

Lower Thames Crossing

9.152 Responses to the Examining Authority's ExQ2 Appendix B – 4 Traffic & Transportation

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1 Introduction

1.1 Introduction

- 1.1.1 This document has been prepared by the Applicant to set out its responses to the ExQ2 Examining Authority's (ExA's) written questions and requests for information (ExQ2) [PD-040].
- 1.1.2 These can be found in Tables set out under the following headings:
 - a. Climate Change and carbon emissions (Found in Appendix A)
 - b. Traffic and transportation (Found in Appendix B)
 - c. Air quality (Found in Appendix C)
 - d. Geology and soils (Found in Appendix D)
 - e. Tunnelling considerations (Found in Appendix D)
 - f. Waste and materials (Found in Appendix D)
 - g. Noise and vibration (Found in Appendix E)
 - h. Road Drainage, water environment and flooding (Found in Appendix F)
 - i. Biodiversity (Found in Appendix G)
 - j. Physical effects of development and operation (Found in Appendix H)
 - k. Social, economic and land-use considerations (Found in Appendix I)
 - I. The acquisition and temporary possession of land and rights (Found in Appendix J)
 - m. General overarching questions (Found in Appendix J)

2 Responses to the Examining Authority's ExQ2 4

PINS ID	Question to:	Question / Response
ExQ2_Q4.1.1	Thurrock Council/ Applicant	A128 future development References have been made to additional planned developments along the A128 north of the Orsett Cock Junction. To the extent that these are relied upon as providing a basis for the design capacity of the junction as proposed, Thurrock Council is asked to provide a tabulated list of the developments, describing their stage in the development process (eg local plan allocation, planning application submitted, planning permission granted, under construction etc.) and summarising the traffic implications for the junction arising from them. The Applicant is requested provide observations on this table at Deadline 7.
		Response: The Applicant awaits the tabulated list of development from Thurrock Council, including their stage in the development process and summary of the traffic implications for the junction arising from them. As requested, the Applicant will provide observations on this table at Deadline 7.
ExQ2_Q4.1.2	Applicant	NTEM 8 sensitivity test In the NTEM 8 and Common Analytical Scenarios [REP3-145] document submitted at D3, the Applicant chose to compare the 2030 v7.2 flows with 2032 v8 flows. Can the Applicant explain the rationale for this and whether there would have been a materially different result if a 2030 assessment year had been used?
		Response: The rationale for presenting a comparison between 2030 TEMPro 7.2 flows against 2032 TEMPro 8 flows within NTEM 8 and Common Analytical Scenarios [REP3-145] was to demonstrate the combined effect of elements of the assessment that had changed since the original modelling submitted with the Development Consent Order (DCO) application was undertaken on the core scenario and for each of the Common Analytical Scenarios of the CAS presented in this report show that the variation from the core scenario presented within the DCO application would be small and would not affect the case for the Project. The changes were to the National Trip End Model (NTEM) version (from 7.2 to 8), revised traffic forecasts for goods vehicles (National Road Traffic Forecasts (NRTF) 181 to National Road Traffic Projections (NRTP)

¹ Department for Transport (2018). Road Traffic Forecasts 2018. https://www.gov.uk/government/publications/road-traffic-forecasts-2018

PINS ID	Question to:	Question / Response
		222) and to take into account the change in opening year (as a result of the Written Ministerial Statement of 9 March 2023). The report also included revised coding of the network to incorporate an updated dataset of records of existing traffic restrictions, including bans on vehicles of specific weight, on the highway network. This new dataset allowed for the more accurate inclusion of Heavy Goods Vehicle (HGV) bans across the modelled area.
		As shown in Table 7, there is little difference between the traffic growth forecasts in 2030 irrespective of whether NTEM 7.2 and NRTF 18 or NTEM 8 and NRTP 22 growth factors are used.
		The impact of the change from NTEM 7.2 traffic growth factors for cars and NRTF 18 growth factors for goods vehicles to NTEM 8 traffic growth factors for cars and NRTP 22 growth factors for goods vehicles, with a common opening year of 2030 and design year of 2045 can be seen by comparing the forecast flows from Scenario 1 with those for Scenario 2. This is shown in Table 1 to Table 6. These are comparable with the same tables comparing Scenario 1 with Scenario 4 which are presented in Tables 4.1 to 4.6 in NTEM 8 and Common Analytical Scenarios [REP3-145].

