56	972	59	0.3%	4.6%	53.8%	54.0%
M6 Junction WB traffic approaching roundabout	WB	594	35	597	38	0.5%	8.8%	21.2%	21.3%
A452 (Kenilworth Road) south of Stonebridge Roundabout	NB	1165	72	1201	108	3.1%	50.5%	32.4%	33.4%
	SB	1382	85	1419	122	2.6%	42.6%	38.4%	39.4%

	Direction	AM Peak (08:00-09:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
A452 (Chester Road) north of junction with A446	SB	811	50	827	66	1.9%	31.5%	22.5%	23.0%
A446 (Stonebridge Road) between M6 Junction 4 and slips to A452	NB	1160	72	1185	96	2.1%	33.8%	32.2%	32.9%
	SB	2049	127	2071	148	1.1%	17.1%	56.9%	57.5%
A446 Slips from Birmingham Business Park Roundabout	EB	141	9	144	12	2.2%	35.9%	8.4%	8.6%
A446 Slips to Birmingham Business Park Roundabout	WB	745	46	746	47	0.1%	1.5%	44.5%	44.5%
A446 between Coleshill Heath Road and M6 junction 4	SB	1345	83	1366	103	1.5%	24.6%	37.4%	37.9%
	NB	1338	83	1358	103	1.5%	24.7%	37.2%	37.7%
A446 between Coleshill Heath Road and Coventry Road	NB	1444	89	1462	108	1.3%	20.8%	40.1%	40.6%
	SB	1743	108	1761	126	1.1%	17.2%	48.4%	48.9%

Table 8-94: Strategic road network PM peak hour traffic flows 2021 future baseline and with AP2 revised scheme construction traffic (vehicles)

	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
A446 (Stonebridge Road) between M6 Junction 4 and slips to A452	NB	2027	94	2051	118	1.2%	25.7%	56.3%	57.0%
	SB	1720	80	1742	102	1.3%	27.0%	47.8%	48.4%
A452 (Chester Road) between Birmingham Business Park Roundabout and Melbicks	SB	1157	54	1173	70	1.4%	29.3%	32.1%	32.6%
	NB	604	28	622	46	3.0%	64.8%	16.8%	17.3%
A446 North of A452 slips	NB	1354	63	1375	84	1.6%	34.4%	75.2%	76.4%
	SB	1526	71	1548	93	1.4%	30.5%	84.8%	86.0%
A452 Between Packington Lane and Stonebridge Roundabout	NB	1880	87	1918	125	2.0%	43.0%	52.2%	53.3%
	SB	2705	126	2742	163	1.4%	29.7%	75.1%	76.2%
A45 East of Stonebridge Roundabout	EB	2765	128	2783	146	0.6%	13.8%	76.8%	77.3%
	WB	2809	130	2827	148	0.6%	13.6%	78.0%	78.5%
A45 between M42 Junction 6 and Stonebridge Roundabout	EB	2932	136	2979	183	1.6%	34.1%	52.4%	53.2%
	WB	3637	169	3686	218	1.4%	29.0%	65.0%	65.8%
M42 south of Junction 6	NB	5676	267	5783	374	1.9%	39.9%	78.8%	80.3%
	SB	5950	280	6056	387	1.8%	38.1%	82.6%	84.1%
M42 north of Junction 6	NB	5906	278	5989	361	1.4%	29.8%	82.0%	83.2%
	SB	5290	249	5375	334	1.6%	34.2%	73.5%	74.7%

	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
A452 (Chester Road) between Birmingham Business Park Roundabout and Coleshill Heath Road	SEB	672	31	672	31	0.0%	0.0%	42.2%	42.2%
	NWB	1197	56	1197	56	0.0%	0.0%	75.3%	75.3%
M42 J6 Northbound off slip	NB	1494	70	1538	114	2.9%	62.0%	83.0%	85.4%
M42 J6 Southbound on slip	SB	1976	93	2020	137	2.2%	46.9%	109.8%	112.2%
A45 west of Damson Parkway	EB	2422	113	2422	113	0.0%	0.3%	67.3%	67.3%
	WB	2594	120	2594	121	0.0%	0.3%	72.1%	72.1%
A45 between Damson Parkway an Clock Junction	EB	2456	114	2457	114	0.0%	0.3%	68.2%	68.2%
	WB	3011	140	3012	140	0.0%	0.2%	83.6%	83.7%
A45 between Clock Junction and M42 Junction 6	EB	3700	172	3700	173	0.0%	0.5%	66.1%	66.1%
	WB	3530	164	3530	165	0.0%	0.5%	63.0%	63.0%
Link from M42 northbound to M6 northbound	NB	1217	57	1294	135	6.4%	135.3%	60.8%	64.7%
Link Road from M42 northbound to M6 eastbound	-	890	42	890	42	0.0%	0.0%	89.0%	89.0%
Link road between M6 westbound and M42 southbound	WB	773	36	773	36	0.0%	0.0%	38.6%	38.6%

	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
M42 north of link road to M6 eastbound	NB	3934	185	3939	191	0.2%	3.2%	70.2%	70.3%
M42 north of link road to M6 eastbound	SB	4414	208	4500	293	1.9%	41.0%	78.8%	80.3%
M6 West of Junction 4	SB	3171	149	3176	153	0.1%	2.8%	56.6%	56.7%
	NB	3738	176	3822	260	2.3%	47.8%	66.8%	68.3%
M6 East of Junction 4	EB	3745	176	3750	181	0.1%	2.5%	66.9%	67.0%
	WB	3329	157	3334	161	0.1%	2.8%	59.5%	59.5%
M6 south bound off slip at Junction 4	SB	842	40	846	44	0.5%	10.7%	46.8%	47.0%
M6 Junction WB traffic approaching roundabout	WB	411	19	415	24	1.1%	22.9%	14.7%	14.8%
A452 (Kenilworth Road) south of Stonebridge Roundabout	NB	1344	62	1380	99	2.7%	58.2%	37.3%	38.3%
	SB	1604	74	1640	111	2.3%	48.8%	44.5%	45.6%
A452 (Chester Road) north of junction with A446	SB	1117	52	1132	68	1.4%	30.4%	31.0%	31.5%
A446 (Stonebridge Road) between M6 Junction 4 and slips to A452	NB	2027	94	2051	118	1.2%	25.7%	56.3%	57.0%
	SB	1720	80	1742	102	1.3%	27.0%	47.8%	48.4%

	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
A446 Slips from Birmingham Business Park Roundabout	EB	706	33	709	36	0.4%	9.5%	42.2%	42.3%
A446 Slips to Birmingham Business Park Roundabout	WB	194	9	195	10	0.4%	7.9%	11.6%	11.6%
A446 between Coleshill Heath Road and M6 junction 4	SB	1281	59	1308	86	2.1%	45.4%	35.6%	36.3%
	NB	2023	94	2050	121	1.3%	28.7%	56.2%	57.0%
A446 between Coleshill Heath Road and Coventry Road	NB	1977	92	1999	114	1.1%	24.0%	54.9%	55.5%
	SB	1421	66	1443	88	1.6%	33.4%	39.5%	40.1%

Table 8-95: Strategic road network 18-hr daily traffic flows 2021 future baseline and with AP2 revised scheme construction traffic (vehicles)

Location	2021 Baseline (veh)		2021 baseline with AP2 revised scheme construction traffic		Percentage impact	
	veh	HGV	Veh	HGV	veh	HGV
A446 Slips from Birmingham Business Park Roundabout	5657	281	5687	300	0.5%	6.8%
A446 Slips to Birmingham Business Park Roundabout	6275	312	6293	319	0.3%	2.3%
A452 (Chester Road) north of junction with A446	9885	491	10106	491	2.2%	0.0%
A452 (Chester Road) north of junction with A446	12881	640	13091	797	1.6%	24.6%
M6 south bound off slip at Junction 4	11795	621	12086	663	2.5%	6.8%
Link from M42 northbound to M6 northbound	14756	777	15154	1164	2.7%	49.9%

Location	2021 Baseline (veh)		2021 baseline with AP2 revised scheme construction traffic		Percentage impact	
	veh	HGV	Veh	HGV	veh	HGV
M42 J6 Northbound off slip	23931	1259	24718	1695	3.3%	34.6%
M42 J6 Southbound on slip	22524	1185	23308	1621	3.5%	36.8%
M6 junction 4 on slip	7694	405	7694	449	0.0%	10.9%
M6 Junction 4 through junction traffic WB	28419	1496	28447	1496	0.1%	0.0%
M6 Junction WB traffic approaching roundabout	6544	344	6753	389	3.2%	12.8%
A446 between Coleshill Heath Road and Coventry Road	43990	2185	44568	2626	1.3%	20.2%
A446 between Coleshill Heath Road and M6 junction 4	40000	1987	40899	2527	2.2%	27.2%
M6 West of Junction 4	84980	4472	86029	4956	1.2%	10.8%
M6 East of Junction 4	89292	4699	89762	4788	0.5%	1.9%
A446 (Stonebridge Road) between M6 Junction 4 and slips to A452	46481	2309	47561	2755	2.3%	19.3%
A446 (Stonebridge Road) between M6 Junction 4 and slips to A452	46481	2309	47561	2755	2.3%	19.3%
A45 between Damson Parkway an Clock Junction	65845	3271	66081	3278	0.4%	0.2%
A45 west of Damson Parkway	60303	2996	60543	3003	0.4%	0.2%
Chester Road west of Coleshill Heath Road	31533	1566	31534	1566	0.0%	0.0%
A452 (Chester Road) between Birmingham Business Park Roundabout and Melbicks	22932	1139	23363	1466	1.9%	28.7%

Location	2021 Baseline (veh)		2021 baseline with AP2 revised scheme construction traffic		Percentage impact	
	veh	HGV	Veh	HGV	veh	HGV
M42 north of link road to M6 eastbound	100881	5309	101542	5814	0.7%	9.5%
A446 North of A452 slips	35730	1775	36774	2207	2.9%	24.3%
A446 North of A452 slips	35730	1775	36774	2207	2.9%	24.3%
M6 junction 4 on slip	7607	400	7837	455	3.0%	13.6%
A452 Between Packington Lane and Stonebridge Roundabout	58607	2911	60072	3661	2.5%	25.7%
A45 East of Stonebridge Roundabout	66489	3303	66943	3658	0.7%	10.7%
A452 (Kenilworth Road) south of Stonebridge Roundabout	36712	1824	38322	2550	4.4%	39.8%
A45 between M42 Junction 6 and Stonebridge Roundabout	80269	3987	82241	4942	2.5%	23.9%
M42 south of Junction 6	145615	7663	147780	9108	1.5%	18.8%
A45 between Clock Junction and M42 Junction 6	84005	4173	84301	4190	0.4%	0.4%
M42 north of Junction 6	138513	7290	139572	8181	0.8%	12.2%

4.2.12 There are no material changes to comments and findings in paragraphs 8.4.187-188 (AM peak), 8.4.190 (PM peak) and 8.4.197 (18 hour) of the main TA, as a result of the construction of the AP2 revised scheme.

