

Lower Thames Crossing 9.115 Applicant's Responses to IP's post-event submissions at Deadline 4

Infrastructure Planning (Examination
Procedure) Rules 2010

Volume 9

DATE: October 2023
DEADLINE: 5

Planning Inspectorate Scheme Ref: TR010032
Examination Document Ref: TR010032/EXAM/9.115

VERSION: 1.0

Lower Thames Crossing

9.115 Applicant's Responses to IP's post-event submissions at Deadline 4

List of contents

	Page number
1 Introduction	1
1.1 Introduction	1
1.2 Signposting to other responses to Deadline 4 submissions	2
2 Issue Specific Hearing 3 (ISH3) on Project Design	3
3 Issue Specific Hearing 4 (ISH4) on Traffic and Transportation	10
4 Response to Leigh Hughes's post-event submission	17
Glossary	19

List of plates

Page number

Plate 2.1 Brewers Road closure possible diversion route (reproduced from the oTMPfC [REP4-160])	5
---	---

1 Introduction

1.1 Introduction

- 1.1.1 The Applicant has reviewed the post-hearing submissions by Interested Parties from Deadline 4. This covers those hearings that took place between 5 September 2023 and 15 September 2023.
- 1.1.2 The Applicant has prepared the following submissions in order to assist the Examining Authority and examination process:
- a. Kent County Council on Issue Specific Hearing 3 (ISH3) on Project Design [\[REP4-308\]](#) (Section 2 of this document)
 - b. Higham Parish Council on ISH3 [\[REP4-371\]](#) (Section 2 of this document)
 - c. Thames Crossing Action Group on ISH3 [\[REP4-403\]](#) (Section 2 of this document)
 - d. Essex County Council on ISH4 [\[REP4-286\]](#) (Section 3 of this document)
 - e. Thurrock Council on ISH4 [\[REP4-352\]](#) (Section 3 of this document)
 - f. Leigh Hughes on ISH3 to ISH6 [\[REP4-390\]](#) (Section 4 of this document)
- 1.1.2 Where an Interested Party's post-hearing submission is not identified, the Applicant has no further comments to make at this stage.
- 1.1.3 In response to Compulsory Acquisition Hearing 2 (CAH2) [\[EV-049a\]](#), there were two actions points (3 and 5) which have been responded to separately. Please refer to Section 1.2 of this document for more information.
- 1.1.4 The Applicant has no comments to make on the submissions by Interested Parties at the following events:
- a. Issue Specific Hearing 5 (ISH5) on Tunnelling
 - b. Issue Specific Hearing 6 (ISH6) on Mitigation, Compensation and Land Requirements
 - c. Issue Specific Hearing 7 (ISH7) on the draft Development Consent Order (dDCO)
 - d. Accompanied Site Inspection (ASI) 1, ASI 2 and ASI 3
 - e. Compulsory Acquisition Hearing 1 (CAH1) on The Applicant's Strategic Case for Compulsory Acquisition & Temporary Possession


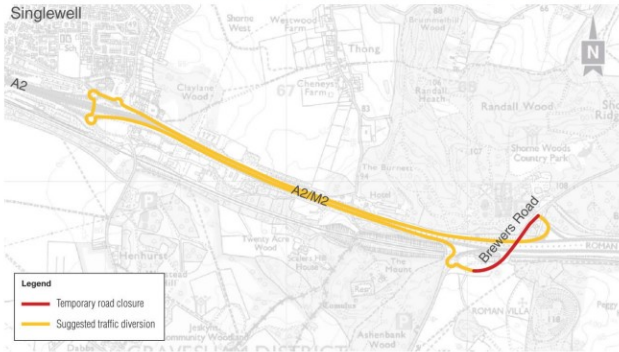
1.2 Signposting to other responses to Deadline 4 submissions

- 1.2.1 This document does not include submissions in relation to the following:
- a. Responding to the ExQ1. For information on this, refer to the Applicant's Comments on IP Responses to ExQ1 at Deadline 4 [**Document Reference 9.105**].
 - b. Responding to the other submissions at Deadline 4. For information on this, refer to the Applicant's Comments on IP submissions at Deadline 4 [**Document Reference 9.116**].
 - c. Responding to CAH2 Action Point 3. For more information on this, refer to CAH2 action point 3 – Franks Farm document [**Document Reference 9.109**].
 - d. Responding to CAH2 Action Point 5. For more information on this, refer to CAH2 action point 5 – Folkes Farm [**Document Reference 9.110**].
 - e. Any comments made on the draft Development Consent Order (dDCO), planning obligations, agreements and the adequacy of security. These have been covered in the Applicant's response to IP's comments on the dDCO at Deadline 4 [**Document Reference 9.118**].