² Department for Transport (2022). National Road Traffic Projections 2022. https://www.gov.uk/government/publications/national-road-traffic-projections

PINS ID	Question to:	Question / Response Table 1 Comparison of cross river flow, opening year, AM Peak Hour								
		Model ID	Description	Year	Dartford Crossing					
					Cars	LGVs	HGVs	Total, PCUs		
		CM49	TEMPro 7.2 DM	2030	7,210	3,110	5,700	16,020		
		CM49_T8C2	TEMPro 8 DM Core	2030	6,970	3,230	5,860	16,060		
		Change in flows, act	-240	119	159	38				
		Change in flows, per	centage		-3.3%	3.8%	2.8%	0.2%		
		CS72	TEMPro 7.2 DS	2030	6,640	2,550	4,090	13,280		
		CS72_T8C2	TEMPro 8 DS Core	2030	6,460	2,640	4,180	13,280		
		Change in flows, act	ual	-179	96	86	3			
		Change in flows, per	centage		-2.7%	3.8%	2.1%	0.0%		
		Model ID	Description	Year	Lower Tham	nes Crossing				
					Cars	LGVs	HGVs	Total, PCUs		
		CS72	TEMPro 7.2 DS	2030	5,060	880	2,100	8,040		
		CS72_T8C2	TEMPro 8 DS Core	2030	4,890	920	2,190	8,000		
		Change in flows, act	ual	•	-170	38	91	-41		
		Change in flows, per	centage		-3.4%	4.3%	4.3%	-0.5%		
		Change in flows, per	centage		-3.4%	4.3%	4.3%	-0.5%		

PINS ID	Question to:	Question / Response	•							
		Table 2 Comparison of cross river flow, design year, AM Peak Hour								
		Model ID	Model ID Description Year			Dartford Crossing				
					Cars	LGVs	HGVs	Total, PCUs		
		CM49	TEMPro 7.2 DM	2045	7,300	3,440	5,520	16,260		
		CM49_T8C2	TEMPro 8 DM Core	2045	7,010	3,600	5,690	16,300		
		Change in flows, actual		-	-293	165	173	45		
		Change in flows, perce	ntage		-4.0%	4.8%	3.1%	0.3%		
		CS72	TEMPro 7.2 DS	2045	7,500	2,960	4,410	14,870		
		CS72_T8C2	TEMPro 8 DS Core	2045	7,190	3,090	4,500	14,780		
		Change in flows, actual	-	-	-305	127	90	-88		
		Change in flows, perce	ntage		-4.1%	4.3%	2.0%	-0.6%		
		Model ID	Description	Year	Lower Than	nes Crossing				
					Cars	LGVs	HGVs	Total, PCUs		
		CS72	TEMPro 7.2 DS	2045	5,800	1,040	2,110	8,940		
		CS72_T8C2	TEMPro 8 DS Core	2045	5,490	1,100	2,200	8,790		
		Change in flows, actual	-	-	-306	56	94	-156		
		Change in flows, perce	ntage		-5.3%	5.4%	4.5%	-1.7%		

PINS ID	Question to:	Question / Respons	e							
		Table 3 Comparison of cross river flow, opening year, IP Peak Hour								
		Model ID	Model ID Description Year			Dartford Crossing				
					Cars	LGVs	HGVs	Total, PCUs		
		CM49	TEMPro 7.2 DM	2030	6,330	1,760	6,310	14,410		
		CM49_T8C2	TEMPro 8 DM Core	2030	6,100	1,830	6,510	14,450		
		Change in flows, actua	al	•	-230	68	200	38		
		Change in flows, perce	entage		-3.6%	3.9%	3.2%	0.3%		
		CS72	TEMPro 7.2 DS	2030	5,410	1,350	4,010	10,780		
		CS72_T8C2	TEMPro 8 DS Core	2030	5,240	1,410	4,140	10,780		
		Change in flows, actua	al	•	-173	51	124	2		
		Change in flows, perce	entage		-3.2%	3.8%	3.1%	0.0%		
		Model ID	Description	Year	Lower Than	nes Crossing				
					Cars	LGVs	HGVs	Total, PCUs		
		CS72	TEMPro 7.2 DS	2030	3,510	490	2,500	6,510		
		CS72_T8C2	TEMPro 8 DS Core	2030	3,380	510	2,600	6,490		
		Change in flows, actua	al		-135	21	94	-20		
		Change in flows, perce	entage		-3.8%	4.3%	3.8%	-0.3%		