Local road network

4.2.13 Tables 8-96, 8-97 and 8-98 are replaced by the following tables.

Table 8-96: Local road network AM peak hour traffic flows 2021 future baseline and with AP2 revised scheme construction traffic (vehicles)

Location	Direction	AM Peak (08:00-09:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
A45 westbound service road between East Way and M42 Junction 6	WB	196	5	203	12	3.4%	136.9%	17.0%	17.6%
East Way on link from A45 slip after Diddington Lane	NB	48	1	59	12	22.6%	907.7%	6.4%	7.9%
East Way	EB	129	3	140	15	8.8%	352.9%	10.2%	11.1%
East Way link to A45 eastbound off slip at Stonebridge Roundabout	EB	165	4	177	15	6.9%	275.4%	44.1%	47.1%
South Way between M42 Junction 6 and Pendigo Way	NB	491	15	493	17	0.5%	16.6%	15.3%	15.4%
South Way between M42 Junction 6 and Pendigo Way	SB	167	5	169	7	1.3%	44.4%	5.2%	5.3%
B4438 between Northway and Birmingham Business Park Roundabout	NB	712	22	713	23	0.2%	6.6%	22.3%	22.3%
	SB	603	18	605	20	0.2%	7.7%	18.9%	18.9%
Bickenhill Lane between Station Link Road and Clock Junction	NB	1335	40	1335	41	0.0%	1.5%	41.7%	41.7%
	SB	977	30	977	30	0.1%	2.1%	30.5%	30.5%

Location	Direction	AM Peak (08:00-09:00)							
		2021 Baseline (veh)		2021 Baseline with the AP2 revised scheme construction traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with the AP2 revised scheme
Link from A45 slip to Bickenhill Lane	NB	507	15	507	15	0.0%	0.3%	99.3%	99.3%
Airport Way between Viking Road and Bickenhill Lane	EB	491	15	491	15	0.0%	0.3%	15.3%	15.3%
	WB	322	10	322	10	0.0%	0.4%	10.0%	10.1%
A45 eastbound on slip from Airport roundabout	EB	344	21	344	22	0.1%	1.7%	38.2%	38.2%
A45 westbound off slip to Airport Roundabout	WB	703	43	703	44	0.1%	0.8%	78.1%	78.1%
Airport Way between Viking Road and Hermes Road	NB	733	18	733	19	0.1%	2.2%	22.9%	22.9%
	SB	602	15	602	15	0.1%	2.6%	18.8%	18.8%
Coleshill Heath Road between Yorkminster Drive and Stonebridge Road	EB	519	16	524	21	1.0%	31.5%	41.2%	41.6%
	WB	756	23	761	28	0.7%	21.6%	60.0%	60.4%

Table 8-97: Local road network PM peak hour traffic flows 2021 future baseline and with AP2 revised scheme construction traffic (vehicles)

Location	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with AP2 revised scheme Construction Traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
A45 westbound service road between East Way and M42 Junction 6	WB	91	2	98	8	7.3%	439.4%	7.9%	8.5%
East Way on link from A45 slip after Diddington Lane	NB	33	1	44	11	32.6%	1950.7%	4.4%	5.9%
East Way	EB	90	2	102	13	12.6%	753.2%	7.2%	8.1%
East Way link to A45 eastbound off slip at Stonebridge Roundabout	EB	129	2	140	13	8.8%	528.2%	34.3%	37.3%
South Way between M42 Junction 6 and Pendigo Way	NB	267	6	269	8	0.9%	43.5%	8.3%	8.4%
South Way between M42 Junction 6 and Pendigo Way	SB	278	6	280	8	0.8%	37.9%	8.7%	8.8%
B4438 between Northway and Birmingham Business Park Roundabout	NB	630	13	632	15	0.2%	10.5%	19.7%	19.7%
	SB	480	10	482	12	0.3%	13.8%	15.0%	15.1%
Bickenhill Lane between Station Link Road and Clock Junction	NB	643	14	644	14	0.1%	4.5%	20.1%	20.1%
	SB	1817	39	1818	39	0.0%	1.6%	56.8%	56.8%

Location	Direction	PM Peak (17:00-18:00)							
		2021 Baseline (veh)		2021 Baseline with AP2 revised scheme Construction Traffic		Percentage Impact		V/C Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
Link from A45 slip to Bickenhill Lane	NB	385	8	385	8	0.0%	0.5%	75.5%	75.5%
Airport Way between Viking Road and Bickenhill Lane	EB	766	16	766	16	0.0%	0.3%	23.9%	23.9%
	WB	342	7	342	7	0.0%	0.6%	10.7%	10.7%
A45 eastbound on slip from Airport roundabout	EB	911	42	911	43	0.0%	0.8%	101.2%	101.3%
A45 westbound off slip to Airport Roundabout	WB	815	38	815	38	0.0%	0.9%	90.5%	90.6%
Airport Way between Viking Road and Hermes Road	NB	854	14	855	15	0.0%	2.8%	26.7%	26.7%
	SB	1099	18	1100	19	0.0%	2.2%	34.4%	34.4%
Coleshill Heath Road between Yorkminster Drive and Stonebridge Road	EB	579	12	584	17	0.9%	40.0%	45.9%	46.3%
	WB	625	13	630	18	0.8%	37.1%	49.6%	50.0%

Table 8-98: Local network 18-hr daily traffic flows 2021 future baseline and with AP2 revised scheme construction traffic (vehicles)

Location	2021 Baseline (veh)		2021 Baseline with AP2 revised scheme Construction Traffic		Percentage Impact	
	veh	HGV	veh	HGV	veh	HGV
A45 westbound service road between Stonebridge Roundabout and East Way	2709	52	2833	119	4.6%	128.4%
A45 westbound service road between East Way and M42 Junction 6	1930	37	2054	104	6.4%	180.2%

Location	2021 Baseline (veh)		2021 Baseline with AP2 revised scheme Construction Traffic		Percentage Impact	
	veh	HGV	veh	HGV	veh	HGV
East Way on link from A45 slip after Diddington Lane	547	11	959	107	75.3%	918.9%
East Way	1474	28	1893	130	28.4%	358.1%
East Way link to A45 eastbound off slip at Stonebridge Roundabout	1976	38	2387	139	20.8%	267.1%
South Way between M42 Junction 6 and Pendigo Way	8268	244	8415	291	1.8%	19.4%
B4438 between Northway and Birmingham Business Park Roundabout	16679	493	16742	521	0.4%	5.8%
Bickenhill Lane between Station Link Road and Clock Junction	32811	969	32860	982	0.1%	1.3%
Link from A45 slip to Bickenhill Lane	6131	181	6133	181	0.0%	0.2%
Airport Way between Viking Road and Bickenhill Lane	13206	390	13211	391	0.0%	0.2%
A45 eastbound on slip from Airport roundabout	8383	416	8401	420	0.2%	0.9%
A45 westbound off slip to Airport Roundabout	10139	504	10158	507	0.2%	0.7%
Airport Way between Viking Road and Hermes Road	22108	425	22150	433	0.2%	1.9%
Coleshill Heath Road between Yorkminster Drive and Stonebridge Road	17036	503	17354	602	1.9%	19.7%

4.2.14 There are no material changes to comments and findings in paragraphs 8.4.197 (AM peak), 8.4.199 (PM peak) and 8.4.201-203 (18 hour) as a result of the construction of the AP2 revised scheme.

Parking

4.2.15 Paragraph 8.4.212 is amended to delete the reference to temporary loss of parking spaces at Melbicks Garden and Leisure Centre, and to describe the temporary loss of parking spaces at the National Motorcycle Museum:

"The construction of the proposed highway works at M42 junction 6 will have a temporary impact on the parking at the National Motorcycle Museum where there will be a temporary loss of up to 55 parking spaces."

Operation description

4.2.16 This is as described in Section 8.4 of the main TA.

Assessment of operation impacts

Parking

4.2.17 Paragraph 8.4.472 and Table 8.208 are amended to remove references to loss of car parking spaces at Melbicks Garden and Leisure Centre.

4.2.18 Paragraph 8.4.476 is deleted as replacement parking area will fully mitigate the loss of car parking at Melbicks Garden and Leisure Centre.

Mitigation of impacts

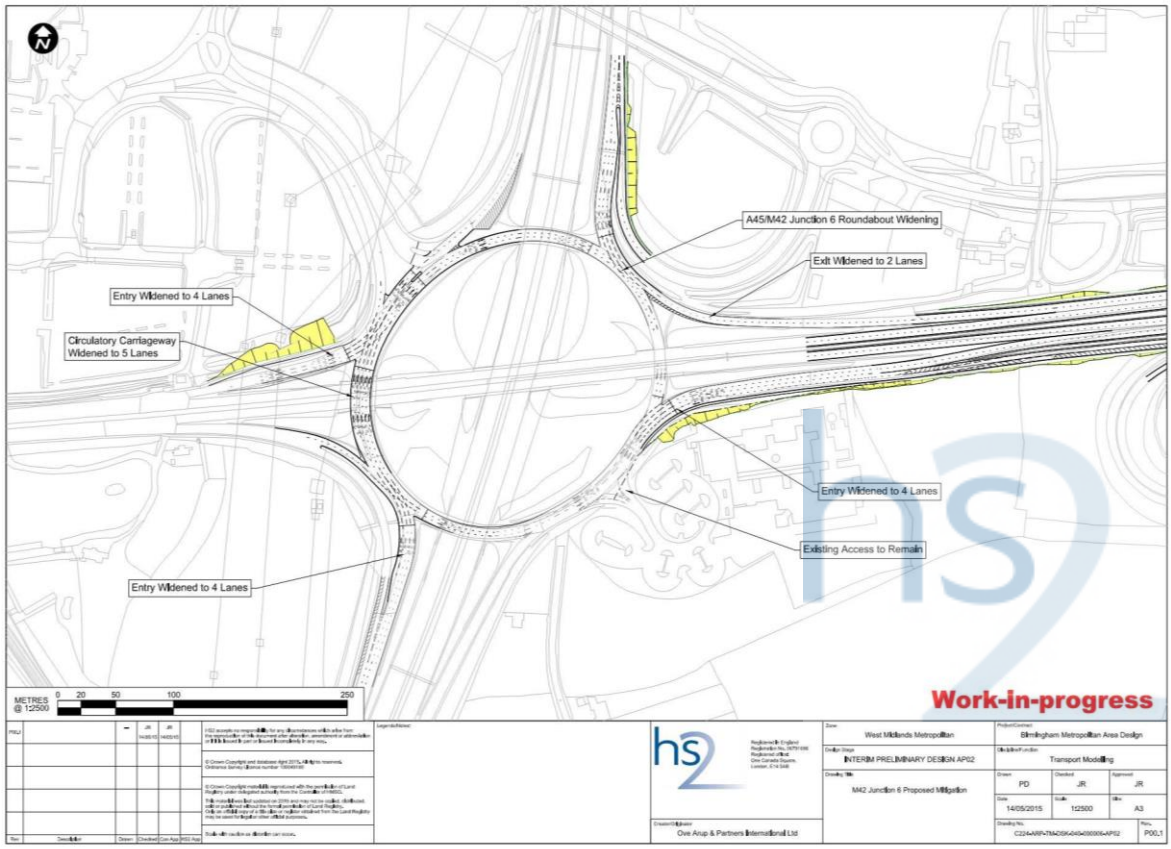
4.2.19 Table 8-209 is amended to show the revised highway mitigation works associated with M42 junction 6.

Table 8-209: Highway mitigation works

New/modified highway or junction	Description
M42 junction 6 (see Figure 8-14)	Widening the A45 Coventry Road westbound slip to M42 Junction 6 from three lanes to four. Existing access to the National Motorcycle Museum to remain in its existing location. Footpath M107 will not be permanently realigned. The M42 northbound off slip roundabout entry widened to four lanes The M42 southbound off slip roundabout entry widened to four lanes requiring a widened earthwork embankment to support the widening. The roundabout circulatory widened to five lanes between the M42 northbound off slip and the M42 northbound on slip, with the existing bridge over the A45 widened.

4.2.20 Figure 8-14 is replaced.

Figure 8-14: Proposed mitigation to M42 junction 6



4.2.21 Table 8-210 is amended to remove the works required to footpath M107 in the vicinity of the National Motorcycle Museum.

Table 8-210: PRoW diversion as a result of proposed mitigation

PRoW	Length of Diversion	Reason for Diversion
Footpath M107 (temporary during construction) (see CT-05-106-L1, Volume 2, Map Book 24)	200m	Temporary local diversion offset up to 50m parallel with current alignment. Required for the widening works associated with the A45 Coventry Road/M42 junction 6 roundabout and construction of new balancing pond and turning head. Approximate duration: 12 months
Footpath M107 (permanent) (see CT-06-106-L1, Volume 2, Map Book 24)	200m	Permanent diversion of Footpath M107 on the western side of the M42. Required for the widening works associated with the A45 Coventry Road/M42 junction 6 roundabout.