2 Issue Specific Hearing 3 (ISH3) on Project Design

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
ISH3	Higham Parish Council	<p>Link to IP's submission: Slide 6 Local Connections A2/M2/LTC in [REP4-371]</p> <p><i>'It is not completely clear to HPC whether the connector road (gold) joins to the A289 Link Road (red lines) or whether they can only join the A2 at Valley Drive Roundabouts?'</i></p> <p>Applicant's response: The two-way local connector road shown in gold does not have an access to the A289 westbound parallel connector road. However, there is a connection from the A289 westbound parallel connector road to the roundabout on the two-way local connector road. Access to the A2 westbound from the two-way local connector road is via the Gravesend East junction.</p>
ISH3	Higham Parish Council	<p>Link to IP's submission: ISH 3 Action Point 7 in [REP4-371]</p> <p><i>'A2/ M2/ LTC Intersection: local connections. Are there additional local routes which the applicant has not shown in [AS-145] but which Shorne and Higham residents frequently take? It would be helpful if annotated maps and/or descriptions with road numbers and names were used in the response.'</i></p> <p>Applicant's response: The local routes shown in Visual Representation of A2/M2/LTC Intersection for ISH3 [REP4-206] are intended to be representative and not exhaustive of all possible local routes. In response to Higham Parish Council's query regarding the understanding of the local connections, set out below are descriptions of the connections from Shorne or Higham to the M2, A2 and local areas when the Project is operational:</p> <ul style="list-style-type: none"> • The connection to the M2 eastbound via the A289 is unchanged. • The connection to the M2 eastbound using the Brewers Road junction includes travelling up the A289 and around the A289/A226 junction, coming back down to get on to the M2 eastbound at the M2 junction 1 on slip road. • Existing connections to the A2 and A289 eastbound are unaffected. • Connections to the A2 westbound are provided either by using the A289 and the parallel connector road.

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<ul style="list-style-type: none"> • Alternatively, via Brewers Road using the new two-way local link road on the south of the A2 which connects the existing Brewers Road/Halfpence Lane roundabout to Henhurst Road and then using the Gravesend east junction westbound on slip to join the A2. • Connections to Cobham and Thong are unchanged. • The connection to Gravesend East could either be by using the A289 and the parallel connector road if starting on the A226. • Alternatively, via Brewers Road using the new two-way local link road on the south of the A2 which connects the existing Brewers Road/Halfpence Lane roundabout to Henhurst Road.
ISH3	Higham Parish Council	<p>Link to IP's submission: ISH 3 Action Point 7 in [REP4-371]</p> <p><i>'Whilst the map below shows Higham to Shorne Country Park this is more to demonstrate how Medway and M2 Westbound traffic will actually use to reach Shorne Country Park, particularly whilst Brewers Rd Bridge is closed for 19 months. Pear Tree Lane is not suitable for any volume of traffic due to narrow nature close to A226 and through Shorne village is currently a route that very little traffic will be using except for access. Is there any mechanism to keep Brewers Road Bridge open by building the new green bridge prior to removing current Brewers Road or providing alternate route via Park Pale/Golf Club Bridge?.'</i></p> <p>Applicant's response:</p> <p>The closure of Brewers Road is necessary due to the alignment constraints posed by the new bridge, which mirrors that of the existing bridge, due to the limitations imposed by the HS1 structure located south of the A2. Given these constraints, there is no viable alternative but to temporarily close the road, to ensure the safe construction of the bridge.</p> <p>Although access to Cobham Hall School, Shorne Country Park and Nook Pet Hotel would not be directly affected, there would be an increase in journey times due to the diversion route. The closure is envisaged to be 19 months. During the closure, Thong Lane would need to be kept open and maintained.</p> <p>At this stage of the Project the Applicant believes the 19 month closure is a reasonable worst case appropriate for assessment. Once the Contractor is appointed there may be opportunity during detailed design to refine the design and construction methodology to possibly reduce the length of closure.</p> <p>The outline Traffic Management Plan for Construction (oTMPfC) [REP4-160] Section 4.7 shows the possible diversion routes for the envisaged closures during construction. This includes the proposed Brewers Road bridge closure (see Plate 2.1). Access to Shorne County Park off Brewers Road would remain open and available; the closure would only impact the bridge.</p>

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<p style="text-align: center;">Plate 2.1 Brewers Road closure possible diversion route (reproduced from the oTMPfC [REP4-160])</p> <p style="text-align: center;">Plate 4.9 Brewers Road closure possible diversion route (north to south)</p>  <p style="text-align: center;">Plate 4.10 Brewers Road closure possible diversion route (south to north)</p>  <p>To access Shorne Country Park from the A2 westbound carriageway a diversion option shown in the oTMPfC utilises Gravesend East junction to turn onto the A2 eastbound carriageway and then use the off slips onto Brewers Road.</p> <p>The exact diversion route would be subject to engagement with the relevant authorities during the development of the Traffic Management Plan (TMP), working to mitigate the potential for the vehicles to use unofficial diversion routes.</p>

