

# Lower Thames Crossing 9.184 Sensitivity Analysis on Environmental Assessments for 2 Year Rephasing, NTEM 8 and Revised Traffic Forecasts for Good Vehicles

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## Lower Thames Crossing

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### List of contents

	<b>Page number</b>
1 Introduction .....	1
2 Environmental Sensitivity Analysis .....	2
References .....	4
Glossary .....	5

# 1 Introduction

- 1.1.1 The Applicant provided, in its letter of 30 March 2023 [[AS-086](#)], confirmation of the implications for the Project of the Written Ministerial Statement (UK Parliament, 2023) indicating a two-year rephasing of construction. That letter confirmed that the Applicant does not consider it necessary to provide an update to the Application Documents setting out the environmental and transport assessments. This position remains unchanged.
- 1.1.2 Subsequently, in response to post-hearing actions arising from Issue Specific Hearing 1, the Applicant submitted an update to the Environmental Statement (ES) Addendum at Deadline 2 [[REP2-040](#)], Appendix D of which provided an appraisal of the environmental effects arising from the Written Ministerial Statement. Paragraph D.4.3 confirmed, *'In conclusion, the appraisal has confirmed the Applicant's position that the ES as submitted, reflects a worst-case scenario and accommodates a proportionate degree for flexibility around the timing of construction, which would allow for the two-year rephasing of construction. The Applicant considers that the ES provides conclusions that remain robust for the purpose of making a decision on the Project, despite a change to the dates for construction and opening of the road to traffic'*. This position remains unchanged.
- 1.1.3 Notwithstanding the above, having regard to submissions from Interested Parties, the Applicant provided some sensitivity analysis reviewing the traffic effects of the two-year rephasing in NTEM 8 and Common Analytical Scenarios [[REP3-145](#)] submitted to the Examination at Deadline 3 in August 2023. The sensitivity analysis also incorporated the NTEM 8 updated traffic growth factors and DfT revised traffic forecasts for goods vehicles. Fuller details of the sensitivity analysis and the parameters included can be found in NTEM 8 and Common Analytical Scenarios [[REP3-145](#)].
- 1.1.4 Following on from the traffic work reported in NTEM 8 and Common Analytical Scenarios [[REP3-145](#)], the Applicant has been undertaking sensitivity analysis with respect to the air quality and noise models to consider the effect of traffic data reflecting the two-year rephasing, NTEM 8 and revised traffic forecasts for goods vehicles.
- 1.1.5 The sensitivity analysis has now concluded and it confirms that, as expected, there are some localised changes to modelled traffic-related impacts, both positive and negative. However, the findings would not change the overall conclusions of the assessments reported in the Environmental Statement (ES).
- 1.1.6 This also responds to comments made by Thurrock Council regarding limitations of the traffic sensitivity tests, in Section 11 of its Deadline 6 submission, Comments on the Applicant's Submissions at Deadline 4 and Deadline 5 [[REP6-164](#)].

## 2 Environmental Sensitivity Analysis

2.1.1 The findings of the sensitivity analysis are summarised below by environmental topic area. Please note that this is a sensitivity analysis only, to further evidence the information provided in [\[AS-086\]](#) and [\[REP2-040\]](#) as outlined in the Introduction to this document. The topics listed below have been selected on the basis that their assessments employ models which use traffic data as key inputs. For those environmental topics not listed below, the analysis also confirms no new impacts arising and the position reported in [\[REP2-040\]](#) remains unchanged. The information in this document does not update or supersede the ES as submitted, which remains robust for the purpose of making a decision on the Project.

### Noise

2.1.2 For road traffic noise there are fewer adverse and fewer beneficial significant effects observed in the sensitivity analysis than were reported in ES Chapter 12: Noise and Vibration [\[APP-150\]](#). The magnitude of change remains the same (Minor  $\geq 1\text{dB}$  and  $< 3\text{dB}$ ) but the noise levels drop below a Significant Observed Adverse Effect Level (SOAEL) as a result of reduced goods vehicles, redistribution of traffic and lower traffic growth. There are no new significant effects or new areas of significant effects identified.

### Air quality

2.1.3 The results of the sensitivity analysis do not have a material effect on the conclusions of the air quality assessment presented in ES Chapter 5: Air Quality [\[APP-143\]](#). The main difference from the ES is that, in the sensitivity analysis, seven receptors near Holmesdale Tunnel on the M25 no longer screen into the judgement of the significance of effects for human health, and there is one designated habitat for ecology which experiences an increase in the affected area (see the 'Biodiversity' section below).

2.1.4 The sensitivity analysis demonstrates that conclusions on air quality effects are the same as presented in the ES – namely that the Project does not lead to a significant air quality effect when considering human health and compliance risk but does lead to a significant air quality effect on designated habitats for ecology.