Network Modelling 2026

4.2.22 Tables 8-211 and 8-212 showed the Birmingham Interchange Area (BIA) VISSIM model 2026 AM peak hour network performance indicators, and unreleased vehicle statistics. Tables 8-213 and 8-214 presented the corresponding network statistics for the 2026 PM peak hour. These tables are replaced by the following tables.

Table 8-211: Birmingham Interchange area VISSIM model 2026 AM peak hour network performance indicators - future baseline (no AP2 revised scheme) vs AP2 revised scheme (no mitigation) vs AP2 revised scheme (with mitigation)

Parameter	AM Peak (0800-0900)		
	Future baseline	AP2 revised scheme (no mitigation)	AP2 revised scheme (with mitigation)
Average delay time per vehicle [s], All Vehicle Types	74.8	120.5	76.2
Average number of stops per vehicles, All Vehicle Types	1	3	1
Average speed [mph], All Vehicle Types	37.7	33.5	37.9
Average stopped delay per vehicle [s], All Vehicle Types	15	27	16
Total delay time [h], All Vehicle Types	760	1271	809
Total Distance Travelled [km], All Vehicle Types	215714	229017	233381
Number of Stops, All Vehicle Types	52061	101042	55674
Number of vehicles in the network, All Vehicle Types	3663	4695	3884
Number of vehicles that have left the network, All Vehicle Types	32915	33278	34334
Total stopped delay [h], All Vehicle Types	156	284	169
Total travel time [h], All Vehicle Types	3558	4245	3822
Unreleased Vehicles	158	439	52

Table 8-212: Birmingham Interchange Area VISSIM Model AM Peak Hour Unreleased Vehicles - 2026 future baseline (no AP2 revised scheme) vs AP2 revised scheme (no mitigation) vs AP2 revised scheme (with mitigation)

AM Peak	2026 future baseline		2026 with AP2 revised scheme (no mitigation)		2026 with AP2 revised scheme (with mitigation)	
	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand
A45 Coventry Rd west of Damson Parkway (EB)	156	6.9%	286	12.1%	-	-
Chester Road north (SB)	-	-	134	9.4%	51	3.6%
Viking Way	1	0.7%	19	9.1%	-	-

Table 8-213: Birmingham Interchange area VISSIM model PM peak hour network performance indicators - 2026 future baseline (no AP2 revised scheme) vs AP2 revised scheme (no mitigation) vs AP2 revised scheme (with mitigation)

Parameter	PM Peak (1700-1800)		
	Future baseline	AP2 revised scheme (no mitigation)	AP2 revised scheme (with mitigation)
Average delay time per vehicle [s], All Vehicle Types	87.9	279.1	75.8
Average number of stops per vehicles, All Vehicle Types	2	9	1
Average speed [mph], All Vehicle Types	37	22.6	37.8
Average stopped delay per vehicle [s], All Vehicle Types	23	111	14
Total delay time [h], All Vehicle Types	980	3164	902
Total Distance Travelled [km], All Vehicle Types	241202	214945	257265
Number of Stops, All Vehicle Types	92882	356388	62470
Number of vehicles in the network, All Vehicle Types	4603	8399	4354
Number of vehicles that have left the network, All Vehicle Types	35515	32650	38517
Total stopped delay [h], All Vehicle Types	260	1249	169
Total travel time [h], All Vehicle Types	4047	5952	4226
Unreleased Vehicles	601	3196	260

Table 8-214: Birmingham Interchange Area VISSIM Model PM Peak Hour Unreleased Vehicles - 2026 future baseline (no AP2 revised scheme) vs AP2 revised scheme (no mitigation) vs AP2 revised scheme (with mitigation)

Location	2026 future baseline		2026 with AP2 revised scheme (no mitigation)		2026 with AP2 revised scheme (with mitigation)	
	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand
A45 Coventry Rd west of Damson Parkway (EB)	-	-	605	24.80%	70	2.87%
Damson Parkway	29	3.90%	755	6.40%	-	-
Terminal Road	-	-	18	5.90%	-	-
Catherine-de-Barnes Lane	-	-	2	0.40%	1	0.07%

Location	2026 future baseline		2026 with AP2 revised scheme (no mitigation)		2026 with AP2 revised scheme (with mitigation)	
	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand
M42 south (NB)	494	7.40%	800	11.70%	-	-
A452 Kenilworth Road (NB)	-	-	101	8.90%	-	-
A45 Birmingham Road east (WB)	-	-	412	14.90%	-	-
Starlet Way	-	-	123	31.80%	-	-
Elmdon Trading Estate	-	-	53	26.10%	-	-
Airport Way (Long Stay Car Park)	-	-	237	30.80%	-	-
Viking Way (Long Stay Car Park)	-	-	41	27.70%	-	-
Station Link Road	-	-	325	36.60%	130	14.68%-
Solihull Business Park	320	21.50%	-	-	-	-
Motorcycle Museum Exit	76	74.20%	29	27.20%	39	36.42%
M42 north (SB)	1	0.00%	983	15.10%	13	0.31%
Coleshill Road	-	-	33	8.30%	-	-
Harbet Drive	-	-	27	24.90%	-	-
Perimeter Road	-	-	47	26.60%	-	-
M6 east	-	-	323	8.00%	-	-

4.2.23 The conclusions and findings drawn in paragraphs 8.4.487, 8.4.488, 8.4.490 and 8.4.491 do not materially change.

Junction Performance 2026

4.2.24 Tables 8-215 and 8-216 which showed the M42 junction 6 AM and PM peak hour queue lengths for the 2026 baseline and with HS2 (with and without mitigation) are replaced by the following tables.

Table 8-215: M42 junction 6 AM peak hour queue lengths (metres) - 2026 future baseline (no AP2 revised scheme) vs AP2 revised scheme (no mitigation) vs AP2 revised scheme (with mitigation)

M42 junction 6	**AM peak (0800-0900)**					
	2026 future baseline		**2026 with AP2 revised scheme (no mitigation)**		**2026 with AP2 revised scheme (with mitigation)**	
	Flow (veh)	**Max queue**	**Flow (veh)**	**Max queue**	**Flow (veh)**	**Max queue**
M42 north off-slip	1774	88	1662	82	1737	223
A45 Coventry Road east off-slip	1357	127	1450	122	1348	78
National Motorcycle Museum*	n/a	n/a	n/a	n/a	n/a	n/a
M42 south off-slip	2328	143	2667	145	2717	74
A45 Coventry Road west off-slip	1648	94	1558	91	1933	138
South Way - left turn	464	45	350	54	455	40
South Way - ahead		62		67		44

Table 8-216: M42 junction 6 PM peak hour queue lengths (metres) - 2026 future baseline (no AP2 revised scheme) vs AP2 revised scheme (no mitigation) vs AP2 revised scheme (with mitigation)

M42 junction 6	**PM peak (1700-1800)**					
	2026 future baseline		**2026 with AP2 revised scheme (no mitigation)**		**2026 with AP2 revised scheme (with mitigation)**	
	Flow (veh)	**Max queue**	**Flow (veh)**	**Max queue**	**Flow (veh)**	**Max queue**
M42 north off-slip	1742	485	1560	4902	1921	123
A45 Coventry Road east off-slip	2025	1156	1248	4008	2379	144
National Motorcycle Museum*	n/a	n/a	n/a	n/a	n/a	n/a
M42 south off-slip	1746	3076	1716	3041	2279	142
A45 Coventry Road west off-slip	2200	135	2163	2015	2354	130
south Way - Left Turn	554	58	422	1041	1134	77
south Way - Ahead		68		1049		85

4.2.25 The conclusions drawn in paragraph 8.4.494 do not materially change.

4.2.26 Tables 8-217 and 8-218 are replaced.

Table 8-217: M42 junction 6 AM peak hour average journey times (seconds) and throughput - 2026 future baseline (no AP2 revised scheme) vs AP2 revised scheme (no mitigation) vs AP2 revised scheme (with mitigation)

M42 junction 6	AM Peak (0800-0900)		
	2026 future baseline	2026 with AP2 revised scheme (no mitigation)	2026 with AP2 revised scheme (with mitigation)
Junction throughput (vehicles)	7571	7687	8281
Average Travel Time per Vehicle (seconds)	92	82	75

Table 8-218: M42 junction 6 PM peak hour average journey times (seconds) and throughput - 2026 future baseline (no AP2 revised scheme) vs AP2 revised scheme (no mitigation) vs AP2 revised scheme (with mitigation)

M42 junction 6	PM Peak (1700-1800)		
	2026 future baseline	2026 with AP2 revised scheme (no mitigation)	2026 with AP2 revised scheme (with mitigation)
Junction throughput (vehicles)	8261	6771	10067
Average Travel Time per Vehicle (seconds)	137	215	85

4.2.27 The conclusions drawn in paragraph 8.4.497 are replaced by:

"Table 8-217 and Table 8-218 above show that the proposed mitigation provides a substantial improvement in both the AM and PM peak hours. Both average journey times improve and junction throughput increases by over 9% in the AM peak hour and over 21% in the PM peak hour compared to the future baseline. The updated mitigation to M42 junction 6 has no substantial impact on the performance of other junctions in the network in 2026. Any increases in journey times are no greater than 10 seconds per vehicle at any of the modelled junctions and, as shown by Table 8-212 and Table 8-213, the average delay per vehicle is generally in line with the future baseline and the conditions reported in the main TA."

Network Modelling 2041

4.2.28 Tables 8-253 and 8-254 showed the Birmingham Interchange Area (BIA) VISSIM model 2041 AM peak hour network performance indicators, and unreleased vehicle statistics. Tables 8-255 and 8-256 presented the corresponding network statistics for the 2041 PM peak hour. These tables are replaced by the following tables.

Table 8-253: Birmingham Interchange area VISSIM model 2041 AM peak hour network performance indicators - future baseline (no AP2 revised scheme) vs Hs2 (no mitigation) vs AP2 revised scheme (with mitigation)

Parameter	AM Peak (0800-0900)		
	Future baseline	Proposed Scheme (no mitigation)	Proposed Scheme (with mitigation)
Average delay time per vehicle [s], All Vehicle Types	144	275.4	119.3
Average number of stops per vehicles, All Vehicle Types	3	8	3

Parameter	AM Peak (0800-0900)		
	Future baseline	Proposed Scheme (no mitigation)	Proposed Scheme (with mitigation)
Average speed [mph], All Vehicle Types	31.2	23.4	33.7
Average stopped delay per vehicle [s], All Vehicle Types	25	71	22
Total delay time [h], All Vehicle Types	1576	3061	1385
Total Distance Travelled [km], All Vehicle Types	226483	224614	251718
Number of Stops, All Vehicle Types	122700	327707	109613
Number of vehicles in the network, All Vehicle Types	4977	7389	4826
Number of vehicles that have left the network, All Vehicle Types	34421	32623	36990
Total stopped delay [h], All Vehicle Types	278	784	258
Total travel time [h], All Vehicle Types	4513	5972	4643
Unreleased Vehicles	1921	5560	2141

Table 8-254: Birmingham Interchange Area VISSIM Model AM Peak Hour Unreleased Vehicles - 2041 future baseline (no AP2 revised scheme) vs Hs2 (no mitigation) vs AP2 revised scheme (with mitigation)

AM Peak	2041 future baseline		2041 with AP2 revised scheme (no mitigation)		2041 with AP2 revised scheme (with mitigation)	
	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand
A45 Coventry Rd west of Damson Parkway (EB)	617	23.90%	849	30.90%	503	18.29%
M6 east	609	12.90%	775	16.20%	507	10.59%
Stonebridge Rd north (SB)	69	4.10%	225	12.80%	-	-
Chester Road north (SB)	20	1.30%	523	31.40%	494	29.72%
Chelmsley Road	-	0.00%	-	-	-	-
M42 north (SB)	610	9.10%	1829	27.10%	600	8.89%
Damson Parkway	-	-	131	14.40%	-	-
Catherine De Barnes Lane	-	-	1	0.10%	-	-