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<p>The diversion route would be determined through discussions with the local highway authority closer to the time as other factors may need to be taken into account to make the decision (e.g. other works in the nearby area which may be external from the Project works).</p> <p>The Applicant does not propose the use of Peartree Lane as a suitable diversion route. Whilst the diversion route would be clearly signed, depending on where the journey origin is, road users may utilise other routes available during the closure. Due to the nature of nearby roads such as Peartree Lane, restricted routes for Project-related construction Heavy Goods Vehicle (HGV) traffic have been proposed in the oTMPfC (Table 4.4) which includes a HGV ban on Peartree Lane.</p> <p>The Park Pale bridge provides access only to the Rochester and Cobham Golf Course and would not be suitable as a diversion route because it does not connect onto the wider local road network.</p>
ISH3	Kent County Council	<p>Link to IP's submission: Appendix A in [REP4-308]</p> <p><i>'Mitigation planting and maintenance of the new woodland needs to be led by members of the Council's Country Parks team, as experts in their field. KCC estimates that two full time members of staff will be needed to deliver this mitigation and seeks a commitment that associated costs will be covered by the Applicant.'</i></p> <p>Applicant's response: The outline Landscape and Ecology Management Plan (oLEMP) [REP4-140] makes it clear (at Section 4.1: Roles and responsibilities) that: <i>'National Highways maintains the responsibility to ensure that the landscape and ecological mitigation as described in the outline LEMP can be successfully delivered, managed and maintained and that the necessary monitoring is undertaken. Establishment of the mitigation and compensation would be undertaken on behalf of National Highways by the Contractor. Ongoing (long-term) management, maintenance and monitoring, beyond initial establishment periods, would be delivered by National Highways' Operational and Maintenance teams or through agreement with third parties (to be confirmed).'</i></p> <p>Paragraph 4.1.6 states that: <i>'The Contractor will appoint an appropriately experienced and qualified landscaping contractor. The contractor is to be competent at identifying plant species, including those proposed as part of seeded and planted mixes, as well as any undesirable species, and experienced in the various habitat creation and enhancement works required on this Project. Specialist work (such as pond creation, fenland restoration and ancient woodland compensation) may be carried out by specialist sub-contractors appointed by the Contractor where particular specific skills, equipment and/or experience are required.'</i></p> <p>Paragraph 4.1.7 states that: <i>'Land parcels outside of the highways operational boundary may be managed by agreement with third-party stakeholders or adjacent landowners for the long-term management of the habitats and landscape created within. Any agreement would not remove National Highways responsibility under the</i></p>

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<p><i>oLEMP, as secured by Requirement 5 of the DCO. The timing of land hand over would depend on the management capabilities of the identified partner organisation (e.g. third-party stakeholder or adjacent landowner). National Highways will retain the ultimate responsibility for the management and maintenance of all land parcels identified in the oLEMP.'</i></p> <p>The Applicant considers that this structure of roles and responsibilities means that the Shorne Woods Country Park (SWCP) team (via Kent County Council) – as the existing custodians of land and planting within SWCP – would be well-placed to act as a third party with relevant and appropriate experience to implement measures on behalf of the Contractor and the Applicant subject to agreement.</p> <p>The same may apply to other specific land parcels across the Project's planting and landscape and ecological management/maintenance proposals and as such flexibility has been included that allows the Contractor the ability to work jointly with whichever appropriate third party is best-placed to implement works on an applicable site-by-site, habitat-by-habitat basis. The Applicant considers that it would be disproportionate and unnecessary to determine each third party at this point in time, given the clear management requirements secured by the oLEMP which in this area explicitly includes managing ancient woodland and the integration of a new habitat (e.g. paragraph 5.3.4 a, d) and because the Applicant retains ultimate responsibility for management in accordance with the oLEMP.</p> <p>Furthermore, as members of the Landscape and Ecology Management Plan (LEMP) Advisory Group, Kent County Council (and as such SWCP) will have a key role in informing decision making related to implementation of LEMP activities.</p>
ISH3	Thames Crossing Action Group	<p>Link to IP's submission: [REP4-403]</p> <p>Applicant's response: At Deadline 4, Thames Crossing Action Group (TCAG) submitted a suite of documents titled 'Post-events (w/c 4 and 11 September) submission'.</p> <p>The Applicant is mindful that, given the scale and complexity of the Project, there is a need for information submitted into the examination to be provided in a manner which is proportionate and accessible for all Interested Parties, the Examining Authority (ExA) and the Secretary of State (SoS) to allow for appropriate consideration.</p> <p>In that spirit, the Applicant has not sought to repeat the detailed responses which it has given previously in relation to many of the matters raised by Thames Crossing Action Group.</p> <p>The tables below therefore only set out responses to new comments, or where a response goes beyond what has previously been addressed by the Applicant or to address factual inaccuracies.</p>