PINS ID	Question to:	Question / Respons	se						
		Table 4 Comparison of cross river flow, design year, IP Peak Hour							
		Model ID	Description	Year	Dartford Cro	ossing			
					Cars	LGVs	HGVs	Total, PCUs	
		CM49	TEMPro 7.2 DM	2045	7,040	2,010	6,610	15,660	
		CM49_T8C2	TEMPro 8 DM Core	2045	6,650	2,110	6,820	15,580	
		Change in flows, actu	lal		-387	96	211	-80	
		Change in flows, per	centage		-5.5%	4.8%	3.2%	-0.5%	
		CS72	TEMPro 7.2 DS	2045	6,590	1,620	4,560	12,770	
		CS72_T8C2	TEMPro 8 DS Core	2045	6,230	1,680	4,630	12,550	
		Change in flows, actu	Jal		-359	67	66	-226	
		Change in flows, per	centage		-5.4%	4.1%	1.4%	-1.8%	
		Model ID	Description	Year	Lower Than	nes Crossing			
					Cars	LGVs	HGVs	Total, PCUs	
		CS72	TEMPro 7.2 DS	2045	4,530	590	2,470	7,590	
		CS72_T8C2	TEMPro 8 DS Core	2045	4,200	620	2,620	7,440	
		Change in flows, actu	Jal		-333	30	150	-153	
		Change in flows, per	centage		-7.4%	5.1%	6.1%	-2.0%	

PINS ID	Question to:	Question / Response	e							
		Table 5 Comparison of cross river flow, opening year, PM Peak Hour								
		Model ID	Description	Year	Dartford Cr	Dartford Crossing				
					Cars	LGVs	HGVs	Total, PCUs		
		CM49	TEMPro 7.2 DM	2030	9,230	2,060	4,020	15,310		
		CM49_T8C2	TEMPro 8 DM Core	2030	9,040	2,140	4,160	15,330		
		Change in flows, actua	al		-198	81	136	19		
		Change in flows, perce	entage		-2.1%	3.9%	3.4%	0.1%		
		CS72	TEMPro 7.2 DS	2030	7,830	1,620	2,580	12,020		
		CS72_T8C2	TEMPro 8 DS Core	2030	7,670	1,670	2,650	11,990		
		Change in flows, actua	al		-154	53	71	-30		
		Change in flows, perce	entage		-2.0%	3.3%	2.8%	-0.2%		
		Model ID	Description	Year	Lower Than	nes Crossing				
					Cars	LGVs	HGVs	Total, PCUs		
		CS72	TEMPro 7.2 DS	2030	5,880	550	1,550	7,990		
		CS72_T8C2	TEMPro 8 DS Core	2030	5,730	590	1,620	7,940		
		Change in flows, actua	al		-155	33	74	-48		
		Change in flows, perce	entage		-2.6%	5.9%	4.8%	-0.6%		