AM Peak	2041 future baseline		2041 with AP2 revised scheme (no mitigation)		2041 with AP2 revised scheme (with mitigation)	
	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand
M42 south (NB)	-	-	1172	16.00%	-	-
M6 west	-	-	141	3.50%	37	0.92%

Table 8-255: Birmingham Interchange area VISSIM model PM peak hour network performance indicators - 2041 future baseline (no AP2 revised scheme) vs Hs2 (no mitigation) vs AP2 revised scheme (with mitigation)

Parameter	PM Peak		
	Future baseline	Proposed Scheme (no mitigation)	2041 with AP2 revised scheme (with mitigation)
Average delay time per vehicle [s], All Vehicle Types	162.3	470.8	117.5
Average number of stops per vehicles, All Vehicle Types	5	14	3
Average speed [mph], All Vehicle Types	30.4	15.7	33.7
Average stopped delay per vehicle [s], All Vehicle Types	37	229	20
Total delay time [h], All Vehicle Types	1955	5486	1545
Total Distance Travelled [km], All Vehicle Types	251987	202234	279722
Number of Stops, All Vehicle Types	195243	586993	121345
Number of vehicles in the network, All Vehicle Types	5880	11909	5510
Number of vehicles that have left the network, All Vehicle Types	37483	30447	41842
Total stopped delay [h], All Vehicle Types	449	2652	264
Total travel time [h], All Vehicle Types	5158	8088	5161
Unreleased Vehicles	3422	9442	1233

Table 8-256: Birmingham Interchange Area VISSIM Model PM Peak Hour Unreleased Vehicles - 2041 future baseline (no AP2 revised scheme) vs Hs2 (no mitigation) vs AP2 revised scheme (with mitigation)

PM peak (1700-1800)	2041 future baseline		2041 with AP2 revised scheme (no mitigation)		2041 with AP2 revised scheme (with mitigation)	
	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand
A45 Coventry Rd west of Damson Parkway (EB)	159	6.00%	318	11.90%	212	7.98%
Damson Parkway	183	21.80%	245	28.90%	-	-
Terminal Road	18	5.20%	25	7.40%	-	-
M42 south (NB)	1698	22.70%	2184	29.00%	16	0.22%
A452 Kenilworth Road (NB)	1	0.10%	365	28.20%	-	-
A45 Birmingham Rd east (WB)	298	9.60%	828	26.40%	-	-
Solihull Parkway	172	9.90%	394	22.60%	-	-
Station Link Road	52	4.30%	470	39.30%	678	56.64%
Motorcycle Museum Exit	111	93.70%	55	46.20%	-	-
M6 east	248	5.70%	863	19.70%	26	0.59%
M42 north (SB)	579	8.40%	1874	27.20%	53	3.58%
Catherine De Barnes	-	-	1	0.20%	-	-
Starlet Way	-	-	320	73.40%	-	-
Elmdon Trading Estate	-	-	78	34.10%	-	-
Airport Way (Car Park)	-	-	472	51.10%	-	-
Viking Way (Car Park)	-	-	83	47.20%	-	-
Meriden Way	-	-	82	13.60%	-	-
Comets End Lane	-	-	41	19.20%	-	-
Hampton Lane	-	-	112	20.40%	-	-
Chester Road north (SB)	-	-	114	11.20%	-	-

PM peak (1700-1800)	2041 future baseline		2041 with AP2 revised scheme (no mitigation)		2041 with AP2 revised scheme (with mitigation)	
	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand	Unreleased Vehicles	Proportion of Demand
Chelmsley Road	-	-	48	18.00%	-	-
Coleshill Road	-	-	165	38.00%	-	-
Bickenhill Road	-	-	49	19.40%	-	-
Proposed Scheme Station Interchange	-	-	296	16.80%	-	-
Yorkminster Drive	-	-	31	11.30%	-	-
Harbet Drive	-	-	75	59.80%	-	-
Perimeter Rd	-	-	88	44.50%	-	-

4.2.29 The conclusions drawn in paragraph 8.4.552 are replaced by:

"Table 8-253 shows that with the mitigation in place, the overall performance of the network is substantially improved with average delays and average vehicle speeds better than 2041 future baseline conditions. The total throughput of the network increases by 6.1% and the proportion of unreleased vehicles increases from 4.9% in the future baseline to 5.1% with AP2 revised scheme (with mitigation). Table 8-254 summarises the locations at which vehicles are unreleased in 2041 future baseline and with AP2 revised scheme (no mitigation) scenarios in the AM peak hour."

4.2.30 The conclusions of paragraphs 8.4.553-556 do not materially change.

Junction Performance 2041

4.2.31 Tables 8-257 and 8-258 which showed the M42 junction 6 AM and PM peak hour queue lengths for the 2041 Baseline and with HS2 (with and without mitigation) are replaced by the following tables.

Table 8-257: M42 junction 6 AM peak hour queue lengths (metres) - 2041 future baseline (no AP2 revised scheme) vs Hs2 (no mitigation) vs AP2 revised scheme (with mitigation)

M42 junction 6	AM peak (0800-0900)					
	2041 future baseline		2041 with AP2 revised scheme (no mitigation)		2041 with AP2 revised scheme (with mitigation)	
	Flow (veh)	Max queue	Flow (veh)	Max queue	Flow (veh)	Max queue
M42 north off-slip	1680	94	1046	4901	1695	173
A45 Coventry Road east off-slip	1537	506	1675	571	1524	89
National Motorcycle Museum*	n/a	n/a	n/a	n/a	n/a	n/a

M42 junction 6	AM peak (0800-0900)					
	2041 future baseline		2041 with AP2 revised scheme (no mitigation)		2041 with AP2 revised scheme (with mitigation)	
	Flow (veh)	Max queue	Flow (veh)	Max queue	Flow (veh)	Max queue
M42 south off-slip	2449	1728	2334	2388	3251	121
A45 Coventry Road west off-slip	1712	97	1534	500	1956	166
South Way - left turn	485	46	319	259	515	38
South Way - ahead		58		266		46

Table 8-258: M42 junction 6 PM peak hour queue lengths (metres) - 2041 future baseline (no AP2 revised scheme) vs Hs2 (no mitigation) vs AP2 revised scheme (with mitigation)

M42 junction 6	PM peak (1700-1800)					
	2041 future baseline		2041 with AP2 revised scheme (no mitigation)		2041 with AP2 revised scheme (with mitigation)	
	Flow (veh)	Max queue	Flow (veh)	Max queue	Flow (veh)	Max queue
M42 north off-slip	1754	3436	1282	4900	1884	252
A45 Coventry Road east off-slip	2073	1518	1144	4009	2733	454
National Motorcycle Museum*	n/a	n/a	n/a	n/a	n/a	n/a
M42 south off-slip	1713	3083	1556	3041	2634	203
A45 Coventry Road west off-slip	2465	153	1883	2368	2893	199
South Way - left turn	564	173	310	2079	1046	72
South Way - ahead		181		2087		80

4.2.32 The conclusions of paragraph 8.4.559 do not materially change.

4.2.33 Tables 8-259 and 8-260 which showed the M42 junction 6 AM and PM peak average journey times for the 2041 Baseline and with HS2 (with and without mitigation) are replaced.

Table 8-259: M42 junction 6 AM peak hour average journey times (seconds) and throughput - 2041 future baseline (no AP2 revised scheme) vs Hs2 (no mitigation) vs AP2 revised scheme (with mitigation)

M42 junction 6	AM Peak (0800-0900)		
	2041 future baseline	2041 with AP2 revised scheme (no mitigation)	2041 with AP2 revised scheme (with mitigation)
Junction Throughput (vehicles)	7864	6908	8940
Average Travel Time per Vehicle (seconds)	126	139	77

Table 8-260: M42 junction 6 PM peak hour average journey times (seconds) and throughput - 2041 future baseline (no AP2 revised scheme) vs Hs2 (no mitigation) vs AP2 revised scheme (with mitigation)

M42 junction 6	PM Peak		
	2041 future baseline	2041 with AP2 revised scheme (no mitigation)	2041 with AP2 revised scheme (with mitigation)
Junction Throughput (vehicles)	8569	6175	11245
Average Travel Time per Vehicle (seconds)	165	266	95

4.2.34 The conclusions drawn in paragraph 8.4.562 are replaced by:

"Table 8-259 and Table 8-260 above show that the proposed mitigation provides an improvement in both the AM and PM peak hours. Both average journey times improve and junction throughput increases by almost 14% in the AM peak hour and 32% in the PM peak hour compared to the future baseline. The updated mitigation to M42 junction 6 has no substantial impact on the performance of other junctions in the network in 2041. Any increases in journey times are no greater than 10 seconds per vehicle at any of the modelled junctions and, as shown by Table 8-253 and Table 8-255, the average delay per vehicle improved when compared to the future baseline conditions and generally in line conditions reported in the main TA."

Parking

4.2.35 Paragraph 8.4.616 is amended to delete the reference to the relocation of the National Motorcycle Museum access:

"The loss of spaces at the National Motorcycle Museum is associated with the construction of the capacity improvements to M42 junction 6. It is not expected that the impact of the loss would be substantial as there is a substantial amount of car parking at the National Motorcycle Museum. Also, the estimated loss is expected to be an over-estimate and detailed phasing of the works could potentially reduce the loss of spaces and/or the duration over which spaces are lost."

4.2.36 Paragraph 8.4.617 is deleted.

Pedestrian, cyclist and equestrian

4.2.37 Paragraph 8.4.624 is deleted as there is no longer a requirement to relocate the access to the National Motor Museum.

Operational impacts summary

4.2.38 Table 8-295 provided a summary of the issues by mode in the Birmingham Interchange and Chelmsley Wood area as a result of the operation of the AP2 revised scheme. There is an amendment to the parking row to remove the reference to permanent loss of parking at Melbicks Garden and Leisure Centre and the National Motor Museum.

Table 8-295: Operation; summary of issues (partial replacement)

Mode	Issue	
	2026	**2041**
Parking	Permanent loss of parking at the NEC, west car park, Birmingham International station and Birmingham Business Park. HS2 will work with land owners and occupiers to ensure that wherever practicably possible the impacts and managed and minimised.	Permanent loss of parking at the NEC, west car park, Birmingham International station and Birmingham Business Park. HS2 will work with land owners and occupiers to ensure that wherever practicably possible the impacts and managed and minimised.

4.3 Castle Bromwich and Bromford (CFA25)

Castle Bromwich and Bromford (CFA25) AP2 revised scheme changes

4.3.1 The original scheme is described in paragraphs 8.5.1 - 8.5.22 of the main TA.

4.3.2 There are no substantial amendments in traffic and transport terms in this area.

4.3.3 There are a number of amendments in the adjoining areas and changes to the excavated materials and associated traffic routing which influence traffic and transport conditions in the area. These amendments are reported separately in the associated areas although any changes to the combined impacts within this area are reported in this section.