Event	Interested Party (IP)	Link to IP's submission / Applicant's response	
		TCAG comment	Applicant's response
		<p>60. In our communications with some of the residents of Gammon Field travellers' site, we have been told that they do not feel confident in what is going on, and that there has been a lack of meaningful engagement and communication from NH, and that residents have very little info about what is going on. The last time NH went to the site was January 2022.</p>	<p>The Applicant continues to engage positively with Thurrock Council on the detailed design aspects of the proposed new traveller site at Gammon Field. The efficacy of this ongoing engagement has been acknowledged by Thurrock Council at Issue Specific Hearing 2 on June 22.</p>
		<p>82.As mentioned in the hearing we also have concerns about the fact that the road between South and North Ockendon in the vicinity of the North Road 'green' bridge has been raised within the cutting, which according to NH reduces carbon emissions. However, our concerns are how raising the road would worsen impacts to residents in the vicinity in regard to pollution. We know that Shorne Country Park requested the road be lowered in the woodlands vicinity to reduce pollution impacts to the woodland. Why has the road been raised higher than it has been lowered to for Shorne?</p>	<p>The Applicant presented a change to the road alignment at the Local Refinement Consultation in May 2022. The depth of cutting was maintained at North Road through the use of 'false cuttings'. By raising the road in this location the amount of excavated material being removed by road would be reduced. There would be no significant change in noise and visual impacts during construction and operation for nearby communities. The Applicant has not reduced the level of the A2 corridor in its proposals, which will remain the same level as the existing.</p>
ISH3	Thurrock Council	<p>Link to IP's submission: Appendix C of the Thurrock Council submission at Deadline 4 [REP4-352]</p> <p>In Thurrock Council's response to ISH3 agenda item 4(a)(iii)(7), which refers to Appendix C of the Thurrock Council submission at Deadline 4 [REP4-352], Thurrock Council state: <i>'Dr. Wright on behalf of the applicant asserted that Port of Tilbury traffic would not route via LTC and would continue to route via M25 Junction 30 and A13 (Page 59 of the ISH3 transcript [EV-041f]) due to the journey time saving LTAM is showing on A13 between M25 and A1089.</i> <i>The Council has also run journey time analysis using LTAM for traffic routeing to/from the Port of Tilbury and does not concur with the applicant's findings. In summary, it shows that in 2045 the journey times northbound via LTC are circa 6 minutes faster than via the M25 and southbound the journey times via LTC are circa half a minute faster than via M25.'</i></p>	

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<p>Applicant's response:</p> <p>The Applicant would like to make it clear that Dr Wright was referring to traffic which is on the M25 north of junction 29. Thurrock has presented journey times to the Port of Tilbury from a starting location on the A127, east of junction 29 at its junction with the A128 (which runs down into the Orsett Cock roundabout). From that location the journey time is indeed quicker to use Orsett Cock roundabout than to travel along the A127 to M25 junction 29, down to junction 30 and along the A13, but there are considerably fewer trips approaching the Port of Tilbury from the A127 east of its junction with the A128 than there are vehicles approaching from the M25 north. Dr Wright was referring to comparative travel times for vehicles coming from the M25 north into the Port of Tilbury, which would continue to use the M25 junction 30, A13, A1089 route.</p> <p>Figure 1-1 of the document submitted by Thurrock sets out the routes they have considered, demonstrating that the proposed starting point is near Brentwood at the junction of the A127/A128.</p>

3 Issue Specific Hearing 4 (ISH4) on Traffic and Transportation

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
ISH4	Essex County Council	<p>Link to IP's submission: [REP4-286]</p> <p>Summary of submission: <i>'Essex County Council had a recorded action from ISH 4. The action recorded is - Innovative Construction Practice: Please provide suggested wording for inclusion within the DCO or certified document that would enable and support innovative construction practices from contractors.'</i></p> <p>Essex County Council (ECC) then go on to list a series of headings which they consider applicable in this regard:</p> <ul style="list-style-type: none"> A) Introduction to Innovation B) Innovative Solutions Requirement C) Collaborative Approach D) Value Engineering E) Flexibility in Methods F) Performance-Based Criteria G) Risk Mitigation H) Documentation and Reporting I) Recognition and Rewards J) Continuous Improvement K) Compliance with Regulations L) Dispute Resolution <p>(detailed content omitted above for brevity)</p> <p>ECC go on to say: <i>'By incorporating these elements into the DCO or certified document, we can create a supportive framework for contractors to propose and implement innovative construction practices while ensuring that these innovations align with project objectives, standards, and regulations.'</i></p>

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<p>Applicant's response:</p> <p>The Applicant welcomes Essex County Council's suggestions regarding the proposed principles for inclusion within the Development Consent Order (DCO) application. The Applicant can confirm these principles have informed the Applicant's approach to developing the Project's control documents. To illustrate this alignment, the Applicant has provided some specific examples showcasing how these principles have been integrated into the various controls documents:</p> <p>Innovation: The Applicant has designated the Project as a pathfinder for low carbon construction, emphasising its commitment to fostering innovation. This commitment is prominently reflected in the Project's proactive approach to identifying and implementing innovative strategies aimed at reducing carbon emissions throughout the Project's entire lifecycle, spanning from design and construction to its operational phase. Notably, the Carbon and Energy Management Plan [APP-552] (CEMP) sets out the mechanisms that the Applicant will use to deliver them. In Section 3.7 of the CEMP, the Applicant outlines a range of mechanisms that have been initiated to facilitate innovation, with a clear intent to sustain these efforts as the Project progresses into the construction and operational phases.</p> <p>Value Engineering, Compliance with Regulations: The Applicant has developed the Design Principles [REP4-146] as a 'forward-looking' document, that serves a number of functions, as described in paragraph 2.1.12. This includes how the Applicant has taken account of the criteria for good design set out in the National Policy Statement for National Networks (NPSNN)¹ in order to ensure that the development is as sustainable and as aesthetically sensitive, durable, adaptable and resilient as it can reasonably be. Furthermore, it affords flexibility to explore opportunities during the detailed design development while adhering to established parameters, thereby ensuring alignment with standards and the commitments outlined in the draft Development Consent Order (dDCO).</p> <p>Collaboration and Dispute Resolution: The Applicant has committed to establishing forums, including the Traffic Management Forum and the Travel Plan Liaison Group, with the primary aim of facilitating engagement with pertinent stakeholders in the development of construction traffic and workforce management plans. These forums serve as dynamic platforms for the ongoing assessment and enhancement of controls throughout the construction phase, leveraging monitoring data to continually identify areas for improvement. Additionally, they play a role in providing stakeholders with structured routes for raising concerns and initiating a formalised dispute resolution process. This multifaceted approach ensures not only collaborative decision-making but also the sustained pursuit of continuous improvement and effective conflict resolution within the Project framework of control plans.</p>

¹ Department for Transport (2014). National Policy Statement for National Networks.