PINS ID	Question to:	Question / Response	e					
		Table 6 Comparison of cross river flow, design year, PM Peak Hour						
		Model ID	Description	Year	Dartford Cro	ossing		
					Cars	LGVs	HGVs	Total, PCUs
		CM49	TEMPro 7.2 DM	2045	9,740	2,350	4,190	16,280
		CM49_T8C2	TEMPro 8 DM Core	2045	9,440	2,460	4,320	16,220
		Change in flows, actua	al		-305	115	136	-54
		Change in flows, perce	entage		-3.1%	4.9%	3.2%	-0.3%
		CS72	TEMPro 7.2 DS	2045	8,840	1,870	2,830	13,540
		CS72_T8C2	TEMPro 8 DS Core	2045	8,580	1,920	2,890	13,400
		Change in flows, actua	al		-263	53	64	-146
		Change in flows, perce	entage		-3.0%	2.8%	2.3%	-1.1%
		Model ID	Description	Year	Lower Than	nes Crossing		
					Cars	LGVs	HGVs	Total, PCUs
		CS72	TEMPro 7.2 DS	2045	6,690	640	1,500	8,830
		CS72_T8C2	TEMPro 8 DS Core	2045	6,370	690	1,590	8,640
		Change in flows, actua	al		-315	44	85	-186
		Change in flows, perce	entage		-4.7%	6.9%	5.7%	-2.1%
		The traffic growth fore forecasts. This is offs Traffic Projections 20 Table 7 shows the pe Crossing when the or 7.2 and NRTF 18. This 22 traffic forecasts are	ecasts are slightly et by the growth f 22 ³ than in the Ro rcentage change nly change in the is is summarised e higher than the	lower for c actors for g bad Traffic in total traf traffic mode from Table NTEM 7.2	ars in the TEN poods vehicles Forecasts 201 fic flows at the elling is the use s 1 to 6. A pos / NRTF 18 fore	/IPro 8 core so generally beir 8 ⁴ . e Dartford Cros e of NTEM 8 a sitive value sho ecasts.	enario than in ng higher in the ssing and the L and NRTP 22 r bws where the	the TEMPro 7.2 National Road ower Thames ather than NTEM NTEM 8 / NRTP

³ Department for Transport (2022). National Road Traffic Projections 2022. https://www.gov.uk/government/publications/national-road-traffic-projections ⁴ Department for Transport (2018). Road Traffic Forecasts 2018. https://www.gov.uk/government/publications/road-traffic-forecasts-2018

PINS ID	Question to:	Question / Res	oonse						
		The greatest change is at the Lower Thames Crossing in 2045 in the PM peak hour where the traffic forecast is 2.1% lower with the change in traffic growth forecasts. This shows that there is not a materially different result in traffic flows as a result of the change in the Department for Transport's traffic growth forecasts published in November and December 2022.							
		Year	Scenario	AM Peak Hour	Interpeak Hour	PM Peak Hour			
			Dartford Crossing, without Project	0.2%	0.3%	0.1%			
		2030	Dartford Crossing, with Project	0.0%	0.0%	-0.2%			
			Lower Thames Crossing	-0.5%	-0.3%	-0.6%			
			Dartford Crossing, without Project	0.3%	-0.5%	-0.3%			
		2045	Dartford Crossing, with Project	-0.6%	-1.8%	-1.1%			
			Lower Thames Crossing	-1.7%	-2.0%	-2.1%			
ExQ2_Q4.1.3	Applicant	HGV bans In its Deadline 4 Submission 'Comments on Applicant's submissions at D3' Thurrock Council h concerns regarding the use of HGV bans in the Applicant's modelling [<u>REP4-354</u> , paras 11.2.1 Applicant please respond to these comments?							
		Response: Thurrock Counce the application of Council) by the A that it 'considers the DCO modell 'consider[s] that runs and the presented The Applicant di (LTAM) since the presented in Tall shown below, with	il raised concerns in Comments on the Appli f updated Heavy Goods Vehicle (HGV) ban Applicant within NTEM 8 and Common Analy that the inclusion of such network updates ing previously presented and the new NTEM these changes mean a fair and valid compa- toriously presented modelling'. sagrees. The model runs undertaken by the submission of the Development Consent Co ole 3.1 of NTEM 8 and Common Analytical S nich shows the core scenarios runs in the fir	cant's submissions information (terme ytical Scenarios [R does not allow for <i>Iv8 modelling</i> '. The rison cannot be m Applicant using th Order (DCO) applic Scenarios [REP3-1 st four rows.	s at D3 [<u>REP4-</u> d network upda <u>EP3-145</u>]. The <i>a direct compar</i> Council also s <i>ade between th</i> the Lower Thame ation in Octobe <u>45</u>]. An extract	354] regarding ites by the Council states <i>ison between</i> tates that it <i>ie new NTEMv8</i> es Area Model of this table is			