4.3.4 The amendments lead to a number of changes to the main TA in Castle Bromwich and Bromford (CFA25).

Existing baseline

4.3.5 Baseline conditions are described in Section 5.27 of the main TA.

Assessment Methodology

4.3.6 The assessment methodology is described in Section 8.2 of the main TA.

Future baseline

4.3.7 Future baseline conditions are described in Section 8.5 of the main TA.

Construction description

4.3.8 This is as described in Section 8.5 of the main TA.

Assessment of construction impacts

Strategic and local road network traffic flows

4.3.9 Forecast flows on two of the roads in Table 8-305 and Table 8-306 are amended as shown in the following tables.

Table 8-305: Strategic road network AM peak hour (08:00-09:00) traffic flows 2021 future baseline and with the AP2 revised scheme construction traffic (vehicles)

Location	Direction	2021 Baseline		2021 With HS2 construction traffic		Percentage Impact		VC Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
M6 between M42 slip roads and Junction 5	EB	5833	1812	5872	1851	0.7%	2.2%	104%	105%
	WB	6145	1830	6181	1866	0.6%	2.0%	110%	111%

Location	Direction	2021 Baseline		2021 With HS2 construction traffic		Percentage Impact		VC Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
M6 between Junction 5 and Junction 6	EB	4523	856	4544	877	0.5%	2.5%	73%	73%
	WB	5119	1102	5144	1127	0.5%	2.2%	83%	83%

Table 8-306: Strategic road network PM peak hour (17:00-18:00) traffic flows 2021 future baseline and with the AP2 revised scheme construction traffic (vehicles)

Location	Direction	2021 Baseline		2021 With HS2 construction traffic		Percentage Impact		VC Ratio	
		veh	HGV	veh	HGV	veh	HGV	Baseline	with AP2 revised scheme
M6 between M42 slip roads and Junction 5	EB	7031	1448	7060	1477	0.4%	2.0%	128%	129%
	WB	5332	1207	5366	1241	0.6%	2.8%	97%	98%
M6 between Junction 5 and Junction 6	EB	5723	622	5746	645	0.4%	3.6%	93%	93%
	WB	4104	618	4128	642	0.6%	3.9%	68%	68%

4.3.10 Paragraph 8.5.75 is replaced by:

"Table 8-305 and Table 8-306 show that in the AM and PM peak periods, the traffic generated on the strategic highway network will be negligible, with the construction workers assumed to arrive before the AM peak (08:00-09:00) and depart after the PM peak (17:00-18:00). Combined with the removal of traffic associated with UK Mail and other existing businesses from the Washwood Heath depot site from the network, it is anticipated that the construction of the AP2 revised scheme will result in a reduction in traffic on most strategic network links in the Castle Bromwich and Bromford area. The maximum forecast increase in flow is an increase of 39 vehicles in the AM peak hour (08:00-09:00) on the M6 eastbound between the M42 slip roads and Junction 5. This increase equates to a change in total vehicles of less than 1% and 2% in HGVs. The maximum forecast increase in the PM peak hour (17:00-18:00) is 34 vehicles on the M6 westbound between the M42 slip roads and Junction 5. This increase equates to a change in total vehicles of less than 1% and under 3% in HGVs. The associated V/C ratio changes by less than 1% in both peak periods."

Operation description and assessment of operation impacts

4.3.11 There is no change to the main TA with regard to the assessment of the original scheme during operation.

4.4 Washwood Heath to Curzon Street Station (CFA26)

Washwood Heath to Curzon Street Station (CFA26) AP2 revised scheme changes

4.4.1 The original scheme is described in paragraphs 8.6.1 - 8.6.57 of the main TA.

4.4.2 The main AP2 revised scheme changes in traffic and transport terms in this area are:

- AP2-026-001 Improvement of Aston Church Road/Arley Road junction. Aston Church Road/Arley Road Junction which permanently shifts Aston Church Road approximately 7m north and improves the junction;
- AP2-026-004 Additional land required for car parking at Network Park Industrial Estate. Network Park car mitigation which provides temporary and permanent car parking to mitigate the temporary and permanent loss reported in the main TA;
- AP2-026-005 Additional access rights for access to replacement car parking at Birmingham Museum Collections Centre. Birmingham Museum Collections Centre which modifies the access route during construction to mitigate the temporary loss on car parking reported in the main TA;
- AP2-026-006 Additional land for the reconfiguration of Freightliner Terminal Depot and the provision of rail sidings; and
- AP2-026-007 Additional land required for replacement car parking at West Midlands Fire Service headquarters which provides temporary and permanent car parking to mitigate the temporary and permanent loss reported in the main TA.

4.4.3 In addition, there are a number of amendments in the adjoining areas and changes to the movements of excavated materials and associated traffic routeing which also influence traffic and transport conditions in the area. These amendments are reported separately in the associated areas although any changes to the combined impacts within this area are reported in this section.

4.4.4 The above amendments lead to a number of changes to the main TA in Washwood Heath to Curzon Street (CFA26).

Existing baseline

4.4.5 Baseline conditions are described in Section 5.28 of the main TA.

Assessment Methodology

4.4.6 The assessment methodology is described in Section 8.2 of the main TA.

Future baseline

Key future baseline issues

4.4.7 Paragraph 8.6.46 is replaced by:

"Centro has aspirations for further extension to Midland Metro, including potential links to the proposed Curzon Street station and beyond, and for improved pedestrian linkage between Moor Street Queensway and New Street station. In July 2014 Government announced funding for the Metro extension within the Greater Birmingham and Solihull Local Growth Deal with a commitment to work with Centro and Birmingham city council to deliver funding for the wider regeneration package around the HS2 station of which Metro forms a key part."

Strategic and local road network traffic flows

4.4.8 Table 8-332 and Table 8-333 are amended as a result of the changes to Freightliner to add the traffic flows on Landor Street.

Table 8-332: City centre local road network future baseline flows (vehicles) - AM (08:00-09:00) peak

Location	Direction	Baseline Flow											
		2012			2021			2026			2041		
		All Veh	HGV	VC	All Veh	HGV	VC	All Veh	HGV	VC	All Veh	HGV	VC
Landor Street	EB	157	21	21%	155	25	21%	162	26	22%	181	30	24%
	WB	326	8	43%	326	10	43%	319	10	42%	321	12	43%

Table 8-333: City centre local road network future baseline flows (vehicles) - PM (17:00-18:00) peak

Location	Direction	Baseline Flow											
		2012			2021			2026			2041		
		All Veh	HGV	VC	All Veh	HGV	VC	All Veh	HGV	VC	All Veh	HGV	VC
Landor Street	EB	157	8	21%	203	2	27%	204	2	27%	206	3	28%
	WB	239	2	32%	381	2	51%	391	2	52%	410	2	55%

4.4.9 The conclusions of the subsequent Paragraph 8.6.74 are unchanged by the above amendment.

Construction description

Compounds and construction sites

4.4.10 Paragraph 8.6.177 is replaced by:

"The remaining 14 sites comprise satellite compounds, which will be smaller in size then the main construction site compounds. These will provide facilities and parking for a limited number of staff at key construction or rail fit out locations, whilst providing local storage for plant and materials. Ten of the 14 satellite compounds will be in place during the main phase of construction, with the remaining four associated with the latter stages of construction relating to the rail fit out and implementation."

4.4.11 Table 8-354 is amended to add the compound required for the Freightliner reconfiguration.

Table 8-354: Assumed workforce at construction sites

Compound type	Location	Assumed daily workforce per site for duration with busy vehicle movements	
		Average	Peak
Satellite compound	Freightliner	36	54

4.4.12 Table 8-355 showed the typical vehicle trip generation for construction site compounds in this area. Table 8-355 is amended to add the compound required for the Freightliner reconfiguration.

Table 8-355: Typical vehicle trip generation for construction site compounds (addition)

Compound Type	Location	Access to/from compound	Indicative start/set up date	Estimated duration of use (Years)	Estimated duration with busy vehicle movements (Months)	Average daily combined two-way vehicle trips during busy period and within peak month of activity	
						Cars/LGV	HGV
Satellite compound	Freightliner	Landor Street	Q1 2017	1.5	12	10 - 20	10 - 15

Assessment of construction impacts

Strategic and local road network traffic flows 2021

4.4.13 Table 8-363 and Table 8-364 are amended to include Landor Street which provides the primary access route into the construction compound for the reconfiguration of Freightliner.

Table 8-363: City centre local road network construction traffic flows (vehicles) - AM (08:00-09:00) peak

Location	Direction	2021 future baseline		2021 With the AP2 revised scheme construction traffic		With the AP2 revised scheme % change from 2021 future baseline		VC Ratio	
		All Vehicles	HGV	All Vehicles	HGV	All Vehicles	HGV	2021 Baseline	2021 with AP2 revised scheme
Landor Street	EB	155	25	156	26	0.7%	4.0%	21%	21%
	WB	326	10	327	11	0.3%	10.3%	43%	44%

Table 8-364: City centre local road network construction traffic flows (vehicles) - PM (17:00-18:00) peak

Location	Direction	2021 future baseline		2021 With the AP2 revised scheme construction traffic		With the AP2 revised scheme % change from 2021 future baseline		VC Ratio	
		All Vehicles	HGV	All Vehicles	HGV	All Vehicles	HGV	2021 Baseline	2021 with AP2 revised scheme
Landor Street	EB	203	2	204	3	0.5%	46.4%	27%	27%
	WB	381	2	382	3	0.3%	52.4%	51%	51%

4.4.14 The conclusions of paragraph 8.6.225 are unchanged as a result of the above amendments.

Local Roads

4.4.15 Table 8-365 and Table 8-366 are amended to update the flows on Arley Road.

Table 8-365: Washwood Heath local road network construction traffic flows (vehicles) - AM (08:00-09:00) peak

Location	Direction	2021 future baseline		2021 with the AP2 revised scheme construction traffic		With the AP2 revised scheme % change from 2021 future baseline		VC Ratio	
		All Vehicles	HGV	All Vehicles	HGV	All Vehicles	HGV	2021 Baseline	2021 with AP2 revised scheme
Arley Road	NB	99	17	159	30	61%	75%	8%	13%
	SB	96	13	124	26	29%	98%	7%	9%

Table 8-366: Washwood Heath local road network construction traffic flows (vehicles) - PM (17:00-18:00) peak

Location	Direction	2021 future baseline		2021 With the AP2 revised scheme construction traffic		With the AP2 revised scheme % change from 2021 future baseline		VC Ratio	
		All Vehicles	HGV	All Vehicles	HGV	All Vehicles	HGV	2021 Baseline	2021 With the AP2 revised scheme
Arley Road	NB	125	6	138	18	11%	192%	10%	11%
	SB	83	12	134	24	62%	96%	6%	10%

4.4.16 The conclusions of paragraph 8.6.232 are unchanged as a result of the above amendments.

Parking

4.4.17 The AP2 revised scheme results in the removal of the loss of temporary parking at the Birmingham Museum Collection Centre on Dolman Street East from Table 8-380 in the main TA, as well as an amendment to the loss of temporary parking at the West Midlands Fire Service in St James' Place. This amendment is shown in the following table.

Table 8-380: Temporary loss of parking spaces associated with the construction of the AP2 revised scheme

Location	Business	Type	Parking Spaces	Spaces Lost
St. James' Place	West Midlands Fire Service	Staff / visitor parking	250 (approx)	0
		HGV Parking / Loading	4	4

4.4.18 Paragraph 8.6.280 is amended to remove bullet points 5, 6 and 8.

Operation description

4.4.19 This is as described in Section 8.6 of the main TA.

Assessment of operation impacts

Parking

4.4.20 Paragraph 8.6.467 is amended as a result of the AP2 revised scheme. Paragraph 8.6.467 is replaced by:

"Implementation of the Proposed Scheme will result in the permanent loss of parking within the Washwood Heath to Curzon Street area, at six locations. The table below summarises the expected loss of parking for the six locations, which includes two business premises, three off-street parking areas, and one one-street parking area. There are other locations, where off street car parking will be lost, but the businesses associated with the car parking spaces will be displaced to facilitate the AP2 revised scheme and, therefore, the need for these spaces will not exist. Therefore these sites are not included in the table below."

4.4.21 Table 8-436 is replaced by the following table to reflect the above amendments.

Table 8-436: Permanent loss of parking spaces associated with delivery of the AP2 revised scheme

Location	Business	Type	Parking Spaces	Spaces Lost
Fazeley Street	N/A	Pay and Display	8	8
Landor Street (North)	Crown International	HGV Parking	57 (approx)	31 (approx)
Network Park	Salts Medilink Distribution Centre	HGV Parking/Loading	3	1

Location	Business	Type	Parking Spaces	Spaces Lost
Curzon Street Car Park	N/A	Pay and Display	500 (approx)	500 (approx)
Seymour Street Surface Level Car Park	N/A	Pay and Display	40 (approx)	40 (approx)
Albert Street Surface Level Car Park	N/A	Pay and Display	200 (approx)	200 (approx)

5 Route-wide and off-route assessment

5.1 Introduction

5.1.1 The TA (TR-001-000) in Volume 5, Part 10: Route-wide and off-route assessment in the main TA, presented an assessment for off-route railway stations where it was reported that, due to an increase in passenger growth as a result of the hybrid Bill scheme, substantial traffic and transport impacts were considered possible.