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<p>Flexibility in Construction Methodology and Risk Mitigation: The Applicant's approach to developing flexibility in construction methods has been appropriate. It ensures that impacts are minimised as far as reasonably practicable, while also establishing robust mechanisms for ongoing monitoring, reviewing and potentially adjusting the construction approach in response to identified impacts during the construction phase. This approach allows the Contractor to engage in an iterative planning process for the construction works, allowing for risk mitigation in respect of unforeseen impacts and the exploration of efficient construction methodologies that consider the impact of the works and the effective implementation of appropriate mitigation measures. Notably, the outline Traffic Management Plan for Construction [REP4-160] includes a set of controls that the Contractor would implement to address potential impacts while adopting temporary traffic management. Furthermore, the Traffic Management Forum acts as a well-structured platform for engaging with relevant stakeholders during the development of traffic management plans. It also provides an effective way for continual monitoring of the effects of the works and gives a platform for addressing and improving the situation as needed. Considering that these principles are inherently embedded within the provisions of the control documents, the Applicant deems it unnecessary to explicitly include the precise wording of the aforementioned principles.</p>
ISH4	Thurrock Council	<p>Link to IP's submission: Appendix A [REP4-352]</p> <p>Applicant's response: In Appendix A of the Thurrock Council submission at Deadline 4 [REP4-352], the council set out their position on the methodology to undertake the iteration between the microsimulation model and the strategic model. In considering this, it is important to consider the nature of information that could be captured from a microsimulation model and 'included' into the strategic model. Such information may include:</p> <ul style="list-style-type: none"> • Design information – including modifications to alignments and junction designs. • Signal information – including signal timings and sequencing. • Saturation flow information – while not an output of a microsimulation model, it is possible to count vehicle movements through a section of highway and determine a maximum volume of flow in a specific time period. • Delay information – a measure of how long traffic is delayed along a certain section of highway within the model. <p>The Applicant has used microsimulation modelling to inform design development, and so in the process of preparing the design set out in the DCO application, this iteration of design information was conducted. Regarding signal information, both microsimulation models and strategic models such as the Lower Thames</p>

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<p>Area Model (LTAM) allow for the optimisation of signal timings. The signal timings in LTAM have been optimised to reflect the traffic flows in the LTAM model. It therefore would be inappropriate to carry through the signal timings from the VISSIM model, and it is important to understand that signal optimisation would continue through detailed design, and would be reviewed after opening.</p> <p>At the workshop meeting held on 16 August 2023, Thurrock Council requested that the delays produced as output from the Orsett Cock junction VISSIM model 9be put into the LTAM. Subsequent to this in their submission at Deadline 4, and at the Orsett Cock workshop (reported in ISH7 Action Point 6 – Orsett Cock [Document Reference 9.113]) they have amended this, to request taking the parameters from the VISSIM model into the LTAM. Following the Orsett Cock workshop, the Applicant understands 'parameters' to mean the saturation flows predicted by VISSIM and the traffic signal timings predicted by using vehicle activated signals in the VISSIM model.</p> <p>The saturation flow is not a routine output of the VISSIM model; developing this would not be standard practice and would be disproportionate. In addition to this, the Applicant has further concerns with the principle of this approach, which are similar to the consideration of the delay proposals and are set out below. Regarding the issue of taking the delays from VISSIM and placing them into the LTAM model, the Applicant considers that this is not standard practice nor is it set out in the Transport for London (TfL) Modelling Guidelines for three main reasons:</p> <ul style="list-style-type: none"> • First, there would be a balance issue as the network should be coded in a consistent manner across the model study area and in particular all the routes that traffic may take. Such an exercise would be needed for the junctions on the alternative routes to the Orsett Cock junction, including the M25, A13, A127, A128 and elsewhere on the network. Achieving convergence between the LTAM and all these junction models would be disproportionate. • Second, iteration would be required between the two models until a satisfactory level of convergence is reached. Taking the delays which are an output from VISSIM and hard coding them into the LTAM would result in a different set of traffic flows at the Orsett Cock junction in the LTAM due to the variable demand modelling and re-assignment. Putting these flows back into VISSIM would then lead to a different set of output delays. • Third, as agreed with Thurrock Council during the initial development of the Orsett Cock VISSIM model, a different set of trips was used than those from the LTAM. The LTAM is based on average flows in March 2016 over the entire study area, with the traffic counts collected for two weeks to average out any daily variations in traffic patterns. The Orsett Cock junction VISSIM model is based on flows collected on a single day in 2016 and then factored by the change in growth between 2016 and 2030/2045 predicted by the LTAM. As a