### Biodiversity

2.1.5 For biodiversity impacts related to nitrogen deposition from road traffic emissions, the sensitivity analysis shows a small reduction (approximately 1.7%) in land significantly affected as a result of the Project, from approximately 177ha to approximately 174ha.

2.1.6 One Ancient Woodland site (Chadwell Wood) which was not identified as being significantly affected by nitrogen deposition in the original assessment would be classed on a precautionary basis as potentially significantly affected, as the affected area would increase from 0.16ha to 0.4ha (approximately 10% to approximately 24% of the total site area). The duration of effect would remain less than 15 years. Surveys of the site to assess the presence or absence of nitrogen sensitive species, and therefore whether this increase in area

represents an actual significant effect, would not be conclusive at this time of year. This assessment has therefore concluded, on a precautionary basis, that the habitat would be potentially significantly affected. Chadwell Wood is located between Barnmead Meadow and the A1089 to the west of Chadwell St Mary. It is identified on page 4 of ES Figure 8.33: Ancient Woodland Impacts [APP-294].

- 2.1.7 The sensitivity analysis demonstrates that there is no material difference compared to the assessment presented in ES Chapter 8: Terrestrial Biodiversity [APP-146]. There is an overall reduction of approximately 3ha (1.7%) of significantly affected land. Whilst there is one new potentially significant effect, that site experiences a 0.24ha increase in the extent of affected area. At 0.4ha, the total affected area at that site represents 0.23% of the 177ha significantly affected area across the Project.
- 2.1.8 The differences noted above would not alter the overall conclusions of the assessment or the location and extent of mitigation and compensation proposed.
- 2.1.9 With respect to European Sites, findings of the sensitivity analysis show either no change or very minor reductions in nitrogen deposition values at both Epping Forest Special Area of Conservation (SAC) and North Downs Woodland SAC. Findings also indicate no change to the extent of functionally linked land associated with European Sites potentially disturbed by noise and therefore no change to the assessment of the effects of disturbance from operational traffic noise. There is no change to the conclusions of the Habitats Regulations Assessment - Screening Report and Statement to Inform an Appropriate Assessment [APP-487].

## Carbon

- 2.1.10 With respect to operational carbon, the sensitivity analysis indicates that total road user greenhouse gas emissions would be reduced by between 5% and 6% compared to the figures reported in ES Chapter 15: Climate [APP-153]. This is an improvement but makes no material difference to the assessment or its conclusions.

## References

UK Parliament (2023). Transport Update: Statement made on 9 March 2023, Statement UIN HCWS625. Accessed August 2023. <https://questions-statements.parliament.uk/written-statements/detail/2023-03-09/hcws625>.

## Glossary

Term	Abbreviation	Explanation
<b>A122</b>	-	The new A122 trunk road to be constructed as part of the Lower Thames Crossing project, including links, as defined in Part 2, Schedule 5 (Classification of Roads) in the draft DCO (Application Document 3.1)
<b>A122 Lower Thames Crossing</b>	<b>Project</b>	A proposed new crossing of the Thames Estuary linking the county of Kent with the county of Essex, at or east of the existing Dartford Crossing.
<b>Common Analytical Scenario</b>	<b>CAS</b>	A set of seven standardised, off-the-shelf, cross-modal scenarios exploring national level uncertainties which have been developed by DfT for use in forecasting and appraisal
<b>Department for Transport</b>	<b>DfT</b>	The government department responsible for the English transport network and a limited number of transport matters in Scotland, Wales and Northern Ireland that have not been devolved.
<b>Development Consent Order</b>	<b>DCO</b>	Means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects (NSIP) under the Planning Act 2008.
<b>Development Consent Order application</b>	<b>DCO application</b>	The Project Application Documents, collectively known as the 'DCO application'.
<b>Goods Vehicle</b>	<b>GV</b>	Either a light or heavy goods vehicle
<b>Heavy Goods Vehicle</b>	<b>HGV</b>	A large, heavy motor vehicle used for transporting cargo.
<b>Light Goods Vehicle</b>	<b>LGV</b>	Vehicles meeting the Department for Transport VEH04 criteria.
<b>National Highways</b>	-	A UK government-owned company with responsibility for managing the motorways and major roads in England. Formerly known as Highways England.
<b>National Trip End Model</b>	<b>NTEM</b>	A model that forecasts the growth in trip origin-destinations (or productions-attractions) up to 2051 for use in transport modelling. The forecasts take into account national projections of population, employment, housing, car ownership and trip rates.
<b>Significant Observed Adverse Effect Level</b>	<b>SOAEL</b>	The noise level above which significant adverse effects on health and quality of life occur.
<b>Special Area of Conservation</b>	<b>SAC</b>	A designation under EU Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the Habitats Directive.

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