5.1.2 Since submission of the hybrid Bill, factual inaccuracies have been identified in this assessment. These relate to the numbers of passengers forecast to use some of the off-route stations. The assessment has been corrected where the inaccuracies have the potential to alter the impacts reported in the main TA.

5.1.3 The SES corrections are reported in the following sections.

5.1.4 An additional new section is added in this chapter which considers the impact of relocating the Heathrow Express (Hex) depot to Langley.

5.2 SES corrections in passenger numbers at stations

5.2.1 The forecasts for Northampton, Rugby, Leamington Spa and Worcester Shrub Hill were shown in Table 9.8 of the main TA and are replaced with the corrected forecasts in revised Table 9-8.

Table 9-8: Percentage changes in passenger numbers at stations in 2026 and 2036

Station	2026 Phase One	2036 Phase One
	% Change	% Change
Increase		
Northampton	11%	12%
Rugby	10%	11%
Decreases		
Worcester Shrub Hill	-6%	-6%
Wellingborough	-9%	-12%

5.2.2 The SES changes in the forecast percentage changes in passenger numbers at Northampton and Leamington Spa stations are higher than those reported in the main TA.

5.2.3 There are also small increases at Worcester Shrub Hill station and small decreases at Wellingborough station. Cheltenham Spa station no longer appears in Table 9-8 as it does not meet the criteria for inclusion within it.

5.3 Forecast changes in daily passenger demand

5.3.1 The forecasts of passenger demand for Leamington Spa and Northampton stations are replaced with the SES corrected forecasts in Table 9-12.

Table 9-12: Change in passenger demands

Station	Change in daily passenger demand due to HS2 Phase One (2036)	
	Change in demand	% change
Stations with an increase greater than 700 users per day and 5%		
Leamington Spa	1,602	8%
Northampton	1,717	12%

5.3.2 Wellingborough, Worcester Shrub Hill and Cheltenham Spa stations no longer appear in Table 9-12 as they do not meet the criteria for inclusion within it.

5.3.3 With these revisions thirteen stations (compared to the twelve reported in the main TA) are forecast to experience an increase in daily passenger demand greater than 5% as a consequence of the operation of the original scheme.

5.3.4 Seven stations (compared to the eleven reported in the table in the main TA) are forecast to experience a decrease in daily passenger demand greater than 5%, with reductions ranging from 7% to 22%, which reflects the opportunity to divert to more convenient faster original scheme services. This will have the benefit of releasing capacity on the existing rail network, as well as on the traffic and transport network local to the off-route stations.

5.4 Langley

Langley scheme description

Reason for the revision to the scheme

5.4.1 Construction of the HS2 station at Old Oak Common requires the permanent relocation of the existing Heathrow Express (HEx) Depot at Old Oak Common. The Bill provides for this to be relocated to the east end of the North Pole depot (refer to map CT-18 in the main ES Volume 4, Off-Route Effects Map Book). The east end of the North Pole depot is the former rail depot for Eurostar trains within London and is located to the east of Scrubs Lane.

5.4.2 Since submission of the Bill, it has been determined that the relocation of the HEx Depot to the eastern side of the North Pole depot would preclude planned redevelopment in the area. The land to the east of the North Pole site is identified for residential housing and commercial development in the adopted Royal Borough of Kensington and Chelsea Core Strategy (2010) and is within the Kensal Canalside Opportunity Area identified by the GLA. The west of the site is identified for rail operations by London Borough of Hammersmith and Fulham in the adopted Core Strategy (2011). Subsequently, alternative sites for the relocation of the HEx Depot were identified and appraised and the proposed HEx Depot at Langley, Buckinghamshire was selected.

Description of AP2 revised scheme

5.4.3 The location of the site and construction compounds are shown in maps CT-05-154 and CT-05-155 in the SES and AP2 Volume 2 Map Book.

5.4.4 The proposed HEx depot is bounded by the Slough arm of the Grand Union Canal to the north, the Great Western Main Line (GWML) railway to the south, Langley Station, Canal Wharf Industrial Estate and the B470 Station Road to the west and Thorney Lane Business Park and Iver Station to the east. The GWML proposed east connection trackwork will cross Hollow Hill Lane, which passes from north to south through the site. Horton Brook flows across the site in a north-west to south-east direction.

5.4.5 Key features of the proposed HEx depot near Langley will include:

- a maintenance shed comprising three maintenance / stabling sidings, office, staff welfare facilities and storage;
- eight maintenance / stabling sidings with Controlled Emission Toilets (CET) facilities;
- a carriage delivery siding (to be used for unloading train carriages from lorries onto the railway);
- two turn back sidings (located to the north and south of the depot lines);
- plant room and train wash unit;
- an electrical substation;
- new trackwork connecting the depot to the GWML;
- access road within the depot boundary;
- a car park;
- restored agricultural land located to the east of Hollow Hill Lane;
- alterations to overhead line equipment on the GWML and depot operation signalling;
- realignment and lowering of a section of Hollow Hill Lane;
- a flood storage area;
- wetland habitat creation within the flood storage area;
- landscape planting;
- replacement woodland habitat creation; and
- two access roads to restored agricultural land.

5.4.6 The engineering works will realign Hollow Hill Lane by up to approximately 25m to the west of its existing alignment and lower it by approximately 4m and a new road underbridge will be provided. In order to segregate the worksite from live traffic, Hollow Hill Lane will be reduced to a single lane with two-way traffic light control. This

will be for a period of three months while the protection slab work commences. Once the realignment work is complete, traffic will be switched to this new route with two lane operation restored.

Existing Baseline

5.4.7 Existing conditions have been determined through site visits, specially commissioned transport surveys and liaison with relevant transport authorities and stakeholders to source traffic data.

5.4.8 Baseline traffic surveys were undertaken in 2014/15 to assist in confirming prevailing traffic flows. These included automatic traffic counts and junction turning counts. These were undertaken following introduction of the 20 mph zone on Langley High Street in late 2014.

5.4.9 AM and PM peak hour flows on the roads in the vicinity of the scheme are shown in Table 9-14. The full survey results are included in SES and AP2 Annex B(vi).

Table 9-14: Langley depot - AM and PM peak hour baseline flows on local roads.

Location	Actual location (flow direction)	Survey data 2014-15			
		AM Peak		PM Peak	
		All Vehicles	HGVs	All Vehicles	HGVs
Parlaunt Road	Tamar Way towards Heron Drive (Eastbound)	588	19	467	11
	Heron Drive towards Tamar Way (Westbound)	385	13	511	9
	2-directional flow on Parlaunt Road	**973**	**32**	**978**	**20**
Station Road	Langley Road (S) to Scholar Road (N) (Southbound)	458	3	425	3
	Scholar Road (N) to Langley Road (S) (Northbound)	535	9	577	6
	2-directional flow on Station Road	**993**	**12**	**1002**	**9**
Langley Park Road	Canal Wharf (S) to Trenches Lane (N) (Northbound)	394	9	474	8
	Trenches Lane (N) to Canal Wharf (S) (Southbound)	464	16	402	11
	2-directional flow on Langley Park Road	**858**	**25**	**876**	**19**
Mansion Lane	Mansion Lane towards Hollow Hill Lane (Northbound)	361	5	321	4
	Hollow Hill Lane towards Mansion Lane (Southbound)	343	6	364	6
	2-directional flow on Mansion Lane	**704**	**11.33**	**685**	**10**
Denham Road	Seven Hill Road towards Denhams Road (North-east bound)	894	28	1378	22
	Denhams Road to Seven Hill Roads (South west Bound)	1121	30	1096	20
	2-directional flow on Denham Road	**2015**	**58**	**2474**	**42**

Location	Actual location (flow direction)	Survey data 2014-15			
		AM Peak		PM Peak	
		All Vehicles	HGVs	All Vehicles	HGVs
Wood Lane	Langley Park Road to Bellswood Lane (north Bound)	685	12	741	13
	Bellswood Lane to Langley Park Road (Southbound)	755	19	661	12
	2-directional flow on Wood Lane	**1440**	**31**	**1402**	**25**
Bangors Road South	Coppers Ln (S) to Love Green Lane (S) (northbound)	277	6	412	8
	Love Green Lane to Copper Ln (Southbound)	416	11	311	8
	2-directional flow on Bangors Road South	**693**	**17**	**723**	**16**
Thorney Lane North	Ridgeway towards Marina Way (Northbound)	420	13	493	13
	Marina Way towards Ridge Way (Southbound)	441	17	386	13
	2-directional flow on Thorney Lane South	**861**	**30**	**879**	**26**
North Park	Sutton Lane to Richings Place (Eastbound)	430	19	369	18
	Richings Place to Sutton Lane (Westbound)	360	21	464	14
	2-directional flow on North Park	**790**	**40**	**833**	**32**
Sutton Lane	Hurricane Way to Grasholm Way (Northbound)	696	10	839	9
	Grasholm Way to Hurricane Way (Southbound)	841	13	591	10
	2-directional flow on Sutton Lane	**1537**	**23**	**1430**	**19**

5.4.10 The strategic transport network in the area comprises the A4 and M4 to the south, the A40 and M40 to the north, and the M25 to the east. The Slough Arm of the Grand Union Canal runs east west through the area with the GWML railway lines to the south of this. Footpaths IVE/15A/1, IVE/17/5, and WEX/18/3 are in the proximity of the proposed HEx depot.

5.4.11 Whilst there are no direct accesses onto the M25 in the area, the A412 runs southwards from the M40 J1/A40 Denham roundabout, to connect to the B470 Langley Park Road, and also provides access to the village of Iver. Bangors Road and Thorney Lane run in a north south direction on the east side of the area and leads to the A40 to the north and southwards to the A4.

5.4.12 The western access to the proposed depot is reasonably well connected to the wider highway network, with access to the M4 gained via the junction of the B470 Langley High Street and A4, approximately 1.5km to the south of the proposed depot access road. There is evidence of queuing occurring on the southbound approach to the A4 junction.

5.4.13 The eastern access via Thorney Lane Business Park is well connected to the wider highway network, with access to/from M40 in the north via M40/A40 - Denham

Roundabout, A412, Bangors Road and Thorney Lane. Further access to the M4 in the south is via North Park and London Road.

5.4.14 There are two discrete bridge structures on the B470 Langley Park Road. Approximately 100m to the north of the proposed depot access road a bridge carries the road over the Grand Union Canal. There is no evident weight restriction in place on this bridge. To the south, a low over-bridge carries the GWML over the carriageway with a height restriction of 3.8m.

5.4.15 Hollow Hill Lane / Market Lane located to the east of the proposed main depot site, is a single carriageway road, approximately 6.5m in width. There is evidence of encroachment in to the verge areas where large vehicles are required to pass each other. The road passes under a bridge carrying the GWML overhead, with a height restriction of 3.8m. To the north, the road passes over the Grand Union Canal via a weak bridge with a 10 ton weight limit. Access to the Mansion Lane caravan site is located immediately to the south of the bridge, while access to a boat yard and further caravan park is located to the immediate north of the bridge.

5.4.16 Parking in residential streets to the north and south is controlled in the form of resident only restrictions and double yellow lines, typical restricted to two hours in the period 9am-5pm on weekdays.

5.4.17 Parking opportunities in the immediate vicinity of the proposed western access for the depot are limited, with 'no waiting and loading at any time' restrictions in place on some sections of the B470 and opportunities beyond this limited by the nature of the road and traffic flows.

5.4.18 Uncontrolled on-street parking is available in Waterside Drive within the Langley Quay.

5.4.19 Parking opportunities in the immediate vicinity of the eastern access are negligible due to ongoing construction opposite the Thorney Lane Business Park access onto Thorney Lane public highway. Heavy on street parking occurs over peak periods on the section of High Street connecting Thorney Lane north and Bangors Road South.

5.4.20 Bus route 58 operates a half hourly service on the B470, serving Uxbridge to the north and Langley and Britwell in the south.