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<p>consequence, the baseline delays produced as an output from VISSIM are not consistent with the baseline traffic flows in LTAM and this makes the forecast flows unsuitable for direct correlation.</p> <p>At the workshop on 16 August 2023 the Applicant did agree, following a request by Thurrock Council, that they would undertake the first round of an iterative modelling exercise, i.e. to take the VISSIM delays and hard code them into the LTAM, so that Thurrock Council could see how traffic in the LTAM may re-route in the area if the delays at the Orsett Cock junction were higher. Thurrock Council requested that this exercise was not undertaken until the Applicant had considered their comments on the Orsett Cock junction VISSIM model and made changes accordingly. The Applicant has subsequently set out the proposed changes it intends to make to the VISSIM model to address the comments, but the Applicant has yet to have confirmation that Thurrock Council agree to the VISSIM modelling approach.</p> <p>The second task – taking signal timings from VISSIM into a Saturn model is identified as a legitimate approach in the TfL modelling guidelines. There are a variety of accepted ways of setting the traffic signal timings in a Saturn model; these include modelling the junction using LINSIG software, testing and modifying signal timings in a VISSIM model or testing and modifying signal timings in the Saturn model. In the development of the LTAM the signal timings at the Orsett Cock junction were tested and optimised in Saturn. If the signal timings were taken from the VISSIM model then they would be a set of signal timings that were consistent with a different set of traffic flows than in the LTAM as the VISSIM model is based on a one day traffic count. Also, the Orsett Cock junction VISSIM model uses fixed signal timings, optimised through a series of test runs, which are an input into the model. Consequently, the Applicant does not consider it appropriate to modify LTAM with the signal timings from the VISSIM model.</p> <p>Thurrock Council have requested the implementation of a specific model option where the software models signal sequences that are activated by the approach of vehicles. This however is not appropriate at the Orsett Cock junction where it is necessary to co-ordinate the signal timings between the three sets of signals at the junction, and as such the Applicant considers this to be inappropriate for this location and does not propose to include this into any modelling.</p> <p>In addition to their statements on methodology, Thurrock Council provide some examples of where they propose that an iteration has taken place between microsimulation and strategic models. The Applicant does not agree that this is demonstrated by the presented examples.</p> <p>Thurrock Council provided four documents to support their assertion that the placing of VISSIM model parameters back into a strategic model was commonplace, however the Applicant considers that these documents do not support their assertion that it is normal practice to take the delays from a VISSIM model back into a strategic model. The Applicant notes none of these examples are strategic road network (SRN) projects.</p>

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<p>The first document is the Silvertown Tunnel Monitoring and Mitigation Strategy which states that in paragraph 2.3.7 <i>'In developing any localised mitigation measures, TfL will iterate the outputs from the local and strategic modelling to ensure that the measures identified are fully optimised.'</i> In the case of the Silvertown modelling the Applicant understands that this iterative work only took signal timings from the local VISSIM models back into the Saturn model, in accordance with the TfL guidance. It did not take either saturation flows or delays from a microsimulation model and include them in a strategic model.</p> <p>The second document is the Leicestershire County Council Modelling Framework ITT, which asked in its tender for modelling work for bidders to describe how they would link the outputs from a strategic model back into a microsimulation model and vice versa. Thurrock Council assert that <i>'If it was not industry standard and proportionate to ensure that strategic models and microsimulation models align through an iterative process, it would not be something that was required to be answered within the ITT'</i>. The Applicant considers the reference to this document is telling. It is not known how bidders responded to this request but it would likely be along the lines of the TfL modelling guidelines that design changes at a junction, proposed as a result of the microsimulation modelling would be modelled in the strategic model and the new flows from the strategic model then passed back into the microsimulation model. This is how the microsimulation models were used with the strategic model in the design development stage of the Lower Thames Crossing. This document does not, again, suggest that the delays from the microsimulation model are coded into the strategic model.</p> <p>The third document is the Sizewell C DCO Consolidated Transport Assessment. This report shows how the calibration of their strategic model was improved. It does not refer to microsimulation modelling in any part of the documents. The changes it reports in the strategic model are as below (paragraph 2.6, electronic page 188 of the Thurrock Council submission [REP4-352]) and examples of the type of changes made in a strategic model to improve the match between modelled and observed network performance and none of these used the outputs from a microsimulation model.</p> <p><i>'As part of this model refinement, to improve the modelled traffic conditions on the B1438 through Woodbridge, a number of network changes were applied to better reflect the attractiveness of this corridor:</i></p> <ul style="list-style-type: none"> • <i>Reduced speed to 20mph, and reduced capacity to 1,000 PCUs/hour, on the B1438 from the A1152 (Melton crossroads) to Sandy Lane;</i> • <i>Signal control applied at the junction of Quay Side / Hamblin Road car park, which was previously not modelled, with approximated signal timings;</i> • <i>Reduced free-flow speeds from 60mph to 50mph on A1152 between Melton and Leiston, to reflect on-site conditions (bends, inclines, narrow road widths etc.);</i>