PINS ID	Question to:	Question / Response									
		Table 3.1 LTAM runs									
		Scenario Number	Scenario	Run ID	Based on	Changes from base run	Modelled opening year				
		1	TEMPro 7.2 Core	CM49 (DM) CS72 (DS)	DCO network	NTEM7.2 growth for core scenario Goods Vehicle (GV) growth based on RTF18	2030				
		2	TEMPro 8 Core	CM49_T8C2 (DM) CS72_T8C2 (DS)	DCO network	NTEM8 growth for core scenario GV growth based on National Road Traffic Projections 2022 (NRTP22) (DfT, 2022b)	2030				
		3	TEMPro 8 Core	CMT04 (DM) CST04 (DS)	Revised Heavy Goods Vehicle (HGV) bans	NTEM8 growth for core scenario GV growth based on NRTP22	2030				
		4	TEMPro 8 Core	CMT06 (DM) CST06 (DS)	Revised HGV bans	NTEM8 growth for core scenario GV growth based on NRTP22	2032				

PINS ID	Question to:	Question / Response		
		The impact of the change in traffic growth factors alone which provides the comparison sought by the Council, can be seen by comparing Scenario 1 (National Trip End Model (NTEM) 7.2 growth factors for cars and 2018 National Road Traffic Forecasts (NRTF) ⁵ for goods vehicles), as presented in the DCO application, with Scenario 2 (NTEM 8.0 growth factors for cars and 2022 National Road Traffic Projections (NRTP) ⁶ for goods vehicles). The impact of using the newly available traffic restriction data can be seen by comparing Scenario 2 with Scenario 3.		
		The impact of the Written Ministerial Statement (of 9 March 2023), which rephased the construction programme for the Project by two years (thereby changing the opening year to 2032) can be seen by comparing Scenario 3 with Scenario 4.		
		The NTEM 8 Common Analytical Scenarios model runs were carried out after the Written Ministerial Statement and were therefore based on the same criteria as Scenario 4 (a 2032 opening date, NTEM 8 growth and revised HGV bans). The Applicant does not consider it proportionate or necessary to repeat this extensive modelling exercise for Scenarios 2 and 3 in order to provide the comparison requested by Thurrock Council (and again would highlight paragraph 4.6 of the NN NPS in this context).		
ExQ2_Q4.1.6	Q2_Q4.1.6 Applicant Engagement Update			
		Can the Applicant please provide an updated Table A.1 (Traffic Modelling Workshops) [<u>REP3-126</u>] to reflect meetings and/or workshops held since November 2022?		
Response:		Response:		
		The Applicant has provided an updated version of Table A.1 below. It should be noted that some of the meetings listed were held with Interested Parties other than Thurrock Council, including Essex County Council, Port of Tilbury London Limited, DP World London Gateway, Thames Enterprise Park Ltd and Morzine Ltd (Thames Oilport).		
		The Applicant notes that the table within the Localised Traffic Modelling [<u>REP3-126</u>], contained an error in that the numbering of the workshops skipped item 9, although all of the workshops were listed. This is corrected in this version below.		
		The additional meetings identified in this update to the table are those from item number 25, on 9 December 2022.		

⁵ Department for Transport (2018). Road Traffic Forecasts 2018. https://www.gov.uk/government/publications/road-traffic-forecasts-2018 ⁶ Department for Transport (2022). National Road Traffic Projections 2022. https://www.gov.uk/government/publications/national-road-traffic-projections

PINS ID	Question to:	Question / Response		
		Table 8 Updated Table A.1 Traffic modelling workshops		
		Workshop Number	Workshop Date	
		1	Oct 21 and Nov 21	
		2	22-Nov-21	
		3	14-Dec-21	
		4	06-Jan-22	
		5	20-Jan-22	
		6	03-Feb-22	
		7	17-Feb-22	
		8	03-Mar-22	
		9	31-Mar-22	
		10	14-Apr-22	
		11	28-Apr-22	
		12	12-May-22	
		13	26-May-22	
		14	09-Jun-22	
		15	23-Jun-22	
		16	07-Jul-22	
		17	21-Jul-22	
		18	18-Aug-22	
		19	15-Sep-22	
		20	06-Oct-22	
		21	13-Oct-22	

PINS ID	Question to:	Question / Response	
		22	27-Oct-22
		23	11-Nov-22
		24	24-Nov-22
		25	9-Dec-22
		26	15-Dec-22
		27	19-Jun-23
		28	14-Jul-23
		29	16-Aug-23
		30	25-Sep-23
		31	16-Oct-23
		32	31-Oct-23

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