5.4.21 There are no bus routes on either Thorney Lane or North Park.

5.4.22 Langley station is located immediately to the south of the proposed depot location.

5.4.23 Iver station is located to the east of the proposed depot location. The access to the station is via Bathurst Walk off Thorney Lane.

5.4.24 An access path provides dedicated pedestrian access to Langley Station from the south, with the path entrance being located on the B470 opposite the junction with Alderbury Road.

5.4.25 There are no controlled pedestrian crossings along the section of the B470 Langley Park Road / Station Road in the vicinity of the proposed new depot access road or along the section of Thorney Lane in the vicinity of the proposed eastern access point for the new depot.

5.4.26 Advisory cycle lanes are provided on the B470, south of the proposed depot access road.

5.4.27 There is no dedicated cycle provision on Thorney Lane, other than a short section of cycle lane provided at the eastern end of North Park.

5.4.28 The Grand Union Canal passes in an east-west direction immediately north of the proposed depot site access road on the B470. The towpath along this section of the canal is on its southern bank with access available from the B470 Langley Park Road and further to the east on Hollow Hill Lane.

Assessment methodology

5.4.29 The assessment scope, key assumptions and limitations for traffic and transport are largely as set out in Volume 1, the SMR (Volume 5: Appendix CT-001 -000/1) and the SMR Addendum (Volume 5: Appendix CT-001-000/2) of the main ES. However, recognising the timing of the construction of the proposed HEx depot, construction impacts are considered against a 2018 future baseline in place of the 2021 baseline used for HS2 generally.

5.4.30 The study area includes the strategic transport network that comprises of the A4 and M4 to the south, the A40 & M40 to the north, the M25 to the east and local roads affected by the scheme.

5.4.31 The impacts on traffic and transport have been assessed quantitatively, based on baseline traffic conditions and future projection scenarios. Construction traffic has been assessed on the assumption that all excavated material from the work sites will be removed by road.

5.4.32 The baseline forecast traffic flows for the future years of assessment have been derived using overall growth forecasts based on TfL's WeLHAM model, which has also been used for the CFA areas to the east in the main TA. Growth factors from the Department for Transport's traffic forecasting tool, Trip End Model Presentation Program (TEMPRO[1]), were also reviewed in determining forecast road traffic growth.

5.4.33 Engagement has been undertaken with the key transport authorities Slough Borough Council, Buckinghamshire County Council, South Bucks District Council and also with TfL.

Future baseline

5.4.34 Forecast traffic growth in the area, in peak hours to 2018 and beyond without the scheme is expected to be very similar to that within the M25, which TfL modelling indicates is approximately zero growth. For this assessment background traffic levels have been taken as unchanged from 2014 levels, although it is recognised that there is likely to be further peak spreading with limited traffic growth on roads outside the peak periods.

[1] Department for Transport's Trip End Model Presentation Program

Construction baseline

5.4.35 Construction activities have been assessed against 2018 baseline traffic flows, irrespective of when they occur in the construction period. TfL's traffic models indicate that changes to future baseline traffic volumes on the A40 to the immediate north during peak hours are expected to be close to zero or reduce between 2012 and 2018 and unchanged traffic levels are the basis of this assessment. TEMPRO indicates peak hour growth of up to 0.5 per cent per annum between years 2014 and 2021. This is not considered to represent a material difference for the assessment.

Operation (2026)

5.4.36 The assessment of operations of the depot facility is based on no changes to background traffic levels with zero growth rate in background peak hour traffic between 2012 and 2026.

Operation (2041)

5.4.37 The assessment of operations of the depot facility is based on no changes to background traffic levels with zero growth rate in background peak hour traffic between 2012 and 2041.

Construction description

5.4.38 The construction of the proposed HEx depot near Langley will be managed from compounds. The compounds will act as the main interface between the construction work sites and the public highway, as well as performing other functions specific to the structures being built and the works undertaken. Compounds will either be main compounds, or satellite compounds which are generally smaller. Some compounds will be used for civil engineering works and others for railway installation works and in some cases for both.

Compound and construction sites

5.4.39 The compounds used for the Langley site construction and the relevant access are as follows:

- Station Approach satellite compound via Langley Park Road, Thorney Lane North and South.
- HEx depot main compound via Thorney Lane North and South, plus very occasional use of Langley Park Road
- Hollow Hill Lane satellite compound via Thorney Lane North and Thorney Lane South, plus very occasional use of Langley Park Road,
- Hollow Hill Lane main compound via Thorney Lane (North and South), plus very occasional use of Langley Park Road.
- HEx depot east connection satellite compound via Thorney Lane North and South plus very occasional use of Langley Park Road.

5.4.40 During the peak construction period approximately 500 HGV two-way trips per day (52 per hour) and 215 LGV two-way trips per day (22 per hour) are expected to travel to and from the proposed site.

5.4.41 There will also be some employee car trips outside weekday peak hours (8-9 am and 5-6 pm). As noted in 5.4.49, a construction workforce travel plan will be put into operation with the aim of reducing workforce commuting by private car, especially sole occupancy car travel in these periods.

5.4.42 The overall duration of peak HGV movements is estimated to be 12 months.

Construction lorry routes

5.4.43 Construction traffic is expected to travel to/from the proposed depot site primarily using the Thorney Lane access to the east and with a more limited volume via the west access and Station Road. The proposed construction lorry routes are:

- Eastern Access: To/from north of site via – M40/A40 (Junction 1 - Denham Roundabout) – A412, Denham Road – Bangors Road (N & S) – High St – Thorney Lane (N) – Thorney Lane Business Park;
- Eastern Access: To/from south of site via M4 (Junction 5 Langley Roundabout) – London Road –Sutton Lane – North Park – Richings Way –Thorney Lane (S) – Thorney Lane Business Park; and
- Western Access: To/from north of site via – M40/A40 (Junction 1 - Denham Roundabout) –A412 – Wood Lane – Langley Park Road – Station Road – Station Approach.

5.4.44 For construction, the expected directional traffic split for the overall traffic will be 10% via the west access northwards, 70% via the east access northwards, and 20% via the east access southwards to the A4. Access to the motorway network is via the M40, to the north, and the A4/M4 to the south.

5.4.45 To seek to mitigate the impacts on the High Street, Iver, alternative routes will be considered in discussion with the local authorities.

Avoidance and mitigation measures

5.4.46 The following measures have been included as part of the engineering design of the proposed HEx depot and will avoid or reduce impacts on transport users:

- where reasonably practicable road closure will be limited to overnight and/or weekends, although traffic management is required for reconstruction of Hollow Hill Lane;
- maintaining a limited traffic flow (e.g. through one-way or shuttle working) and introducing short term local traffic diversions where necessary; and
- HGV routeing as far as reasonably practicable along the strategic road network and using designated routes for access, as shown in maps CT-05-154 and CT-05-155 in the SES and AP2 Volume 2 Map Book).

5.4.47 The draft Code of Construction Practice (CoCP, see main ES: Volume 5: Appendix CT-003-000) includes measures which seek to reduce the impacts of deliveries of construction materials and equipment, including reducing construction lorry trips, especially during peak background traffic periods. The draft CoCP includes HGV management and control measures.

5.4.48 Where reasonably practicable, the number of private car trips to and from the site (both workforce and visitors) will be reduced by encouraging the use of alternative modes of transport or vehicle sharing. This will be supported by an over-arching framework travel plan that will require travel plans to be used, along with a range of potential measures to mitigate the impacts of traffic and transport movements associated with construction of the proposed HEx depot. As part of this, a construction workforce travel plan will be put into operation with the aim of reducing workforce commuting by private car, especially sole occupancy car travel. Where reasonably practicable, particularly in the rural context, this will encourage the use of sustainable modes of transport or vehicle sharing.

5.4.49 The measures in the draft CoCP (Section 14) includes clear controls on vehicle types, hours of site operation, and routes for heavy goods vehicles, to reduce the impacts of road based construction traffic. In order to achieve this, generic and site specific management measures will be implemented during construction of the Proposed Scheme on or adjacent to public roads, bridleways, footpaths and other PRoW affected by the Proposed Scheme as necessary.

Construction impacts

5.4.50 With regard to traffic and transport, the main issues are changes in traffic during construction and operation, particularly in relation to increased traffic as a result of construction vehicles.

Strategic and local road traffic flows

5.4.51 As noted above, during the peak construction period HGV movements to and from the proposed site will average 500 HGV combined two-way trips/day (equivalent to 26 HGV movements per direction/hour) for approximately 12 months from September 2017, reducing to less than 50 HGVs combined two-way trips/day outside of the peak construction period. The AM and PM construction traffic forecasts on the local road network are presented in Tables 9-14 and 9-15, respectively.

5.4.52 Table 9-14 and 9-15 shows that the impact of HS2 construction traffic on overall traffic volumes in the peak periods is low in both percentage terms (3.5 to 10%) and absolute terms with a maximum increase of 32 vehicles/hour per direction on Denham Road.

5.4.53 Forecast increases in HGV movements are higher in percentage terms:

- A412, Denham Road (an increase of 70% in HGVs during AM peak and 100% during the PM peak);
- Bangors Road (an increase of 300% in HGVs during AM peak and 225% during PM peak); and
- Thorney Lane (an increase of up to 140% in HGVs during the AM and PM peak traffic hours).

Table 9-15: Langley Depot strategic and local road network construction traffic flows - AM peak

Location	Actual location (flow direction)	Survey Data 2014-15		Forecast baseline 2021		2021 construction of depot		Change from 2021 future baseline AM			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Parlaunt Road	Tamar Way towards Heron Drive (Eastbound)	588	19	588	19	588	19	0	0	0%	0%
	Heron Drive towards Tamar Way (Westbound)	385	13	385	13	385	13	0	0	0%	0%
Station Road	Langley Road (S) to Scholar Road (N) (Southbound)	458	3	458	3	458	3	0	0	0%	0%
	Scholar Road (N) to Langley Road (S) (Northbound)	535	9	535	9	535	9	0	0	0%	0%
Langley Park Road	Canal Wharf (S) to Trenches Lane (N) (Northbound)	394	9	394	9	399	12	5	3	1%	33%
	Trenches Lane (N) to Canal Wharf (S) (Southbound)	464	16	464	16	469	19	5	3	1%	19%
Mansion Lane	Mansion Lane towards Hollow Hill Lane (Northbound)	361	5.33	361	5.33	361	5	0	0	0%	0%
	Hollow Hill Lane towards Mansion Lane (Southbound)	343	6	343	6	343	6	0	0	0%	0%
Denham Road	Seven Hill Road towards Denhams Road (North-east bound)	894	28	894	28	926	49	32	21	4%	75%
	Denhams Road to Seven Hill Roads (South west Bound)	1121	30	1121	30	1153	51	32	21	3%	70%

Location	Actual location (flow direction)	Survey Data 2014-15		Forecast baseline 2021		2021 construction of depot		Change from 2021 future baseline AM			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Wood Lane	Langley Park Road to Bellswood Lane (north Bound)	685	12	685	12	690	15	5	3	1%	25%
	Bellswood Lane to Langley Park Road (Southbound)	755	19	755	19	760	22	5	3	1%	16%
Bangors Road South	Coppers Ln (S) to Love Green Lane (S) (northbound)	277	6	277	6	304	24	27	18	10%	300%
	Love Green Lane to Copper Ln (Southbound)	416	11	416	11	443	29	27	18	6%	164%
Thorney Lane North	Ridgeway towards Marina Way (Northbound)	420	13	420	13	447	31	27	18	6%	138%
	Marina Way towards Ridge Way (Southbound)	441	17	441	17	468	35	27	18	6%	106%
North Park	Sutton Lane to Richings Place (Eastbound)	430	19.2	430	19.2	438	24	8	5	2%	26%
	Richings Place to Sutton Lane (Westbound)	360	21	360	21	368	26	8	5	2%	24%
Sutton Lane	Hurricane Way to Grasholm Way (Northbound)	696	10	696	10	704	15	8	5	1%	50%
	Grasholm Way to Hurricane Way (Southbound)	841	13	841	13	849	18	8	5	1%	38%