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<ul style="list-style-type: none"> • <i>Moved the northern zone connector for zone 340 further north, to reflect the propensity for traffic from this area to join the A12 at Ufford rather than travelling south through Melton;</i> • <i>Adjusted connector weights on zone 345 (Woodbridge) to reflect use of car park on Quayside; and</i> • <i>Adjustments to demand traffic flows for origin-destination pairs traversing the A12 at Woodbridge, to calibrate delays on the single-lane section.'</i> <p>The fourth example provided by Thurrock Council is from Transport for London's modelling work for the removal of the gyratory in Ilford, Redbridge. No documentation is provided for this example but Thurrock state '<i>This modelling process involved using TfL's ONE strategic model and a VISSIM micro- simulation model with iteration loops between the ONE model and VISSIM models to ensure alignment between the models and inform highway intervention design</i>'. This again does not state that delays from the microsimulation model were taken back into the strategic model but rather points to the normal practice of iterative design work, where detailed changes to junctions are modelled in VISSIM and then the new design is coded in the strategic model. The traffic flows from the strategic model are then taken back into the microsimulation model. Again this was the process followed by the Project in the development of the Project design, as set out in Localised Traffic Modelling Appendix H: Traffic Operational Appraisal - VISSIM Forecasting Report [REP1-194].</p>

4 Response to Leigh Hughes's post-event submission

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
ISH3-ISH6	Leigh Hughes	<p>Link to IP's submission: [REP4-390]</p> <p>Applicant's response: The Applicant has reviewed the representations made by Leigh Hughes and proposes to respond to the issues raised in turn.</p> <p>Road funding The concern raised relates to the repair and management of local roads impacted during construction. Article 10 of the draft Development Consent Order [REP4-094] provides for the maintenance of local roads impacted during construction.</p> <p>Footbridge and WCH route Dennises Lane The Applicant is proposing a new route between West Road and Pea Lane including a crossing of the Gray's Branch Line and the A122 (Works Number NM) to provide for improved and enhanced connectivity for walkers, cyclist and horse riders encouraging active travel and reducing severance between communities. The Applicant believes that this provision enhances the local area and delivers value for money for local communities.</p> <p>Construction complaints and enforcement Details relating to the Applicant's proposed community liaison arrangement can be found in Sections 4 and 5 of the Code of Construction Practice, First Iteration of Environmental Management Plan [REP4-138].</p> <p><i>'Contractor Community Liaison Officer (CLO) – General responsibilities for the Contractor CLOs include the following:</i></p> <ul style="list-style-type: none"> • <i>Deliver the Community Engagement Plan</i> • <i>Engage with those who may be affected by construction impacts, including local residents, community groups and local businesses</i> • <i>Provide information on the construction process to local stakeholders and be the first line of response to resolve issues of concern</i>

Event	Interested Party (IP)	Link to IP's submission / Applicant's response
		<ul style="list-style-type: none"> • <i>In the case of emergency work, engage with and advise the local authority and local residents of relevant information as soon as reasonably practical</i> • <i>Ensure compliance with community engagement commitments, as defined in the CoCP</i> • <i>Maintain a correspondence register'</i> <p>In addition, the Applicant will provide a Customer Contact Centre to deal with enquiries and complaints from the public. This will consist of a phone line, email and website facility which will be staffed 24 hours a day, 7 days a week.</p> <p>Unexploded Ordnance</p> <p>The Applicant has responded to the issue of unexploded ordnance in Section 6 of its Post-event submissions including written submissions of oral comments for ISH5 [REP4-181].</p> <p>The Applicant has also since received correspondence from Ms Hughes and is engaging further regarding her primary concerns.</p>

Glossary

Term	Abbreviation	Explanation
A122		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)
A122 Lower Thames Crossing	Project	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.
A122 Lower Thames Crossing/M25 junction		New junction with north-facing slip roads on the M25 between M25 junctions 29 and 30, near North Ockendon.
A13/A1089/A122 Lower Thames Crossing junction		Alteration of the existing junction between the A13 and the A1089, and construction of a new junction between the A122 Lower Thames Crossing and the A13 and A1089, comprising the following link roads: <ul style="list-style-type: none"> • Improved A13 westbound to A122 Lower Thames Crossing southbound • Improved A13 westbound to A122 Lower Thames Crossing northbound • Improved A13 westbound to A1089 southbound • A122 Lower Thames Crossing southbound to improved A13 eastbound and Orsett Cock roundabout • A122 Lower Thames Crossing northbound to improved A13 eastbound and Orsett Cock roundabout • Orsett Cock roundabout to the improved A13 westbound • Improved A13 eastbound to Orsett Cock roundabout • Improved A1089 northbound to A122 Lower Thames Crossing northbound • Improved A1089 northbound to A122 Lower Thames Crossing southbound
A2		A major road in south-east England, connecting London with the English Channel port of Dover in Kent.
Application Document		In the context of the Project, a document submitted to the Planning Inspectorate as part of the application for development consent.
Construction		Activity on and/or offsite required to implement the Project. The construction phase is considered to commence with the first activity on site (e.g. creation of site access), and ends with demobilisation.
Design Manual for Roads and Bridges	DMRB	A comprehensive manual containing requirements, advice and other published documents relating to works on motorway and all-purpose trunk roads for which one of the Overseeing Organisations (National Highways, Transport Scotland, the Welsh Government or the Department for Regional Development (Northern Ireland)) is highway authority. For the A122 Lower Thames Crossing the Overseeing Organisation is National Highways.

Term	Abbreviation	Explanation
Development Consent Order	DCO	Means of obtaining permission for developments categorised as Nationally Significant Infrastructure Projects (NSIP) under the Planning Act 2008.
Development Consent Order application	DCO application	The Project Application Documents, collectively known as the 'DCO application'.
Environmental Statement	ES	A document produced to support an application for development consent that is subject to Environmental Impact Assessment (EIA), which sets out the likely impacts on the environment arising from the proposed development.
Highways England		Former name of National Highways.
M2 junction 1		The M2 will be widened from three lanes to four in both directions through M2 junction 1.
M2/A2/Lower Thames Crossing junction		New junction proposed as part of the Project to the east of Gravesend between the A2 and the new A122 Lower Thames Crossing with connections to the M2.
M25 junction 29		Improvement works to M25 junction 29 and to the M25 north of junction 29. The M25 through junction 29 will be widened from three lanes to four in both directions with hard shoulders.
National Highways		A UK government-owned company with responsibility for managing the motorways and major roads in England. Formerly known as Highways England.
National Planning Policy Framework	NPPF	A framework published in March 2012 by the UK's Department of Communities and Local Government, consolidating previously issued documents called Planning Policy Statements (PPS) and Planning Practice Guidance Notes (PPG) for use in England. The NPPF was updated in February 2019 and again in July 2021 by the Ministry of Housing, Communities and Local Government.
National Policy Statement	NPS	Set out UK government policy on different types of national infrastructure development, including energy, transport, water and waste. There are 12 NPS, providing the framework within which Examining Authorities make their recommendations to the Secretary of State.
National Policy Statement for National Networks	NPSNN	Sets out the need for, and Government's policies to deliver, development of Nationally Significant Infrastructure Projects (NSIPs) on the national road and rail networks in England. It provides planning guidance for promoters of NSIPs on the road and rail networks, and the basis for the examination by the Examining Authority and decisions by the Secretary of State.
Nationally Significant Infrastructure Project	NSIP	Major infrastructure developments in England and Wales, such as proposals for power plants, large renewable energy projects, new airports and airport extensions, major road projects etc that require a development consent under the Planning Act 2008.

Term	Abbreviation	Explanation
North Portal		The North Portal (northern tunnel entrance) would be located to the west of East Tilbury. Emergency access and vehicle turn-around facilities would be provided at the tunnel portal. The tunnel portal structures would accommodate service buildings for control operations, mechanical and electrical equipment, drainage and maintenance operations.
Operation		Describes the operational phase of a completed development and is considered to commence at the end of the construction phase, after demobilisation.
Order Limits		The outermost extent of the Project, indicated on the Plans by a red line. This is the Limit of Land to be Acquired or Used (LLAU) by the Project. This is the area in which the DCO would apply.
Planning Act 2008		The primary legislation that establishes the legal framework for applying for, examining and determining Development Consent Order applications for Nationally Significant Infrastructure Projects.
Project road		The new A122 trunk road, the improved A2 trunk road, and the improved M25 and M2 special roads, as defined in Parts 1 and 2, Schedule 5 (Classification of Roads) in the draft DCO (Application Document 3.1).
Project route		The horizontal and vertical alignment taken by the Project road.
South Portal		The South Portal of the Project (southern tunnel entrance) would be located to the south-east of the village of Chalk. Emergency access and vehicle turn-around facilities would be provided at the tunnel portal. The tunnel portal structures would accommodate service buildings for control operations, mechanical and electrical equipment, drainage and maintenance operations.
The tunnel		Proposed 4.25km (2.5 miles) road tunnel beneath the River Thames, comprising two bores, one for northbound traffic and one for southbound traffic. Cross-passages connecting each bore would be provided for emergency incident response and tunnel user evacuation. Tunnel portal structures would accommodate service buildings for control operations, mechanical and electrical equipment, drainage and maintenance operations. Emergency access and vehicle turn-around facilities would also be provided at the tunnel portals.

If you need help accessing this or any other National Highways information, please call **0300 123 5000** and we will help you.

© Crown copyright 2023.

You may re-use this information (not including logos) free of charge in any format or medium, under the terms of the Open Government Licence. To view this licence:

visit www.nationalarchives.gov.uk/doc/open-government-licence/

write to the **Information Policy Team, The National Archives, Kew, London TW9 4DU**, or email psi@nationalarchives.gsi.gov.uk.

Mapping (where present): © Crown copyright and database rights 2023 OS 100030649. You are permitted to use this data solely to enable you to respond to, or interact with, the organisation that provided you with the data. You are not permitted to copy, sub-licence, distribute or sell any of this data to third parties in any form.

If you have any enquiries about this publication email info@nationalhighways.co.uk or call **0300 123 5000***.

*Calls to 03 numbers cost no more than a national rate call to an 01 or 02 number and must count towards any inclusive minutes in the same way as 01 and 02 calls.

These rules apply to calls from any type of line including mobile, BT, other fixed line or payphone. Calls may be recorded or monitored.

Printed on paper from well-managed forests and other controlled sources when issued directly by National Highways.

Registered office Bridge House, 1 Walnut Tree Close, Guildford GU1 4LZ

National Highways Limited registered in England and Wales number 09346363