Table 9-16: Langley Depot strategic and local road network construction traffic flows - PM peak

Location	Actual location (flow direction)	Survey data 2014-15		Forecast baseline 2021		2021 construction of depot		Change from 2021 future baseline PM			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Parlaunt Road	Tamar Way towards Heron Drive (Eastbound)	467	11	467	11	467	11	0	0	0%	0%
	Heron Drive towards Tamar Way (Westbound)	511	9	511	9	511	9	0	0	0%	0%
Station Road	Langley Road (S) to Scholar Road (N) (Southbound)	425	3	425	3	425	3	0	0	0%	0%
	Scholar Road (N) to Langley Road (S) (Northbound)	577	6	577	6	577	6	0	0	0%	0%
Langley Park Road	Canal Wharf (S) to Trenches Lane (N) (Northbound)	474	8	474	8	479	11	5	3	1%	38%
	Trenches Lane (N) to Canal Wharf (S) (Southbound)	402	11	402	11	407	14	5	3	1%	27%
Mansion Lane	Mansion Lane towards Hollow Hill Lane (Northbound)	321	4	321	4	321	4	0	0	0%	0%
	Hollow Hill Lane towards Mansion Lane (Southbound)	364	6	364	6	364	6	0	0	0%	0%
Denham Road	Seven Hill Road towards Denhams Road (North-east bound)	1378	22	1378	22	1410	43	32	21	2%	95%
	Denhams Road to Seven Hill Roads (South west Bound)	1096	20	1096	20	1128	41	32	21	3%	105%

Location	Actual location (flow direction)	Survey data 2014-15		Forecast baseline 2021		2021 construction of depot		Change from 2021 future baseline PM			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Wood Lane	Langley Park Road to Bellswood Lane (north Bound)	741	13	741	13	746	16	5	3	1%	23%
	Bellswood Lane to Langley Park Road (Southbound)	661	12	661	12	666	15	5	3	1%	25%
Bangors Road South	Coppers Ln (S) to Love Green Lane (S) (northbound)	412	8	412	8	439	26	27	18	7%	225%
	Love Green Lane to Copper Ln (Southbound)	311	8	311	8	338	26	27	18	9%	225%
Thorney Lane North	Ridgeway towards Marina Way (Northbound)	493	13	493	13	520	31	27	18	5%	138%
	Marina Way towards Ridge Way (Southbound)	386	13	386	13	413	31	27	18	7%	138%
North Park	Sutton Lane to Richings Place (Eastbound)	369	18	369	18	377	23	8	5	2%	28%
	Richings Place to Sutton Lane (Westbound)	464	14	464	14	472	19	8	5	2%	36%
Sutton Lane	Hurricane Way to Grasholm Way (Northbound)	839	9	839	9	847	14	8	5	1%	56%
	Grasholm Way to Hurricane Way (Southbound)	591	10	591	10	599	15	8	5	1%	50%

5.4.54 The increases in construction traffic on the A412 Denham Road, Bangors Road and Thorney Lane is likely to result in some limited additional delay and congestion at the following locations;

- A412 Denham Road/Bangors Road North;
- Bangors Road/A4007 Slough Road
- Bangors Road South/Iver High Street
- Iver High Street/Thorney Lane North

5.4.55 There will also be limited impacts on the A40 Denham roundabout, which is in CFA7.

Local bus and coach

5.4.56 Apart from the general impact of congestion, the proposed HEx depot is expected to have little impact on bus routes with no proposed diversions of scheduled services.

Pedestrians, cyclists and equestrians

5.4.57 There will be limited temporary diversion of footpaths IVE/15A/1, IVE/17/5, and WEX/18/3 in the proximity of the proposed HEx depot, including the Canal towpath. However these diversions will be short term (typically over periods of not more than a few days).

Operation description

5.4.58 Staff numbers for the Langley Hex deport are shown in Table 9-17.

5.4.59 The proposed Langley Hex depot is expected to operate 24 hours a day, seven days a week in two shifts with the principal access from Langley Park Road. During operations, there are expected to be fewer than 10 HGVs arriving at the depot per day on average.

5.4.60 There will be only limited and occasional maintenance vehicle access to the HEx depot from the eastern side via Thorney Lane Business Park with no general staff or visitor access from Thorney Lane.

5.4.61 Drivers based at the depot will normally travel outside the AM and PM peak traffic periods (7-10am and 1600-1900hrs) and need to travel by car. Consequently, their movement will have very little impact on the peak hour traffic flow.

Table 9-17: Summary of HEX Depot Day Shift Staff numbers (Source: NR HEX OOC Depot Relocation Migration Strategy)

Activity/location	Staff numbers	Shift
Maintenance shed team	24	4 teams of 6 - working 12-hour day and 12-hour nights, 3 days on 3 days off
Offices and workshops staff	30	Permanent staff working the day shift

Activity/location	Staff numbers	Shift
Average full time staff	36	Average number of permanent working staff working during day shift.
Contractors (maximum)	20	Variable number of contractors working during day shift ranging between 0-20
Total including contractors	56	

5.4.62 Approximately 30-40 full time staff will work on the site during the day shift. This does not include the drivers or the contractors that will visit the depot during the day. The depot will require up to 50 parking spaces available for their permanent staff, drivers, visitors and contractors combined.

5.4.63 It is expected that only permanent staff and some contractors working the day shift will arrive at the depot during the peak hours

5.4.64 It has been assumed that up to 25 vehicles will arrive at or leave the depot during the peak hours distributed as follows:

- 15 trips to/from the main entrance to Denham Road via Langley Park Road
- 5 trips to/from the main entrance to the south on Station Road, and
- 5 trips to/from the eastern access to local roads.

Operation impacts

5.4.65 This section considers the operational impacts of the proposed HEx depot on the surrounding local road network.

5.4.66 The forecast AM and PM peak hour traffic increases on the surrounding local road network are shown in Tables 9-18 and 9-19, respectively.

5.4.67 Recognising that staff will arrive from both north and south and the low level of operational access, when compared to the peak background traffic flows, the operational flows represent an increase of between 1 to 3 % on the roads shown in Tables 9-18 and 9-19. Therefore, operational traffic to and from the depot will not result in any material traffic impact on the local road network.

Pedestrians, cyclists and equestrians

5.4.68 There are no operational impacts on pedestrians, cyclists and equestrians as footpaths IVE/15A/1, IVE/17/5, and WEX/18/3 will not be permanently affected.

Table 9-18: Langley Hex Depot strategic and local road network operation traffic flows - AM peak

Location	Actual Location (Flow Direction)	Survey Data 2014-15		Forecast baseline 2026		2026 operational test		Change from 2026 future baseline AM			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Parlaunt Road	Tamar Way towards Heron Drive (Eastbound)	588	19	588	19	590	19	2	0	0%	0%
	Heron Drive towards Tamar Way (Westbound)	385	13	385	13	387	13	2	0	1%	0%
Station Road	Langley Road (S) to Scholar Road (N) (Southbound)	458	3	458	3	463	3	5	0	1%	0%
	Scholar Road (N) to Langley Road (S) (Northbound)	535	9	535	9	540	9	5	0	1%	0%
Langley Park Road	Canal Wharf (S) to Trenches Lane (N) (Northbound)	394	9	394	9	409	9	15	0	4%	0%
	Trenches Lane (N) to Canal Wharf (S) (Southbound)	464	16	464	16	479	16	15	0	3%	0%
Mansion Lane	Mansion Lane towards Hollow Hill Lane (Northbound)	361	5.33	361	5.33	362	5	1	0	0%	0%
	Hollow Hill Lane towards Mansion Lane (Southbound)	343	6	343	6	344	6	1	0	0%	0%
Denham Road	Seven Hill Road towards Denhams Road (North-east bound)	894	28	894	28	909	28	15	0	2%	0%
	Denhams Road to Seven Hill Roads (South west Bound)	1121	30	1121	30	1136	30	15	0	1%	0%

Location	Actual Location (Flow Direction)	Survey Data 2014-15		Forecast baseline 2026		2026 operational test		Change from 2026 future baseline AM			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Wood Lane	Langley Park Road to Bellswood Lane (north Bound)	685	12	685	12	700	12	15	0	2%	0%
	Bellswood Lane to Langley Park Road (Southbound)	755	19	755	19	770	19	15	0	2%	0%
Bangors Road South	Coppers Ln (S) to Love Green Lane (S) (northbound)	277	6	277	6	279	6	2	0	1%	0%
	Love Green Lane to Copper Ln (Southbound)	416	11	416	11	418	11	2	0	0%	0%
Thorney Lane North	Ridgeway towards Marina Way (Northbound)	420	13	420	13	422	13	2	0	0%	0%
	Marina Way towards Ridge Way (Southbound)	441	17	441	17	443	17	2	0	0%	0%
North Park	Sutton Lane to Richings Place (Eastbound)	430	19.2	430	19.2	432	19	2	0	0%	0%
	Richings Place to Sutton Lane (Westbound)	360	21	360	21	362	21	2	0	1%	0%
Sutton Lane	Hurricane Way to Grasholm Way (Northbound)	696	10	696	10	698	10	2	0	0%	0%
	Grasholm Way to Hurricane Way (Southbound)	841	13	841	13	843	13	2	0	0%	0%

Table 9-19: Langley Hex Depot strategic and local road network operation traffic flows - PM peak

Location	Actual location (flow direction)	Survey data 2014-15		Forecast baseline 2026		2026 operational test		Change from 2026 future baseline PM			
		All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh	HGVs	All veh %	HGVs %
Parlaunt Road	Tamar Way towards Heron Drive (Eastbound)	467	11	467	11	469	11	2	0	0%	0%
	Heron Drive towards Tamar Way (Westbound)	511	9	511	9	513	9	2	0	0%	0%
Station Road	Langley Road (S) to Scholar Road (N) (Southbound)	425	3	425	3	430	3	5	0	1%	0%
	Scholar Road (N) to Langley Road (S) (Northbound)	577	6	577	6	582	6	5	0	1%	0%
Langley Park Road	Canal Wharf (S) to Trenches Lane (N) (Northbound)	474	8	474	8	489	8	15	0	3%	0%
	Trenches Lane (N) to Canal Wharf (S) (Southbound)	402	11	402	11	417	11	15	0	4%	0%
Mansion Lane	Mansion Lane towards Hollow Hill Lane (Northbound)	321	4	321	4	322	4	1	0	0%	0%
	Hollow Hill Lane towards Mansion Lane (Southbound)	364	6	364	6	365	6	1	0	0%	0%
Denham Road	Seven Hill Road towards Denhams Road (North-east bound)	1378	22	1378	22	1393	22	15	0	1%	0%
	Denhams Road to Seven Hill Roads (South west Bound)	1096	20	1096	20	1111	20	15	0	1%	0%

Wood Lane	Langley Park Road to Bellswood Lane (north Bound)	741	13	741	13	756	13	15	0	2%	0%
	Bellswood Lane to Langley Park Road (Southbound)	661	12	661	12	676	12	15	0	2%	0%
Bangors Road South	Coppers Ln (S) to Love Green Lane (S) (northbound)	412	8	412	8	414	8	2	0	0%	0%
	Love Green Lane to Copper Ln (Southbound)	311	8	311	8	313	8	2	0	1%	0%
Thorney Lane North	Ridgeway towards Marina Way (Northbound)	493	13	493	13	495	13	2	0	0%	0%
	Marina Way towards Ridge Way (Southbound)	386	13	386	13	388	13	2	0	1%	0%
North Park	Sutton Lane to Richings Place (Eastbound)	369	18	369	18	371	18	2	0	1%	0%
	Richings Place to Sutton Lane (Westbound)	464	14	464	14	466	14	2	0	0%	0%
Sutton Lane	Hurricane Way to Grasholm Way (Northbound)	839	9	839	9	841	9	2	0	0%	0%
	Grasholm Way to Hurricane Way (Southbound)	591	10	591	10	593	10	2	0	0%	0%

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